



शरीरमाद्यं खलुधर्मसाधनम्

# 64th Annual Report 2019-2020



**All India Institute of Medical Sciences  
New Delhi - 110029**

# 64th AIIMS ANNUAL REPORT 2019–2020



शरीरमाद्यं खलु धर्मसाधनम्

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

NEW DELHI - 110029

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## **All India Institute of Medical Sciences**

The All India Institute of Medical Sciences (AIIMS) was established in 1956 as an institution of national importance by an Act of Parliament to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India; to bring together in one place educational facilities of the highest order for the training of personnel in all important branches of health activity and to attain self-sufficiency in postgraduate medical education.

The Institute has comprehensive facilities for teaching, research and patient care. AIIMS conducts teaching programs in medical and para-medical courses both at the undergraduate and postgraduate levels and awards its own degrees. Teaching and research is conducted in nearly 100 disciplines. AIIMS is a leader in the field of medical research with over Rs 100 crores in extramural grants received by its researchers in a year. AIIMS also runs a College of Nursing.

Various departments and centres manage practically all types of disease conditions with support from para-clinical departments. AIIMS also runs a 50-bedded hospital and the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to nearly 8 lakh people through the Centre for Community Medicine.

# AIIMS AT A GLANCE 2019–2020

Year of establishment 1956

Teaching Departments and Centres	42+7	Medical graduates	3275
Faculty members (Sanctioned 1095)	759	Postgraduates	10915
Non-faculty staff (Sanctioned 12,318)	10,189	Nursing/paramedical graduates	3454
Undergraduate students	940	Publications in journals/abstracts	2764
Postgraduate students	1966	Chapters in books/books	340

## Hospital Services

Hospital/Centre	Outpatients (including casualty)	Admission	Surgery (Operations/ procedures)	Beds		
				General	Private	Total
Main Hospital	20,43,602	1,20,110	93,661	997	165	1,162
Dr RP Centre	5,71,170	48,283	50,510	288	22	310
Dr BRA IRCH	1,78,700	45,725	11,660	167	15	182
Cardiothoracic Centre	2,08,183	10,939	3,625	226	33	464
Neurosciences Centre	1,48,566	9,188	3,137	174	31	
NDDTC*	3,02,416	3,356	–	50	–	50
CCM†	4,36,383	12,115	2,394	50	–	50
JPNATC	1,18,786	7,532	7,458	256	22	278
CDER**	2,36,873	1,948	22,835	17	–	17
NCI, Jhajjar	35,556	8,948	4,907	279	–	279
Outreach outpatients, Badsa, Jhajjar	1,34,255	–	1,520	–	–	–
<b>Total</b>	<b>44,14,490</b>	<b>2,68,144</b>	<b>2,01,707</b>	<b>2,487</b>	<b>288</b>	<b>2,792</b>

\*inclusive of Trilokpuri, Sunder Nagri & Kotla Mubarakpur

\*\* Including 30 Triage beds

†inclusive of PHC Dayal Pur

## Hospital performance indices

Parameters	Main Hospital		Cardiothoracic and Neurosciences Centre		Jai Prakash Narain Apex Trauma Centre	
	2019–20	2018–19	2019–20	2018–19	2019-20	2018-19
Average length of stay (days)	9.9	9.5	10.5	10.2	10	10
Average bed occupancy rate (%)	85.9	86.8	83.8	84.9	84	80
Net death rate (%)	1.7	1.7	2.6	2.9	5	6
Combined crude infection rate (%)	5.6%	5.8%	–	–	–	–

CCM: Centre for Community Medicine

Dr BRAIRCH: Dr B.R. Ambedkar Institute Rotary Cancer Hospital

Dr RP Centre: Dr Rajendra Prasad Centre for Ophthalmic Sciences

JPNATC: Jai Prakash Narain Apex Trauma Centre

NDDTC: National Drug Dependence Treatment Centre

CDER: Centre for Dental Education and Research

NCI: National Cancer Institute

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## 1. Director's Review

I feel privileged to present the Sixty-fourth Annual Report and audited statement of accounts for the year 2019–2020.

All India Institute of Medical Sciences (AIIMS), New Delhi was established in 1956 by an Act of the Indian Parliament to serve as the nucleus for nurturing excellence in medical education and all aspects of health care. It is recognized globally as India's best medical institution that combines purposeful medical education, innovative biomedical research and humane healthcare. The Institute's excellence is a collective effort of thousands of faculty members, nursing personnel, scientists, engineering staff, technicians, sanitation and health attendants and above all the energy of the youth represented by students. I am privileged to lead and serve this exceptional institution and to highlight some of its extraordinary work in this report.

### **Integrated Infrastructure: 'One-AIIMS'**

To stay relevant in a changing world, institutions must continuously reinvent themselves. AIIMS, New Delhi has initiated work on its redevelopment plan to emerge as a world class university and state-of-the-art healthcare facility. The Rs 10,345 crore plan will more than double the capacity of the hospital from the existing 2,084 beds to about 5,000 beds. The integrated 'one campus' will answer to all the investigative, therapeutic, operative, rehabilitative, and vocational needs of the patients and academic and research needs of scholars and students.

The outpatient department (OPD) at AIIMS, New Delhi was shifted to a new facility in Masjid Moth to decongest the existing outpatient services. The new spacious (93,000 square metre) eight-storey OPD building can cater to more than 10,000 patients daily. It is disability friendly with provision of lifts and ramps, and dedicated registration counters, cubicles and toilet facilities. The Department of Laboratory Medicine has developed an integrated automated robotic laboratory—'SMART Lab'—in the new OPD block. This laboratory is equipped with state-of-the-art automated analysers, which are integrated with a pre-analytical system to minimize the human interface and a post-analytical archival system for systematic sample storage and retrieval. The core laboratory facility is automated and will handle more than 2 lakh tests every day.

A new emergency section was added to the Jai Prakash Narayan Apex Trauma Centre (JPNATC) to cater to more patients. This new section has the provision for an operation theatre and a seminar hall for academic activities.

An Interventional Bronchoscopy and Pulmonology Laboratory has been set up in the Department of Pulmonary Medicine and Sleep Disorders. This is equipped with advanced bronchoscopic sampling techniques, therapeutics in pulmonology, and medical thoracoscopy.

The Department of Microbiology obtained a National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation.

### **Education**

The continued emphasis on a unique organizational culture, intense academic training and exposure to world class research has helped AIIMS, New Delhi in becoming a premier teaching institution. For the third time in a row, it has topped in the medical category in the National Institutional Ranking Framework (NIRF 2019) of the Ministry of Human Resource Development.

To prepare for the challenges and opportunities that lie ahead, we continue to creatively build foundations for the future by nurturing a diverse community of leaders committed to alleviating human suffering and promotion of health. With its 7 centres comprising of various teaching departments and facilities and 42 stand-alone Departments, and a manpower of over 10,000 including over 700 faculty members, AIIMS, New Delhi produces a large number of medical graduates, specialists (MD/MS), super-specialists (DM/MCh), PhD scholars and allied health and basic sciences experts, including nurses and paramedical professionals. During the year, we enrolled 748 scholars in various postgraduate courses. The Institute also provided postgraduate training to 467 short-term trainees. AIIMS, New Delhi continued to play a mentorship role for the other AIIMS.

AIIMS, New Delhi exposes clinician and science leaders working in healthcare fields to the real-world settings of medicine and to new trends in science and health care delivery. The institute offered Continuing Medical Education to thousands of physicians and healthcare professionals to help improve skills, knowledge and performance. We

organized/hosted over 180 workshops, symposia, conferences and training programmes in collaboration with various national and international agencies. The Centre for Medical Education and Technology (CMET) at AIIMS, New Delhi organized 53 in-house training programmes for different staff members.

Pursuit of excellence requires immersion in collaborative cultures. AIIMS, New Delhi has MoUs with the Harvard University, Stanford University, and University of Michigan in the USA; University College, London; Australia's Deakin University, Monash University, and George Institute of Global Health; Cologne University, Germany; Erasmus University, the Netherlands; and IIT-Kharagpur and IIT-Delhi.

AIIMS, New Delhi is investing in educational infrastructure development to be future ready. The BB Dixit Library has gradually developed into a predominantly e-resources (80%) facility, which provides 24x7 access to scholarly literature both on and off campus. This year, the library launched its Electronic Thesis and Dissertation facility through an online platform. The Cadaveric Surgical Skills Centre is training more than 500 doctors every year. A fully equipped state-of-the-art undergraduate practical hall has become operational in the Department of Microbiology. The Department of Anatomy has started conducting postgraduate seminars in a collaborative Wiki format. In addition, it has set up a digital histology laboratory.

New courses were also added to an already glittering inventory. The Department of Gastroenterology and Human Nutrition initiated an Advanced Fellowship Program in the field of Gastrointestinal Endoscopy, Pancreatic Diseases, Liver Diseases, and Inflammatory Bowel Diseases.

## **Research and innovation**

Research is an integral part of the trinity of mission of AIIMS, New Delhi. One of the primary mandates of AIIMS, New Delhi is to encourage research and build up the science infrastructure for conducting high quality research. AIIMS, New Delhi has always been the leader of basic, clinical and translational medical research and was the winner of India Research Excellence-Citation Award for the year 2019 for Medical and Health Sciences under Web of Science Group (Clarivate Analytics).

The Research Section serves as a catalyst for research at AIIMS, New Delhi. In 2019-20, it handled 885 extramurally funded research projects from leading national and international funding agencies as well as 160 intramural research grants amounting to Rs. 1600 crores and employing about 1700 project staff in various research positions. The funding agencies included ICMR, DBT, DST, INSA, CSIR, DRDO, Ministry of Health and Family Welfare, WHO, UNICEF, Wellcome Trust, etc. AIIMS, New Delhi has also obtained research funding for collaborative research and has created the AIIMS Endowment Fund with two Infosys chairs in the Obstetrics and Gynaecology, and Oncology departments.

India and Sweden signed a Memorandum of Intent to launch a Healthcare Innovation Centre at AIIMS, New Delhi. The announcement was made at the India-Sweden Business Summit in the presence of Swedish King Carl XVI Gustaf, Union Finance Minister Shrimati Nirmala Sitharaman, and her Swedish counterpart Mr Ibrahim Baylan, and Union Health Minister Shri Harsh Vardhan and his Swedish counterpart Mr Maja Fjaestad. The centre will mainstream digital, scalable, and affordable healthcare solutions for early diagnosis and digital intervention in the management of Non-Communicable Diseases (NCDs) such as diabetes and cancer.

Impetus to infrastructure and capacity building exercise was provided through operationalization of twin research facilities at AIIMS, New Delhi, viz. the Centralized Core Research Facility (CCRF) and the Clinical Research Unit (CRU). The CCRF has been setup to enable access to high-end research facilities and promote capacity building in AIIMS, New Delhi. The facility is an integrated hub of contemporary technologies and laboratories in the advanced areas of BSL-2/3, Genomics, Proteomics, Bioanalytics, Bioinformatics, Microscopic imaging, Flow cytometry and General facility. The Clinical Research Unit (CRU) has been set up to provide assistance in the development, application, and implementation of investigator-initiated research in compliance with global best practices. The institute has also started an innovation facilitation division and the Centre for Integrated Medical Research (CIMR).

The efforts to better understand, treat and prevent disease are supported and enhanced by our extraordinary biomedical research enterprise. In 2019–2020, the research community at AIIMS, New Delhi contributed significantly to scholarship through its leadership in innovations and publications. During the year the faculty and scientists of the Institute were involved in over 800 research projects and published over 2200 research papers in national and international journals and over 300 monographs, books and chapters in books.

Examples of some research that may affect the health of the nation include work on dietary therapies for children with drug resistant epilepsy, efforts to address the diagnostic challenges in the management of tuberculosis, burden estimates of neuropsychiatric disorders, and innovative surgical techniques, besides others. A diet trial in children with drug resistant epilepsy (published in the *Journal of the American Medical Association*) found that the seizure burden reduced significantly in children on ketogenic diet, modified Atkins diet as well as low glycaemic index therapy diet; however, low glycaemic diet had fewer side effects; while families found it difficult to comply with the Ketogenic diet. A multi-institutional team comprising of AIIMS, New Delhi and the Translational Health Science and Technology Institute (THSTI) developed three cost-effective kits that improve the sensitivity of smear microscopy, enable transport of sputum samples at ambient temperature without using bio-safe containers, and extract DNA for diagnosing drug-resistant TB. The ‘Indo-Dutch Cohort Study’ established under the leadership of AIIMS, New Delhi and Erasmus University, Rotterdam to investigate the factors responsible for stroke, dementia and cognitive dysfunction has suggested that 70% of the elderly suffer from hypertension, 40% from diabetes, 30% from high cholesterol, and 22% from anxiety and stress disorder. An analyses of India’s State-Level Disease Burden estimates by AIIMS, New Delhi and Public Health Foundation of India, showed that one in seven Indians suffer from mental disorders of varying severity, including depression, anxiety disorders, schizophrenia and bipolar disorders. The Department of Surgical Oncology has developed a new technique for performing hysterectomies (a procedure to remove the uterus) that prevents damage to the pelvic nerves and injuries to the ureter and bladder, reduces blood loss; besides improving quality of life.

## Service

The AIIMS, New Delhi hospital has been able to maintain high quality standards while providing cost effective services to a large number of patients. The AIIMS, New Delhi main hospital and its centres—Cardiothoracic and Neurosciences Centre (CN Centre), Jai Prakash Narain Apex Trauma Centre (JPNATC), Dr BR Ambedkar Institute Rotary Cancer Hospital (BRAIRCH), Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS), Centre for Dental Education and Research (CDER), National Drug Dependence Treatment Centre (NDDTC)—have a total bed strength of 2792. During the year 2019–2020, AIIMS, New Delhi attended to about 44.14 lakh outpatients and 2.68 lakh inpatients and performed over 2.01 lakh surgical procedures at optimal patient care service parameters with bed occupancy of about 85%, hospital stay of 9.5 days; and a low net death rate of about 2%. AIIMS, New Delhi continues to advance the delivery of healthcare within and outside India, particularly in South and Southeast Asia.

The Central Collection Facility of Laboratory Medicine has extended its blood collection timings for more efficient health care delivery and patients’ convenience. Poor patients (living below the poverty line) in need of expensive treatment not covered by packages under the Ayushman Bharat insurance scheme can now get financial assistance of up to Rs 15 lakhs under the Rashtriya Arogya Nidhi (RAN) scheme and Health Minister’s Cancer Patient Fund at various central government hospitals, including AIIMS, New Delhi.

AIIMS, New Delhi has launched a pilot project—Mission DELHI (Delhi Emergency Life Heart-Attack Initiative)—in a range of 5 km around AIIMS, New Delhi wherein people can call toll free numbers for a motorbike-borne emergency medical assistance unit in the eventuality of heart attack or chest pain. The project has institutional support from the Departments of Cardiology and Emergency Medicine of AIIMS, New Delhi and funding from the Indian Council of Medical Research (ICMR). Under the project, a pair of motorcycle-borne trained paramedic and nursing officer would be the first responders for treating heart attack patients. They would establish a virtual connect with the cardiologists at AIIMS, New Delhi, and deliver medical advice and treatment. While the emergency treatment is being provided, a CATS ambulance will arrive and take the patient for further treatment if required. Even as the patient is on way to the hospital, qualified doctors posted round the clock at the control centre at AIIMS, New Delhi will evaluate the data received from the first responders to establish the further course of treatment as soon as the patient reaches the hospital.

AIIMS, New Delhi and ICMR are working on virtual (without incising/dissecting the body) postmortem. This project will help in the dignified management of the dead body. AIIMS, New Delhi would provide training in this technique to other centres.

The Department of Psychiatry and National Drug Dependence Treatment Centre (NDDTC) have initiated ‘Consultation Liaison Addiction Psychiatry’ services to improve services for addictive disorders in medically ill patients. In addition, in a first-of-its-kind initiative, the NDDTC has launched mobile methadone vans to provide treatment to persons with opioid dependence in the inner-city neighbourhoods in East Delhi.

AIIMS, New Delhi has started a dedicated facility for assessing the risk of falls and providing preventive intervention to elderly persons most at risk. The facility named SATHI (Save the Hip Initiative) will screen those above 65 years of age who visit the orthopaedic and geriatric outpatient departments. The Department of Orthopaedics has also set up an advanced Gait laboratory and 3D printing laboratory.

A Clinical Ecotoxicology (Diagnostic and Research) Facility has been set up in the Department of Anatomy for the detection of heavy metal/other element toxicity and for estimation of micronutrient minerals in blood.

AIIMS, New Delhi retrieved 2,234 corneas last year which was the highest in the past 50 years. The institute also transplanted at least 1,426 cornea tissues with 65% utilisation rate which is much higher than the national average.

### **Public Health**

AIIMS, New Delhi faculty is often consulted by national and international bodies for development of public policies designed to improve the healthcare system. Based on the report ‘Magnitude of Substance Use in India,’ prepared by the NDDTC, the Ministry of Health and Family Welfare has prepared a National Action Plan for Drug Demand Reduction for 2018-2023. Outreach and drop-in centres (ODIC) will be established in 127 vulnerable districts under this plan.

The Airports Authority of India and AIIMS, New Delhi signed an MoU for the project MATE (Mind Activation Through Education), a school wellness programme on mental health. The project aims to reach 2,000 students of both private and government schools. It will sensitise them on issues like relationship with oneself, sex education, coping with stress, respect for self and others, problematic substance and internet use, and balance between mind and body.

To keep a check on mental and behavioural disorders among more than 16,000 inmates lodged in the 16 jails of Tihar Prison Complex, the Delhi Prison Administration in collaboration with the Department of Psychiatry, AIIMS, New Delhi has initiated a project to provide counselling to the inmates. About 7000 inmates have been assessed and counselled under the ‘Project Samarthan’, and this has led to a significant reduction in the rates of suicide and various forms of violence in Delhi prisons.

The National Blindness Visually Impaired Survey (2019) commissioned by the Ministry of Health and Family Welfare and conducted by the Division of Community Ophthalmology of the Dr R.P. Centre for Ophthalmic Sciences in 24 states and Union Territories and covering about 1.11 lakh people showed that the prevalence of blindness in the country has declined by at least 30%. The survey showed that cataract remains the number one cause of blindness in India.

AIIMS, New Delhi in collaboration with the Ministry of Health and Family Welfare launched a website and mobile application on oral health awareness, named ‘e-DantSeva.’ The digital platform contains information about the National Oral Health Programme, a list of dental facilities and colleges (along with GPRS route and satellite images of the facility for easier access), and Information, Education and Communication (IEC) material for timely advise on management of dental emergencies or oral health problems. In addition, the CDER has started training teachers of Kendriya Vidyalayas across the country on oral health so that they can sensitise students about the significance of dental hygiene and healthy eating.

### **Clean AIIMS**

The Union Home Minister Shri Amit Shah and Shri JP Nadda, the previous Health Minister mopped the floor at AIIMS, New Delhi and met sanitation workers to launch the “seva saptah” (week of service) to celebrate Prime Minister Shri Narendra Modi ji’s birthday. In this context, on the 150th birth anniversary of Mahatma Gandhi, AIIMS, New Delhi conducted an awareness campaign to sensitise people against single-use plastic. In addition, the hospital started segregating plastic waste from biomedical waste to enable the sterilisation and recycling of plastic waste.

AIIMS, New Delhi bagged the first prize under the Kayakalp award scheme for all Central government health facilities for the third year in a row. The award felicitates hospitals with the highest standards of sanitation and hygiene and is given annually by the Ministry of Health and Family Welfare, Government of India.

### **COVID Response**

In the face of the daunting health crisis, AIIMS, New Delhi demonstrated its commitment to the people by working to alleviate suffering and improve health and well-being for all through service, discovery, scholarship, and leadership. AIIMS, New Delhi initiated work to provide quality care to those affected by COVID-19 while simultaneously launching efforts to understand the nature of SARS-CoV-2 and develop containment and management strategies.

AIIMS, New Delhi faculty with extensive experience in combating infectious disease outbreaks, identified the need for broader testing capabilities, more personal protective equipment for health care providers and greater hospital capacity. AIIMS, New Delhi also set up a task force to develop a management protocol for COVID-19 and constituted several committees to respond to various challenges posed by the pandemic. The institute also partnered with other institutions to help guide containment efforts through screening, rapid testing and prevention. AIIMS, New Delhi produced COVID-19 informational resources for the public in multiple languages.

In a very short span of time, AIIMS, New Delhi faculty successfully helped design, staff and lead the COVID clinical response in India by converting the JPN Apex Trauma Centre and the National Cancer Institute (NCI), Jhajjar, which house more than 1000 beds (more than 100 Intensive Care/High Dependency Unit beds) into COVID-19 hospitals. The Ministry of Health and Family Welfare also set up a 24x7 call centre at AIIMS, New Delhi to offer guidance on treatment protocols to be followed by health care workers and institutions all over the country to ensure uniformity and quality control in treatment across India.

AIIMS, New Delhi education programs were rapidly calibrated to provide the best learning experiences possible under the circumstances while protecting the health of the entire community. Faculty, students and staff moved swiftly to remote learning and off-site work using new pedagogical approaches.

An AIIMS, New Delhi doctor's placard with the poignant message, "I stayed at work for you... You stay at home for us" on fighting coronavirus won praise from none other than the Prime Minister Shri Narendra Modi. In a tweet, Shri Modi lauded the doctor for his message ("Well said, Doctor!") and appreciated the many medical professionals in the frontline during the war against coronavirus.

## **Nostalgia and Recognition**

Rajkumari Amrit Kaur, freedom-fighter, Mahatma Gandhi's secretary and India's first lady cabinet minister and health minister, whose stewardship led to creation of AIIMS, New Delhi, was named in the TIME magazine's list of the 100 most powerful women who defined the last century. Rajkumari Amrit Kaur had worked on a number of women-centered social and political issues such as the purdah system, child marriage and the Devadasi system. She was jailed during the Quit India movement.

Her Majesty, Queen Silvia of Sweden visited the Memory and Dementia service of the Department of Geriatric Medicine on 3rd December 2019 to familiarize herself with the care provided in India as a part of her interest in dementia care.

The institute houses many WHO Collaborating Centres (WHO CC), viz. the WHO CC for Research and Capacity Building on Community-based Non-Communicable Diseases (NCD) Prevention and Control (Centre for Community Medicine), WHO CC on Substance Abuse (National Drug Dependence Treatment Centre), WHO CC for Prevention of Blindness (Dr Rajendra Prasad Centre for Ophthalmic Sciences), WHO CC for Oral Health Promotion (Centre for Dental Education and Research), WHO CC for Newborn Training and Research in Newborn Care and WHO CC on Training in Clinical and laboratory Genetics (Department of Paediatrics), and WHO CC for Training and Research in Tuberculosis (Department of Medicine). The institute also supports many Indian Council of Medical Research's 'Centre for Advanced Research and Excellence (CARE),' viz. CARE in Virtual Autopsy (Department of Forensic Medicine), CARE in Pancreatic Disease and CARE in Intestinal diseases (Department of Gastroenterology and Human Nutrition), CARE in Neuromodulation (Department of Psychiatry), CARE in Nephrology, CARE in Pulmonology, and CARE in Childhood Neurodevelopmental Disorders (Department of Paediatrics).

The Centre for Community Medicine was designated the National Centre of Excellence and Advanced Research on Anaemia control (NCEAR-A) and the National Institute for HIV surveillance. The Centre for Dental Education and Research was designated the National Centre of Excellence for Implementation of the National Oral Health Program for Ministry of Health and Family Welfare, Government of India.

AIIMS, New Delhi has made a genuine effort to meet its mandate of assisting the government in its endeavour to provide superior healthcare to the Indian people through quality education, cost effective service provision, and innovative biomedical research. As we enter the year that will test our resolve, I do so with the calm assurance that the AIIMS, New Delhi community will be steadfast in its commitment to the people of India. It has been a rare privilege to serve this great institution and to work with so many dynamic people. I extend my humble gratitude to every person at AIIMS, New Delhi whose commitment has made it a unique institution!

**Randeep Guleria**  
**Director**



## 2. The Institute and Its Committees

### INSTITUTE BODY

1. **Dr Harsh Vardhan** President (from 3 July 2019)  
Minister of Health and Family Welfare  
Nirman Bhawan, New Delhi 110011  
  
**Shri Jagat Prakash Nadda** President (up to 2 July 2019)
2. **Shri Ramesh Bidhuri, MP (Lok Sabha)** Member  
H.No.179, Sunpath House, Village Tughlakabad  
New Delhi 110044
3. **Shri Manoj Kumar Tiwari, MP (Lok Sabha)** Member (from 23 August 2019)  
24 Mother Teresa Crescent Marg, New Delhi 110001  
  
**Shri Parvesh Sahib Singh Verma, MP (Lok Sabha)** Member (up to 22 August 2019)
4. **Professor Ram Gopal Yadav, MP (Rajya Sabha)** Member  
8-A, Lodhi Estate, New Delhi 110003
5. **Shri Amit Khare** Member (from 16 December 2019)  
Secretary, Department of Higher Education  
Ministry of Human Resource Development  
Government of India, Shastri Bhavan, New Delhi 110001  
  
**Shri R Subrahmanyam** Member (up to 15 December 2019)
6. **Dr MK Bhan** Member (up to 26 January 2020)  
Former Secretary, Department of Biotechnology  
Ministry of Science and Technology  
Government of India, New Delhi
7. **Shrimati Preeti Sudan** Member  
Secretary (Health and Family Welfare),  
Ministry of Health and Family Welfare  
Government of India, Nirman Bhavan, New Delhi 110001
8. **Professor Yogesh Kumar Tyagi** Member ((Ex-Officio)  
Vice Chancellor, University of Delhi, Delhi 110007
9. **Dr Rajiv Garg** Member (Ex-Officio)  
Director General of Health Services  
Government of India, Nirman Bhavan, New Delhi 110001  
  
**Dr S Venkatesh** Member (Ex-Officio)  
Director General of Health Services  
Government of India, Nirman Bhavan, New Delhi 110001  
  
(up to 31 December 2019)
10. **Dr DS Rana** Member  
Chairman, Board of Management,  
Sir Ganga Ram Hospital, New Delhi.

- |     |  |                  |
|-----|--|------------------|
| 11. | <b>Dr (Shrimati) Vijay Laxmi Saxena</b><br>Former General Secretary, Indian Science Congress Association,<br>(ISCA), Kolkata, West Bengal,<br><br>Coordinator Bioinformatics<br>Infrastructure Facility Centre of DBT, (Government of India),<br>Head, Department of Zoology, Dayanand Girls P.G. College,<br>Kanpur, Uttar Pradesh<br>7/182, Swarup Nagar, Kanpur 208002, Uttar Pradesh | Member           |
| 12. | <b>Dr Mahesh B Patel</b><br>F-001, Shilalekh Tower, Opposite Police Stadium,<br>Shahi Baug, Ahmedabad 380004, Gujarat  | Member           |
| 13. | <b>Dr DG Mhaisekar</b><br>Vice Chancellor, Maharashtra University of Health Sciences,<br>Dindori Road, Mhasrul, Nashik 422004, Maharashtra   | Member           |
| 14. | <b>Dr N Gopalakrishnan</b><br>Professor (Nephrology), Madras Medical College,<br>Chennai 600003, Tamil Nadu  | Member           |
| 15. | <b>Dr DS Gangwar</b><br>Additional Secretary and Financial Adviser<br>Ministry of Health and Family Welfare<br>Government of India, Nirman Bhavan, New Delhi 110001  | Member           |
| 16. | <b>Professor Randeep Guleria</b><br>Director, AIIMS  | Member Secretary |
| 17. | <b>Shri Sudhansh Pant</b><br>Joint Secretary<br>Ministry of Health and Family Welfare<br>Government of India, Nirman Bhavan, New Delhi 110001  | Special Invitee  |
| 18. | <b>Professor VK Bahl</b><br>Dean, AIIMS  | Special Invitee  |
| 19. | <b>Dr DK Sharma,</b><br>Medical Superintendent, AIIMS  | Special Invitee  |

#### GOVERNING BODY

- |    |   |   |
|----|---|---|
| 1. | <b>Dr Harsh Vardhan</b>                             | President (from 3 July 2019)                                      |
|    | <b>Shri Jagat Prakash Nadda</b>                     | President (up to 2 July 2019)                                     |
| 2. | <b>Professor Ram Gopal Yadav, MP (Rajya Sabha)</b>  | Member  |
| 3. | <b>Shri Ramesh Bidhuri, MP (Lok Sabha)</b>          | Member  |
| 4. | <b>Shrimati Preeti Sudan</b>                        | Member  |
| 5. | <b>Shri Amit Khare</b><br><b>Shri R Subramanyam</b> | Member (from 16 December 2019)<br>Member (up to 15 December 2019) |
| 6. | <b>Dr DS Rana</b>                                   | Member  |

- |     |  |   |
|-----|--|---|
| 7.  | <b>Dr Rajiv Garg</b>                                 | Member (Ex-Officio)<br>(from 1 January 2020)    |
|     | <b>Dr S Venkatesh</b>                                | Member (Ex-Officio)<br>(up to 31 December 2019) |
| 8.  | <b>Dr Mahesh B Patel</b>                             | Member  |
| 9.  | <b>Dr DG Mhaisekar</b>                               | Member  |
| 10. | <b>Dr DS Gangwar</b>                                 | Member  |
| 11. | <b>Professor Randeep Guleria</b><br>Director, AIIMS  | Member Secretary                                |
| 12. | <b>Professor VK Bahl</b><br>Dean, AIIMS              | Special Invitee                                 |
| 13. | <b>Dr DK Sharma</b><br>Medical Superintendent, AIIMS | Special Invitee                                 |

#### FINANCE COMMITTEE

- |    |  |   |
|----|--|---|
| 1. | <b>Shrimati Preeti Sudan</b>                           | Chairperson   |
| 2. | <b>Shri Parvesh Sahib Singh Verma. M.P (Lok Sabha)</b> | Member (up to 22 August 2019)                                     |
| 3. | <b>Dr Rajiv Garg</b>                                   | Member (Ex-Officio)<br>(from 1 January 2020)                      |
|    | <b>Dr S Venkatesh</b>                                  | Member (Ex-Officio)<br>(up to 31 December 2019)                   |
| 4. | <b>Shri Amit Khare</b><br><b>Shri R Subramanyam</b>    | Member (from 16 December 2019)<br>Member (up to 15 December 2019) |
| 5. | <b>Dr MK Bhan</b>                                      | Member (up to 26 January 2020)                                    |
| 6. | <b>Dr DG Mhaisekar</b>                                 | Member  |
| 7. | <b>Dr DS Gangwar</b>                                   | Member  |
| 8. | <b>Professor Randeep Guleria</b><br>Director, AIIMS    | Member Secretary  |

#### STANDING ACADEMIC COMMITTEE

- |    |                          |   |
|----|--------------------------|---|
| 1. | <b>Dr Mahesh B Patel</b> | Chairperson                                     |
| 2. | <b>Dr Rajiv Garg</b>     | Member (Ex-Officio)<br>(from 1 January 2020)    |
|    | <b>Dr S Venkatesh</b>    | Member (Ex-Officio)<br>(up to 31 December 2019) |
| 3. | <b>Dr MK Bhan</b>        | Member (up to 26 January 2020)                  |

4.	<b>Shri Amit Khare</b> <b>Shri R Subramanyam</b>	Member (from 16 December 2019) Member (up to 15 December 2019)
5.	<b>Dr DG Mhaisekar</b>	Member
6.	<b>Dr DS Rana</b>	Member
7.	<b>Dr (Shrimati) Vijay Laxmi Saxena</b>	Member
8.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING ESTATE COMMITTEE

1.	<b>Professor Ram Gopal Yadav, MP (Rajya Sabha)</b>	Chairperson
2.	<b>Shri Parvesh Sahib Singh Verma, MP (Lok Sabha)</b>	Member (up to 22 August 2019)
3.	<b>Dr DS Rana</b>	Member
4.	<b>Dr Rajiv Garg</b>	Member (Ex-Officio) (from 1 January 2020)
	<b>Dr S Venkatesh</b>	Member (Ex-Officio) (up to 31 December 2019)
5.	<b>Professor Yogesh Kumar Tyagi</b>	Member (Ex-Officio)
6.	<b>Dr DS Gangwar</b>	Member
7.	<b>Dr N Gopalakrishnan</b>	Member
8.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING HOSPITAL AFFAIRS COMMITTEE

1.	<b>Shri Parvesh Sahib Singh Verma, MP (Lok Sabha)</b>	Chairperson (up to 22 August 2019)
2.	<b>Shri Ramesh Bidhuri, MP (Lok Sabha)</b>	Member
3.	<b>Dr DS Rana</b>	Member
4.	<b>Dr (Shrimati) Vijay Laxmi Saxena</b>	Member
5.	<b>Dr MK Bhan</b>	Member (up to 26 January 2020)
6.	<b>Dr DG Mhaisekar</b>	Member
7.	<b>Dr N Gopalakrishnan</b>	Member
8.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

## STANDING SELECTION COMMITTEE

- |    |   |   |
|----|---|---|
| 1. | <b>Dr DS Rana</b>                                   | Chairperson   |
| 2. | <b>Dr Rajiv Garg</b>                                | Member (Ex-Officio)<br>(from 1 January 2020)                      |
|    | <b>Dr S Venkatesh</b>                               | Member (Ex-Officio)<br>(up to 31 December 2019)                   |
| 3. | <b>Dr DG Mhaisekar</b>                              | Member  |
| 4. | <b>Dr MK Bhan</b>                                   | Member (up to 26 January 2020)                                    |
| 5. | <b>Dr Mahesh B Patel</b>                            | Member  |
| 6. | <b>Shri Amit Khare</b><br><b>Shri R Subramanyam</b> | Member (from 16 December 2019)<br>Member (up to 15 December 2019) |
| 7. | <b>Dr N Gopalakrishnan</b>                          | Member  |
| 8. | <b>Professor Randeep Guleria</b><br>Director, AIIMS | Member Secretary  |



### 3. Academic Section

**Dean**

VK Bahl

**Associate Dean**

Rajeev Kumar

**Registrar**

Sanjeev Lalwani

The Academic Section develops policy and plans, and executes academic activities. These activities encompass the undergraduate, postgraduate and doctoral programmes for medical, nursing and paramedical courses. These activities are conducted by the undergraduate, postgraduate and paramedical cells.

#### UNDERGRADUATE EDUCATION

The section handles post-admission formalities for new students, develops and revises curricula and administers teaching programmes including internal assessment of undergraduate students admitted to various courses. The courses include MBBS, BSc (Hons) Medical Technology in Radiography, Ophthalmic Techniques, Operation Theatre Technology, BSc Dental Hygiene, BSc Dental Operating Room Assistant (DORA), BSc Nursing (Post-certificate) and BSc (Hons) Nursing courses.

#### Bachelor of Medicine and Bachelor of Surgery (MBBS)

The pattern of education in MBBS course was reviewed and re-structured in July 2004. The MBBS course is of 5½ years duration and comprises of 3 phases and internship. The details are as follows:

Phase	Duration (years)	Training
First	One	Pre-clinical
Second	One-and-a-half	Para-clinical
Third	Two	Clinical
Internship	One	Compulsory rotation in various departments

At present, 100 Indian students are admitted every year to the MBBS course (50 General Category, 15 Scheduled Caste, 8 Scheduled Tribe and 27 Other Backward Classes). These admissions were made based on merit through an All-India Entrance Examination. For persons with disabilities (PWD), 5% reservation was provided on a horizontal basis. For these 100 seats, 3,89,923 applications were received and 3,38,457 candidates appeared in the entrance examination held on 25 and 26 May 2019. As on 31 March 2020, 467 MBBS students including 73 interns were on rolls. There is a provision for admitting 7 foreign nationals on the recommendations of the Ministry of External Affairs, Government of India and 7 foreign nationals were recommended for admission.

Nine meritorious MBBS students were awarded scholarships for securing first, second and third positions in the first, second and final phase of professional examinations.

In 2019, the Academic Section, with the approval of the Academic Committee, initiated skills training as a part of the undergraduate curriculum. The faculty identified and developed training modules for skills considered essential for undergraduate MBBS students. These modules were developed with the SET facility (details below) and administered by various departments engaged in undergraduate teaching.

In continuation of its push for skills training, the Academic Section arranged for 15 MBBS undergraduate students, along with 3 faculty members, to visit the Cologne Inter-professional Skills Lab of the University of Cologne, Germany under a German Academic Exchange Service (DAAD) sponsorship for training in skills and learning how to develop a skills mentorship programme.



Five MBBS students were sponsored for a visit to University College, London at the Institute of Health Engineering to participate in the UCL Global Healthcare Engineering Symposium in July 2019. They were accompanied by three faculty members.

In addition, summer workshops were organized at IIT-Delhi, IGIB-Delhi and THSTI-Faridabad where undergraduate students spent time in developing research interests and made prototype devices for further development.

### **Paramedical and Nursing Education**

In 2019–2020, 77 students (39 General Category, 11 Scheduled Caste, 6 Scheduled Tribe and 21 Other Backward Classes, 2 Foreign Nationals) were admitted in BSc (Hons) Nursing course. For BSc Nursing (Post-certificate) course, 34 students

(20 General Category, 6 Scheduled Caste, 2 Scheduled Tribe, 6 Other Backward Classes and 1 Foreign National candidates) were admitted. Students admitted to various BSc (Hons) courses were as below:

Course	Total	General	Scheduled caste	Scheduled tribe	Other backward classes	Foreign
Ophthalmic Techniques	19	10	3	1	5	1
Medical Technology in Radiography	10	5	2	0	2	1
Operation Theatre Technology	5	3	1	0	1	0
Dental Hygiene	3	1	0	1	1	0
Dental Operating Room Assistant	8	5	1	0	2	0

The number of students on rolls in these courses as on 31 March 2020 were as below:

Course	Number of students
<b><i>Nursing</i></b>	
BSc Nursing (Post-basic)	51
BSc (Hons) Nursing	284
<b><i>Paramedical</i></b>	
BSc (Hons) Ophthalmic Techniques	65
BSc (Hons) Medical Technology in Radiography	29
BSc Operation Theatre Technology	25
BSc Dental Hygiene	5
BSc Dental Operating Room Assistant (DORA)	14

## POSTGRADUATE EDUCATION

The Academic Section looks after all activities pertaining to admission and training of postgraduate students including junior and senior residents. It handles all activities related to Fellowship, PhD, DM, MCh, MD, MS, MDS, MCh/DM (Direct 6 years course), M Biotechnology (MBiotech) and MSc courses in different disciplines.

Admissions to all postgraduate courses for Indian nationals as well as sponsored candidates are made through an All-India Entrance Examination held twice a year for all postgraduate courses except MSc, MSc Nursing and MBiotechnology courses, for which the examination is held once a year. Under sponsored category, foreign nationals are admitted through the same entrance examination. In 2019-20, 748 students were admitted in various courses. The number of postgraduate and doctoral students on roll as on 31 March 2020 was 1966.

### Admissions in various courses

Course	July 2019	January 2020	Total
MSc/MBiotech/MSc Nursing (August)*	94	–	94
MD/MS/MDS/MCh/DM (Direct 6 years)	173	188	361
DM/MCh	74	102	176
PhD	45	45	90
Fellowship	12	15	27
<b>Total</b>	<b>398</b>	<b>350</b>	<b>748</b>

\*Admissions are done once in a year.

**Postgraduate students on rolls**

Name of course	Number of students on roll
PhD	268
DM	379
MCh	183
Fellowship programme	45
MD	739
MS	105
MDS	65
MSc/MBiotech/MSc Nursing	182
<b>Total</b>	<b>1966</b>

**Subject-wise distribution of PhD students on rolls**

Subject	Open	Sponsored
Onco-anaesthesiology and Palliative Medicine (Dr BRA IRCH)	0	1
Anaesthesiology, Pain Medicine and Critical Care	0	1
Anaesthesiology, Pain Medicine and Critical Care (JPNATC)	1	0
Anatomy	23	0
Biochemistry	42	0
Biophysics	22	0
Biotechnology	5	0
Cardiac Anaesthesiology	0	1
Dermatology and Venereology	3	0
Cardiac Biochemistry	1	0
Cardiothoracic Centre (Stem Cell)	2	0
Community Medicine	3	1
Clinical Neuro-psychology	1	0
Community Ophthalmology (Dr RP Centre)	2	0
Forensic Pathology and Molecular DNA (JPNATC)	1	0
Cardiology	1	0
Endocrinology and Metabolism	4	0
Forensic Medicine	1	0
Gastroenterology and Human Nutrition Unit	5	0
Laboratory Medicine	3	0
Laboratory Medicine (JPNATC)	1	0
Laboratory Oncology	10	0
Medical Oncology (Dr BRA IRCH)	7	0
Medical Physics (Dr BRA IRCH)	1	1
Microbiology	5	1

Neuro-anaesthesiology	0	1
Neuroradiology	1	0
Neurology	17	0
Neurosurgery	2	0
Nuclear Magnetic Resonance	5	1
Obstetrics and Gynaecology	1	0
Ocular Biochemistry (Dr RP Centre)	1	0
Ocular Pathology (Dr RP Centre)	2	0
Ocular Pharmacology (Dr RP Centre)	1	0
Paediatrics (Genetic)	1	0
Paediatrics	2	1
Pathology	10	0
Pharmacology	14	0
Physiology	22	0
Psychiatry (Addiction Psychiatry)	1	0
Psychiatry (Clinical Psychology)	4	0
Psychiatry	2	0
Pulmonary Medicine and Sleep Disorders	4	0
Radiodiagnosis	0	1
Radiotherapy	0	1
Reproductive Biology	11	0
Stem Cell	1	0
Surgery	2	0
Surgery (JPNATC)	1	1
Transplant Immunology and Immunogenetics	5	2
<b>Total</b>	<b>254</b>	<b>14</b>

#### Subject-wise distribution of DM students on rolls

<b>Subject</b>	<b>Open</b>	<b>Sponsored</b>
Addiction Psychiatry (NDDTC)	12	2
Cardiac Surgical Intensive Care	4	0
Cardiac Anaesthesiology	14	1
Cardiology	22	4
Clinical Haematology	8	3
Clinical Pharmacology	3	2
Anaesthesiology and Critical Care	18	1
Endocrinology	8	3
Gastroenterology	21	4
Haemato-pathology	8	3
Infectious Diseases	12	1

Medical Genetics	7	0
Medical Oncology	25	3
Neonatology	9	3
Nephrology	8	5
Neuro-Anaesthesiology and Critical Care	18	3
Neurology	35	2
Neuroimaging and Interventional Neuroradiology	6	2
Onco-Anaesthesia (Dr BRA IRCH)	16	0
Paediatric Cardiology	6	2
Paediatric Nephrology	3	3
Paediatric Neurology	9	1
Paediatric Pulmonology and Intensive Care	3	2
Paediatric Oncology	5	2
Pulmonary, Critical Care and Sleep Medicine	12	3
Reproductive Medicine	4	3
Therapeutic Medicine	4	0
Cardiovascular Radiology and Endovascular Interventions	12	0
<b>Total</b>	<b>312</b>	<b>58</b>

#### Subject-wise distribution of DM (6 years course) on rolls

Subject	Open	Sponsored
Infectious Diseases	9	0
<b>Total</b>	<b>9</b>	<b>0</b>

#### Subject-wise distribution of MCh students on rolls

Subject	Open	Sponsored
Breast, Endocrine and General Surgery	8	2
Cardiothoracic and Vascular Surgery	25	2
Gastrointestinal Surgery	12	2
Gynaecologic Oncology	5	3
Head-Neck Surgery and Oncology	4	2
Minimal Access Surgery and General Surgery	10	2
Neurosurgery	17	2
Paediatric Surgery	5	2
Plastic and Reconstructive Surgery	15	0
Surgical Oncology	14	2
Trauma Surgery and Critical Care	15	6
Urology	8	2
<b>Total</b>	<b>138</b>	<b>27</b>

**Subject-wise distribution of MCh (6 years course) on rolls**

<b>Subject</b>	<b>Open</b>	<b>Sponsored</b>
Neurosurgery	12	0
Paediatric Surgery	6	0
<b>Total</b>	<b>18</b>	<b>0</b>

**Subject-wise distribution of Fellowship Students on rolls**

<b>Subject</b>	<b>Open</b>	<b>Sponsored</b>
Bariatric and Metabolic Surgery	2	0
Renal Transplant Surgery	1	0
Anaesthesiology–Pain Medicine	4	0
Epilepsy Surgery and Functional Neurosurgery	2	0
Spine Surgery	4	0
Skull Base and Cerebrovascular Surgery (NS)	1	0
Advanced Gastrointestinal Endoscopy	1	0
Uro-Oncology	1	0
Minimal Invasive Urology (Laparoscopic and Robotics)	1	0
Genitourinary Reconstructive Surgery (Adult)	1	0
GI Radiology	2	0
Thoracic Radiology	1	0
Paediatric Radiology	2	0
Minimally Invasive Gynaecological Surgery	1	1
Uro-Gynaecology	2	1
Gastroenterology-Pancreatology	1	0
Gastroenterology-Inflammatory Bowel Diseases	1	0
Cleft and Craniofacial Orthodontics	1	0
Neuro-critical Care	1	0
Aortic Surgery	2	0
Maternal Foetal Medicine (MFM) in Department of Obstetrics and Gynaecology	1	0
Clinical Research Methodology and Evidence Based Medicine	3	0
Arthroscopy	2	0
Joint Replacement	2	0
Musculoskeletal Oncology	2	0
Pelvic–Acetabular Trauma	1	0
<b>Total</b>	<b>43</b>	<b>2</b>

**Subject-wise distribution of MD/MS/MDS students on roll**

<b>Subject</b>	<b>Open</b>	<b>Sponsored</b>
Anaesthesiology	57	3
Anatomy	15	0
Biochemistry	15	0
Biophysics	14	0
Community Medicine	22	2
Conservative Dentistry and Endodontics	10	1
Dermatology and Venereology	19	3
Emergency Medicine	37	3
Forensic Medicine	9	1
Geriatric Medicine	18	3
Hospital Administration	7	3
Infectious Disease-DM (Direct 6-year course)	17	0
Laboratory Medicine	8	1
Medicine	57	3
Microbiology	15	0
Neurosurgery-MCh (Direct 6-year course)	11	0
Nuclear Medicine	18	3
Obstetrics and Gynaecology	43	3
Ophthalmology	115	3
Oral and Maxillofacial Surgery	12	3
Orthodontics	13	3
Orthopaedics	19	3
Otorhinolaryngology (ENT)	18	3
Paediatric Surgery-MCh (Direct 6-year course)	5	0
Paediatrics	34	3
Palliative Medicine	12	1
Pathology	28	3
Pedodontics and Preventive Dentistry	13	1
Pharmacology	13	0
Physical Medicine and Rehabilitation	9	2
Physiology	18	0
Prosthodontics	8	1
Psychiatry	30	3
Radiodiagnosis	26	0
Radiotherapy	10	3
Surgery	59	3
Transfusion Medicine	9	2
<b>Total</b>	<b>843</b>	<b>66</b>

### Subject-wise distribution of MSc students on rolls

Subject	Open	Sponsored
Anatomy	10	–
Biochemistry	10	2 (Foreign National)
Biophysics	9	–
Pharmacology	10	–
Physiology	10	–
Perfusion Technology	6	–
Biotechnology	28	–
Nuclear Medicine Technology	20	–
Reproductive Biology	10	1 (Foreign National)
Cardio Vascular Imaging and Endovascular Technology	6	–
<b>Total</b>	<b>119</b>	<b>3</b>

### Subject-wise distribution of MSc (Nursing) students on rolls

Subject	Open	In-service candidate/Foreign National
Cardiological/CTVS Nursing	8	1
Neurosciences Nursing	8	0
Paediatric Nursing	9	0
Psychiatric Nursing	9	0
Oncological Nursing	8	0
Nephrological Nursing	8	0
Critical Care Nursing	8	1
<b>Total</b>	<b>58</b>	<b>2</b>

### TRAINING PROGRAMMES

There is a provision for short term, long term and elective training for students and employees of various organizations in India as well as abroad. During 2019–20, 518 persons underwent training as listed below:

S. No.	Training	Number of trainees
1	Short Term training: Indian nationals	426
2	Short Term training: Foreign nationals	41
3	Long Term training: Indian nationals	9
4	Elective Training: Foreign nationals (UG students)	40
5	WHO Fellows: Indian nationals	2
6	WHO Fellows: Foreign nationals	–
7	Permission for organizing Conferences/Workshops	188

### COMMITTEE MEETINGS

The Academic Section organized meetings of the Academic Committee, Staff Council, Dean's Committee, Faculty and Research Presentations as per details given below:

S. No.	Committee	Number of Meetings
1	Academic Committee	2
2	Staff Council	1
3	Dean's Committee	2
4	Faculty (General Discussions)	6
5.	Oration	7
6.	Research Presentations	9

### ***SARAL* System for Online Learning and Student Management**

The Academic Section, All India Institute of Medical Sciences, New Delhi along with M/s Ballistic Learning Limited, has developed a system for online learning and student management. The system *SARAL* has two components: an online learning platform where educational material is uploaded by the faculty and accessed by students based on their academic course, and a student life-cycle management part where all aspects of student interactions with the academic section are made possible. The objective of creating the *SARAL* platform was to allow blended learning, online delivery of educational content and streamline administrative management.

The system was formally launched by Professor Randeep Guleria, Director, AIIMS, New Delhi on 24 October 2019.

Users from various academic courses were enrolled into the system beginning with January 2020 batch. With the COVID-19 pandemic starting in March 2020, physical classes for undergraduate students were suspended and online teaching using the *SARAL* platform and web-streaming became widely used.

Using this platform, faculty members can upload lectures/videos/notes/content on their scheduled teaching activity and can engage students in discussions and evaluations. By 31st March 2020, 2189 users had been registered and 198 courses had been created on the platform.

### **SET (Skills, E-learning and Telemedicine) FACILITY**

Professor AK Deorari, Chairman, Skills (Dry and Wet Lab) Facility

Professor MK Singh, Chairman, E-Learning Facility

Professor A Shariff, Chairman, Telemedicine Facility

Professor Ambuj Roy, Facility Coordinator in-charge



**Faculty and Staff at SET facility activities**

#### **Objectives:**

- Establish skills facility: Dry lab, wet lab, simulation-based learning
- Establish e-platform for online learning
- Telemedicine facility to collaborate between Institutes all over India

## Skill lab

### *Undergraduate students*

- Skill-based learning for undergraduate students which is integrated in the curriculum and spread over all nine semesters.
- The program starts in 4th semester using blended online and hands-on teaching methodology
  - Number of skill training sessions: 47
  - Number of students attending the various sessions: 550
- Visit by MBBS students for designing ideas
  - Total number conducted: 1
  - Total residents attending: 4

### *Nursing students*

- Skill training program for students of College of Nursing: 7
- Number of students attended: 320

### *Postgraduate students*

- **Skill training program for residents**
  - Total number conducted: 7
  - Total residents enrolled: 145
- **Orientation to high fidelity manikin**
  - Total number conducted: 1
  - Total residents enrolled: 20
- **Ultrasound course**
  - Total number conducted: 3
  - Total residents enrolled: 117
- **Acute critical care course**
  - Total number conducted: 1
  - Total residents enrolled: 23
- **Suturing workshop**
  - Total number conducted: 1
  - Total residents enrolled: 50



**Acute Critical Care Course**



**Suturing Workshop**

### *MCh/DM/Superspeciality training courses*

1. **IAP Advanced life support course**
  - Total number conducted: 2
  - Total residents enrolled: 83
2. **Difficult Airway workshop**
  - Total number conducted: 2
  - Total residents enrolled: 58



**IAP Advanced Life Support Course**



**Difficult Airway Workshop**

*Faculty training programs (Training of trainers)*

- **Simulation based learning for improving pre-term baby care**  
—Total number conducted: 8                      —Total faculty enrolled: 290
- Workshop on unicompartmental knee replacement  
—Total number conducted: 1                      —Total faculty enrolled: 27
- WHO SEARO consultation of ICOPE demonstration  
—Total number conducted: 1                      —Total faculty enrolled: 30
- **3SET Workshop for in-house faculty training**  
—Total number conducted: 2                      —Total faculty enrolled: 60



Content Development Workshop for Faculty



Simulation based learning for improving pre-term baby care

**Wet lab**

*Cadaveric Training Workshops (for MCh students/fellowship students/faculty)*

<b>Workshop</b>	<b>Total conducted</b>	<b>Total delegates enrolled</b>
Thoracic surgery	2	73
Head and neck surgery	1	23
Multiple organ retrieval	2	56
Bariatric and colorectal surgery	3	46
Laposcopic training	2	36
Lung Transplantation	2	40
Colorectal cancer-minimal invasive procedure	1	70



*Other training sessions and Workshops (Non-cadaveric)*

Session/workshop	Total conducted	Total delegates enrolled
Suturing/Intravascular anastomosis workshop	6	216
Difficult airway workshop, percutaneous tracheostomy training	1	28
Nerve and tendon repair workshop	2	40
Indo-US symposium on allergy and asthma	1	50
MD Residents skill training program	1	18
AIIMS Breast Course	1	45
Simulation based training for improving Pre term care and Quality Improvement approach	6	223
IAP Advanced Life support Course	1	43
Workshop on Reconstruction of Aortic Valve	1	26
Animal model for per oral endoscopic myotomy (Academicals teaching on POEM)	1	8
International conference on bariatric surgery	1	15
Brainstorming meeting on DSD	1	35



#### Resuscitation training courses

Course	Total conducted	Total delegates enrolled
AHA accredited BLS and ACLS provider	5	120
AHA accredited BLS and ACLS instructor	1	10
AIIMS CRTP- BLS training programme	43	938
Code blue training	1	21
BLS and ACLS for resident doctors	2	16
INCPT BCLS workshop for physiotherapists	1	40
Workshop on CPR for optometrist	1	36
BLS course for AYUSH doctors	1	24



Distribution of skill modules for undergraduate skill learning:

<b>4th and 5th Semester</b>	<b>6th Semester</b>	<b>7th Semester</b>
Hand washing	Bag and mask	LMA insertion
IM injection	Chest compression	Arterial blood sampling
PV examination	–Adult	Endotracheal intubation
Pap smear	–Paediatric	Glucometer use
IV cannulation	Neonatal intubation	Gloving and gowning
Pulse oximeter use	Basic suturing	Fracture stabilization
	Cu-T insertion	
	Endometrial aspiration	

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<b>8th Semester</b>	<b>Internship</b>
Adult NG tube insertion	ICD insertion
Diagnostic LP	Urinary catheterisation
Ascitic tap	Needle thoracocentesis
Cervical collar application	CVC insertion
Tru-cut biopsy	PICC insertion
Normal vaginal delivery	BLS and ACLS
Episiotomy repair	
Neonatal OG feeding	
Neonatal LP	

### Telemedicine Services

- Tele-evidence: 21
- Tele-CME: 199
- Tele-conference: 13
- Tele-consultation: 64
- Seminar: 22
- Live transmitting: 3

### Extra activities in March 2020 due to COVID-19 pandemic

- Live UG and PG classes
- Regular online classes: 94
- WEBINAR recording: 12
- Guest lecture: 14
- Lecture on Yoga & Yoga Therapy: The Biomedical Science & Research Evidence
- MILAP Conservation (Multi Institutional Learning & Practice Platform) by Surgery (TRAUMA)

### RESEARCH

#### *Ongoing projects*

1. Effectiveness and perceived usefulness of a consolidated skill-based learning program amongst medical interns: A mixed methods study
2. Comparison of King **vision** video laryngoscope **channelled and non-channelled** blades with direct laryngoscope for intubation in mannequin by medical students: A randomized mannequin study
3. Resuscitation practices in in-patient areas at All India Institute of Medical Sciences: A checklist based prospective, observational data collection study

#### *Completed projects*

1. Randomized trial to study the impact of simulation based learning over conventional training on knowledge and self-efficacy of nursing students in pediatric medicine and surgery wards
2. Comparing the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses: A randomized controlled trial
3. Role of low fidelity simulation in acquisition of midwifery skills among nursing students: A mixed method approach

**Award of certificate of appreciation for contribution to various academic activities at the SET Facility by Director, AIIMS.**

<b>S. No.</b>	<b>Faculty Name</b>	<b>Department</b>
01	Dr Rashmi Ramachandran	Anaesthesiology, Pain medicine and Critical care
02	Dr Thilaka Muthiah	Anaesthesiology, Pain medicine and Critical care
03	Dr Manpreet Kaur	Anaesthesiology, Pain medicine and Critical care
04	Dr Devalina Goswami	Anaesthesiology, Pain medicine and Critical care
05	Dr Nishkarsh Gupta	Onco-anaesthesiology
06	Dr Rakesh Garg	Onco-anaesthesiology
07	Dr Gyanendra Pal Singh	Neuro-anaesthesiology
08	Dr Prabhjot Singh	Urology
09	Dr Prabudh Goel	Paediatric Surgery
10	Dr Anu Sachdeva	Paediatrics
11	Dr K Aparna Sharma	Obstetrics and Gynaecology
12	Dr Jhuma Sankar	Paediatrics
13	Dr Juhi Bharti	Obstetrics and Gynaecology
14	Dr Jyoti Meena	Obstetrics and Gynaecology
15	Dr Vidushi Sinha	Obstetrics and Gynaecology
16	Dr Ravneet Kaur	Centre for Community Medicine
17	Dr Harshal Salve	Centre for Community Medicine
18	Dr Suhani	Surgical Disciplines
19	Dr Mohit Joshi	Surgical Disciplines
20	Dr Kamlesh Kumari Sharma	College of Nursing
21	Dr Smita Das	College of Nursing
22	Dr Arvind Kumar	Medicine
23	Dr Ranveer Singh Jadon	Medicine
24	Dr Upendra Raj	Medicine
25	Dr Akshay Kumar	Emergency Medicine
26	Dr Rishi Nayyar	Urology
27	Dr Brusabhanu Nayak	Urology
28	Dr Hemanga K. Bhattacharjee	Surgical Disciplines
29	Dr. Rajni Sharma	Paediatrics
30	Dr. Narendra Bagri	Paediatrics

# Students' Wellness Centre

## Professor-in-Charge

Pratap Sharan, Department of Psychiatry

## Clinical Psychologists

Dr Anamika Sahu

Ms Aishwarya Raj (Contractual)

Ms Kalpana

Ms Divyani Khurana (Contractual)

Ms Akanksha Gupta (Contractual)

## HIGHLIGHTS

Student Wellness Centre (SWC) is dedicated to the wellness of all undergraduate students, postgraduate students, research scholars, and tenured researchers and residents at AIIMS, Delhi. This year the services were expanded to Ladies Hostel (Hostel 19) and Trauma Centre. SWC conducted various workshops on topics related to mental health and wellness to enable participants to cope better and become resilient. SWC also conducted focus group discussions with residents in various departments of AIIMS to get an understanding of issues faced by the students and residents and help solve them. The SWC has also started a Wellness Volunteer Program to develop a more approachable peer-cadre.

## EDUCATION

- Various lectures were delivered to Nursing students (1st year) by the SWC team during the year.
- Various lectures related to wellness were delivered to PG trainees by the SWC Team during Wellness workshops.
- Various lectures on 'communication with patients with chronic and terminal illness' for nursing staff

## CMEs/Workshops/Symposia/National and International Conferences

- CREST Workshop for 1st year MBBS students, 'Bringing Wellness to AIIMS Undergraduate Community', 15 July 2019, AIIMS, New Delhi
- Resident Wellness Workshops: 'Issues of Mental Health and Counselling' (8 August, 2019; 5 September; 24 October 2019; 7 March 2020), AIIMS, New Delhi
- Focus Groups on mental stress in Departments of Anatomy (15 October 2019), Biochemistry (7 May 2019; 30 July 2019, Obstetrics & Gynecology (29 October 2019; 19 November 2019) and Otolaryngology (19 November 2019; 13 December 2019), AIIMS, New Delhi
- Workshop on Communication Skills for Nurses (21 February 2020), AIIMS, New Delhi

## Lectures delivered

### Dr Anamika Sahu

1. Suicide and safety nets, Resident Wellness Workshops titled "Issues of Mental Health and Counselling", 24 October 2019, AIIMS, New Delhi
2. School in the realm of positive mental health of children and adolescents (Symposium school mental health in India: what we have achieved?), 15th Biennial Conference of Indian Association of Child and Adolescent Mental Health (IACAM), 9 November 2019, Chandigarh
3. Dealing with patients in crisis, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi
4. Evidence based intervention: relevance to Indian context (symposium somatic symptom disorder: A flag bearer of consultation liaison perspective), 46th national annual conference of Indian Association of Clinical Psychologists, 22 February 2019, Chandigarh
5. Suicide and safety nets, Resident Wellness Workshops titled "Issues of Mental Health and Counselling", 7 March 2020, AIIMS, New Delhi
6. 'Determinants: Form, Movement, Colour', National Level Workshop on 'Rorschach: Exner's Comprehensive System', 16 March 2020, Ranchi, Jharkhand

### Ms Kalpana Singh

1. Life work balance, Resident Wellness Workshops titled "Issues of Mental Health and Counselling", 24 October 2019, AIIMS, New Delhi
2. Life work balance, Resident Wellness Workshops titled "Issues of Mental Health and Counselling", 7 March 2020, AIIMS, New Delhi

3. Dealing with conflict, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi

#### **Ms Aishwarya Raj**

1. Prevention of Sexual Harassment, Students Union Panel Discussion on “Prevention of Sexual Harassment”, 16 April 2019, AIIMS, New Delhi
2. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 8 August 2019, AIIMS, New Delhi
3. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 5 September 2019, AIIMS, New Delhi
4. Say NO to Suicide, Emotional well-being of Doctors in India, 10 October 2019, IMA Hall, Delhi
5. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 24 October 2019, AIIMS, New Delhi
6. Communication with patients with chronic & terminal illness, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi
7. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 7 March 2020, AIIMS, New Delhi

#### **Ms Divyani Khurana**

1. Prevention of Sexual Harassment, Students Union Panel Discussion on “Prevention of Sexual Harassment”, 16 April 2019, AIIMS, New Delhi
2. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 8 August 2019, AIIMS, New Delhi
3. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 5 September 2019, AIIMS, New Delhi
4. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 24 October 2019, AIIMS, New Delhi
5. Communication with patients with chronic & terminal illness, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi
6. Say no to Harassment, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 7 March 2020, AIIMS, New Delhi

#### **Ms Akanksha Gupta**

1. Time Management, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 8 August 2019, AIIMS, New Delhi
2. Life work Balance, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 5 September 2019, AIIMS, New Delhi
3. 3, Life work Balance, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 24 October 2019, AIIMS, New Delhi
4. 4, Relationships and distortions, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi
5. 5, Life work Balance, Resident Wellness Workshops titled “Issues of Mental Health and Counselling”, 7 March 2020, AIIMS, New Delhi

#### **Oral papers/posters presented**

1. Gupta P, Jahan M, Sahu A, Prasad S, Shukla A. Coping styles and ability to function in tension type headache: An action research with stress inoculation training, 46th Annual National Conference of Indian Association of Clinical Psychologists, 23 February 2020, Chandigarh

## **PUBLICATIONS**

**Journals: 1**

**Abstracts: 1**

## **CARE FOR SCHOLARS**

### **Services**

#### ***Face to face counselling***

Existing Students Wellness Centres: Gents Hostel (Opposite Hostel 7) and Ladies Hostel (Hostel 10)

New Students Wellness Centres added: Hostel Number 19, Masjid Modh; Jai Prakash Narayan Apex Trauma Centre (JP-NATC)

**E-helpline:** wellness@aiims.edu; wellness@aiims.ac.in

**M-helpline (24\*7):** 9999865729, 999965730

### **Caseload:**

- More than 120 cases are registered with SWC during the year.
- The student wellness centre provided counselling and field support (e.g. helping students approach their guides, coordinate research meetings).

### **Booklets/Pamphlets**

- Hello AIIMS (Divyani Khurana, Pratap Sharan)
- Prevention of Substance Addictions and Behavioural Addictions (Aishwarya Raj, Siddharth Sarkar)

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Anamika Sahu** was nominated for *Child and Adolescent award (previously known as Asha Nigam Award) 2021* for work in child and adolescent mental health in 46th National Annual Conference of Indian Association of Clinical Psychologists, 21-23 February 2020, Chandigarh.

## 4. Examination Section

### Dean (Examinations)

Siddharth Duttagupta (up to 29 February 2020)

Subrata Sinha (from 1 March 2020)

### Associate Dean (Examinations)

Ashok Kumar Jaryal

### Assistant Controller of Examinations

MK Singh

### Finance and Chief Accounts Officer (F & CAO)

Padam Singh (from 2 July 2019)

During the period under review (2019-2020), the Examination Section conducted the following Professional and Entrance Examinations:

### Postgraduate and Undergraduate Professional Examinations

S. No.	Month and year	Examination	Number of Students			
			Intended to appear	Absent	Passed	Failed
1	May 2019	DM	55	-	51	4
2	-do-	MCh	22	-	22	-
3	-do-	MD	94	01	86	7
4	-do-	MS	20	-	18	2
5	-do-	MDS	06	-	06	-
6	-do-	Fellowship programme	13	-	13	-
7	-do-	MSc courses	45	-	45	-
8	-do-	M Biotechnology	14	-	14	-
9	-do-	MSc (Nursing) Phase-I	27	-	26	1
10	-do-	MSc (Nursing) Phase-II	21	-	20	1
11	-do-	Second MBBS (Supplementary)	10	03	05	2
12	-do-	Final MBBS (Supplementary)	07	01	04	2
13	-do-	BSc Nursing (Post-Basic) Phase-I	26	01 NE	22	3
14	-do-	BSc Nursing (Post-Basic) Phase-II	24	-	21	3
15	-do-	BSc (Hons) Nursing Phase-I	76	-	67	8 1 NE
16	-do-	BSc (Hons) Nursing Phase-II	74	-	73	1
17	-do-	BSc (Hons) Nursing Phase-III	60	-	60	-
18	-do-	BSc (Hons) Nursing Phase-IV	77	-	76	1 NE
19	July 2019	First Professional MBBS	113	-	88	10 15 NE
20	-do-	BSc OT Technology Phase-I	17	-	11	6
21	-do-	BSc in Dental Hygiene Phase-I	02	-	02	-
22	-do-	BSc in Dental Operating Room Assistant	04	-	04	-
23	-do-	Bachelor of Optometry Phase-I	16	-	11	5
24	-do-	Bachelor of Optometry Phase-II	15	-	08	7
25	-do-	Bachelor of Optometry Phase-III	13	-	11	2

26	-do-	BSc (Hons) Medical Tech. in Radiography Phase-I	12	-	09	3
27	-do-	BSc (Hons) Medical Tech. in Radiography Phase-II	10	-	08	02
28	-do-	BSc (Hons) Medical Tech. in Radiography Phase-III	08	-	08	-
29	August 2019	First MBBS Professional (Supplementary)	22	08	08	06
30	November 2019	BSc (Hons) Ophthalmic Techniques Phase-I (Supplementary)	08	-	05	03
31	-do-	BSc (Hons) Ophthalmic Techniques Phase-II (Supplementary)	09	-	08	01
32	-do-	BSc. (Hons) Ophthalmic Techniques Phase-III (Supplementary)	04	-	03	01
33	-do-	BSc (Hons) Medical Techniques in Radiography Phase-I (Supplementary)	03	-	01	02
34	-do-	BSc OT Technology Phase-I (Supplementary)	09	-	06	03
35	-do-	BSc (Hons) Medical Techniques in Radiography Phase-II (Supplementary)	03	-	02	01
36	December 2019	Second MBBS	110	03 13NE	83	11
37	-do-	Final MBBS	76	01	70	05
38	-do-	BSc (Post-Basic) Nursing Phase-I (Supplementary)	03	-	03	-
39	-do-	BSc (Post-Basic) Nursing Phase-II (Supplementary)	03	-	-	03
40	-do-	BSc (Hons) Nursing Phase-I (Supplementary)	06	-	01	05
41	-do-	BSc (Hons) Nursing Phase-II (Supplementary)	07	-	05	02
42	-do-	BSc (Hons) Nursing Phase-III (Supplementary)	03	01NE	01	01
43	-do-	BSc (Hons) Nursing Phase-IV (Supplementary)	02	-	02	-
44	-do-	DM	75	-	75	-
45	-do-	MCh	34	-	34	-
46	-do-	MD	99	01	95	03
47	-do-	MS	19		18	01
48	-do-	MDS	08	-	08	-
49	-do-	Fellowship Programme	19	-	19	-
50	-do-	MSc courses	02	-	02	-
51	-do-	MSc Nursing Phase-I	02	-	02	-
52	-do-	MSc Nursing Phase-II	01	-	01	-
53	January 2020	Final MBBS (Compartmental Examination)	01	-	01	-
54		<b>Grand Total</b>	1409	18+15	1242	99+17

**Entrance Examinations for Undergraduate and Postgraduate courses:**

S. No.	Courses	Date of Examination	Candidates	
			Applied	Appeared
1.	MD/MS/MDS (AIIMS) July 2019	5 May and 14 June 2019	31340	26428
2.	DM/MCh/Fellowship Programme/MD (Hospital Administration); July 2019	6 April 2019	3739	3244

3.	Fellowship Programme July 2019	13 April 2019	91	64
4.	MBBS (AIIMS) August 2019	25 and 26 May 2019	389923	338457
5.	Online BSc (Hons) Nursing 2019	23 June 2019	8061	5178
6.	Online BSc Nursing (Post-Basic) 2019	1 June 2019	243	183
7.	Online BSc (Hons) Paramedical courses 2019	15 June 2019	4357	2220
8.	Online MSc Courses 2019	29 June 2019	608	432
9.	Online MSc Nursing 2019	1 June 2019	1650	1319
10.	Online M Biotechnology Entrance Examination 2019	29 June 2019	394	274
11.	Senior Residents Recruitment Examination, July 2019	9 June 2019	1922	1474
12.	PhD July 2019	21 May 2019	508	418
13.	Senior Residents Recruitment Examination January 2020	24 November 2019	1081	732
14.	MD/MS/MDS (AIIMS) January 2020	17 November 2019	58692	54238
15.	DM/MCh/MD (Hospital Administration) January 2020	3 November 2019	3352	2636
16.	PhD January 2020	4 January 2020	525	390
17.	Fellowship Programme January 2020	9 November 2019	160	99
		<b>Grand Total</b>	<b>506646</b>	<b>437786</b>

Candidates who passed PhD viva-voce examination: 93

#### Examinations for Recruitment

S.No.	Name of Examination	Online CBT* Exam	Candidates	
			Applied	Appeared
1	Nursing officers 2019 AIIMS, New Delhi and 4 Central Government Hospitals (RML, Safdarjung, LHMC, KSCH)	15 September 2019	57099	45946
2	Nursing Officers 2018, 4 AIIMS (Bhopal, Jodhpur, Patna, Raipur)	7 February 2020	62137	33664
3	Screening/Qualifying test of MRT	31 August 2019	354	228
4	Screening/Qualifying test of PA	9 August 2019	44	28
5	Screening/Qualifying test of PS	9 August 2019	07	07
6	Screening/Qualifying test of Steno	9 August 2019	15	04
7	Screening/Qualifying test of Junior AO	18 January 2020	30	07
	<b>Total</b>		<b>119686</b>	<b>79884</b>

\* Computer based test

#### Details of interviews conducted

S.No.	Name of Post (Interview)	Date	Called for Interview
1	Tutor in Nursing	4 April 2019	43
2	Scientist – I (Biostatistics)	16 April 2019	06
3	Clinical Psychologist	16 April 2019	15
	<b>Total</b>		<b>64</b>

### **Entrance Examinations conducted**

1. AIIMS PG Entrance Examination for admission to MD/MS/MDS courses was conducted on 5 May 2019 and 14 June 2019 for July 2019 session at 76 centres (Delhi 6, Outstation 70) and 17 November 2019 for January 2020 session at 138 centres (Delhi 4, Outstation 134), respectively. The results were declared on 19 June 2019 and 22 November 2019, respectively.
2. Selections for various Post-Doctoral (super-specialty) courses, viz. DM/MCh/MD (Hospital Administration) for July 2019 and January 2020 sessions and Departmental Assessment were done from 24 to 26 April 2019 for the July 2019 session and from 18 to 20 November 2019 for the January 2020 session.
3. The Examination section also conducted the online test for Senior Residents/Senior Demonstrators on 9 June 2019 for the July 2019 session and on 24 November 2019 for the January 2020 session.
4. Selections of candidates for registration to PhD programme for January 2019 and July 2019 and the Departmental Assessment was done on 14 and 15 June 2019.
5. The Entrance Examination for admission to MBBS course of AIIMS including fourteen new AIIMS-like institutes for August 2019 session was held in 239 (local 14 and outstation 225) centres in 151 (One hundred and fifty-one) cities of India on 25 and 26 May 2019 (2 shifts on each day).
6. BSc (Hons) Nursing Entrance Examination was held in Delhi & 6 AIIMS (Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur and Rishikesh) on 23 June 2019 in CBT online mode.
7. The Entrance Examination for admission to MSc and M Biotechnology courses, August 2019 session, was held in Delhi on 29 June 2019 in online mode.
8. The Entrance Examination for admission to MSc Nursing course was held on 1 June 2019 in Delhi only in CBT online mode. The admission was made by allotment of seats on merit basis through counseling.
9. BSc Nursing (Post-Basic) Entrance Examination was held in Delhi in CBT online mode on 1 June 2019 followed by personal assessment of candidates on 26 June 2019.
10. The Entrance Examination for admission to Para-Medical courses, viz. BSc (Hons) in Bachelor of Optometry and BSc (Hons) Medical Technology in Radiography, BSc Course in Dental Operating Room Assistant (DORA), BSc course in Dental Hygiene, BSc course in Operation Theatre Technology (OTT), Medical Laboratory Technology (MLT), BSc in Operation Theatre and Anesthesiology Technology (OTAT), BSc in Medical Technology and Imaging Therapy for August 2019 session were held in Delhi in CBT online mode on 15 June 2019.
11. The Entrance Examination for fellowship programme for July 2019 session and January 2020 session were conducted in Delhi on 13 April 2019 and 9 November 2019, respectively.

### **Participation in other events**

1. The Examination Section introduced online counseling for admission to AIIMS-PG, MBBS, BSc (Hons) Para-Medical, MSc (Nursing) courses with the participation of Faculty and Staff of the Academic Section. Examination Section also actively participated in the personal assessment for BSc (Nursing) Post-Certificate course.
2. Examination Section is also providing technical expertise to various universities and institutions in India for conduct of their entrance examinations.



## 5. General Administration

### Deputy Director (Administration)

Subhasish Panda

### Deputy Secretary

Dhirendra Verma

The General Administration, including Personnel and Establishment, Security, Estate, Engineering Services Department, Stores, Coordination, Parliamentary matters, Grievances, etc. of the Institute are controlled and supervised by the Deputy Director (Administration). There are various branches looking after the above mentioned areas. Each branch is headed by a Senior Officer with supportive officers and staff members. A brief description of the Officers/Staff looking after various branches is given below.

### Chief Administrative Officer

Dr Sanjay Kumar Arya (up to 31 December 2019)

Deo Nath Sah (from 31 December 2019)

### Superintending Engineer

AIIMS Main Campus  
Manjul Rastogi

AIIMS Jhajjar Campus  
Hridesh Kumar

### Chief Security Officer

Satyendra Kumar

### Deputy Chief Security Officer

RS Rawat

Deepak Kumar

### Executive Engineers

Vidya Bhushan  
Harpal Singh  
Vinod Kumar Sharma

Joginder Malhotra  
Ashok Kumar (from 10 February 2020)  
D Vijay Raghwan (from 1 February 2020)

### Senior Administrative Officers

Narendra Kumar (up to 31 December 2019)

Deo Nath Sah (up to 31 December 2019)

Lalit Oraon (from 1 January 2020)

BS Gill (from 1 January 2020)

Renu Bhardwaj

### Administrative Officer

SL Chamoli  
Lalit Oraon (up to 31 December 2019)  
Satish Kumar Singh (up to 1 July 2019)  
Raj Kumar  
Anita Tete  
BK Singh  
Ealias PI (up to 31 May 2019)  
Saroj Pant (from 10 December 2019)

Pallav Kumar Chitej (up to 25 November 2019)  
Chakravarthy EVS (up to 30 December 2019)  
BS Gill (up to 30 December 2019)  
Rajendran Pillai G  
Nikhil Bhatnagar  
Kushal Kumar  
Vipin Kumar (from 30 July 2019)  
Sasidharan Nair KG (10 December 2019 to 31 January 2020)  
Vipin Kumar (from 30 July 2019)

Narender Kumar Gupta (from 10 December 2019)

### Assistant Administrative Officers

Bhoop Singh  
Sasidharan Nair KG (up to 10 December 2019)  
Saroj Pant (up to 19 September 2019)  
Santhosh Kumar (from 1 July 2019)  
Uttam Chand (from 27 July 2019)  
Vimal Thakral (from 27 July 2019)  
Joginder Kumar (from 27 July 2019)  
Kishan Lal (from 27 July 2019)  
Kamal Chandra Bhatt (from 27 July 2019)

Narender Kumar Gupta (up to 9 December 2019)  
Mohanan PS (up to 31 July 2019)  
RK Sharma  
Nirmala Jacinta Kujur (from 1 July 2019)  
CP Sadana (from 27 July 2019)  
Latha Paulose (from 27 July 2019)  
Asha Dogra (from 27 July 2019)  
Vidya Sagar (from 27 July 2019)  
Saroj Kumar Lal (from 27 July 2019)

Rajesh Kumar (from 27 July 2019)  
 Sanjay Nandhi (from 27 July 2019)  
 Renu Bhasin (from 27 July 2019)  
 Naresh Nangia (from 8 November 2019)  
 Santosh Manocha (Khosla) (from 8 November 2019)  
 Sohanbir (from 13 December 2019)

Surjit Singh (from 27 July 2019)  
 Suresh Kumar (from 27 July 2019)  
 Ishwar Dutt Sharma (from 27 July 2019)  
 Shakuntala Rawat (from 8 November 2019)  
 Sudesh Soni (from 8 November 2019)

**Senior Stores Officer**  
 Rakesh Kumar (from 1 August 2018)

**Store Officers**

Narender Kumar		Bhawani Ram
Arvind Kumar Sharma (up to 31 December 2019)		
Manohar Arya	Kamal Singh	Archana Sharma

Responsibilities of Establishment Section and General Administration include recruitment, service matters, conducting meetings of statutory committees, management of estate and property, purchase of equipment, materials and consumables, security arrangements, employees' welfare, etc.

The total sanctioned staff strength of the Institute is **13413**. Positions filled up to 31 March 2020 were **10948** and include staffs of all Centres/Main Hospital/DO. The number of group-wise sanctioned strength and staff in-position is mentioned below.

S. No.	Category/Group	Sanctioned strength	In-position
1.	Faculty	1095	759
2.	A (Non-Faculty)	650	489
3.	B	7359	6215
4.	C and erstwhile D	4309	3485
		<b>13413</b>	<b>10948</b>

### Composition of SC/ST Cell at AIIMS, New Delhi

#### Liaison Officers

**For SC/ST/PWD employees**

Dr Rajpal, Professor of Ophthalmology  
 Dr RP Centre, AIIMS, New Delhi

**For OBC employees**

Dr Rakesh Yadav, Professor of Cardiology  
 Cardio Neuro Centre, AIIMS, New Delhi

#### Administrative Officer

Anita Tete

During 2019-2020 the complaints/representations from SC/ST/OBC employees received in the section were as under:

Total representations received:	10
Total cases resolved/disposed:	7
Total cases under consideration:	3

## 6. Hospital

**Medical Superintendent**  
DK Sharma

**Department of Hospital Administration**

**Professor and Head**  
Sidhartha Satpathy

**Professors**

IB Singh

Sanjay Kumar Arya

**Additional Professors**

Nirupum Madaan  
Amit Lathwal

Anoop Daga  
Mahesh R

**Associate Professors**

Angel Rajan Singh

Parmeshwar Kumar

Vijaydeep Siddharth

**Assistant Professors**

Vikas H

Jitender Sodhi      Abdul Hakim

Laxmi Tej Wundavalli

Sheetal Singh

### Bed Complement

Bed Category	Main Hospital	Centre for Dental Education and Research (CDER)	Cardiothoracic and Neurosciences Centre (CNC)
General	836	17	317
ICU	92	-	74
Observation	69	-	09
Private Ward	165	-	64
<b>Total</b>	<b>1162</b>	<b>17</b>	<b>464</b>

### Hospital Performance Indices

Parameters	Main Hospital		CNC		CDER		Inference
	2019-20	2018-19	2019-20	2018-19	2019-20	2018-19	
Average length of stay (days)	9.9	9.5	10.5	10.2	5.0	5.6	Effective utilization of beds of regular admissions
Average bed occupancy rate (%)	85.9	86.8	83.8	84.9	69.6	73.6	Fair occupancy
Net death rate (%)	1.7	1.7	2.6	2.9	0.05	-	Low mortality rate despite a large number of critically ill patients are admitted to hospital
Combined crude infection rate (%)	5.6	5.8	-	-	-	-	

## 6.1 Medical Records Department

**Officer Incharge**  
Mahesh R

**Chief Medical Officer (Acting)**  
**Ashok Kumar** (up to 24 June 2019)      **Sandeep M Singh** (from 25 June 2019)

**Junior Medical Record Officers**  
Roshan Lal-II

### EDUCATION

1. A group of nine Medical Record Technology (IInd year) students visited Medical Record Section, Main Hospital and a brief lecture was delivered on Medical Record Management at AIIMS by the Medical Record Officer/Junior Medical Record Officer on 4 April 2019.

### TRAININGS

1. Mrs Neelam Baria and Mr Vijay Kumar, Medical Record Technician have been nominated for 6 months Medical Records Technology Training Programme w.e.f. 1 July 2019 to 31 December 2019 conducted at Safdarjung Hospital, New Delhi organized by CBHI, Ministry of Health and Family Welfare, Government of India.
2. Mr Sandeep M Singh, MRO, and Mr Roshan Lal, MRO attended 1-day training programme on Medical Certification of Cause of Death and assigning of ICD-10 in the Main Auditorium, Delhi Secretariat organized by the Office of the Chief Registrar (Births and Deaths) on 4 December 2019 during 10.00 am to 5.00 pm

### COURT ATTENDANCE

1. A total of 338 summons/notices were received in the Medical Record Section (Main hospital) from various Courts of Delhi and outside Delhi. The concerned doctors/ consultants (as per case) and staffs from the Medical Record Department have been deputed to attend the court on behalf of AIIMS Hospital to depose/settle the case.

### Aid in Medical Education and Research

1. Approximately 6255 Medical Case Records (Case Sheets) have been retrieved and issued to Residents authorized by the concerned Consultants for research, education and other official purposes.

### Computerization and Digitization of Medical Records

1. Digitization of in-patient medical records of main hospital was started from 2014 for easy retrieval of records. Over 1.25 crore images of case records of patients have been scanned for future reference.

### In-patient services

1. The yearly statistical health bulletin at a glance of Main Hospital, CDER and CN Centre of AIIMS are given at Table I.
2. The AIIMS hospital has maintained its tradition of services and quality of patient care in spite of increasing number of patients who visited the hospital from all over India as well as from abroad. A total number of 142185 patients were admitted during the year in various clinical units of Main Hospital, CN Centre and CDER. The details of patient load as per Department-wise, State-wise and Gender-wise, Admissions, Discharges and Average Length of Stay are given at Tables II, III and IV, respectively. The department-wise deaths and related indices are given in Table V.
3. A total number of 123258 Surgical Procedures (Major and Minor) were performed during the year in various Surgical Disciplines of Main Hospital, CN Centre and Centre for Dental & Education Research (CDER) is given at Table VI.
4. Medical Records of indoor patients are systematically classified and categorized for easy retrievals for the purposes of Education, Research/Thesis, Presentation, Insurance, Court Cases etc. These records are stored in the Compactors according to CR Numbers. All the in-patient records of Main Hospital, CN Centre and Centre for Dental & Education Research (CDER) are maintained separately by Medical Record Section of the Main Hospital.
5. In addition to the above activities, the Neurology department has commissioned its special clinic in OPD and in-patient admissions to facilitate the care of health services during this year:

S. No.	Name of Department/Special Clinics	Location
1.	Comprehensive Stroke Clinic under Neurology Department.	On working Saturday, CNC OPD, Room No. 19, 20 & 21.

### Central Admission Office and Hospital Enquiry

1. The Central Admission Office & Enquiry (CAO&E) of AIIMS functions round the clock for 365 days without break.
2. All admissions to the in-patient areas of Main Hospital, CN Centre and CDER are made through this office. It functions like the heart of the Institute and performing important functions like patient registration for initiation of Admission Slip (Face-Sheet) and issuing of attendant passes etc.
3. The Admission Office also gives information to several ministries as well as to the higher authorities of AIIMS about the hospitalization of VIPs/VVIPs.
4. In addition, the office also functions as a general enquiry providing prompt and accurate information regarding the patients and the Institute. The staffs working there are on shift duties and are manned by Receptionists, Jr. Medical Record Officer and Medical Record Technicians etc.

### Outpatient Department and Specialty Clinics

1. A total number of **20,43,602** patients attended various General Out-Patients Department (OPD), Specialty Clinics and Emergency Department of the Main Hospital, AIIMS. The details of the outpatients load profile are given at Appendix-VII.

### Other Activities

S. No.	Name of activity	Total Numbers
1.	Amendments made in Inpatients Records during the year	977
2.	Amendments made in Birth Records during the year	365
3.	Amendments made in Death Records during the year	491
4.	Admission and other charges exempted for Indigent patients and patients admitted under JSSK Scheme in Main Hospital and CDER	21115
5.	Admission and other charges exempted for Indigent patients and patients admitted under JSSK Scheme in CN Centre	1111

The statistical data for the year 2019-20 (Annual Report) has been prepared/compiled by Mr Rajbir Singh, Medical Record Technician under the supervision of Medical Record Officer.

**Table I. Yearly Statistical Health Bulletin**

S. No.	Item	Main Hospital		CT and NS Centres		CDER	
		2019-20	2018-19	2019-20	2018-19	2019-20	2018-19
1.	Total patients admitted	120110	117169	20127	21278	1948	1189
	a. Adults and Children	117621	114721	–	–	–	–
	—Regular	33555	34116	12489	13290	864	840
	—Short	84066	80605	7638	7988	1084	349
	b. Newborn infants	2489	2448	–	–	–	–
	Regular	2489	2448	–	–	–	–
	Short	00	00	–	–	–	–
2.	Patients discharged (including LAMA, absconded, discharge on request and deaths)	116565	113630	19662	20704	1933	1163
	a. Adults and Children	114023	111236	–	–	–	–
	—Regular	32894	33027	12247	12972	868	818
	—Short	81129	78209	7415	7732	1065	345
	b. Newborn infants	2542	2394	–	–	–	–
	—Regular	2542	2394	–	–	–	–
	—Short	00	00	–	–	–	–

3.	Total days of care	431711	413040	136559	139560	5405	4918
	a. Adults and Children	410275	396071	–	–	–	–
	—Regular	329146	317862	129144	131828	4340	1573
	—Short	81129	78209	7415	7732	1065	345
	b. Newborn infants	21436	16969	–	–	–	–
	—Regular	21436	16969	–	–	–	–
	—Short	00	00	–	–	–	–
4.	Average length of stay of regular patients	9.9	9.5	10.5	10.2	5.0	5.6
	a. Adults and Children	10.0	9.6	–	–	–	–
	b. Newborn infants	8.4	7.1	–	–	–	–
5.	Total patient care days (as per daily census)	342644	346150	139190	140986	4318	4564
	a. Adults and Children	339382	343418	–	–	–	–
	b. Newborn infants	3262	2732	–	–	–	–
6.	Daily average number of patients (as per daily census)	939	948	381	386	12	13
	a. Adults and Children	930	941	–	–	–	–
	b. Newborn infants	09	07	–	–	–	–
7.	Average bed occupancy	85.9	86.8	83.8	84.9	69.6	73.6
	a. Adults and Children	85.1	86.7	–	–	–	–
	b. Newborn infants	0.8	0.1	–	–	–	–
8.	Births in hospital	2489	2448	–	–	–	–
	a. Male	1296	1286	–	–	–	–
	b. Female	1189	1159	–	–	–	–
	c. Intersex	04	03	–	–	–	–
9.	Total inpatient deaths (including newborns)	3073	3179	697	858	01	00
	a. Deaths under 48 hours	1148	1300	191	255	00	00
	b. Deaths over 48 hours	1929	1879	506	603	01	00
	c. Gross death rate (%)	2.6	2.8	3.5	4.1	0.05	0.0
	d. Net death rate (%)	1.7	1.7	2.6	2.9	0.05	0.0
10.	Total attendance in casualty	149550	149538	–	–	–	–
	Deaths	1835	1586	–	–	–	–
	Brought dead	1271	1238	–	–	–	–
11.	OPD attendance including special clinics (Main hospital)	1894052	1506791	–	–	–	–
	New cases	687314	771491	–	–	–	–
	Old cases	1206738	735300	–	–	–	–

**Table II. Department-wise admissions (Main Hospital and CN Centre and CDER)**

Department	Admission		Discharges (including LAMA, absconded, OR, deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Anaesthesiology (Pain Clinic)	00	647	00	625	00	625	0.0
Dermatology and Venereology	777	2132	777	2089	9443	2089	12.2
Endocrinology and Metabolism	430	184	458	185	8032	185	17.5
Gastroenterology and Human Nutrition	1983	4429	1993	4350	25623	4350	12.9
Gastrointestinal Surgery and Liver Transplantation	792	356	828	337	13818	337	16.7
Geriatric medicine	888	782	924	758	9480	758	10.3
Haematology	1002	14328	993	14113	17501	14113	17.6
Medicine I	929	460	922	414	10012	414	10.9
Medicine II	1135	710	1024	723	11859	723	11.6
Medicine III	827	526	917	444	10567	444	11.5
Nephrology	944	11172	924	10856	15474	10856	16.7
Newborn	2489	00	2542	00	21436	00	8.4
Neonatal ICU (NICU)	165	09	114	05	863	05	7.6
Nuclear Medicine	438	237	411	223	802	223	2.0
Obstetrics and Gynaecology I	2139	1779	2114	1681	15704	1681	7.4
Obstetrics and Gynaecology II	2198	2093	2120	2016	16485	2016	7.8
Obstetrics and Gynaecology III	2150	2043	1940	1936	14224	1936	7.3
Oncology (Main)	318	00	325	00	1857	00	5.7
Orthopaedics I	1467	2083	1588	1855	11762	1855	7.4
Orthopaedics II	1461	2958	1326	2712	11103	2712	8.4
Otorhinolaryngology I	497	1342	528	1246	4135	1246	7.8
Otorhinolaryngology II	512	1239	496	1170	4809	1170	9.7
Otorhinolaryngology III	460	1248	495	1189	4009	1189	8.1
Paediatrics I	1056	4423	1027	4310	7494	4310	7.3
Paediatrics II	598	1344	576	1292	6899	1292	12.0
Paediatrics III	1207	10833	1056	10675	10159	10675	9.6
Paediatric Surgery	1390	1770	1308	1667	16206	1667	12.4
Physical Medicine and Rehabilitation	33	00	38	00	1535	00	40.4
Psychiatry	306	00	295	00	10032	00	34.0
Pulmonary Medicine and Sleep Disorders	767	5074	791	4972	8119	4972	10.3
Plastic and Reconstructive Surgery	336	203	307	184	2411	184	4.9
Radiotherapy	07	00	07	00	23	00	3.3
Rheumatology	14	1667	08	1645	55	1645	6.9

Surgical Disciplines I	837	671	880	589	9703	589	11.0
Surgical Disciplines II	1267	714	1269	613	8618	613	6.8
Surgical Disciplines III	845	460	923	392	8554	392	9.3
Surgical Disciplines IV	1613	873	1472	788	8733	788	5.9
Urology	1767	5277	1720	5075	13043	5075	7.6
<b>Total (Main)</b>	<b>36044</b>	<b>84066</b>	<b>35436</b>	<b>81129</b>	<b>350582</b>	<b>81129</b>	<b>9.9</b>
Cardiology	4112	3763	4034	3733	29229	3733	7.2
Cardiothoracic and Vascular Surgery	3041	23	3029	20	34637	20	11.4
Neurology I	928	997	916	975	9445	975	10.3
Neurology II	829	497	821	464	9534	464	11.6
Neurology III	775	858	745	842	8255	842	11.1
Neurosurgery I	1239	771	1162	731	19647	731	16.9
Neurosurgery II	1387	487	1362	430	17291	430	12.7
Neuroradiology	178	242	178	220	1106	220	6.2
<b>Total (CNC)</b>	<b>12489</b>	<b>7638</b>	<b>12247</b>	<b>7415</b>	<b>129144</b>	<b>7415</b>	<b>10.5</b>
<b>CDER</b>	<b>864</b>	<b>1084</b>	<b>868</b>	<b>1065</b>	<b>4540</b>	<b>1065</b>	<b>5.0</b>

Fig 1. Department-wise average length of stay

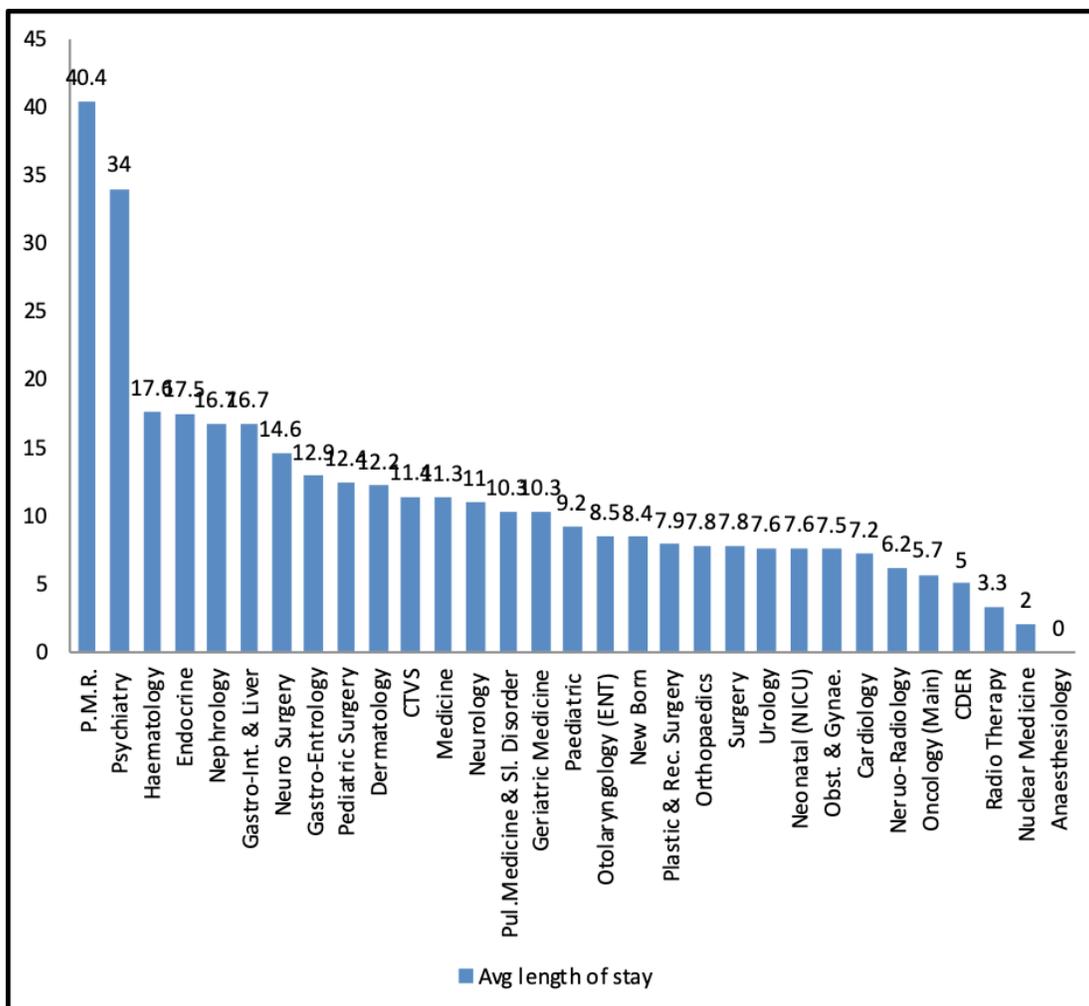
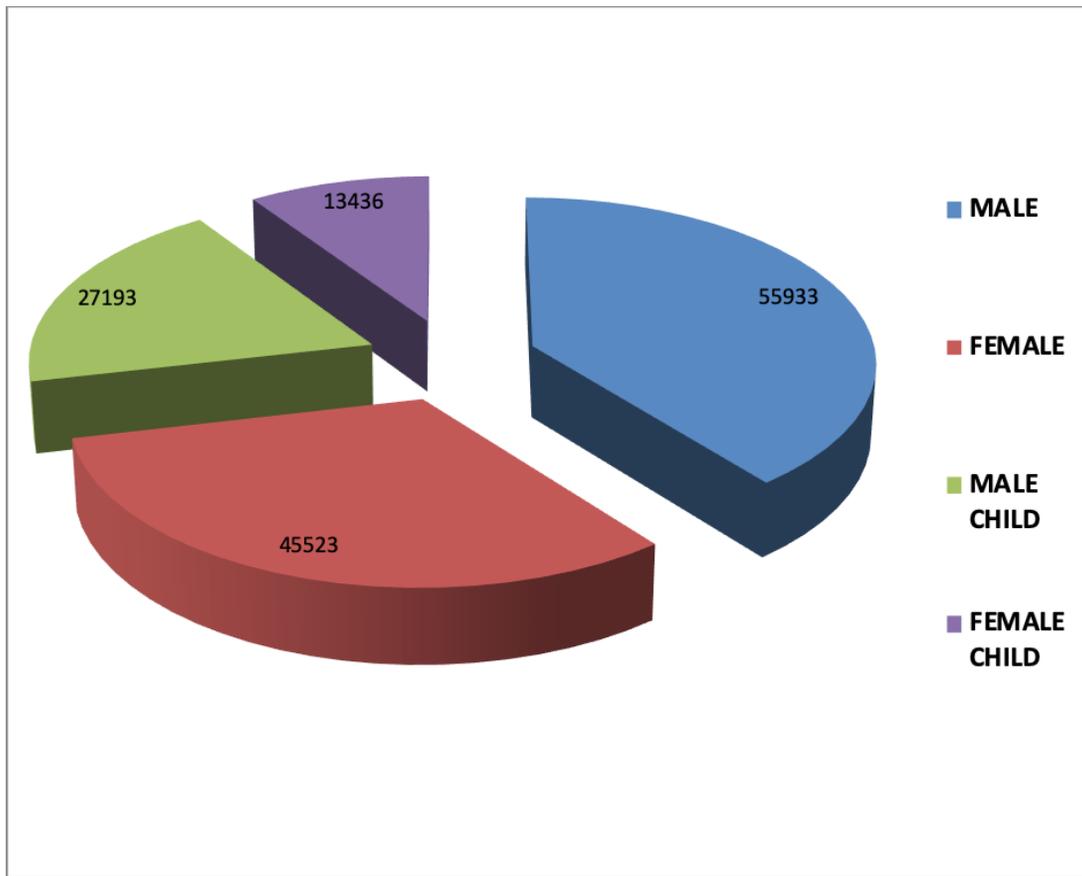


Fig 2. Gender-wise inpatients in Main Hospital, CN Centre and CDER



**Table III. Department-wise deaths in Main Hospital and CN Centre**

Department	Discharges	Total Deaths	Deaths under 48 hours	Deaths over 48 hours	Gross death rate (%)	Net death rate (%)
Anesthesiology (Pain Clinic)	625	00	00	00	0.0	0.0
Dermatology and Venereology	2866	00	00	00	0.0	0.0
Endocrinology and Metabolism	643	02	01	01	0.3	0.2
Gastroenterology and Human Nutrition	6343	585	244	341	9.2	5.6
Gastrointestinal Surgery and Liver Transplantation	1165	82	15	67	7.0	5.8
Geriatric medicine	1682	173	53	120	10.3	7.4
Haematology	15106	324	118	206	2.1	1.4
Medicine I	1336	310	137	173	23.2	14.4
Medicine II	1747	334	116	218	19.1	13.4
Medicine III	1361	301	129	172	22.1	14.0
Nephrology	11780	117	28	89	1.0	0.8
Newborn	2542	39	14	25	1.5	1.0
Neonatal ICU (NICU)	119	25	05	20	21.0	17.5
Nuclear Medicine	634	00	00	00	0.0	0.0
Obstetrics and Gynaecology I	3795	04	00	04	0.1	0.1
Obstetrics and Gynaecology II	4136	08	00	08	0.2	0.2
Obstetrics and Gynaecology III	3876	06	00	06	0.2	0.2

Oncology (Main)	325	158	91	67	48.6	28.6
Orthopaedics I	3443	04	00	04	0.1	0.1
Orthopaedics II	4038	09	01	08	0.2	0.2
Otorhinolaryngology I	1774	02	02	00	0.1	0.0
Otorhinolaryngology II	1666	06	02	04	0.4	0.2
Otorhinolaryngology III	1684	01	01	00	0.05	0.0
Paediatrics I	5337	76	20	56	1.4	1.1
Paediatrics II	1868	67	22	45	3.6	2.4
Paediatrics III	11731	93	31	62	0.8	0.5
Paediatric Surgery	2975	62	21	41	2.1	1.4
Physical Medicine and Rehabilitation	38	00	00	00	0.0	0.0
Psychiatry	295	00	00	00	0.0	0.0
Pulmonary Medicine and Sleep Disorders	5763	164	52	112	2.8	2.0
Plastic and Reconstructive Surgery	491	01	00	01	0.2	0.2
Radiotherapy	07	03	03	00	30.0	0.0
Rheumatology	1653	00	00	00	0.0	0.0
Surgical Disciplines I	1469	30	09	21	2.0	1.4
Surgical Disciplines II	1882	30	09	21	1.6	1.1
Surgical Disciplines III	1315	20	09	11	1.5	0.8
Surgical Disciplines IV	2260	29	10	19	1.3	0.8
Urology	6795	12	05	07	0.2	0.1
<i>Total (Main hospital)</i>	<b>116565</b>	<b>3077</b>	<b>1148</b>	<b>1929</b>	<b>2.6</b>	<b>1.7</b>
Cardiology	7767	207	92	115	2.7	1.5
Cardiothoracic and Vascular Surgery	3049	205	38	167	6.7	5.5
Neurology I	1891	40	04	36	2.1	1.9
Neurology II	1285	52	10	42	4.0	3.3
Neurology III	1587	41	09	32	2.6	2.0
Neurosurgery I	1893	85	17	68	4.5	3.6
Neurosurgery II	1792	64	20	44	3.6	2.5
Neuroradiology	398	03	01	02	0.8	0.5
<i>Total (CNC)</i>	<b>19662</b>	<b>697</b>	<b>191</b>	<b>506</b>	<b>3.5</b>	<b>2.6</b>
<i>CDER</i>	<b>1933</b>	<b>01</b>	<b>00</b>	<b>01</b>	<b>0.05</b>	<b>0.05</b>

Fig 3. Geographical distribution of inpatients (Main Hospital, CN Centre and CDER)

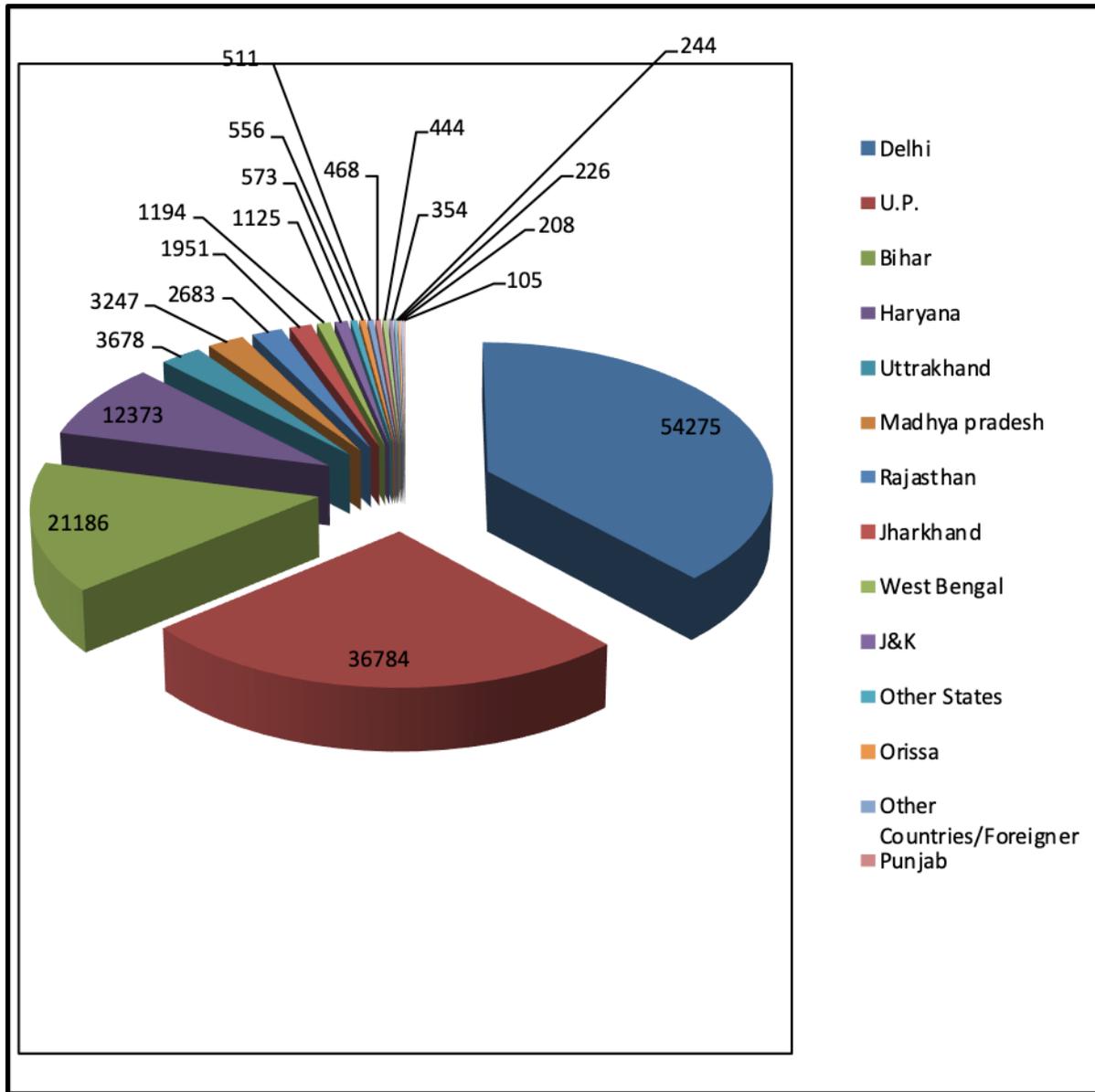


Table IV. Surgical procedures done in the Main Hospital, CDER and CN Centre

DEPARTMENT	Major	Minor		TOTAL
		Inpatient cases	Outpatient cases	
Surgical Disciplines I	797	271	3732	4800
Surgical Disciplines II	1134	381	3087	4602
Surgical Disciplines III	812	198	2626	3636
Surgical Disciplines IV	1277	617	3832	5726
Gastrointestinal Surgery and Liver Transplantation	612	0	0	612
Urology	1586	635	14424	16645
Obstetrics	1339	1099	00	2438
In vitro fertilization	00	1641	00	1641
Gynaecology I	644	656	00	1300

Gynaecology II	690	916	00	1606
Gynaecology III	733	872	00	1605
Foetal Medicine	00	850	00	850
Otorhinolaryngology I	944	697	5696	7337
Otorhinolaryngology II	895	627	5374	6896
Otorhinolaryngology III	851	614	5826	7291
Orthopaedics I	1871	805	00	2676
Orthopaedics II	1969	1938	00	3907
Paediatric Surgery	1545	253	00	1798
Casualty	00	192	00	192
Plastic and Reconstructive Surgery	298	147	2393	2838
Pulmonary Medicine and Sleep Disorders	13	671	00	684
Anaesthesiology (Pain Clinic)	04	00	00	04
Haematology	00	00	5010	5010
Physical Medicine and Rehabilitation	00	00	9567	9567
Dermatology and Venereology	18014	14080	61567	93661
<b>Total (Main hospital)</b>	<b>18014</b>	<b>14080</b>	<b>61567</b>	<b>93661</b>
Cardiothoracic and Vascular Surgery	3625	00	00	3625
Neurosurgery I	1456	89	00	1545
Neurosurgery II	1530	62	00	1592
<b>Total (CNC)</b>	<b>6611</b>	<b>151</b>	<b>00</b>	<b>6762</b>
Dental Surgery/CDER	<b>697</b>	<b>852</b>	<b>21286</b>	<b>22835</b>

**Table V. Attendance in outpatients and specialty clinics**

Medical Discipline		New Cases	Old Cases	Total
Medicine	General OPD	57200	100467	157667
	a) Obesity and metabolic disorders	431	971	1402
	b) Infectious disease clinic	1096	2718	3814
Rheumatology	General OPD	6124	20894	27018
	a) Rheumatology clinic	39	4639	4678
Geriatric Medicine		16891	13833	37373
Pulmonary Medicine and Sleep Disorders	General OPD	10213	24411	34624
	a) Sleep disorder	177	248	425
	b) Lung cancer	410	1859	2269
	c) ILD-PAH	278	1650	1928
	d) Combined pulmonary surgery	230	515	745
Nuclear Medicine		2769	2828	10478
Endocrinology and Metabolism		16417	13104	36796

Nephrology	General OPD	11903	44912	56815
	a) Transplant clinic	176	10969	11145
	a) RTCC	407	1400	1807
Haematology		3415	7009	14786
Gastroenterology		29975	28460	51901
Paediatrics	General OPD	32994	81124	114118
	a) Well baby	512	08	520
	b) Follow up TB	186	1174	1360
	c) Renal clinic	264	1617	1881
	d) Paediatric neurology	888	4829	5717
	e) Paediatric chest clinic	400	3422	3822
	f) High risk neonatal	315	1723	2038
	g) Genetic and birth defects clinic	3317	1214	4531
	h) Oncology clinic	317	2341	2658
	i) Child development clinic	1107	2480	3587
	j) Endocrinology clinic	141	1053	1194
	k) Neurocysticercosis clinic	194	1067	1261
	l) PCSC	177	1318	1495
	m) Rheumatology clinic	452	2981	3433
	n) Myopathy clinic	461	1871	2332
	o) Paediatric gastroenterology clinic	244	1862	2106
p) Autism	392	995	1387	
Dermatology and Venereology	General OPD	30263	55857	86120
	a) STD (Dermatology surgery)	1377	2727	4104
	b) Allergy clinic	454	1762	2216
	c) Leprosy	283	2743	3026
	d) Psoriasis	275	2091	2366
	e) Dermo-Surgery	1003	1411	2414
	f) Vitiligo	226	1543	1769
	g) Photo Therapy	103	416	519
	h) Photo Dermatology	33	207	240
	i) Paediatric Dermatology	130	297	427
Psychiatry	General OPD	15615	63829	79444
	a) Child guidance	781	688	1469
<b>Surgical Discipline</b>		<b>New cases</b>	<b>Old cases</b>	<b>Total</b>
<b>Surgery</b>		55067	48826	103893
<b>Plastic Surgery</b>		2770	4454	7224
<b>Urology</b>		15293	40293	55586
<b>Gastrointestinal Surgery and Liver Transplantation</b>		3489	7319	10808

<b>Paediatric Surgery</b>	<b>General OPD</b>	8143	17858	26001
	a) Hydrocephalus	03	34	37
	b) Paediatric Urology	444	2192	2636
	c) PSTC	24	498	522
<b>Anaesthesiology</b>	a) Pain Clinic	802	2758	3560
	b) Pre-Anaesthesia Clinic	12230	2471	14701
<b>Orthopaedics</b>	<b>General OPD</b>	60382	111982	172364
	a) Physiotherapy	25379	21962	47341
	b) Occupational Therapy	859	3382	4241
	c) Hydrotherapy	962	5522	6484
	e) Tuberculosis	40	176	216
	f) Scoliosis	642	1435	2077
	g) Hand Clinic	480	747	1227
	h) CTEV	216	2968	3184
	i) Sports Clinics	01	03	04
	j) Fragility Fracture Clinic and Liaison Services	76	227	303
	k) Bone and Soft Tissue Sarcoma Clinic	26	13	39
<b>Otorhino-laryngology</b>	<b>General OPD</b>	45337	64403	109740
	a) Audiology	122	35	157
	b) Speech	2758	2279	5037
	c) Hearing	238	557	795
	d) Voice	292	246	538
	e) Vertigo	131	266	397
	f) Rhinology	206	87	293
	g) HN & R	76	87	163
<b>Obstetrics and Gynaecology</b>	<b>General OPD</b>	36035	80683	116718
	a) IVF	702	4221	4923
	b) Family Welfare	4267	4053	8320
	c) Antenatal	749	3859	4608
	d) Endo-Gynecology	73	145	218
	e) High Risk Pregnancy	146	10280	10426
<b>Radiotherapy</b>		277	816	1093
<b>Physical Medicine and Rehabilitation</b>	<b>General OPD</b>	10990	25249	36239
	a) Prosthetics & Orthotics	2805	5513	8318
	b) Disability Evaluation Clinic	00	92	92
	c) OPD (PT Section)	00	15924	15924
	d) OPD (OT Section)	00	9318	9318
	e) OPD (MSSO)	1559	1671	3230
<b>Others</b>	1. Emergency/Casualty	101861	47689	149550
	2. Employees Health Scheme	135296	90197	225493
	3. Nutrition	11105	00	11105
<b>Grand Total</b>		<b>789175</b>	<b>1254427</b>	<b>2043602</b>

## 6.2 Dietetics

### Officer In-Charge

Dr Mahesh R  
Additional Professor, Department of Hospital Administration

### Chief Dietician

Dr (Mrs) Parmeet Kaur

### Dieticians

Ms Swapana Chaturvedi

Ms Gurdeep Kaur

### Assistant Dieticians

Ms Vasundhara Singh  
Ms Monita Gahlot

Ms Anjali Bhola  
Ms Rekha Pal

Posted from Burns and Plastic Surgery Block  
Ms Aparna Pareek      Ms Ghazala Rahman

Department of Dietetics takes care of the therapeutic dietary needs of approximately 2300 indoor patients everyday. There are various kinds of diets provided to the patients based on the disease and dietary requirements calculated on the basis of nutritional screening and nutritional assessment done by the Dieticians in their respective wards. The approximate yearly data of different kinds of diets sent to the indoor patients of main hospital and centres, comprising around three major meals and two minor meals in a day are as follows:

#### Total number of indoor patients served hospital diet per annum (Main Hospital and Centres)

S. No.	Type of Diet	Number of patients
1.	Normal	4,18,418
2.	Private ward	88,065
3.	Semisolid	70,722
4.	Therapeutic	1,51,991
5.	Enteral feeds	59,965
	<b>Total</b>	<b>2319</b>

In addition nutrition counseling OPD and clinics are also run in the Main Hospital. The approximate number of indoor and outdoor patients counseled by the department are:

#### Total number of patients given outdoor and indoor nutrition counseling (Main Hospital)

Gender	Outdoor	Indoor	Total
Male	5206	4000	9206
Female	4561	3524	8085
<b>Total</b>	<b>9767</b>	<b>7524</b>	<b>17291</b>

#### EDUCATION

- Short term observership for MSc Foods and Nutrition students
- Nutrition classes for BSc (Hons) Nursing and Post Basic BSc Nursing students of AIIMS College of Nursing

#### Departmental CMEs/Workshops/Symposia/conferences

- 6 April 2019: World Health Day was celebrated as per theme given by WHO (Universal Health Coverage: Everyone, Everywhere) at Shishu Mandir, AIIMS campus. Children were educated about healthy eating practices and also a poster entitled "Healthy Eating" for children was displayed.

- 9 April 2019: Poster display on focus of Water, Sanitation and Hygiene (WASH) was done for the kitchen staff.
- 22 May 2019: Surgical Nutrition Updates in collaboration with IAPEN at AIIMS, New Delhi.
- 15 Oct 2019: Global hand washing day with the theme—Clean hands for all
- 16 Oct 2019: World Food Day with the theme—Healthy Diets for a Zero Hunger World

### **Lectures delivered**

#### **Dr Parmeet Kaur**

1. MNT in Gestational Diabetes-Time to move forward, Indian Dietetic Association, Delhi Chapter, 6 April 2019, New Delhi
2. Fundamentals of Nutrition for Adult Solid Organ Transplant, IAPEN Symposium Series on Surgical Nutrition, 22 May 2019, New Delhi
3. Food, Nutrition and Dietetics Education in Schools, Teacher Training Programme, CBSE, 19-20 August 2019, New Delhi
4. Importance of Nutrition during Antenatal care, Post-natal care and for the optimal growth of children (Special Invited Guest Lecture), Ayush Poshan Mah Celebration, Central Council for Research in Unani Medicine, 27 September 2019, New Delhi
5. Sports Nutrition, Board of Studies MYAS-GNDU Sports Sciences and Medicine, 30 September 2019, Amritsar
6. Nutrition in Surgical Oncology, IAPEN International conference on Surgical Nutrition, 22 and 23 November 2019, Bangalore
7. Nutrition for a healthy life, Swasth Bharat initiative by Govt. of India at Nirman Bhawan, 16 November 2019, New Delhi
8. Global Burden of obesity, IAPEN clinical Nutrition congress, 8 February 2020, Puducherry
9. Dietary recommendations for mother and child, International conference on Unani Medicine, 12 February 2020, New Delhi
10. Nutrition in Chyle leak, AIIMS Pulmocrit 2020, 8 March 2020, New Delhi

### **RESEARCH**

#### **Departmental Projects**

1. A clinical nutrition approach to improve professional dietetic practice in the surgical wards of All India Institute of Medical Sciences, New Delhi, India. A pilot study.

### **PUBLICATIONS**

#### **Journals: 5**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Parmeet Kaur** received Lifetime Achievement Award in the field of Holistic Health at the National Ayush Conference, January 2020; Certificate of Commendation by Ministry of Health and Family Welfare, Directorate General of Health Services, Government of India for Guest Lecture on Healthy Lifestyle, July 2019; Launch of IAPEN Malnutrition Week app (mobile phone based) consisting of Nutrition Screening and Assessment Tools on 22 May 2019; Expert Panel/Consultant to the Honorable Vice President of India w.e.f. 7 September 2019; Advisor, Bachelor of Vocation (B.Voc.), Health Care Management, MYAS-GNDU Sports Sciences & Medicine, Guru Nanak Dev University Campus, Amritsar. Session: 2019-20; Resource Person, Central Board of Secondary Education (CBSE), Class XI and Class XII content writing for Food, Nutrition and Dietetics Course; Resource Person of Scientific Session entitled – Unani Medicine—Towards Achieving the Sustainable Development Goal (SDG -3) of Good Health and Well Being in February 2020; Member, Healthy Eating Task Force for Monograph entitled—Eating Right for a Healthy You published by ILSI, India & South Asia Region

## 6.3 Hospital Billing Section

The donations received and payments made to patients during financial year 2019-2020 are:

Donations received from donors (Bank interest+Donations including online+Poor Fund boxes): Rs 46,57,325

Payment made to 452 patients: Rs 13,54,550

(The amount disbursed to poor patients is from donations received from donors during the year as well as from the previous balance lying in the 'AIIMS POOR FUND ACCOUNT').

## 6.4 Nursing Services

**Chief Nursing Officer (Acting)**

Ms Kamlesh Chandelia

Nursing service is an integral part of AIIMS, which aims at high quality nursing care to the patients and community. The professional nurses work in an environment that encourages professionalism and expertise in providing comprehensive patient care with the members of allied disciplines in the hospital.

### Staff strength

The main stratum of workforce in AIIMS is constituted by the well trained professional nurses from different departments. Staffing in nursing service is based on SIU (Staff Inspection Unit) norms in AIIMS.

Staff Strength in Hospital/Centers	
Chief Nursing Officer	1 (Acting)
Nursing Superintendent	5
DNS	39
ANS	200
Senior Nursing Officer	1019
Nursing Officer	3365
<b>Total</b>	<b>4629</b>

### Continuing Nursing Education

Nursing staff education is carried out throughout the year by in-service and continuing education programs to update the clinical knowledge of practicing nurses thereby aiming at improving standard of nursing care at AIIMS.

### Nursing in-service education program

A well-structured in-service education program has been initiated since January 2011. Initially it started with twice a week classes of one hour each, which was later on increased to thrice in a week. Two classes in a week are conducted for the bedside nurses (Nursing Officer and Senior Nursing Officer), whereas one class in a week is for senior nurses (Sister In-charges and above).

Facilitator	Ms Kamlesh Chandelia
Mentor	Ms Hanumati Devi
Educator	Ms Rebecca J Herald
	Ms Srinithya Raghavan
	Ms J Subbulakshmi

### Clinical Teaching

Clinical teaching was initiated in AB, C and D wings of the main hospital with an objective of upgrading standard of nursing care and solving practical issues in the area itself. This initiative was started on 1 January 2015, with active participation of bedside nurses and supervisory nursing personnel of the clinical areas. From August 2018 onwards clinical teaching was handed over to ANS In-Charge of the respective wards.

### **In-Service Education Weekly Classes**

A total of 106 lectures were taken on the listed topics in different batches. The number of nursing personnel who attended the in-service education classes was 2758.

Classes for Senior nursing Personnel/CNO/NS/DNS/ANS/SNO HR

1. Safe Staffing
2. Hepatic Disorder
3. Stroke
4. Cardiac Emergencies I
5. Cardiac Emergencies II
6. Acute Kidney Injuries
7. Respiratory Emergencies
8. SIU & Staffing
9. Corona Virus
10. Overview of Malignancies Patient Safety
11. Management of patients on ventilator
12. Hepatic Disorder
13. Stroke
14. Cardiac Emergencies I
15. Cardiac Emergencies II
16. Acute Kidney Injuries
17. Respiratory Emergencies
18. SIU & Staffing
19. Corona Virus
20. Overview of Malignancies

### **Module**

Developed a protocol for Admission/Discharge/Transfer/LAMA/Death, as there had been no such document available at AIIMS and this endeavour has been both challenging and rewarding. Hours of studying AIIMS protocols and Admission/Discharge policy circulars issued from time to time has given a final shape to this document.

### **Conferences and workshops conducted by NIE**

One day Critical care Nursing Update for bedside nursing personnel at AIIMS, New Delhi

<b>Date/Month/Year</b>	<b>Total Participants</b>
25 July 2019	37
1 August 2019	37
3 October 2019	37

### **Mental Health at Workplace for Senior Nursing Officers**

Eight full day workshops were conducted for Senior Nursing Officers of Main hospital in collaboration with College of Nursing, AIIMS.

### **Soft Skills**

A workshop to enhance Soft Skills among nurses was planned with Department of Psychiatry and one such workshop was organized on 21st February which was attended by 40 nursing officers. Monthly such workshops have been planned all through the year 2020.

### **Workshops/conferences attended**

1. Workshop on Recent Advances in Hepatology Nursing, 10 April 2019, ILBS, Vasant Kunj, Participants: 2
2. Quality Improvement: Striving towards Nursing Excellence, 15 April 2019, Participants: 2

3. A Nurse “Voice to Lead: Health For All”, 6 May 2019, Participants: 126
4. Workshop on RTI, 6 May 2019, CMET, Participants: 6
5. Training programme in Nutrition and Health Education, 10-14 June 2019, CFNEU, D2/183, Kidwai Nagar West, Participants: 4
6. ELNEC-Train the Trainers Programme, 5-7 June 2019, Participants: 9
7. Yoga Workshop, 17 June 2019, CIMR, Participants: 11
8. Advanced Nursing Care Administration and Quality Management Programme, 15-22 July 2019, AHA House, Noida, Participant: 1
9. AHA Accredited BLS and ACLS Provider Course, 5-7 August 2019, Participant: 1
10. EMINDIA 2019 Pre conference Workshop, 2 August 2019, Participants: 10
11. Orientation programme to Retiring Staff, 19-20 August 2019, Participants: 4
12. Paediatric Critical Care, 17 October 2019, Participants: 20
13. Stoma Care Hands on Workshop, 12 October 2019, Participants: 5
14. Strengthening Midwifery Practices, 14-22 October 2019, Participants: 4
15. Advanced Nursing Care Administration and Quality Management Programme, 16-20 September 2019, Participants: 2
16. Advanced Nursing Care Administration and Quality Management Programme, 21-26 October 2019, Participants: 2
17. Hematocon, Pre Conference 2019, 7 November 2019, Participants: 55
18. Hematocon, Main Conference 2019, 8 and 9 November 2019, Participants: 10
19. Care of Spinal Disorder Patients, 21 October 2019, Participants: 10
20. Congress of Asian Society of Transplant, 29 October 2019 to 2 November 2019, New Delhi, Participant: 1
21. NURSICON 2019, 1 and 2 November 2019, Participant: 1
22. HISICON 2019, 12-15 September 2019, Participants: 8
23. 1st International Nursing CME and Module Development in Child Care, 1 and 2 November 2019, Participants: 10
24. Exploring New Dimensions: Updated Care and Practices in Nursing, 14 November 2019, Participants: 20
25. Exploring New Dimensions; Updated Care and Practices in Nursing, 16 November 2019, Participants: 20
26. Changing Tides in Quality Care-Riding the Waves Together, 28-30 November 2019, Participants: 2
27. Public Lecture/CNE/CME on Child Abuse, 12 November 2019, Participants: 18
28. Research Methodology for Nursing Professionals, 2-10 December 2019, Participants: 2
29. QI Workshop in Obs & Gyne Dept, 14 December 2019, Participants: 17
30. Assertiveness in Nursing; Need of the Hour, 17 January 2020, Participants: 25
31. Simulation in Nursing, 4 February 2020, Participants: 15
32. Enhancing Soft Skills Among Nursing Personnel, 10 February 2020, Participants: 10
33. Training Programme in Nutrition and Health Education, 27-31 January 2020, CFNEU, D2/183, Kidwai Nagar West, Participants: 5
34. Emergency Nursing—An Upcoming Change, 3-7 February 2020, Participants: 2
35. Nursing Symposium—ISBMT Meet 2020, 13 March 2020, Participants: 2
36. 8th IANN Conference, 9-11 February 2020, Participants: 4
37. Nurse Led Heart Failure Management Programme, 11 February 2020, Participants: 10
38. AHA Accredited BLS & ACLS Provider Course, 10-12 February 2020, Participant: 1
39. Role of Nurse in Management of Addictive Behaviour Disorders, 9 March 2020, Participants: 12
40. Workshops on ‘Good Bedside transfusion practices,’ 16 October 2019, Participants: 15

—Three training sessions of Nurses on Deceased Organ and Tissue Donation, CMET, AIIMS.

—Five sessions for training 99 Nurses on Deceased Organ and Tissue Donation, ORBO, AIIMS.

—Wound Care and Pressure Sore Prevention Workshop at CMET, AIIMS, Participants: 30

—Workshop on, CRTP & ECG Course, AIIMS, Participants: 206

A total of 1479 nursing personnel attended 80 Workshop/Conferences during the year excluding Consultancy and participation as experts.

### Community Health Programme

NIE Team along with Chief Nursing Officer and DNS Incharge visited and delivered Health Talks in NP Co-Ed Model Senior Secondary School, Ansari Nagar West.

1. Good Touch; Bad Touch, 10–10.30 am KG to I standard, 49 students
2. Good Touch; Bad Touch, 10.30–11 am, II to V standard, 100 students
3. Breast self-examination and menstrual hygiene, 12 noon-1 pm, IX to XII, 47 students

### Deputation of Nursing Personnel for Higher studies

Nursing services at AIIMS focus on improving the nursing care by facilitating abundant opportunities for higher studies. After 5 years of regular services, nurses are eligible for pursuing higher studies with full pay. Nine nurses were pursuing Post-basic BSc nursing program and ten MSc nursing program during the year from main Hospital.

### Coordination and Organization of Educational Visits for various nursing educational institutions

Nursing educators in AIIMS conducted orientation for groups from different educational institutions across India as listed below:

Name of the College	Date	Number of Students	No. of Faculty
Government School of Nursing, Tumakuru, Karnataka	18 April 2019	GNM: 33	3
IGNOU/RAK College of Nursing	18 July 2019	Pc BSc III year: 11	-
Government College of Nursing, Mysore, Karnataka	31 October 2019	IV Year BSc: 35	2
PIMS College of Nursing, Pondicherry	7 November 2019	IV Year BSc & MSc: 35	2
DY Patel College of Nursing, Mumbai	21 November 2019	BSc & MSc: 35	2
Ramaiah College of Nursing, Bengaluru, Karnataka	6 February 2020	BSc: 35	2
CMC College of Nursing, Imphal	5 March 2020	BSc: 35	2

### Issuing credit hours certification

A total of 8 nurses were issued certificates of credit hours for registration in Nursing Council.

### Contribution as Organizers in Collaboration with Other Departments

NIE team organized various educational activities inside and outside AIIMS such as:

Conference	Collaboration With	Date	Attendance
HEMATOCON 2019	Dept of Hematology	7 November 2019	55
NURSICON 2019	Dept of Hospital Administration	10-11 December 2019	100 per day

### Coordination with KL Wig CMETi

Coordinated with KL Wig CMET in selecting and designating candidates for attending workshops organized by CMET.

### INFECTION CONTROL NURSES ACTIVITIES

#### MAIN HOSPITAL 2019-20

##### Infection Control Core Committee

Dr DK Sharma	Medical Superintendent, AIIMS, Chairman
Dr Arti Kapil	Professor, Department of Microbiology
Dr Rakesh Lodha	Professor, Department of Paediatrics
Dr Rashmi Ramachandran	Professor, Department of Anaesthesia
Dr Anoop Daga	Associate Professor, Hospital Administration
Dr Karan Madan	Assistant Professor, Department of Pulmonary Medicine

Dr Gagandeep Singh	Assistant Professor, Department of Microbiology
Dr Jhuma Sankar	Assistant Professor, Department of Paediatrics
Ms Nandayshri George	Nursing Superintendent, Infection Control
Ms Elpreda M Victor	Senior Nursing Officer, Incharge Infection Control Nurse
Ms MRE Vasanth	Senior Nursing Officer, Infection Control Nurse
Ms Betty Maria Binu	Senior Nursing Officer, Infection Control Nurse
Mr Dhawal Dwivedi	Nursing Officer, Infection Control Nurse
Mr Kunj Bihari Gauttam	Nursing Officer, Infection Control Nurse

HICCOM core committee meets periodically to discuss day-to-day activities and interventions. HICCOM administrative rounds conducted periodically with infection control core committee, identified problems discussed and rectified.

### Activities of HICCOM

1. HICCOM (Hospital Infection Control Committee) conducted monthly half day training programme for nurses, total **307** nursing officers attended. Pre- and Post-test conducted and analysis done.
2. Sensitization on hand hygiene, PPE and BMW management for various health care workers organized and total **98** workers attended.
3. The ICN took a session on Role of infection control nurse in “Clinical Nursing Update” organized by College of Nursing, AIIMS for a group of **30** in-service nursing personnel.
4. Involved in the teaching program for nursing students of college of Nursing, AIIMS related to infection control prevention and practices.
5. ICNs conducted classes for Main Kitchen staff for a group of **83** employees on hand hygiene practices, use of PPE and importance of immunization. During Kaya-Kalp rounds same topics were emphasized by infection control nurses.
6. ICN participated as resource person at hand hygiene station organized by hospital administration for SASH 2020.
7. All ICNs took active participation in organizing and conducting Kaya-Kalp-2019-20 rounds.
8. Sensitization on hand hygiene, PPE, spill management and needle stick injury protocols were emphasized to sanitary attendants and hospital attendants.
9. Sessions were conducted for Biotic workers on hand hygiene, PPE, immunization, spill management and needle stick injury protocols, personal hygiene, loading of BMW trolleys according to the BMW rules.
10. The ICNs contributed in content and finalization of revised edition of Infection control manual.
11. SOPs on Needle stick injury and Spill management protocols in the form of charts were prepared, distributed and displayed in all clinical areas of AIIMS.
12. Sensitization on infection control practices and BMW management for resident doctors, department of medicine on request of HOD medicine.
13. ICNs conducted session on hand hygiene, personal hygiene, PPE and BMW management at Laundry facility staff and Mortuary staff.

### COVID-19 Teaching and Demonstration Activities

1. ICNs are actively involved during COVID pandemic to contain the COVID-19 cases.
2. ICNs under the guidance of HICCOM AIIMS are organizing and conducting training on infection control and prevention on standard precautions for all health care workers since 1st week of February 2020.
3. HICC AIIMS is developing dynamic guidelines time to time and ICNs are emphasizing them in all clinical areas.
4. ICNs conducted training classes on standard precautions, Respiratory etiquettes and PPE donning and doffing for all health care workers from 8th floor to ground floor of main hospital. All wards of AB, C and D wings including ICUs, HDUs, day care units, private wards, New Private ward block all three floors, Emergency services, OPD block and New RAK OPD areas are covered.
5. Upon request from IRCH faculty–ICNs of main hospital demonstrated PPE donning and doffing with check list at IRCH seminar room, around 60 doctors, nurses and other health care workers attended the session.
6. ICNs of Main Hospital trained health care personnel at NCI Jhajjar in donning and doffing PPEs. ICNs conducted training program for 50 health care workers.
7. ICNs involved in training of OT technicians, security guards, ambulance drivers and maintained the attendance of all training schedules till date.
8. ICNs along with HICCOM team involved to give inputs while setting up the COVID-19 facilities in C6 ward, D6 ward and New Private ward ground floor. ICNs re-emphasized on Donning and Doffing of PPE and disinfection of goggles & face shields in 0.5% Sodium Hypochlorite Solution for 20 minutes and keep them for reuse.

9. ICNs along with ID residents were part of video shooting on Donning and Doffing of PPE for training purpose. This video is now available in AIIMS website both in English and Hindi.
10. ICNs are attending HICCOM meeting whenever required by HICCOM core group members and involved in sensitizing the dynamic guidelines on Environmental cleaning increase the frequency including all surfaces, bed rails, door knobs, lockers and high touch areas, disinfection of items, correct dilution of disinfectant solutions, terminal disinfection of COVID facility, proper fogging guidelines, transportation of samples from COVID facility, handling of linen used for patients in COVID facility, cleaning of lift each time patient transported and management of Bio Medical Waste in COVID facility & maintain the record of number of bags handed over to Biotic team and its proper transportation.
11. On request of HICCOM team ICNs are emphasizing on use of 1% Sodium Hypochlorite Solution for mopping, damp dusting of all surfaces in all Non COVID wards and to keep extra 10 Face Shield, 10 Goggles and extra PPE.
12. Special attention given in COVID facilities for educating and re-emphasizing on donning and doffing for nurses, HA and SAs as they keep changing time to time and use of PPE judiciously when and where required.

#### COVID training programme for health care workers at glance:

A total of 438 doctors, 1205 nursing officers, 44 sanitary supervisors, 684 hospital/sanitary attendants, 95 technicians, 25 ambulance drivers, 22 PCC/ PCM and 72 guards attended the HICC class on standard precautions and respiratory etiquette on COVID 19.

#### Activities of Infection Control Nurses

Collection of data on total HCAs in ICUs/ HDUs, Surgical areas on BSI, RTI (VAP), SSI, UTI, CSF/others infections, etc. Data analysis carried out month-wise for all surgical units and all ICUs and the data analysis was shared with all concerned professor in-charges of surgical units and ICUs.

#### Annual Health Care Associated Infection (HCAI) Rate

Area	Total Major Surgeries/Admissions	HCAI	%
Surgical Units	15081	553	3.6
ICUs	4869	570	11.7

Combined HCAI Rate:  $\frac{(553 + 570) \cdot 100}{19950} = 5.6\%$

Monthly surveillance and data for surgical units and ICUs calculated and submitted to MRD section for monthly newsletter.

1. Annual combined data analysis of surgical units and ICUs calculated and the same is distributed to Dr Arti Kapil Professor in-charge Microbiology Hospital infection Control, Professor DK Sharma Medical superintendent, Ms Kamlesh Chandelia, Chief Nursing Officer, Dr Anoop Daga office in-charge infection control from hospital administration and to Medical Record section.
2. Individual area rounds conducted by Infection Control Nurses on daily basis by using Checklist and whenever need arises, onsite training programme were conducted in the clinical areas and problems are rectified after discussing with the infection control core committee. (HICCOM).
3. Surveillance activities: Surveillance of environmental culture and sterility samples taken monthly basis and reports recorded and distributed to all respective areas and discussed to reinforce proper protocols to follow as per the hospital policy.

#### Surveillance Samples collected from Main Hospital during the year

Total Surveillance Samples	Total Environmental and Sterility Samples	Total In-use Solutions Samples	Total Sterile Samples		Total Unsterile Samples	
			Environmental and Sterility Samples	In-use solutions Samples	Environmental and Sterility Samples	In-use solutions Samples
3003	2174	825	1822	724	352	101

Management of outbreaks monitored and educated the HCWs about the precautions. Maintaining the Report Book for daily basis reporting and also a dedicated register for reporting Incident and intervention.

Ministry of health and family welfare has launched “**Kaya-Kalp**” -Clean hospital campaign under Swachh Bharat Abhiyan. Clean and Green AIIMS campaign guidelines have been formulated. AIIMS is uniquely poised to lead this movement of Kaya-Kalp transformation by being the agent of change and adopting these guidelines.

WHO Hand Hygiene Day observed and ICNs conducted public awareness on hand hygiene demonstrated at RAK OPD and PRC **3 times** and with active public participation.

## 6.5 Medical Social Welfare Unit

### Officer In-Charge

Dr Jitender Sodhi

Asst. Professor, Department of Hospital Administration

### Chief Medical Social Service Officer

BR Shekhar

### Supervising Medical Social Service Officer

Pankaj Kumar

## INTRODUCTION

The foundation of Medical Social Welfare Unit in AIIMS was laid in 1960 when the first Medical Social Worker was appointed in the main hospital. The Medical Social Welfare Unit is working under the supervision of Medical Superintendent. The integration of Medical Social Services has yielded positive results as it provides social, psychological and financial support for patients and alleviated distress while receiving treatment. The Medical Social Welfare Unit, Main Hospital has 12 Medical Social Service Officers (MSSOs) taking care of OPDs and Wards of 20 important departments in the main hospital. In addition to a team of MSSOs, there are 18 part-time social guides (PTSG) and one hospital attendant working under the Unit for patient care and guidance.

**Our motto: “Committed to patients, committed to AIIMS”**

### Our Objectives:

1. To create a Therapeutic-Network among the doctor, paramedical staff, the patient, the family and the community.
2. To facilitate a Holistic-Healing leading towards a complete physical, psychological, social and vocational rehabilitation.
3. To ensure the protection of the basic human rights of the patients.
4. To facilitate the various services for the poor and indigent patients.
5. To coordinate with the Hospital Administration and treating faculties to facilitate the basic patient welfare services.
6. To impart Training & Orientation of Medical Social Work to the Social Work Students.
7. To conduct & coordinate the Research studies initiated by our unit and other departments of AIIMS.

Designation	Number of staff
Medical Social Service Officer Gr. I	1
Medical Social Service Officer Gr. II	9

## HIGHLIGHTS

### *Coordination and implementation of AB-PMJAY scheme in AIIMS*

Ayushman Bharat Prime Minister Jan Arogya Yojna (AB- PMJAY), a programme of Government of India was launched on 23 September 2018 by Hon’ble Prime Minister. AIIMS is a signatory and participant in the implementation of this programme and a dedicated office for the same has been created near gate no. 1 (opposite RAK OPD) in AIIMS.



**A team of AB-PMJAY with AIIMS Director in Arogya Manthan**

The Medical Social Welfare Unit is coordinating the implementation of this scheme in AIIMS with a team of Pradhan Mantri Arogya Mitra (PMAM) & PCM under the leadership of Medical Superintendent. The MSSO is the key person to implement this scheme and the team of Medical Social Welfare Unit, under the supervision of Chief MSSO has ensured that this pioneer programme reaches maximum beneficiaries smoothly.

This dynamic centre facilitates Beneficiary Identification, Golden Card generation, Treatment package selection, Pre-authorization of the package, Surgical & Medical treatment, Claim initiation, reporting, networking and Grievance redressal. A consolidated data of patients benefitted under AB-PMJAY is depicted in the table below:

Total Walk-in	10,133
BIS request raised	4,052
Total Surgical case	2,728
Total Medical case	950
<b>Total cases</b>	<b>3,678</b>



**Team of Ayushman Bharat – AIIMS New Delhi**

#### **Financial Assistance to poor and indigent patients for treatment**

1. Received Rs 46,57,325 in AIIMS Poor Fund.
2. Helped 452 poor patients for Rs 13,54,550 through AIIMS MS Poor Fund.
3. Facilitated the assistance of Rs 1,00,000 to poor and indigent patients through MSSO Poor Fund
4. Rs 19,23,14,906 availed from National Illness Assistance Fund (NIAF) for BPL patients to get treatment of life threatening diseases.
5. Rs 4,94,50,000 availed from Rashtriya Arogya Nidhi (RAN) Umbrella Scheme of MoHFW for 660 BPL patients (340 patients from Central Committee for grant above Rs 5 lakhs and 320 from Sub-committee for grant below Rs 5 lakhs) to get treatment for life threatening diseases.

6. Arranged financial assistance through Corporate Social Responsibility (CSR)/Trust/NGOs:

Fiem Foundation	Rs 62,79,391 for 32 patients
Relaxo Footwears	Rs 9,56,681 for 14 patients
Roshni Foundation	Rs 9,38,462 for 20 patients
Baij Nath Bhandari Trust	Rs 1,48,300 for 7 patients
Jawahar Bhawan Trust	Rs 1,78,100 for 9 patients
Sahu Jain Trust	Rs 67,000 for 5 patients
Sewa Prakalp Mahila Mandal Trust	Rs 1,59,000 for 6 patients
Yuvraj Singh Foundation	Rs 5,00,000 for 1 patient
Dwarka Prasad Trust	Rs 3,00,000
Gopal Foundation	Medicines for Cancer patients



**Medical Social Welfare Unit, Room No. 9, RAK OPD**

**Free medicines and other donations for poor and indigent patients**

1. Free medicines worth Rs 13,00,000 to 12000 OPD patients through voluntary donation at MSWU.
2. Free medicines/surgical items through poor patient proforma to approximately 1000 admitted patients in AIIMS.

**Exemption of hospital charges and Railway Concession**

1. Exemption of different hospital charges including CT, MRI, PET, HLA etc. for about 15,000 BPL/poor patients.
2. Exemption on recommendation of treating/concerned faculty for approximately 5000 patients.
3. Railway Concession facility provided to approximately 10,050 outstation patients.

**Counseling and guidance:**

1. Counseled and guided approximately 42,000 patients for referrals services, healthcare schemes like AB PMJAY, RAN, financial assistance, Dialysis centres, etc.
2. Counseling and targeted therapeutic interventions of 60,000 patients were addressed related to adjustment to diagnosis, trauma, possible role changes, emotional/social responses to illness and treatment aimed at helping patients/families/care providers seeking treatment in hospital.

**Rehabilitation and referral through casualty**

1. Rehabilitated approximately 102 patients: Medico-legal cases (MLC) and Non-MLC Unknown/Unattended/ Destitute/Orphan.
2. Facilitated shifting of approximately 10,220 patients to Safdarjung and other government hospitals for admission through Casualty MSSO due to non-availability of beds.

3. Facilitated referral of patients to private hospitals for free treatment under EWS category as per the Hon'able High Court Order.

#### **Authorization of Organ Transplant under Transplantation of Human Organs Act:**

Twenty-three cases of Unrelated Kidney Donors were scrutinized, assessed, documented and presented before the Renal Transplant Authorization Committee as per the Transplantation of Human Organs Act (THOA), 1994.

#### **Training and orientation:**

Imparted Social Work training (Short Term Observership Training) through academic section, Field Work throughout the year and Orientation Sessions on 'Medical Social Services in hospital setting' for Social Work students of different colleges.

#### **Special Celebrations:**

Diwali Celebration and Magic show in AB-5 ward on 26 October 2019: The Medical Social Welfare Unit organized a Magic Show and Diwali Celebration in the presence of the Director, DDA, Medical Superintendent, Senior Financial Advisor, and Head, Department of Paediatric Surgery.



**Celebration of Diwali in AB-5 ward**

#### **Other Activities**

1. Displayed a comprehensive poster of Medical Social Welfare Unit title on 'Universal Health Coverage' in the 64th Institute Day Celebration and exhibition on 25 September 2020.
2. Celebrated World Social Work Day on 17 March 2020 with the Director, Medical Superintendent, Deputy Director (Administration), Faculty members and staff. A brochure about the Medical Social Services was also released by the Director, AIIMS.



**Release of Brochure by the Director, AIIMS on the World Social Work Day**

## Mega Blood Donation Drive



**Chief MSSO interacting with media during Mega Blood Donation Drive**

The event was a big success with approximately 3000 units of blood donation on 27 February 2020. Medical Social Welfare unit created awareness and motivated people to come forward and participate in the event on a large scale.

### **Other contributions:**

1. Non-MLC to MLC conversion 179 in Casualty.
2. Continued digitalization process for social services and Online-exemption through e-hospital.
3. The Chief MSSO gave his contributions to the Hospital Health and Hygiene promotion Sub-committee (KAYAKALP).

## **EDUCATION**

### **Teaching activities**

1. Mr BR Shekhar, Chief MSSO chaired the paper presentation session and gave Presidential address in 7th National Conference of AIAMSWP on “Social Research in Health care” organized by All India Association of Medical Social Work Professionals (AIAMSWP) North-East Zone.



**Presidential address by Mr B.R Shekhar in AIAMSWP Conference**

2. Mr BR Shekhar and Mr Vivek Kumar Singh took one day session on “Role of MSSO as Public Health Worker” in Jamia Millia Islamia, New Delhi with postgraduate students of Department of Social Work on 5 August 2019.



**Mr BR Shekhar, Chief MSSO and Mr Vivek Kumar Singh, MSSO with Faculty & students of Public Health in Jamia Milia Islamia, New Delhi**

3. Sessions were conducted by Mr BR Shekhar, Chief MSSO and Mr Vivek Kumar Singh, MSSO for Nursing Officers during their induction program in CMET, AIIMS on ‘Social Welfare Schemes for patients in AIIMS’.
4. PhD degree was awarded to Dr Kirti Arya on 29 October 2019 from University of Delhi on “Rehabilitation of Drug Users: A study of District Rehabilitation Centres in the state of Punjab”.



#### **Training activities by Medical Social Welfare Unit:**

1. **Social Work Training—Block Placement:** Imparted Social Work training (Short Term Observership Training) through academic section to 46 students of Social Work who came from following colleges across the country:
  - a. MJPRU, Bareilly, UP (12 students)
  - b. IGNOU, New Delhi (14 students)
  - c. IIT, Delhi (1 student)
  - d. Sri Shankaracharya University, Kerala (2 students)
  - e. Rajiv Gandhi University, Arunachal Pradesh (6 students)
  - f. Puducherry University (1 student)
  - g. MGKVP, Varanasi (6 students)
  - h. BHU, Varanasi (1 student)
  - i. ISS, B R Ambedkar College, Agra (2 students)
  - j. CUHP, Himachal Pradesh (1 student)



**Social Work Training-Concurrent Field Work:** Imparted Concurrent Field Work throughout the year to 4 students of from Delhi School of Social Work (DSSW) and Jamia Milia Islamia University.



2. **Social Work Orientation Session:** Five Orientation Sessions on ‘Medical Social Services in hospital setting’ were given by Mr BR Shekhar (Chief MSSO), Mr Pankaj Kumar (Supervising MSSO), Ms Leema Maiti (MSSO), Mr Vivek Kumar Singh (MSSO) & Dr Kirti Arya (MSSO) to following Social Work Student groups to Social Work students from following colleges:
  - Vorhees College, Vellore, Tamilnadu
  - Loyola College, Chennai
  - GEMS College, Mallapuram
  - Shantigiri College, Kerala
  - Bosco College, Assam
3. Training and orientation given to Mr Saurabh Kumar, MSSO Gr-I, AIIMS–Raipur, about role of MSSO in AIIMS which was organized officially through Medical Superintendent.

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. **Workshop:** Ayushman Bharat: Arogya Manthan, National Health Authority, 30 September–1 October 2019, Vigyan Bhawan, New Delhi
2. **Conference:** Strengthening AB-PMJAY services in Medical College, National Health Authority, 4 March 2020, Hotel Shangri-La, New Delhi
3. **Conference:** 7th Annual National Conference of All India Association of Medical Social Work Professionals (AIAMSWP)-2020, All India Association of Medical Social Work Professionals (AIAMSWP) North-East Zone, 6 and 7 February 2020, Community Medicine Department, RIMS & JNIMS, Imphal, Manipur.

Sessions Chaired by Mr BR Shekhar, Ms Neerja Sapra, Mr Aftab Alam Shah

4. **Poster presented:** AB-PMJAY: Accelerating India's progress towards achievement of Universal Health Coverage by Md Shahid, Mr Vivek Kumar Singh and Mr BR Shekhar

**Papers presented:**

1. Maiti L, Shekhar BR. Extent and Intensity of Incest as a silent family conspiracy: The way forward
  2. Arya K Re-Imagining Medical Social Work in India: Evidence from Established Global Practices for Ensuring A Patient Centric Health Care
- 
1. **Seminar:** Women and gender equality in higher education in India: Issues and Challenges, Mahatma Gandhi Kashi Vidyapith, Varanasi, 11 January 2020, Mahatma Gandhi Kashi Vidyapith, Varanasi  
**Title:** Increasing girl child enrolment rate in primary and secondary education through NGO support
  2. **CME:** Brain Death and Organ Donation, Organ Retrieval Banking Organization, AIIMS, 5 July 2019, CMET, AIIMS, New Delhi
  3. **Workshop:** Right to Information, 16 May 2019, CMET, AIIMS, New Delhi
  4. **Workshop:** FACE (First Aid in Common Emergency), Department of Surgery, 20 May 2020, CMET, AIIMS, New Delhi
  5. **Workshop:** SAKSHAM (Empowering organizations), 21-23 September 2019 & 17-19 January 2020, SPJIMR, Mumbai



**SIGNIFICANT EVENTS**

1. Mr BR Shekhar was a panelist along with co-panelist Deputy CEO, AB-PMJAY, Farmer leader and another senior doctor in “*Vaad-Sambaad*” talk show organized by DD Kisan aired on 13 December 2019 related to AB PMJAY. The motive of the show was to cater to maximum number of beneficiaries through this platform.

**Mr B R Shekhar, Chief MSSO during the program VAAD-SAMVAAD at DD Kisan**



2. A friendly cricket match between MSSO and Resident Doctor's Association (RDA) was organized on 6 April 2019 in Doctor's hostel AIIMS. It was aimed at developing a more cordial relation and network.



**Mr B R Shekhar, Chief MSSO with Sh Ram Gopal Yadav, Chairman,  
Parliamentary Standing Committee**

3. The Department related Parliamentary Standing Committee on Health and Family Welfare examined “**The Allied and Healthcare Professions Bill, 2018.**” The committee interacted with various stakeholders. The committee invited Mr BR Shekhar, Chief MSSO to appear before the committee in the Rajya Sabha on 11 October 2019. He submitted representation to include Medical Social Work Profession in the bill and provided valuable suggestions/inputs before committee. Later on, the committee accepted all the recommendations.
4. On the challenging situation of COVID-19 pandemic MSW unit under the leadership of Chief MSSO actively participated and created awareness about COVID-19 and its prevention. The unit also mobilized support through various non-governmental organizations for arranging surgical masks, soaps, sanitizer, etc.

## **PUBLICATIONS**

**Journals: 1      Chapters in Books: 2**



## 7. College of Nursing

### Professor cum Principal

Dr Manju Vatsa (up to 30 June 2019)

Dr Sandhya Gupta (Acting) (from 1 July 2019)

### Associate Professor

Dr Deepika C Khakha  
Dr Poonam Joshi  
Ms Aditi P Sinha  
Ms Rimple Sharma  
Ms Levis Murry  
Mr Ajesh Kumar TK

Dr Kamlesh K Sharma  
Dr L Gopichandran  
Dr Pragya Pathak  
Ms Cecilia MS  
Ms Y Surbala Devi  
Ms Milan Tirwa

Dr Shashi Mawar  
Ms Sibi Riju  
Ms Ujjwal Dahiya  
Ms Manju AK Rajora  
Ms Smita Das  
Dr M Srinivasan (from October 2019)

### Assistant Professor

Ms Gita Razdan

### Nursing Tutor

Ms Kiran Singh Simak  
Ms Babita Sahoo  
Dr Seema Sachdeva  
Ms Nemkholam  
Ms Mamta Choudhary (from October 2019)  
Ms Suman Dabas (from October 2019)

Ms Gayatri Batra  
Dr Philomina Thomas  
Ms Anubha Devagourou  
Mr Hansaram

Ms Sucheta  
Ms Meena Ara  
Ms Neelima Raaj  
Ms Monika Sabharwal  
Ms Manita Dalal (from September 2019)  
Ms Savita (from September 2019)

## EDUCATION

### Undergraduate

- BSc (Hons) Nursing: **76** students graduated from the 4-year course.
- BSc Nursing (Post Basic): **21** students graduated from the 2-year course.

### Postgraduate

- MSc Nursing: **21** students graduated from the 2-year course

### New Students

- 77 students joined BSc (Hons) Nursing 1st year and 34 students joined BSc Nursing (Post-Basic) 1st year
- 25 students have joined MSc nursing program this year in the following specialties:
  - a. Oncological Nursing (3)
  - b. Critical Care Nursing (4)
  - c. Paediatric Nursing (3)
  - d. Neurosciences Nursing (4)
  - e. Nephrological Nursing (3)
  - f. Cardiological/CTVS Nursing (4)
  - g. Psychiatric Nursing (4)

The College of Nursing conducted orientation sessions:

- Two groups of delegates from Ministry of Health of Japan and Korea.
- One group of visitors from College of Nursing, DY Patil University, Pune, India
- Initiated integration of Mid-Level Health Provider (MLHP) course in UG nursing programme as per Indian Nursing Council Requirements.

### CMEs/Workshops/Symposia/National and International Conferences

1. Coordinated Eight Clinical updates for nursing officers of AIIMS
  - A. Organized by MSc Nursing 2nd year students under supervision of faculty of the college

- a) A step towards safe and sustainable critical care in children (October 2019)
  - b) Exploring new dimensions: Updated care and practices in nursing (November 2019)
  - c) Management of Addictive Behaviour Disorders (March 2020)
  - d) Exploring new dimensions: Updated care and practices in nursing (November 2019)
  - e) Assertiveness in nursing (January 2020)
- B. Organized by BSc Nursing (Post Basic) 2nd year students under supervision of faculty of the college
- f) Transforming the workplace through simulation (February 2020)
  - g) Enhancing soft skills: Moving forward towards quality care (February 2020), and
  - h) Mental health nursing update on “Management of Addictive Behaviour Disorders”, 9 March 2020
2. Coordinated Education and Training Programme for MSc Nursing Students and BSc Nursing students on Deceased Organ & Tissue Donation in collaboration with ORBO, AIIMS, New Delhi.
  3. Organized and conducted first series of nine lectures for webinars for training in care of COVID-19 patients for nursing officers and nursing students of the country as per the instructions from Ministry of Health and Family Welfare, GOI which is streaming on YouTube in March 2020.

#### Lectures delivered

**Dr Deepika C Khakha: 24**

**Dr L Gopichandran: 10**

**Ms Cecilia MS: 5**

**Mr Ajesh Kumar TK: 1**

**Dr Kamlesh Sharma: 15**

**Dr Pragya Pathak: 2**

**Ms Levis Murry: 14**

**Ms Milan Tirwa: 3**

**Dr Poonam Joshi: 28**

**Ms Ujjwal Dahiya: 1**

**Ms Y Surbala Devi: 7**

#### Dr Deepika C Khakha

1. Overview of Qualitative Research, National Conference on Research Methodology, 1 April 2019, Gurugram, Haryana
2. Burnout and its Management, CNE, 10 April 2019, New Delhi
3. Ethical practice in Clinical settings, Workshop on ‘Building innovation through Clinical practice’, 5 June 2019, New Delhi
4. Evidence Based Practice in Clinical settings, Workshop on ‘Building innovation through Clinical practice’, 5 June 2019, New Delhi
5. Stress Management at Infection Control and Prevention strategies, Peri-operative Neuro-nursing Conference, 25 June 2019, Cardio-Neuro Centre, AIIMS, New Delhi
6. Evidence Based Practice in Clinical settings, Workshop on Building innovation through Clinical practice, 3 July 2019, New Delhi
7. Ethical practice in Clinical settings, Workshop on Building innovation through Clinical practice, 3 July 2019, New Delhi
8. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 7 August 2019, New Delhi
9. Self-exploration, Induction, 29 August 2019, New Delhi
10. Guest Lecture series, Mental Health Nursing, 2-6 September 2019, Ranchi, Jharkhand
11. Quality Assurance in Nursing, Training Course in Management for Senior Nursing Administrators, 18 September 2019, Munirka, New Delhi
12. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 18 September 2019, New Delhi
13. Workforce and Patient safety, Workshop on Infection prevention and control strategies on Quality care and Patient safety, 24 September 2019, New Delhi
14. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 9 October 2019, New Delhi
15. Inter-Personal Communication between Nurse and Patient, Workshop on Neuro Anaesthesia Update 2019, 18 October 2019, New Delhi
16. Communication in Neuro-nursing, International Spine Congress & Live Operative Workshop AIIMS SPINECON, 21 October 2019, New Delhi
17. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 13 November 2019, New Delhi
18. Publishing a paper, Workshop on Introduction to Research for Clinical Nurses, 14 November 2019, New Delhi.
19. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 27 November 2019, New Delhi
20. Nature and scope of Research, Workshop on Research Methodology, 2 December 2019, New Delhi

21. Evidence Based Practice, Developing experimental design and analysis skills in Nurse Researcher, 18 December 2019, New Delhi
22. Significance of assertiveness in nursing, Workshop on Assertiveness in Nursing: Need of the hour, 17 January 2020, New Delhi
23. Prevention and Management of Burnout, Workshop on Mental Health at Workplace, 28 October 2019, New Delhi
24. Prevention and Management of Burnout, Workshop on Soft Skills, 10 February 2020, New Delhi

**Dr Kamlesh K Sharma**

1. NRP using simulation vs conventional method, Nursing update on “NRP”, College of Nursing, AIIMS, 12 October 2019, New Delhi
2. Trends and scope of nursing, Orientation Programme for GNM and BSc Nursing Fresher’s batch 2019-20, Narayan Nursing College, Gopal Narayan Singh University, 23 September 2019, Rohtas, Bihar
3. Complications-Identification & management in community, 9th International Nursing Conference on ‘Collaborative approach for Holistic Health Care’, Akal College of Nursing, Eternal University, 11 October 2019, Sirmour, Himachal Pradesh
4. How to write a research report, Workshop on ‘Introduction to research for clinical nurses’, In service education department of CNC, AIIMS, New Delhi, 14 November 2019, AIIMS, New Delhi
5. Resource person/trainer in Training (series of sessions), Training of State Trainers in Induction Module for Community Health Officers, National Health Systems Resource Centre, NHSRC, 20–22 November 2019, NIHFW, Delhi
6. Resource person, Content Development Workshop for faculty, 5 December 2019, AIIMS, New Delhi
7. Advancements in Community Health Practices, National Seminar on ‘New Horizons in Community and Mental Health Practice’, Kalinga Institute of Nursing Sciences, KIIT University, 6 December 2019, Bhubaneswar
8. Resource person/trainer in Training (series of sessions), Training of State Trainers in Induction Module for Community Health Officers, National Health Systems Resource Centre, NHSRC, 17–19 December 2019, NIHFW, Delhi
9. Conflict management, Assertiveness in nursing, 17 January 2020, New Delhi
10. Overview of Simulation, Workshop on ‘Transforming the Workplace through Simulation’, 4 February 2020, New Delhi
11. Hands on session: Simulation scenarios, Workshop on ‘Transforming the Workplace through Simulation’, 4 February 2020, New Delhi
12. ‘Faculty development workshop’, 5th Annual National Conference of PediSTARS on medical simulation: SIMULUS 5, 10 and 11 February 2020, Chennai, Tamil Nadu
13. Resource person/trainer in Training (series of sessions), Training of State Trainers in Induction Module for Community Health Officers conducted by the National Health Systems Resource Centre, NHSRC, 24–26 February 2020, NIHFW, Delhi
14. Integrating Nightingale theory into nursing process, 6th National Conference on Integration of Theories in Clinical Practice and Research at college of nursing, KGMU, 28 February 2020, Lucknow, Uttar Pradesh
15. Epidemiology, clinical features and diagnosis of COVID 19, Webinar on Training nursing officers in care of patients suspected of /or having COVID 19, 30 March 2020, New Delhi

**Dr Poonam Joshi**

1. Paediatric Dose Calculation, Nursing CNE, 2 May 2019, New Delhi
2. QI Methodology, Striving towards Nursing Excellence at AIIMS, 15 April 2019, New Delhi
3. BLS and CCLS, BLS and CCLS training program, 29–30 April 2019, New Delhi
4. Skill Learning, Educational Technology in Nursing, 26 May 2019, New Delhi
5. Simulation (Hands on session), Quality improvement training for improving healthy survival of preterm infants in AIIMS, 13 July 2019, New Delhi
6. Prevalence of breast feeding and knowledge of mothers related to breast feeding, Empower parents and enable breast feeding, 2 August 2019, New Delhi
7. Fast track in Emergencies, EM India 2019, 3 August 2019, New Delhi
8. Expert for round table meeting on promulgation of Emergency Nursing in India, EM India 2019, 2 August 2019, New Delhi
9. Paediatric BLS, Paediatric BLS–IAP, 18 August 2019, New Delhi

10. Paediatric CPR, IGNOU (Tele-conferencing), 30 August 2019, New Delhi
11. Immunization, IGNOU (Tele-conferencing), 25 July 2020, New Delhi
12. Nursing research process, IGNOU (Tele-conferencing), 14 September 2020, New Delhi
13. QI workshop, CNE, 9 September 2019, New Delhi
14. Review of literature, Research Methodology, 18 September 2019, New Delhi
15. Simulation (Hands on session), Quality improvement training for improving healthy survival of preterm infants in AIIMS, 11-13 July 2019, New Delhi
16. Neonatal resuscitation program, Neonatal Resuscitation Skills and Simulation, 11 October 2019, Ludhiana
17. Neonatal resuscitation program, Neonatal Resuscitation Program, CNE, 12 October 2019, New Delhi
18. Neonatal resuscitation program, Preconference workshop, First National Conference of PNNFICON 2019, 20-22 November 2019, Ludhiana
19. Paediatric emergencies, Exploring advancement and innovations in Neonatal and Paediatric Care, First National Conference of PNNFICON 2019, 20-22 November 2019, Ludhiana
20. Simulation (Hands on session), Quality improvement training for improving healthy survival of preterm infants in AIIMS, 11-13 November 2019, New Delhi
21. Public lecture, Prevention of child abuse, 12 September 2019, New Delhi
22. Quantitative research, Research Methodology, CNE, Cardiology, 14 November 2019, AIIMS
23. Basic Life support, Emergency and Trauma Nursing, 21 January 2020, Gurugram
24. Neonatal resuscitation program, In-service education program for nurses, 18 February 2020, Ballabgarh, CRHSP
25. Patient safety, Infection control, Ward management and administration Course for Nurse administrators, 10 February 2020, NOIDA, UP
26. ACLS, AHA program, 11 April 2020, New Delhi
27. Research Methodology, Introductory course on Research methodology and Biostatistics for Nursing professionals, 7-8 February 2020, Ludhiana
28. Care at birth, On top e-learning, 8 December 2019, New Delhi
29. Triaging, transport and IV fluid therapy, On top e-learning, 27 February 2020, New Delhi

#### **Dr L Gopichadran**

1. ECG Basics for nurses, TNAI workshop, 12 June 2019 and 10 July 2019, New Delhi
2. Nurse led Heart failure management, Workshop, 14 August 2019, Bhubaneswar
3. Role of nurse administrators in planning and policy making, NIHFWS Workshop, 19 September 2019, New Delhi
4. Evidence based Nursing, TNAI EBN workshop, 11 September 2019, New Delhi
5. Heart failure basic, Pan India Nurse Led Heart failure management program, 1 October 2019, Bangalore
6. Spinal cord injury management, SPINECON, 21 October 2019, New Delhi
7. Nursing service administration and quality management, AHAINdia Workshop, 26 October 2019, NEW DELHI
8. Nurse led Heart failure management, Pan India Nurse led Heart failure program, 5 November 2019, Chennai
9. Critical decisions in cardiac emergency, Workshop on cardiac emergency, 14 December 2019, New Delhi
10. Nurse led heart failure management, Pan India Nurse led Heart failure program, 18 December 2019, Raipur

#### **Dr Pragya Pathak**

1. Care of patients on dialysis, Exploring New Dimensions: Updated care and practices in Nursing, 16 November 2019, New Delhi
2. Simulation session on BLS, Transforming workplace through Simulation, 4 February 2020, New Delhi

#### **Ms Ujjwal Dahiya**

1. Human well-being in Health care, Nursing Update on Updated care and practices in nursing, 16 November 2019, Delhi

#### **Ms Cecilia MS**

1. Exploring and illuminating advancements – vision in paediatric nursing, International conference Saveetha university, 28 June 2019, Chennai
2. Principles of adult learning, Transforming workplace through simulation, 4 February 2020, Delhi

3. Simulation on basic life support with AED, Transforming workplace through simulation, 4 February 2020, New Delhi
4. Resource faculty, Faculty development in simulation, 10 and 11 February 2020, Chennai
5. Bag and mask ventilation, Neonatal resuscitation, 18 February 2020, Ballabgarh

#### **Ms Levis Murry**

1. Problem analysis and tools of QI, Quality improvement workshop for nurses, 30 August 2019, New Delhi
2. Identifying a problem and forming an aim statement, Facilitator- Quality improvement group work Facilitator - simulation on PPV at birth, 'Quality Improvement training for improving healthy survival of preterm infants', 11-13 September 2019, New Delhi
3. Quality improvement for nurses, Infection prevention and control strategies on QoC and patient safety, 24 September 2019, New Delhi
4. Neonatal resuscitation, Simulation workshop, 11 October 2019, Punjab
5. Oxygenation in neonates, Paediatric Critical Care, 17 October 2019, Delhi
6. QI initiative and efficient discharge counselling, 1st International nursing CME, 1 November 2019, New Delhi
7. Writing research protocol, In-service workshop for nurses, 14 November 2019, Delhi
8. Testing change Ideas-Onsite mentoring, Laqshya QI Mentoring for medical college, 15-16 November 2019, Cuttack, Odisha
9. QI group work, Workshop on QI: How to fix problems?, 14 December 2019, Delhi
10. Communication skills related to assertiveness, Workshop on Assertiveness in Nursing: Need of the hour for nurse managers, 17 January 2020, Delhi
11. Feeding of normal and preterm babies, ONTOP Essential Newborn Care Course, 24 January 2020, Delhi
12. Basic Life Support Hands On session, Workshop on Transforming the workplace through simulation, 4 February 2020, Delhi
13. Septic shock scenario facilitator, role play and Transport of sick neonate, Simulation for Nurses in Acute Paediatrics (SNAP), 7 February 2020, Chennai
14. Sim Roles- Prebrief, confederates and role of technician, SIMULUS 5: Faculty Development Program, 11 February 2020, Chennai

#### **Ms Y Surbala Devi**

1. Refusal skills/How to Say NO/ADS, One Day Training Programme for Delhi University Nursing Students, 16 October 2019, Ghaziabad
2. Role of Nurse Professionals in treatment of SUD, XXI Annual Conference of the International Society of Addiction Medicine. Theme-Addiction in A Rapidly Changing World, 15 November 2019, New Delhi
3. Moderator in oral paper presentation session, XXI Annual Conference of the International Society of Addiction Medicine. Theme-Addiction in A Rapidly Changing World, 15 November 2019, New Delhi
4. Assessment of Nicotine Dependence Syndrome, TOT workshop on Role of Nurse in Management of Substance Use Disorder, MOHFW,GOI, 30 November 2019, New Delhi
5. 5 "A" & 5 "R" Models of quitting tobacco including role play, Trainer for Tobacco cessation programme for Nursing officers in Government Hospitals of Delhi under MOHFW, GOI, 16 December 2019, New Delhi
6. 5 "A" & 5 "R" Models of quitting tobacco including role play, Tobacco cessation programme for Nursing officers in Government Hospitals of Delhi under MOHFW, GOI, 21 January 2020, New Delhi
7. Substance Use Disorders-Myth Vs facts, Assessment of NDS- 5 "A" Model, 13th CNE Training Workshop for Nursing Officers on "Management of Substance Use Disorders" CNE cell KSCH, LHMC, 20-27 January 2020, New Delhi

#### **Mr Ajesh Kumar TK**

1. Integration of Rogers theory in Nursing Process, National Conference on: Theme: Integation of Theories in Clinical Practice and Research, 28 February 2020, Lucknow, UP

#### **Ms Milan Tirwa**

1. Nutritional aspects ,Schemes & facilities for elderly, Health Promotion on Elderly, 6 and 7 February 2020, Manipur
2. Triage in Trauma Emergency, Exploring New Dimension; Updated care and practices in Nursing, 14 November 2019, New Delhi

3. Organization of Emergency Department, National Emergency Medicine Conference, 3 and 4 August 2019, New Delhi

### Oral papers/posters presented

1. Sudha Lama, Sandhya Gupta, Sujata Satpathy. A study to assess Parenting Stress and Psychological Health of Women having single parenting experience in Delhi-NCR, World Summit on Psychiatry, Mental Health Nursing and Healthcare, 24 and 25 July 2019, Richmond, Vancouver, Canada
2. Sandhya Gupta, Nurse-led clinics: A new approach to substance use treatment services, XXI Annual Conference of the International Society of Addiction Medicine, 15 November 2019, New Delhi
3. Sandhya Gupta. Impact of Educational video Regarding Ill Effects of Tobacco Use on tobacco users, XXI Annual Conference of the International Society of Addiction Medicine, 16 November 2019, New Delhi
4. Sandhya Gupta, Suicide - Risk Assessment and Psychopathology, 19th Annual conference of Indian society of psychiatric nurses ISPNC-2020, Theme: Role of nurse in suicide prevention, 7 February 2020, Moradabad, UP
5. Laxmi Kumari, Sandhya Gupta, Effect of anti-tobacco health messages create favourable vs. unfavourable response among the users and non-users, Review from Indian studies: A Kaleidoscope, XXI Annual Conference of the International Society of Addiction Medicine, 16 November 2019, New Delhi
6. Khakha DC, Merin Thomas, Anita, Bobby Syiemelieh, Need of the hour: To reduce workplace stress and improve wellness among Nursing personnel at National capital of India, 19th World Congress of Psychiatry, 21 August 2019, Lisbon, Portugal
7. Khakha DC, Anita, Thomas M, Reality bites of parenting: Methods and styles adopted by parents of school-aged children, 19th World Congress of Psychiatry, 21 August 2019, Lisbon, Portugal
8. Sharma KK, Vatsa M. Domestic violence during pregnancy and women's health status: A community based study in India, 5th International Conference on Global Public Health 2019, 17 and 18 October 2019, Kathmandu, Nepal
9. Sharma KK, Hansaram, Joseph J, Laxmi, Dhindsa H, Vatsa M, Poster: Opportunistic screening for Cardiovascular Disease Risk Factors in a Tertiary Care Medical Institute, India, 64th Annual National Conference of Indian Public Health Association (IPHACON 2020), 29 February 2020, New Delhi
10. Gopichandran L, Achal Srivatasava. Effectiveness of PMR and deep breathing exercise on pain, disability and sleep among patients of chronic tension type headache, International council for Nurses (ICN) Congress-2019, 27 June-1 July 2019, Singapore
11. Anu Varghese, Cecilia, Levis, Ramesh Menon, Knowledge and practice of food related triggers for Asthma attack among parents of children with Asthma attending paediatric OPD, 1st international CNE on paediatric surgery, Delhi
12. Cecilia Mary Susaimuthu, Helen M Perdita, Effectiveness of skill training on knowledge and attitude regarding neonatal resuscitation, Neocore 2019, 31 March 2019, Puducherry
13. Devi Surbala Yumnam, Singh Jitenkumar Kh. Smokeless Tobacco use among Women in North Eastern States, India: A Geo-Spatial Analysis, XXI Annual Conference of the International Society of Addiction Medicine. Theme-Addiction in A Rapidly Changing World, 15 November 2019, New Delhi.
14. Gudiya, Cecilia, Sujata Satpathy, Ramam. Image disturbance, self-esteem, acne quality of life among young adults with acne, 1st International CNE on Paediatric Surgery, Delhi
15. Levis M, Surbala Y, Joshi P. Postpartum depression and risk factors among women in India, 39th Annual International Nursing and midwifery research and education, 26 and 27 February 2020, Dublin, Ireland
16. Levis M, Joshi P Using simulation as a teaching strategy in nursing education, Simulus 5, 5th Annual Conference of Pedistars, 6-11 February 2020, Chennai, Tamil Nadu
17. Priyanka Bhatti. A study to assess effectiveness of an educational intervention for primary caregivers on knowledge regarding immunization and immunization status of children who are undergoing cardiac surgery at AIIMS, New Delhi, 1st International Nursing CME, 1 and 2 November 2019, New Delhi
18. Tiwari S, Joshi P, Kabra S, Sharma R, A study to assess depression, coping strategies and treatment adherence in patients with Cystic Fibrosis, 31st Annual Conference of IAP, Respiratory Chapter, Respicon, 2019, 12 and 13 October 2019, Pune
19. Sheela A, Sharma R, Sinha A, Joshi P, A cross-sectional study to assess the prevalence of renal dysfunction in children with solitary kidney, 1st International Nursing CME, 1 and 2 November 2019, New Delhi
20. Tiwari S, Joshi P, Kabra S, Sharma R, A study to assess depression, coping strategies and treatment adherence in patients with Cystic Fibrosis, 1st International Nursing CME, 1-2 November 2019, New Delhi
21. Thuleiphy, Cecilia, Ramanjit Sihota, Dewang Angmo, Effectiveness of IEC package on compliance to glaucoma

medication among caregivers of children with Glaucoma, 1st International CNE on paediatric surgery, 1 and 2 November, 2019, Delhi

22. Ujjwal Dahiya, Anurag Srivastava, Prevention and Early detection of Breast and Cervical Cancer in Women, International Conference on Science and Art of Holistic Health 2019, 28 September 2019, Delhi

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A randomized controlled trial to compare the efficacy of mobile app vs conventional prescription of analgesics and adjuvants' adherence on selected variables among cancer patients receiving palliative care at a tertiary care centre. Gopichandran L, ICMR, 2 years, 2019-21, Rs 7.78 lakhs

#### ***Completed***

1. A study to assess knowledge and skills of nurses related to BCLS and CCLS and to evaluate the impact of training on real time assessment of resuscitation and its outcome in a tertiary care facility, Smita Das, AIIMS, 2 years, 2017-19, Rs 3.7 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A comparative study of status of mood, resilience and confidence of athletes and non-athletes students (between 14-18 years) of higher secondary school in Delhi NCR
2. A comparative study to assess the breast feeding behaviour of partially paladai feed with exclusively breast fed late preterm and term neonates
3. A cross sectional study to assess the anxiety of patients with cardiac disorders related to COVID 19 pandemic
4. A cross sectional study to assess the Financial Toxicity and its impact on therapeutic compliance among cancer patients undergoing chemotherapy at DR BRA IRCH, AIIMS, New Delhi
5. A descriptive study to assess the effect of physical activity on glycemc control in children with Diabetes Mellitus Type I
6. A exploratory study of factors associated with integration of patients recovering from alcohol dependence syndrome with their family
7. A feasibility study to examine the effect of yoga based interventions on pain perception, fatigue, and quality of life in children with planned chemotherapy
8. A hermeneutic phenomenological study to assess the lived-in experiences and coping strategies of COVID positive patients at AIIMS, Delhi
9. A qualitative study to assess the experience of living kidney donors while undergoing evaluation for transplant
10. A quasi experimental study to assess the effectiveness of structured discharge counselling on selected outcome among caregiver of heart failure patient
11. A quasi-experimental study to assess the effectiveness of educational package on SBAR approach on the knowledge, attitude and practice among nurses working in neurosurgery ICU, AIIMS, New Delhi
12. A randomised controlled trial to assess the effect of Maternal audio taped voice on selected clinical parameters of sedated children in PICU of AIIMS, New Delhi
13. A study to assess stress, anxiety, depression and psychological distress during COVID 19 pandemic among employees working in corporate sector- a web based cross sectional survey.
14. A study on effectiveness of nurse led intervention on self-care behaviour, psychological symptoms and quality of life among kidney transplant recipients in a selected tertiary care hospital of New Delhi.
15. A study to assess anxiety, depression and quality of life among patients with lupus nephritis reporting at AIIMS, New Delhi
16. A study to assess impact of COVID 19 on care of heart failure patients
17. A study to assess the effect of an educational intervention for the nurses on the adherence to the bundle for prevention of Ventilator associated Pneumonia (VAP) in ICU, AIIMS, New Delhi

18. A study to assess the effectiveness of educational package on Situation-Background-Assessment-Recommendation approach on the knowledge, attitude and practice among nurses working in neuroscience ICU units, AIIMS
19. A study to assess the effectiveness of video assisted teaching on home care management with Parkinson's disease attending neurology OPD at AIIMS, New Delhi
20. A study to assess the psychological distress among security guards during COVID 19, AIIMS Delhi
21. A study to compare anxiety, depression and quality of life among caregivers of children with cerebral palsy and those with typically developing children attending paediatric neuro OPD at AIIMS, New Delhi
22. A study to develop haemodialysis patient's safety care protocol (SOP) for the patients undergoing haemodialysis at AIIMS, New Delhi and assess its feasibility, acceptability and patient satisfaction.
23. An exploratory study to assess the problems experienced by the relatives of patient admitted in critical care areas with a view to develop an ICU practice protocol for relatives and health workers at AIIMS, New Delhi
24. Association of oral health and ventilator associated pneumonia among patients admitted in intensive care unit, AIIMS, New Delhi
25. Awareness and practice among two-wheeler riders in Delhi
26. Happiness and Its determinants among Nursing Students
27. Hermeneutic phenomenological study on experience of patients Post-Heart Transplantation at AIIMS, New Delhi
28. Impact of COVID 19 pandemic on nursing education: A cross sectional survey
29. Impact of virtual interactive epilepsy education versus digital educational material in people with epilepsy and their caregivers: A randomized controlled trial
30. Perception of social support and prevalence of depression among head and neck cancer patients
31. Randomized Trial to Study the Impact of Simulation-based-Learning over Conventional Training on Knowledge and Self-Efficacy of Nursing Students in Paediatric Medicine and Paediatric Surgery Wards

### **Completed**

1. A Case Control Study to Assess the Musculoskeletal Pain, Depression and Quality of Life in Patients With Parkinson's Disease
2. A comparative study of social support on perceived needs by patients with opioid dependence syndrome and their caregivers, at NDDTC, Ghaziabad.
3. A cross-sectional study to assess the prevalence of renal dysfunction in children with solitary kidney
4. A descriptive cross sectional study to assess the knowledge and adherence behaviour to treatment regimen among chronic kidney disease patients at AIIMS hospital, New Delhi with a view to develop an informational booklet
5. A randomized controlled trial to compare the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses
6. A study of perception regarding organ donation and scope of practice of nurses as transplant coordinators and to explore the status and position of potential donor referrals from the hospital, AIIMS before and after placement of nurse as transplant Coordinators.
7. A study to assess depression, coping strategies and treatment adherence in patients with cystic
8. A study to assess effectiveness of an educational intervention for primary caregivers on knowledge regarding immunization and immunization status of children who are undergoing cardiac surgery at AIIMS, New Delhi
9. A study to assess psychosocial, physical problems and coping strategies of patients having long term/permanent tracheostomy with a view to develop an information booklet
10. A study to assess the effectiveness of caregiver-training program on knowledge in managing aggressive patients at home
11. A study to assess the effectiveness of nurse driven mobile application (app) based discharge teaching for home healthcare practices among postoperative neurosurgical patients or caregivers in a tertiary care hospital, New Delhi, India.
12. A study to assess the effectiveness of structured educational package on knowledge and practices of caregivers of patient with spinal cord injury at Jai Prakash Narayan Apex Trauma Centre, AIIMS, New Delhi
13. A study to assess the knowledge and practice of food related triggers for asthma attack among parents of children with asthma attending paediatric OPD AIIMS, New Delhi.
14. A study to assess the knowledge regarding peritoneal dialysis home care and quality of life of patients on peritoneal dialysis at AIIMS, New Delhi with a view to develop an information booklet.
15. A study to assess the severity, risk factors and quality of life of patients associated with chemotherapy induced

- peripheral neuropathy with a view to formulate information booklet for self-management
16. A study to assess thirst intensity and thirst distress among heart failure patients admitted at CN Centre AIIMS
  17. A study to compare the perception regarding diagnosis and treatment in patients with SUD-dual diagnosis and their family caregivers and its relationship with therapeutic adherence at NDDTC, Ghaziabad
  18. Awareness, Utilization, and Determinants of using financial aid and resources by cancer patients in a tertiary hospital.
  19. Comparing the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses: A randomized controlled trial
  20. Knowledge and attitude of nurses working in AIIMS regarding basic life support
  21. Knowledge, attitude and utilization rate of family planning methods among postpartum women in a selected tertiary care facility in India
  22. Myths and facts about COVID 19: Knowledge assessment among General Public
  23. Pathways to Severe mental illness care: A retrospective study of patients seeking psychiatric care at Department of Psychiatry AIIMS, Delhi
  24. Perception of workplace violence in emergency department
  25. Postpartum Depression and its risk factors among Indian Women in a tertiary care hospital
  26. Randomized Trial to Study the Impact of Simulation-based-Learning over Conventional Training on Knowledge and Self -Efficacy of Nursing Students in Paediatric Medicine and Paediatric Surgery Wards.
  27. Role of low fidelity simulation in acquisition of midwifery skills among nursing students: A mixed method approach
  28. Use of Force Sensitive Resistor in gauging pressure applied by a mechanical compression device over femoral sheath removal site and its association with patient level of site discomfort and post procedure complications among patient of transfemoral coronary interventions in a tertiary care hospital.
  29. Use of piezoelectric pressure sensor in gauging pressure applied by a mechanical compression device over the femoral sheath site and its application with patient's level of site discomfort and post procedure complications among patients of transfemoral coronary interventions in a tertiary care hospital

## PUBLICATIONS

**Journals: 25**

**Chapters in books: 13**

**Books: 2**

## PATIENT CARE

1. Organized Public Health Awareness Campaigns through 27 exhibitions/role plays in 2019-20 on important National/International health days/health issues, on topics like Mental Health, Prevention of Air Pollution, Breast Feeding, Breast cancer, Tuberculosis, Epilepsy, Blood donation, Food Safety, Oral Cancer and World AIDS Day etc.
2. Coordinated and supervised 14 health surveys in 2019-20 in urban community (Ambedkar Nagar) on topics like Awareness of HIV AIDS among the general public in the resettled colony in Delhi, knowledge, practices of breastfeeding among lactating mothers, Assessment of Knowledge, Attitude and Practice of diabetic patients regarding diabetes mellitus etc.
3. Participated in and co coordinated student participation in “Swasthya Chetna and Jan Sampark Abhiyan”; NCD, Screening and awareness camps at Pragati Maidan, Delhi from 14 to 27 November 2019 at 39th India International Trade Fair organised by Ministry of health and family welfare
4. On the occasion of 64th Foundation Day, 2019, co-organized departmental activities like
  - a) Poster exhibition
  - b) Organized Health Screening for general public and AIIMS employees, measuring Blood Pressure, Ht/ Wt./ BMI, Blood Sugar and Hemoglobin.
5. Provided direct patient care including health education through BSc (Hons) Nursing, BSc (Post Basic) Nursing & MSc Nursing students posted in various clinical areas throughout the year supervised by college faculty.
6. **A.** Faculty and students participated in blood donation camp on 27 February 2020 organized by Blood Bank-AIIMS  
**B.** Organized community **Awareness Campaigns** on prevention of Substance use through lectures, Role plays, film shows in Trilok Puri Centre and promotion of Mental Health, Prevention of domestic violence on World Mental Health Day.  
**C.** Coordinated and supervised 14 **health surveys** in 2019-20 in urban community (Ambedkar Nagar) on topics like Awareness of HIV AIDS among the general public in the resettled colony in Delhi, knowledge, practices of breastfeeding among lactating mothers, Assessment of Knowledge, Attitude and Practice of diabetic patients

regarding diabetes mellitus etc.

- D. Organized community survey in Trilokpuri in the area of treatment of Mental disorders, Substance use disorders, Tobacco Control Programs and Care of Elderly**

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

### **Participation & awards/prizes won:**

- Second Prize (Poster) was awarded to college of nursing for Poster exhibition on: “Universal Healthcare” on the Annual day by Director AIIMS, New Delhi.
- BSc (Hons) nursing students received 2nd prize in extempore and a 3rd prize in Hindi essay writing competition in state competition of Student nurses association (SNA events)
- Seven students were awarded to college of nursing for Poster exhibition on: “Universal Healthcare” on the Annual day by Director AIIMS, New Delhi.
- BSc (Hons) nursing students received 2nd prize in extempore and a 3rd prize in Hindi essay writing competition in state Student nurses association, SNA events

**Dr Sandhya Gupta**, Professor cum Principal (Actg) was appointed chairperson for preparing Proposal for upgrading existing nursing college of all seven AIIMSs into centre of excellence in nursing sciences at AIIMS, New Delhi. The proposal was prepared along with Principals of college of nursing from six new AIIMS, CMC Vellore and St John’s College of Nursing, Bengaluru and submitted to Member Secretary, Central Institute Body in March 2019.. She organized Symposium for XXI Annual Conference of the International Society of Addiction Medicine Theme – “Addiction in a Rapidly Changing World” 13-16 November 2019, New Delhi, India on theme of ‘Role of Nurse Professionals in treatment of Substance Use Disorders’; Prepared the parity for Nursing Professional in India as per ISCO classification for Ministry of Health & Family Welfare, GOI; Presentation on gerontological nursing in India WHO, SEARO, expert group consultation 12 December 2019; Drafted curriculum and courses for Certificate course in geriatric care assistance (GCA) for IGNOU; Organized and conducted first series of Nine Webinars for nurses to manage Covid-19 which is streaming on YouTube; Delivered a lecture in Webinars for nurses to manage Covid-19, organized by WHO, SEARO office, New Delhi; Participated as expert for first series of Webinars for nurses of Punjab state on to manage infection control during Covid-19 pandemic for State of Punjab; Guide for two PhD scholars of National Consortium-Indian Nursing Council and one for AIIMS, New Delhi; Member Doctoral Committee College of Nursing, AIIMS, Delhi; Member Doctoral Committee Department of Psychiatry, AIIMS, Delhi; Expert on various academic activities and committees of MOH&FW and INC; Participated as expert Trainer for Two TOT workshop of seven days for nurse-educators and senior nurses of Delhi & NCR on Management of substance use disorders Organized by Department of psychiatry and NDDTC, AIIMS, New Delhi in October and December 2019; Invited as Chief Guest for Oath taking and Lamp Lighting Ceremony of JIPMER Pondicherry on 7 January 2020; Chairperson for undergraduate and post graduate exams for College of Nursing, AIIMS, DELHI; Participated in expert Group: for preparing draft of National Nurses & Midwifery Commission, for MOH&FW; for developing draft for Nursing Practice Act for Indian Nursing Council; for curriculum planning and Course material for HIV/AIDs for NACO - Blended learning course; for revising BSc Nursing Syllabus for Indian Nursing Council; for developing contents for four courses or New BSc Nursing Syllabus for Indian Nursing Council; for developing EHR for Nurses in India for BIS, GOI; for UGC Inspection of Various Universities of various states of India; for preparing the draft for parity for Nursing Professional in India as per ISCO classification for Ministry of Health & Family Welfare, GOI; for WHO-SEARO consultation meeting in integrated care for older people (ICOPE)- for finalising a manual for nurses in old age care scheduled on 12 and 13 December 2019; for Selection Committee for two institutes; Organized three sensitization workshop in the area of treatment of drug dependence for tobacco division MOH&FW for batches of 200 nursing personnel for each of three Hospitals of Delhi, on 30 July 2019 at LHMC, New Delhi, 14 December 2020 at VMMC, Safdarjung Hospital and 30 January 2020 at RML Hospital, New Delhi. Dr. Gupta has been Chief Editor for Indian Journal of Psychiatric Nursing; Reviewer for four indexed journals: J Mental Health Human Behaviour, Current Medicine Research and Practice, Indian Journal of Social Psychiatry, Archives of Psychiatric Nursing. She has been in Editorial board of the following Journals: Journal of Nursing Education and Practice (JNEP), International Journal of Nursing Education (IJONE).

**Dr Deepika C Khakha** has been in Editorial board of the following Journals: Journal of Nursing Science and Practice, Scholar Report, Indian Journal of Advanced Nursing, Journal of Comprehensive Nursing Research and Care, Journal of Community Health Management. She has been Reviewer for the following journals: International Journal of Health & Allied Sciences, Baba Farid University Nursing journal, Advanced Research in Nursing Science, Annals of Nursing and Practice, Journal of Community Medicine & Public Health Care, *Current Psychiatry Reviews*, Journal of Affective Disorders, Journal of Education Technology in Health Sciences, Asian Journal of Psychiatry. Total no. of Citations – 17 (in National and International Journal, of published work); PhD Guide of four students; Member of the World Health Organization’s (WHO) Global Clinical Practice Network(GCPN). An international community of mental health and primary care professionals committed to furthering research and practice in global mental health. Co-Chair of Ethics committee of Institute of Liver and Biliary Sciences, Vasant Kunj, New Delhi; Member of Doctoral Research committee of two PhD scholars

of Department of Psychiatry, AIIMS, New Delhi; Member of Doctoral Research committee of Baba Farid University of Health Sciences; Member of Doctoral Research committee of PhD scholar at College of Nursing, AIIMS, New Delhi; Expert for Moderation committee for IGNOU Entrance exam on 4 October 2019; Moderator for seminar for PhD students on 20 December 2019 at Indian Nursing Council; Attended Public Defense of Shiv Shankari of PhD - A study to study concept of professionalism in nursing, its correlates and prepare a model framework of curriculum in professionalism for nursing education; At Selection committee in Research Project on National Programme for Health Care of the elderly on 23 October 2019 ;At Selection committee in Research Project on Study of Sarcopenia: Establishment of Indian norms for diagnosis prevalence and risk factors in ageing population and development of preventive strategies on 23October 2019; Judge for Award paper presentation for Evidence based practice for a conference on Developing experimental design and analysis skills in nurse researcher on 18 December 2019 at Institute of Liver and Biliary Sciences, Vasant Kunj, Delhi; A Chief Guest for Valedictory function for Evidence based practice for a conference on Developing experimental design and analysis skills in nurse researcher on 18 December 2019 at Institute of Liver and Biliary Sciences, Vasant Kunj, New Delhi; Judge for Award paper presentation at Research Methodology Conference on 18.12.19. Institute of Liver and Biliary Sciences, Vasant Kunj, New Delhi; Examiner/Paper setter for eight universities; Chairperson for Moderation committee for Entrance AIIMS, DELHI; Programme Co-Ordinator for Post Basic Nursing course; Thesis Adjunct For MSc Thesis-7; PhD Adjudicator-2; Conferences/Workshops attended: 02

**Dr Kamlesh K. Sharma** received 'AIMSONIANS OF AMERICA Book Prize Award-2018 for best Nurse in Research Work' on 25 September 2019, AIIMS, New Delhi; External Consultant Trainer Community Processes- Comprehensive Primary Health Care (CP/CPHC) with NHSRC, NIHF, Delhi; Fellowship Programme in "Clinical Research Methodology and Evidence Based Medicine" at the AIIMS, Delhi.(May 2019); Chief guest in the Orientation Programme for Nursing Fresher's batch 2019-20 at Narayan nursing college, Gopal Narayan Singh University on 23 September 2019, Jamuhar, distt Rohtas, Bihar; 'Chairperson' for the Nursing workshop on 21 October 2019 on the topic 'Care of spinal disorders patients in SPINECON, the 3rd International Spine Congress with Live Operative Workshop" organized by Department of Neurosurgery, AIIMS, New Delhi from 21 October and 22 October 2019; Certified AHA accredited BLS and ACLS provider on attending the course from 5 August to 7 August 2019 at AIIMS, New Delhi; Resource person/trainer in 3 batches of (over 90 doctors and nurses) 'Training of State Trainers in Induction Module for Community Health Officers' conducted by the National Health Systems Resource Centre, NHSRC scheduled in November and December 2019 and February 2020 at NIHF, Delhi; Resource person in 'Content Development Workshop' for faculty, at convergence block, SeT facility, AIIMS, New Delhi (5 December 2019); As faculty for 'Faculty development workshop' in 5th Annual National Conference of PediSTARS on medical simulation: SIMULUS 5 held in Chennai, Tamil Nadu on 10 and 11 February 2020; Editorial Board member for Phab Linx Journal of Community Medicine; Reviewer for 'Women's Studies International Forum' and 'International Journal of Nursing & Midwifery Research, IJoNMR', Violence and Gender; PhD Guide for three candidates of National Consortium for PH.D Nursing by Indian Nursing Council in collaboration with RGUHS; Ph.D examiner for National consortium for Ph.D in nursing, under RGUHS , Bangalore; and Dr MGR Medical University, Chennai; Ad-hoc inspector of Indian nursing council (INC); Deputy Hostel superintendent since 8 December 2014; Central Assistant Public Information Officer, CAPIO for college of nursing since July 2010. Participated in various committees of AIIMS: Chairperson for withdrawal of books from the stock of College of nursing, letter dtd 15 October 2019. Report submitted to principal dtd 25 October 2019; Condemnation committee of college of nursing and also of AIIMS hostels; Member Doctoral Committee (since 26 November 2016), Department Of College of Nursing, AIIMS, New Delhi; Nodal officer for fire at College of nursing, AIIMS, New Delhi. (letter dtd. 6 September 2019). Dr. Sharma organized Public Health Awareness Campaigns( 10) on important National/International health days; and Six health surveys in urban community; Co -Coordinated student participation in "Swasthya Chetna and Jan Sampark Abhiyan"; NCD, Screening and awareness camps at Pragati Maidan, Delhi organised by MoHFW; On the occasion of 64th Foundation Day'2019, co-organized departmental activities like Poster exhibition; and Health Screening for general public and AIIMS employees; Programme Co-Ordinator for M.Sc Nursing(2nd) year course.

**Dr Shashi Mawar** organised COLS training in urban community on World Heart Day funded by Director AIIMS; Coordinated workshop on assertiveness in Nursing 17 January 2020; Organised eight surveys in urban community and conducted 17 exhibitions and role plays on preventive and promotive aspects of health; Conducted a nukad natak in collaboration with CCM Dept on blood donation on blood donation day in front of JLN auditorium.

**Dr Poonam Joshi** completed Level three certification with Honors PediSTARS an intensive Simulation Faculty Development Program; Fellowship in Clinical Emergency Nursing, India; Completed one year Fellowship in Research Methodology and Evidence based medicine from AIIMS, New Delhi; Visiting Faculty: IGNOU, New Delhi.

**Dr L Gopichandran** has been in WHO-SEARO expert group consultation meeting in integrated care for older people (ICOPE)- finalising a manual for nurses in old age care scheduled on 12 and 13 December 2019; Expert committee member in MOHFW-GOI project -preparation of manual for National Emergency Life support for nurses (16 to 18 March 2020); Member to Adjudicate the PhD thesis of Dr MGR Medical University, Chennai; Member in screening committee

in faculty recruitment at AIIMS (2019); Co-coordinator of Medical surgical nursing update 2019-2020 organised, AIIMS; Appointed as a university inspector for Bsc nursing course affiliated by Dr Rammanohar Lohia Avadh University on 13 January 2020; Deputed as a faculty of ACLS & BCLS at AIIMS ITC, AIIMS, New Delhi by Registrar, AIIMS, New Delhi. (10 to 12 February 2020); Completed training course on Curriculum Design and Evaluation for health professional at NIHF, MOH, GOI. From 22 -26 July 2019; Appointed as Internal and External examiner and question paper setter at AIIMS New Delhi Rishikesh, AIIMS Jodhpur, AIIMS Bhopal, ILBS CON Delhi, Baba Farid University, Tata Memorial Institute, Mumbai, PGIMER, Chandigarh; Appointed as a faculty in charge for conducting various AIIMS PG, UG and Nurses recruitment examination at many cities across India in 2019-2020.

**Ms Ujjwal Dahiya** is Coordinator and Resource person for Education and Training Programme for M.Sc. Nursing Students and B.Sc Nursing students on Deceased Organ & Tissue Donation in collaboration with ORBO, AIIMS New Delhi.

**Ms Cecilia Mary S** got level 3 certification with honours in simulation from PEDISTARS, India; has developed online learning content with video on paediatric anthropometry measurements; has conducted various simulation training programme for students; was one of the coordinator for CNE on 'Transforming workplace through simulation'.

**Ms L Levis Murry** was Faculty at ONTOP online learning platform for the Essential Newborn Care Course; National Quality Improvement Mentor for Laqshya Program to improve quality of labour room and delivery services in India; Enrolled in Ph.D. in nursing program under Indian Nursing Council consortium

**Dr Seema Sachdeva** was Pursuing Clinical research methodology and evidence based medicine fellowship course from AIIMS, New Delhi

**Ms Mamta Choudhary** was Member of Society of cardiac Nurses (India) on 26/3/2020

**Ms Savita** organized Public Health Awareness Campaigns through 4 exhibitions/ role plays on important National/International health days.

## 8. Research Section

### Dean (Research)

Chitra Sarkar

### Associate Dean (Research)

Vineet Ahuja

### HIGHLIGHTS

The Research Section initiated several research funding proposals calls, held workshops and created infrastructure to stimulate research milieu amongst the faculty, scientists and students at the Institute. Earlier the focus of intramural funding support had been on single investigators from AIIMS. With the objective of creating a more vibrant research environment and to lay down lines for future long-term collaborations, the funding call proposals now have shifted their vision on catalyzing the synergic 'cross-research activity' by having collaborative projects with other institutions such as IIT and THSTI. For the first time at AIIMS, faculty could compete for intramural collaborative funding opportunity with an international university. With the objective of enhancing interdisciplinary and collaborative research interest between University College, London (UCL) and AIIMS, New Delhi, a joint research seed fund has been established and it funded joint project proposals from faculty members from both institutions. Impetus to infrastructure and capacity building exercise was through operationalization of twin facilities of Centralized Core Research Facilities (CCRF) and Clinical Research Unit (CRU). AIIMS received India Research Excellence-Citation Awards 2019 for Medical and Health Sciences under Web of Science Group (Clarivate Analytics).

### EXTRAMURAL PROJECTS

Funding agency	Number of Projects	Grant received (Rs)
DST	151	15,30,80,253
DBT	111	18,36,54,558
ICMR	317	61,29,30,048
OTHERS	306	58,89,82,408
<b>TOTAL</b>	<b>885</b>	<b>1,53,86,47,267</b>

### INTRAMURAL PROJECTS

An online submission system for intramural grants has been created.

#### Early Career Intramural research grants for Assistant Professors and Associate Professors at AIIMS

1. Single Principal investigator (PI) with co-investigators
2. Funding: Rs 5 lakhs/year, extendable to two years
3. Monitored by Internal Project Review Committee

#### Intramural inter-disciplinary collaborative research projects for all levels of faculty at AIIMS

1. Two PIs from two different departments/disciplines with complementary expertise
2. Funding: Rs 5 lakhs/year per PI for two years (Total Rs 20 lakhs)
3. Monitored by External Project Review Committee

#### Undergraduate Research Mentorship Scheme for students of AIIMS, 3rd Semester onwards

1. Group of two or three MBBS students under the guidance of a faculty member (designated as Mentor)
2. Funding: Rs 2 lakhs per project for one year
3. Monitored by Internal Project Review Committee

#### Inter-Institutional collaborative research projects with:

- IIT-Delhi
  - IIT-Kharagpur
  - THSTI, Faridabad
  - University College, London
1. Two PIs from two different institutes with complementary expertise
  2. Funding (intramural from both institutions): Rs 5 lakhs/year per PI for two years (Total Rs 20 lakhs)
  3. Monitored by External Project Review Committee

### Intramural funding during the year

S. No.	Scheme	Projects awarded	Amount awarded (Rs)
1.	Early Career Intramural Research Project	89	4,07,31,700
2.	AIIMS-Collaborative	04	40,00,000
3.	AIIMS – IITD Collaborative Projects	38	3,13,70,568
4.	AIIMS-THSTI Collaborative Projects	07	34,69,000
5.	AIIMS-UCL, London	04	20,00,000
6.	Undergraduate Mentorship Scheme	22	41,72,800
	<b>Total</b>	<b>160</b>	<b>8,57,44,068</b>

### LECTURES/EVENTS ORGANIZED

1. **DBT-BIRAC Leadership Dialogue series lecture:** ‘DBT-BIRAC Leadership Dialogue series lecture’ by Prof. Trevor Mundel, President of Global Health, Bill & Melinda Gates Foundation at JL Auditorium, AIIMS, New Delhi on 29 July 2019.
2. Lectures by Sir Andy Haines, former Director and current faculty at London School of Tropical Medicine and Hygiene on “Effect of Pollution on Health”, 12 March 2019.
3. Fulbright Outreach Program on 15 April 2019 to provide information on Fulbright-Nehru, other Fulbright and Fulbright-Kalam fellowship opportunities for study, research, teaching and professionals in the US.
4. Lecture by Professor AK Sood, President, INSA and Honorary Professor, Department of Physics, Indian Institute of Science, Bangalore on 24 July 2019 for faculty, scientists and PhD students. The title of the lecture was “A Physicist’s Talk on Life”.
5. Summer workshop with IIT-D/THSTI/IGIB for UG students. Arranged a program where all students and mentors participated to present the results of workshop.
6. Review meeting for AIIMS-IITD collaborative project on 20 February 2020 at IIT-Delhi and 25 projects were reviewed and progress found to be satisfactory.

### AWARDS AND HONOURS

AIIMS received India Research Excellence-Citation Awards 2019 for Medical and Health Sciences under Web of Science Group (Clarivate Analytics).



### ESTABLISHMENT OF THE CLINICAL RESEARCH UNIT

AIIMS has started a new research facility viz. Clinical Research Unit (CRU). This facility will work as a specialized biomedical research unit to provide high quality technical expertise and assistance in planning, designing, implementation and analysis of investigator-initiated clinical research, in compliance with the global best practices. The proposal for establishment of Clinical

Research Unit at AIIMS was approved by the Academic Committee (117th Meeting held on 20 November 2018) as well as the Governing Body (157th meeting held on 24 January 2019). The CRU functions under the supervision of the Dean (Research) and Associate Dean (Research).

**Faculty (working committee):**

1. Dr Rakesh Lodha
2. Dr Sameer Bakhshi
3. Dr Vijay Prakash Mathur
4. Dr Saurabh Kedia
5. Dr Sumit Malhotra
6. Dr Jeeva Shankar
7. Dr M. Kalaivani
8. Dr Pooja Gupta

**Grantsmanship Workshop Series for Wellcome Trust/DBT India Alliance Clinical and Public Health Fellowships**

A series of mentoring workshops were conducted for faculty members and scientists of AIIMS, New Delhi who wanted to apply for Wellcome Trust/DBT India Alliance Clinical and Public Health Fellowships.

First sensitization workshop was conducted on 6 November 2019 from 2 pm to 4 pm at Dr Ramalingaswami Board Room. The workshop was chaired by Dr Randeep Guleria, Director, AIIMS Delhi and Dr Shahid Jameel, CEO of Wellcome Trust/DBT India alliance and Professor Usha Menon from Clinical Trials Unit, Medical Research Council, UCL London joined as speakers. It was attended by nearly 200 participants ranging from faculty, scientists, research staff and PhD and postgraduate students from various disciplines.

Second Grantsmanship Workshop was planned for aspirants for concept proposal for the Wellcome Trust/ DBT India Alliance Clinical and Public Health Fellowships. A total of 38 faculty members and two senior residents submitted the concept notes to the research section and all these concept notes were reviewed by three of the lead mentors. Of these, 23 were selected for a mentoring workshop which was held on 15 and 16 January 2020. There were four lead mentors (Dr Usha Menon, UCL, London; Dr Shinjini Bhatnagar, THSTI, Faridabad; Dr Madhulika Kabra, AIIMS and Dr V Sreenivas, AIIMS) and 2-3 in-house subject experts for each proposal.

The 3rd workshop of the Grantsmanship Workshop series was held online (Zoom) on 27 and 28 April 2020 for the 17 proposals that cleared Stage-I and were invited for full/detailed proposal submission by India Alliance. Of the 17 final proposals submitted, 11 were reviewed by the lead mentors and subject experts besides online mentoring and remaining took help from the mentors by electronic methods.

Of the 18 concept notes submitted, 17 cleared Stage-I and all the 17 candidates submitted full/detailed proposal for stage-II evaluation of the India Alliance for Clinical and Public health Fellowship in April 2020.

In the first Grantsmanship workshop held on 6 November 2019, the following lectures were delivered by the faculty:

Time	Topic	Speaker
2.00–2.15 pm	Welcome CRU Introduction	Dr Chitra Sarkar, <i>Dean (Research)</i> Dr Randeep Guleria, <i>Director</i>
2.15–2.30 pm	Scheme Background (Eligibility, timelines, benefits)	Dr Pooja Gupta Dr Mani Kalaivani
2.30–2.45 pm	What do I see in the proposal?	Dr Shahid Jameel, <i>CEO, India Alliance</i>
2.45–3.00 pm	Overview of mentoring workshop series at AIIMS	Dr Usha Menon, <i>MRC-CTU, UCL, UK</i>
3.00–3.20 pm	How we prepared—challenges and experiences?	AIIMS Welcome Fellows - Dr Deepak Gautam - Dr Aparna Mukherjee
3.20–3.45 pm	Open house (Moderator: Dr Usha Menon, Dr Vineet Ahuja)	

**Other activities**

1. In the wake of Covid-19 pandemic, fast track intramural grants were announced and over 80 proposals were received. The proposals were reviewed and the shortlisted proposals were approved for funding.

Of these, 9 clinical observational studies were similar, hence it was decided to develop a common Case Record Form (CRF) for investigators for the multiple sites where Covid-19 patients were being admitted. The data of common CRF could be stored on AIIMS server and different components for each patient could be filled at different time points and from multiple locations as required.

CRU prepared the common informed consent documents and developed the online case record form in collaboration with the PIs of the 9 observational studies. These studies also required a common consent form, so that in each area the first team in patient care could take consent for all components of the data related to the patients.

The Common CRF and a common Consent Form was designed and ethical approval was obtained for the nine PIs.

The software for the common CRF has been developed, pre-tested and been made functional for all teams working for Covid-19 related research.

2. The webpage of the CRU is being prepared and would be hosted under the research section website.
3. The required standard operating procedures (SOPs) were listed and detailed SOPs are being prepared.



Inaugural session of the Welcome Trust/DBT India Alliance Workshop, 6 November 2019.



Visit of Dignitaries to the BSL3 laboratory of CCRF during the inauguration. Dr Vikram Saini explains the design, features and proposed activities of the facility.

## ESTABLISHMENT OF CCRF

### Introduction

In an effort to boost innovation and research at AIIMS, New Delhi, the idea of establishment of a centralized core research facility (CCRF) was envisaged by the Research Advisory Council of the Institute held on 7 August 2014. This was approved in the 152nd meeting of the Governing Body meeting held on 15 April 2015 and the 211th Standing Finance Committee held on 7 and 19 April 2016.

The 9th floor of the Convergence Block was allotted for this facility. During 2018–20, the facility was designed, constructed, equipment procured and manpower hired. The Central Core committee along with various sub-committees worked under the Dean and Associate Dean, Research to plan this entire facility. It was inaugurated on 24 January 2020.

Professor Venki Ramakrishnan, the recipient of the 2009 Nobel Prize in Chemistry and the 62nd President of The Royal Society was the Chief Guest on the occasion and Prof. Krishnaswamy Vijay Raghavan, Principal Scientific Adviser, Government of India was the Guest of Honour.

### Components

The CCRF is located on the 9th floor of the Convergence Block at AIIMS, and functions under the Research Section (Dean, Research). It comprises of the following eight sub-facilities:

1. Biosafety laboratory 2/3 (BSL 2/3)
2. Genomics
3. Proteomics
4. Bioanalytics
5. Bioinformatics
6. Flow Cytometry
7. Microscopy
8. General Facility

### Objectives

1. To impart a quantum thrust to basic, clinical and translational research in the high priority areas of genomics, proteomics, bioanalytics, bioinformatics, immunology, cell and infection biology using state-of-the-art platform technologies.
2. To develop a pool of trained human resources (faculty, scientists, technicians) with capacity for conducting high-end biomedical research.
3. To build capacity for and to extend technical expertise to other institutions of excellence in such research areas.

The creation of this special facility is expected to help place AIIMS at par with the world's best institutions in these highly competitive and promising fields in the near future.

### Core committee

Dr Chitra Sarkar  
 Dr Vineet Ahuja  
 Dr Subrata Sinha  
 Dr TS Roy  
 Dr Jaya Tyagi  
 Dr Madhulika Kabra  
 Dr Lalit Dar  
 Dr Pramod Garg

Dr R Goswami  
 Dr DK Mitra  
 Dr Punit Kaur  
 Dr Kalpana Luthra  
 Dr Gurvinder Kaur  
 Dr Ritu Gupta  
 Dr T Velpandian  
 Dr Sanjeev Sinha

### Logo of the facility



The logo for the CCRF facility was selected through a competition. The final logo was a composite image from the top two selected logos. The first prize for the logo was won by Ms Kiran Kumari (Department of Biotechnology) and second prize was won by Dr Hari Prasad (Department of Biophysics) and Dr Madhumita (Department of Paediatrics).

### Website

The website was designed by Dr Punit Kaur, Professor and Head, Department of Biophysics in conjunction with Computer Facility, AIIMS and AIIMS-ICMR Computational Genomics Centre. All information related to the facilities, SOPs of each sub-facility and online booking details are available on the CCRF Website: [ccrf.aiims.edu](http://ccrf.aiims.edu).

### Functioning

1. This facility would be accessible to all Faculty, Scientists, Students and Research scholars of all departments
2. Will mainly be a central high-end instrumentation unit (will not provide facility for sample storing, sample preparations, etc.)
3. Only research work will be handled, no routine diagnostic work
4. Will provide regular training programs/workshops, SOPs and resource learning materials in order to enhance capacity building and knowledge sharing
5. Running of each facility will be by faculty groups, scientists and technical staff
6. All tests/procedures will be chargeable at subsidized rates
7. Every facility can be accessed by advance booking through website in consultation with the respective facility team
  - i. Each user will need to be registered for the facility one intends to use. The users will be required to fill in and submit a booking form as available on the website
  - ii. On registration and following confirmation of payment, users will be able to consult facility for technical support and run their samples in instrument(s) followed by analysis on the core workstations.

## Activities carried out in 2019-2020

Date	Topic	Faculty involved
<i>Faculty Research Presentations</i>		
18 February 2020	Introduction to the Genomics facility	Dr Ritu Gupta
	Introduction to the Proteomics facility	Dr Hariprasad G
<i>Faculty interactive sessions</i>		
21 February 2020	Possible workflows to be followed by users, Qualitative and Quantitative Proteomics, 2D-Gel, DIGE vs. MS based Proteomics and Differential protein expression	Dr Hariprasad G Dr Punit Kaur
6 March 2020	Genomics: Next generation seq Dr M Kabra Dr R Gupta Dr M Chaudhary	
28 February 2020	Targeted and quantitative Proteomics, Environmental pollutants, Drugs of forensic importance, Targeted Metabolomics and Lipidomics, High-throughput bioanalysis, Drug pharmacokinetics, Quantitative analysis of biomarkers in large volume of samples	Dr T Velpandian Dr N Haldhar
13 March 2020	BSL 2/3: Essentials of Biosafety	Dr Vikram Saini
<i>Hands-on Workshop</i>		
29 February 2020	Hands-on Training in Polymerase Chain Reaction (PCR), RT-PCR & Real- Time PCR Technique: Application in Diagnostics & Research	Faculty and Scientists' team of General facility

- The Hands-on workshop was organized with an objective to introduce students, researchers and clinicians at AIIMS to the theoretical as well as practical (Hands-on) training for various molecular techniques like DNA, RNA isolation from various biological samples, gel runs, Primer making, PCR, cDNA synthesis and Real-Time PCR.
- There was an overwhelming response with request from 145 applicants for participation in the first workshop, of which only 21 were short-listed for hands-on training which included faculty, research students, scientists and residents from both basic and clinical departments. The remaining applicants were allowed to attend the informative and interactive lecture series on both the days of this workshop,
- The two-day workshop included four sessions (two sessions per day). The forenoon sessions included a lecture series by faculty with expertise in the area, which provided all participants about the basic knowledge of each technique to be done in the afternoon sessions of both days, including principle, procedure, research and clinical applications and troubleshooting.
- The afternoon session of the day was dedicated to hands-on training where participants were allowed to learn by performing all steps of the experiment by themselves. The wet lab work was coordinated by the Scientists and Faculty of the genomics facility.
- The overall workshop was rated very successful as per the feedback provided by the participants. The suggestions were noted to improve the workshops in the future.

### 1. BIOSAFETY LEVEL (BSL)-3 LABORATORY

#### Overview and objectives:

The BSL facility spread over about 3500 sq.ft. has design and operational features in compliance with national and international regulatory guidelines for the safe handling of pathogenic organisms. It includes the following components:

#### ***TB Technology Laboratory***

Three independent dedicated BSC units for:

- Clinical Diagnostics TB
- Basic Mycobacteriology and Infection biology
- Aerobic Class III Microbes other than *M. tuberculosis*.

One dedicated BSC unit for Class III anaerobic bacteria along with anaerobic glove box

#### ***Virology Laboratory***

Four independent dedicated BSC with necessary instrumentation:

- a. Clinical Diagnostics Virology
- b. Basic Virology culture and Infection biology

#### ***Negative pressure BSL-2 Lab***

- a. Simulator for BSL-3 negative pressure environment to be used for training researchers.
- b. Will act as Auxiliary support to main BSL-3 areas
- c. Has 2 independent dedicated BSC with necessary instrumentation

#### **Major Equipments installed**

- NuAire B2 Type class 2 Biosafety cabinets
- Cold Cabinets (4°C to 8°C)
- Upright Freezer (-20°C)
- Digital Colony Counter
- Heat Block
- Vortex
- Real Time PCR machine
- Incubators (BOD)
- Mini Centrifuge (picofuge)
- Bacterial Loop Incinerators
- Magnetic Stirrer with heating options
- Autoclave Vertical Double Jacketed
- pH meter
- Refrigerated Bench top Microfuge
- CO<sub>2</sub> Incubator
- Vertical double jacketed autoclave
- Multimode reader
- Hydrogen Peroxide Vaporizer Machine

#### **Services to be provided**

##### ***Users of BSL-3***

BSL-3 facility at AIIMS is open to faculty, scientists, residents, staff and students who are working or plan to work on risk group-3 infectious agents. All users must have successfully undergone BSL-3 training, certification and a medical health examination to avail service.

##### ***Organisms handled in BSL-3***

The facility is designed for and is compatible to work with the risk group-3 viruses and bacterial strains including clinical strains. Based on the existing expertise and requirement for diagnostic and culture work, the major microbial strains manipulated in this facility are:

**Bacteria:** *Mycobacterium tuberculosis* lab and clinical strains including MDR and XDR tuberculosis, *Rickettsia prowazekii*, *Rickettsia rickettsia*, *Legionella pneumophila*, *Bacillus anthracis*

**Viruses:** Hantavirus, HIV, Influenza A/H5N1 (HPAI) / Untypable influenza virus, West Nile, Chikungunya, Japanese encephalitis, SARS-CoV, MERS-CoV

#### **Activities of the facility**

##### ***Covid-19 diagnosis at BSL-3***

The facility is truly central to the ramped up diagnostic capacity at AIIMS. The *BSL-3 simulator laboratory* is being used for processing of samples of Covid19 suspects/ cases. Further, as the pandemic has surged, BSL-3 Virology laboratory has been activated to be used as diagnostic area, both for RT PCR and CBNAAT based diagnostics.

##### ***COVID-19 related training activities of BSL-3***

BSL-3 team has led from the front in providing training and guidance to hospital workers and sanitary attendants deployed at the PPE disinfection facility of AIIMS. Dr Vikram Saini has conducted several sessions on biosafety aspects of working with Covid-19. Dr Atul Vashisht (Scientist II, BSL-3) is deployed at the PPE disinfection site AIIMS to provide and oversee training efforts of healthcare workers.

## Members of the BSL-3 Facility

1. Dr Subrata Sinha, Professor and Head, Department of Biochemistry (Coordinator)
2. Dr Rama Choudhary, Professor, Department of Microbiology
3. Dr S.S. Chauhan, Professor, Department of Biochemistry
4. Dr Lalit Dar, Professor, Department of Microbiology
5. Dr Kalpana Luthra, Professor, Department of Biochemistry
6. Dr Sanjeev Sinha, Professor, Department of Medicine
7. Dr Urvashi B. Singh, Professor, Department of Microbiology
8. Dr Aashish Chaudhary, Associate Professor, Department of Microbiology
9. Dr Vikram Saini, Assistant Professor, Department of Biotechnology
10. Dr Kiran Bala, Assistant Professor, Department of Microbiology
11. Dr Jaya Tyagi, NASI Senior Scientist Platinum Jubilee Fellow (Special Invitee)
12. Dr Sunita Kanswal, Scientist II (Contract)
13. Dr Atul Vashisht, Scientist II (Contract)

## 2. GENOMICS FACILITY

### Overview and objectives

Recent technological developments such as high throughput Next Generation Sequencing methods and robust bioinformatics approaches have led to elucidation of potential genomic biomarkers with diagnostic, prognostic and therapeutic value in the clinics and to exponential advances in research. Generation of clinically relevant high throughput data in a resource-efficient manner in terms of time and cost on advanced instrumentation platforms available in the facility will open new opportunities for researchers of AIIMS in the field of genomics and ultimately pave the way forward to the era of personalized medicine.

### The main objectives include:

1. To create and provide an academically stimulating and collaborative environment for researchers to access high end state-of-the-art technology platforms which will be maintained centrally with optimal quality control and calibrations for efficient functioning.
2. To enhance capacity building and knowledge sharing via regular training activities. Such activities will include lecture series and workshops for the investigators on experiment designing and assays. These activities will also include formulation of guidelines and development of standard operating procedures and resource learning materials for the users.
3. To evaluate and implement cutting-edge genomic technologies
4. To facilitate the development of novel experimental methods for the researchers in response to specific needs from the investigators.

### Major Instruments installed

1. Next Generation Sequencers
  - Novaseq 6000 (Illumina)
  - Miseq (Illumina)
2. 48 capillary Genetic Analyser 3730 (Applied Biosystems)
3. nCounter Sprint Profiler (nanosttring Technologies)
4. Focussed Ultrasonicator ME220 (COVARIS)
5. Fragment Analyser (Agilent Technologies)

### Services to be provided

#### *Next Generation Sequencing:*

*A. Experiment Design: Guidance will be provided for the designing of experiments which will include*

- Guidance regarding availability and suitability of the kits as per requirement of the user
- Requirement of funds
- SOPs for library preparation
- Sequencing depth and coverage required for the experiment
- Multiplexing for required coverage

*B. Quality and Quantity Assessment of Nucleic acid/NGS Libraries: Using Fragment Analyser and/or Qubit available in the facility*

*C. DNA/RNA Shearing: Using Covaris-ME220 Focused-ultrasonicator*

*D. Sample Preparation: User training and support will be provided for sample preparation for various applications that can be done on the instruments available in the facility through regular hands-on workshops.*

*E. Library Preparation: User training and support in library preparation using various protocols: WES, WGS, transcriptome, small RNA sequencing, chiPSeq, metagenomics, PGS, etc.*

*F. Sequencing:* Depending upon the requirement of the experiment, sequencing will be carried out on any of the following instruments (i) Novaseq6000 (Illumina) or (ii) Miseq (Illumina)

*G. Provision of raw data for bioinformatic analysis with maintenance of confidentiality:* Provision of these sequencing services would be for targeted analysis or for confirmation of variants detected on NGS

#### ***Sanger sequencing on 48 capillary Genetic Analyser 3730 (Applied Biosystems)***

- A. Experiment designing for various applications such as fragment analysis, MLPA, SNP genotyping etc.
- B. Running the samples on the Genetic Analyser
- C. Data analysis

#### ***Nanostring Assay on nCounter Sprint Profiler***

- Guidance will be provided for availability and suitability of the multi gene panels/kits as per the requirement of the user
- Guidance will also be provided for RNA, DNA, protein profiling and other applications on nCounter Sprint Profiler through regular trainings and workshops.

#### **Members of the Genomics Facility**

1. Dr Madhulika Kabra, Professor, Department of Paediatrics (Coordinator)
2. Dr Kunzang Chosdol, Professor, Department of Biochemistry
3. Dr Vaishali Suri, Professor, Department of Pathology
4. Dr Ritu Gupta, Professor, Laboratory Oncology Unit, Dr BRA IRCH
5. Dr Sudip Kumar Datta, Assistant Professor, Department of Laboratory Medicine
6. Dr Gurvinder Kaur, Senior Scientist, Laboratory Oncology Unit, Dr BRA IRCH
7. Dr Madhumita Roy Chowdhury, Senior Scientist, Genetic Unit
8. Dr Lata Rani, Scientist II (Contract)

### **3. PROTEOMICS FACILITY**

#### **Overview and objectives**

The proteomics facility will enable researchers and clinicians learn and conduct proteomic experiments for protein identification, protein profiling and protein quantitation.

#### **Major Instruments installed**

- EttanPHOR IPG (GE)
- Amersham Typhoon Scanner (GE)
- Amersham Imager 680 (GE)
- Dionex Ultimate 3000 UHPLC (Thermo Scientific)
- EASY-nLC™ 1200 System (Thermo Scientific)
- Orbitrap Fusion Tribrid Mass Spectrometer (Thermo Scientific)

#### **Services to be provided**

1. Iso-Electric Focusing (IEF)
2. 2D Gel Electrophoresis
3. Gel Staining
4. Difference Gel Electrophoresis (DIGE)
5. Gel spot quantification
6. Trypsin Digestion
7. Protein Identification
8. Qualitative Proteomics: Isobaric tag based & Label free protein quantification

#### **Members of Proteomics facility**

1. Dr Punit Kaur, Professor and Head, Department of Biophysics (Coordinator)
2. Dr T Velpandian, Professor, Department of Ocular Pharmacology
3. Dr Savita Yadav, Professor, Department of Biophysics
4. Dr Pragyan Acharya, Associate Professor, Department of Biochemistry
5. Dr Hariprasad G, Assistant Professor, Department of Biophysics
6. Dr Sabyasachi Bandyopadhyay, Scientist II (Contract)

## 4. BIOANALYTICS FACILITY

### Overview and objectives

Bioanalytics facility will enable access to cutting-edge technology required for the isolation of compounds from biological sources (plants, animals, micro-organisms and human). The facility will provide the opportunity for the purification, identification, and quantification of the isolated compounds. This facility is expected to support the development of new methods for the quantification for targeted proteomics, lipidomics and metabolomics. The research facility will further enable to carry out drug metabolism, drug degradation and impurity analysis studies. Apart from the above, the facility is expected to support pharmacokinetics of drug and biological analytes, information dependent unknown compound identification.

### Major Instruments installed

1. High Precision Mass Spectrometer
2. Analytical HPLC
3. Preparative HPLC

### Services to be provided

- Quantitation of organic compounds from biological fluids
- Isolation of bioactive compound from biological matrices
- Developing newer methods for compound analysis
- Drug metabolism, pharmacokinetics and drug degradation studies
- Identification of drugs of forensic importance in biological tissues
- Quantitation needs in Targeted Proteomics, Lipidomics and Metabolomics in large number of bio-samples

### Members of the Bioanalytics Committee

1. Dr T. Velpandian, Professor, Department of Ocular Pharmacology, Dr RP Centre (Coordinator)
2. Dr Kunzang Chosdol, Professor, Department of Biochemistry
3. Dr Sharmistha Dey, Additional Professor, Department of Biophysics
4. Dr Nabanita Halder, Associate Professor, Department of Ocular Pharmacology
5. Dr Hanuman Prasad Sharma, Scientist-II (Contract)

## 5. BIOINFORMATICS FACILITY

### Overview and objectives

The Bioinformatics Facility comprises high end computer servers with GPU card. It has terminals for users and aims to provide a continuously maintained infrastructure to augment interdisciplinary and collaborative environment to researchers coupled with bioinformatics consultation and data analysis. It will operate in close collaboration with other core facilities like proteomics, bioanalytics, genomics, flow cytometry and the AIIMS-ICMR computational Genomics Centre. Overall, the facility aims to facilitate an integrative bioinformatics approach to data analysis and integration.

1. To develop a user-centered system to support faculty research efforts to use and develop bioinformatics tools and techniques
2. To strengthen the multidisciplinary research through training in bioinformatics tools
3. To maintain a technical infrastructure that supports fast and efficient computational analysis, modeling, visualization, and retrieval of data.

### Major Instruments (to be installed later this year)

#### i. HPC cluster GPU based

1. Master Node
2. Compute Node

#### ii. Analytics cluster CPU-based

Analytics compute cluster with HDFS OR similar file system with 100 TB usable storage in redundancy for analytics data

1. Name/Edge/Master Node
2. Analytics node
3. Network connectivity over 10 G

### **iii. Centralized Physical storage**

1 PB (Petabyte) centralized storage

### **iv. Peripherals**

1. All-in-One PCs
2. Workstation
3. Network Laser Printer

### **Services**

1. NGS/Genomics Data Analysis in conjunction with ICMR-AIIMS Computational Genomics Centre
2. Proteomics data analysis
3. Protein structure analysis
4. Rational Drug Design
5. Pathway and Network Analysis of Genes and Proteins.

### **Members of Bioinformatics Committee**

1. Dr Punit Kaur, Professor and Head, Department of Biophysics (Coordinator)
2. Dr Sudip Sen, Additional Professor, Department of Biochemistry
3. Dr AS Ethayathulla, Associate Professor, Department of Biophysics
4. Dr Sidhartha Kundu, Assistant Professor, Department of Biochemistry
5. Dr Manoj Kumar, Scientist-II, Department of Biophysics
6. Dr Hari Shanker, Senior Programmer, Computer Facility

## **6. FLOW CYTOMETRY FACILITY**

### **Overview and objectives**

The mission of the FACS Core Facility is to facilitate cutting-edge research by providing state of the art instrumentation and resources for fluorescent analysis of cells at the single cell level, including high-speed fluorescence-activated cell sorting.

The facility aims to provide expertise in flow cytometry including latest advances in the areas of experimental design, instrument knowledge and training, data analysis and cell sorting.

### **Major Instruments Installed**

1. Fluorescence activated cell sorter (BD FACS Aria Fusion).
2. Flow Cytometer (will be installed later in the year)

### **Services to be provided**

1. Cell Proliferation
2. Intracellular & secreted cytokine
3. Cell phenotyping
4. Apoptosis & cell cycle studies
5. Signal Transduction
6. Biomarker detection
7. DNA analysis

### **Members of the Flow Cytometry facility**

1. Dr DK Mitra, Professor and Head, Department of Transplantation Immunology and Immunogenetics (Coordinator)
2. Dr Kalpana Luthra, Professor. Department of Biochemistry
3. Dr Vineet Ahuja, Professor, Department of Gastroenterology
4. Dr Ritu Gupta, Professor, Laboratory Oncology Unit, Dr BRA IRCH
5. Dr Jayanth, Associate Professor, Department of Biochemistry
6. Dr Rupesh Srivastava, Assistant Professor, Department of Biotechnology
7. Dr Sanjeev Goswami, Scientist, Department of Transplantation Immunology and Immunogenetics
8. Dr Naseem Akhtar Ansari, Scientist-II (Contract)

## 7. MICROSCOPY FACILITY

### Overview and objectives

Microscopy facility aims to provide the use of high-end laser confocal microscopy with live cell imaging. The facility will also help in image analysis and quantitation of markers. This is a highly sophisticated microscope to facilitate the researchers towards addressing their research questions related to biomarker discovery, clinicopathology, drug assay, molecular diagnosis etc.

### Major Instruments (to be installed soon)

LASER Confocal Microscopy with Live-cell Imaging (LSM 980, Zeiss)

### Services to be provided

- Confocal Imaging
- Live-cell imaging

### Members of the Confocal Imaging facility

1. Dr TS Roy, Professor and Head, Department of Anatomy (Coordinator)
2. Dr Parthoprasad Chattopadhyay, Professor, Department of Biochemistry
3. Dr Vaishali Suri, Professor, Department of Pathology
4. Dr Sandeep Mathur, Professor, Department of Pathology
5. Dr Sarita Mohapatra, Associate Professor, Department of Microbiology
6. Dr Tony Jacob George, Associate Professor, Department of Anatomy
7. Dr Swarnendu Bag, Scientist-II (Contract)

## 8. GENERAL FACILITY

### Overview and objectives

The General Facility (GF) is set up with the major aim to provide basic and advanced molecular instrumentation services to facilitate research work. In addition, the GF will support the functioning of other sub-facilities of CCRF (including Proteomics/Genomics/Bio-analytics and Confocal microscopy facility).

The GF is established in two labs (GF1 and GF2). The GF1 lab is dedicated to provide training and services in molecular techniques for isolation, purification, quantitation and amplification of genomic material from different biological tissues. The GF2 houses equipment for protein related work (Western blotting), electroporator and microscopy.

### Major instruments installed

1. Real-time PCR machines
2. PCR machine
3. Multimode-Microplate Reader (1 to 3 in GF1)
4. Electroporation system
5. Ultracentrifuges
6. Refrigerated-Centrifuges
7. Homogenizers
8. Western Blot apparatus
9. Rapid semi Dry system
10. Agarose Gel system with power pack (4 to 10 in GF2)

### Services provided

General facility at CCRF has started providing its services to AIIMS faculty/scientists/research students since February 2020. Nearly all installed machines have been made available to the users. Some of the instruments like Real-time PCR, Homogenizer, PCR, Multimode microplate reader have already been accessed by multiple users. Various research groups from the institute have discussed with the scientists of the GF about their requirement to avail the use of these equipment for their specific research purposes in ongoing projects and/or in forthcoming projects. The use of instrumentation in this facility is free and the user has to only bring the processed samples and/or requisite consumables.

### Members of the General Facility

1. Dr Kalpana Luthra, Professor, Department of Biochemistry (Coordinator)
2. Dr Ravinder Goswami, Professor, Department of Endocrinology
3. Dr Parthoprasad Chattopadhyay, Professor, Department of Biochemistry
4. Dr Lakshmi R, Professor, Department of Cardiac Biochemistry
5. Dr Deepali Jain, Additional Professor, Department of Pathology

6. Dr Archana Singh-I, Associate Professor, Department of Biochemistry
7. Dr Jayanth Kumar, Associate Professor, Department of Biochemistry
8. Dr Vikas Sharma, Scientist-II (Contract)
9. Dr Amit Singh, Scientist-II, (Contract)



Snapshots of CCRF Workshop-series I

## ENDOWMENT FUND

1. Provides travel fellowships for students, residents, PhD scholars and research staff to participate in international conferences
2. Meeting being held every two months for selection of candidates for award of travel grant.
3. Introduction of funding for international fellowships for faculty (4 per year).

Month	Approved Applications	Amount Sanctioned (Rs.)
April 2019	5	360000
May-June 2019	13	920000
July-August 2019	10	620000
September-October 2019	10	580000
November-December 2019	10	700000
January-February 2020	7	440000
<b>Total</b>	<b>55</b>	<b>3620000</b>

## Miscellaneous/Other activities

1. **E-research newsletter** is being published quarterly.
2. **E-grants update** are being provided to the faculty on regular basis.
3. MoU was signed with UCL on 4 November 2019 for starting collaborative research projects with seed funding of 20,000 Pounds to UCL PI and equivalent support funding to AIIMS PI. There will be four project grants, each receiving grant of 5000 Pounds from each institution.
4. Revision of RRs, revision of overhead charges and rules regarding purchase of research store items through GeM being streamlined. Research Manual under preparation.
5. Ongoing computerization of Research Section.
6. Drafting of patent policy of AIIMS ongoing.
7. Research integrity/misconduct committee: Drafting of guidelines ongoing.
8. IRMI (Research Management Initiative) with DBT/India Alliance being initiated.
9. Issuing of pre-paid cards (EZ- pay card) to PIs for research projects to avoid cash advance transaction on daily expenditure.
10. Online submission system for intramural grants created

## 9.1. Anaesthesiology, Pain Medicine and Critical Care

**Professor and Head**  
Rajeshwari Subramaniam

**Professors**

Anjan Trikha  
Lokesh Kashyap  
Vimi Rewari  
Jyotsna Punj  
Anjolie Chhabra

Maya Dehran  
Ganga Prasad  
Vanlal Darlong  
Babita Gupta (JPNA TC)  
Chhavi Sawhney (JPNA TC)

Dilip R Shende  
Virender Kumar Mohan  
Renu Sinha (Dr RP Centre)  
Ravindra Kumar Pandey  
Rashmi Ramachandran

**Additional Professors**

Dalim Kumar Baidya (CDER)

Devalina Goswami (CDER)

**Associate Professors**

Puneet Khanna  
Debesh Bhoi

Bikash Ranjan Ray

Rahul Kumar Anand  
Shailendra Kumar (IVF)

**Assistant Professors**

Manpreet Kaur  
Akhil Kant Singh  
Nishant Patel  
Abhishek Kumar  
Vineeta Venkateswaran  
Kelika Prakash  
Sulagna Bhattacharjee

Souvik Maitra  
Kanil Ranjith Kumar (Dr RP Centre)  
Arshad Ayub (Dr RP Centre)  
Christopher Dass  
Venkata Ganesh  
Mritunjay Kumar

Thilaka Muthiah  
Rakesh Kumar  
Yudhayavir Singh (JPNA TC)  
Ajisha Aravindan  
Anju Gupta  
Parin Chellani  
Shreya Bharat Shah

### HIGHLIGHTS

The faculty members are doing clinical work, teaching and research with zest, interest and enthusiasm. The department was able to complete 80 research projects (non-funded), and 133 non-funded projects are continuing. Of these, the department continued to work on 17 interdepartmental research projects and completed seven such projects. With financial support from AIIMS as well as ICMR the department has completed one funded project and has eight ongoing (funded) projects. The department organized four conferences/workshops/CME involving multiple internationally well-known speakers/academicians. Many of the departmental faculty received recognition/awards at national level from various government agencies for their contribution towards Anaesthesia, Pain Medicine and Critical Care. Faculty members delivered more than 200 talks (226) on challenging topics at various national and international platforms. The department published 69 papers in well-reputed national and international journals as well as seven chapters in different books. In addition, many faculty members were elected/reappointed into the editorial boards of various reputed national/international journals. Apart from the academic sphere, the residents and faculty members participated in several cultural and sports events and have also bagged a few such events. The present year marked the path of progress in all fields of anaesthesia keeping in mind high standards targeted by our institute.



Honourable Director, Prof Randeep Guleria, inaugurating CUSA 2019, 6 December 2019



Cadaveric skills workshop, ISPCCON 2019



**A session in AAPGA 2019**



**Team "Ketamine" winning the Residents Cricket League, June 2019**

## **CME/Workshop/Symposium/National-International Conference**

1. AIIMS Anaesthesia PG Assembly (AAPGA 2019), 29 September to 3 October 2019
2. Indian Society of Pain Clinicians Conference (ISPCCON 2019), 8 to 10 November 2019
3. Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 to 8 December 2019
4. Ninth National Conference for OT Technologists (NCOTT), 6 April 2019

### **Lectures delivered**

<b>S Rajeshwari: 5</b>	<b>Anjan Trikha: 14</b>	<b>Maya Dehran: 1</b>
<b>D Shende: 6</b>	<b>Lokesh Kashyap: 2</b>	<b>VK Mohan: 5</b>
<b>Vimi Rewari: 6</b>	<b>V Darlong: 9</b>	<b>Jyotsna Punj: 11</b>
<b>Renu Sinha: 3</b>	<b>Ravinder K Pandey: 15</b>	<b>Anjolie Chhabra: 11</b>
<b>Babita Gupta: 2</b>	<b>Chhavi Sawhney: 5</b>	<b>Rashmi Ramachandran: 6</b>
<b>Dalim Kumar Baidya: 24</b>	<b>Devalina Goswami: 2</b>	<b>Puneet Khanna: 8</b>
<b>Bikash Ranjan Ray: 8</b>	<b>Rahul Kumar Anand: 8</b>	<b>Debesh Bhoi: 9</b>
<b>Manpreet Kaur: 10</b>	<b>Souvik Maitra: 4</b>	<b>Thilaka Muthiah: 10</b>
<b>Kanil Ranjith Kumar: 3</b>	<b>Nishant Patel: 5</b>	<b>Rakesh Kumar: 4</b>
<b>Arshad Ayub: 5</b>	<b>Yudhyavir Singh: 2</b>	<b>Abhishek N: 1</b>
<b>Anju Gupta: 3</b>	<b>Sulagna Bhattacharjee: 1</b>	<b>Venkata Ganesh: 3</b>

### **S Rajeshwari**

1. Use of mobile phones in the OR: Boon or bane?, 58th ISACON Delhi Annual Conference, 13 April 2019, Delhi
2. Genetics and Anaesthesia, 29th RSACPCON 2019, 28 April 2019, Rohtak
3. Difficult airway in children...what every anaesthesiologist should know, South Zone ISACON, 9 August 2019, Hyderabad
4. Practical Endocrine Problems: Panel Discussion, I International Conference of ICACON, 7 September 2019, Delhi
5. Safe Anaesthesia Time in Obstetrics: Can it be extended? 12th Annual AOA, 27 September 2019, Chennai

### **Anjan Trikha**

1. Anaesthesia and preoperative care of morbidly obese surgical patient, 2nd International Royal Hospital Conference, 11 April 2019, Sultanate of Oman
2. One step preoperative clinic, 2nd International Royal Hospital Conference, 13 April 2019, Sultanate of Oman
3. Impact of 6 hours sepsis bundle on mortality in ICU, 29th Annual National Conference of Research Society of Anaesthesiology Clinical Pharmacology (RSACPCON-2019), RSACP Rohtak City Branch, 26 April 2019, Rohtak, Haryana
4. Teaching and Training of PG Students, 29th Annual National Conference of Research Society of Anaesthesiology Clinical Pharmacology (RSACPCON-2019), RSACP Rohtak City Branch, 27 April 2019, Rohtak, Haryana
5. ATLS – primary and secondary survey, RCH Annual CME Update–Toxicology and Trauma, Institute of Critical Care Medicine, 18 May 2019, Coimbatore
6. Clearance of C spine and Management of C spine injury, RCH Annual CME Update – Toxicology and Trauma, Institute of Critical Care Medicine, 19 May 2019, Coimbatore
7. Triage and Rapid Response System for managing trauma victims: Are we up to the mark?, CME Cum Workshop in Critical Care trauma, 20 July 2019, Chandigarh
8. Regional Anaesthesia techniques for orthopaedic surgeries: Regional analgesia: Any better than general anaesthesia for orthopaedic surgeries, Seminar on Pain Management with Indian Orthopaedic Association and Sri Lankan Orthopaedic Association collaboration organized by The Indian Orthopaedic Association–2019, 10 & 11 August 2019, Sri Lanka
9. Perioperative rehabilitation in thoracic surgery, 11th National and 1st International Conference of the Indian College of Anaesthesiologists (ICACON 2019), 6 September 2019, New Delhi
10. Hypoxemia in a parturient: Differentials & Management, 12th National Conference of Association of Obstetric Anaesthesiologists (AOA 2019), 27 September 2019, Chennai
11. Global fusion of clinical obstetric practices, 12th National Conference of Association of Obstetric Anaesthesiologists (AOA 2019), 27 September 2019, Chennai

12. Research in paediatric patients—Is it ethical?, Facts or Myths in Anaesthesiology Theme: Extremes of Age Conference, 14 December 2019, New Delhi
13. 30 years of anaesthesia challenges- What all to give back!, 18th North Zone – ISACON 2020 Indian Society of Anaesthesiologists, North Zone, 14-16 February 2020, Amritsar Punjab
14. Ethical Dilemmas in Obstetric Critical Care, 26th Annual Conference of India Society of Critical Care Medicine CRITICARE–2020, 28 February 2020 to 1 March 2020, Hyderabad, Andhra Pradesh

#### **Maya Dehran**

1. Chronic Pain Syndromes: CRPS, Low Back Pain, Cancer Pain, Post graduate Assembly September 2019, Delhi

#### **D Shende**

1. Anaesthesia for Primies/Premature Infants coming for ROP, 16th Conference of Asian Society of Paediatric Anaesthesiologists (ASPA-2019) & 10th Biennial Meeting of Indonesian Society of Paediatric Anaesthesiologist and Critical Care, 2 August 2019, Surbhaya, Indonesia.
2. Unanticipated Difficult Airway – Tips and Tricks in its 5th OFISACON 2019 (Ophthalmic Forum of Indian Society of Anaesthesiologists Congress), 8 September 2019, Bengaluru, Karnataka
3. Anaesthetic considerations for Paediatric Eye Surgeries 1st Annual Conference of SAO-POSA 2019 (Paediatric Ophthalmologists and Strabismologists), 28 September 2019, Maldives
4. Anaesthesia Management for Strabismus Surgery & Perforating eye injury AAPGA 2019 (AIIMS Anaesthesiology Post Graduate Assembly), 30 September 2019, New Delhi.
5. Lower Limb Onco-Surgery—Can I help? The 8th International Conference on Pain Management (ICPM 2019), 15 October 2020, Chandigarh
6. Workshop Faculty, 34th Annual Conference of Indian Society for Study of Pain (ISSPCON 2019), 10 November 2019, AIIMS, New Delhi

#### **Lokesh Kashyap**

1. Anaesthetist in Myasthenia Gravis: Surgeon's true pal, Contemporary practices in surgery: Symposium on Thoracic Surgery-2019, 20 September 2019, New Delhi
2. Critical Care of a Bariatric Surgery Patient, 2nd International meeting on Bariatric and Metabolic Surgery, 16 November 2019, New Delhi

#### **VK Mohan**

1. Trigeminal Neuralgia, Neuroanaesthesia and Neurocritical Care Refresher Course (NANC-RC), 6 April 2019, New Delhi.
2. Paediatric Pain Management, 56th Annual ISA Delhi Conference, 13 April 2019, New Delhi
3. Spinal Cord Stimulation, 29th Annual National Conference of Research Society of Anaesthesiology Clinical Pharmacology RSACPCON 2019, 27 April 2019, Rohtak
4. Fluoroscopic guided SI Joint Injection, 67th Annual National Conference of Indian Society of Anaesthesiologists, 27 November 2019, Bengaluru
5. Sympathetic plexus block in cancer pain management Cadaveric workshop and CME on Cancer Pain Management, 1 March 2020, Lucknow

#### **Vimi Rewari**

1. Sepsis update—unpacking the new bundles, 1st Rajasthan Critical Care Conference, 31 August 2019, Jodhpur
2. Postoperative pain management in donor hepatectomy—What are the options?, TRANCRIT 2019, 15 September 2019, Delhi
3. Grown up Congenital heart disease—Principles of anaesthetic management for LSCS, 12th National Conference of Association of Obstetric Anaesthesiologists (AOA 2019), 28th September 2019, Chennai
4. Patient with Cardiac Implantable Electronic Devices (CIEDs) for noncardiac surgery, AIIMS Anaesthesiology Post-Graduate Assembly (AAPGA 19), 3rd October 2019, Delhi
5. Ultrasound guided Chest wall blocks, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA) Regional Anaesthesia Workshop, 7th December 2019, Delhi
6. A patient with pacemaker for TURP, Facts or myths in Anaesthesiology, Theme: extremes of age, 15th December 2019, Delhi

### **V Darlong**

1. Basic Life Support—What is new? Why the changes were incorporated, CME cum workshop on Basic Airway Management and Basic Resuscitation skills, 25 April 19, Jowai, Meghalaya
2. Role of Supraglottic airway devices in Airway management, CME cum workshop on Basic Airway Management and Basic Resuscitation skills, 26 April 19, Jowai, Meghalaya
3. USG guided Upper limb blocks, URAW (Ultrasound Guided Regional Anaesthesia Workshop), 18 May 2019, Delhi
4. Lecture and Video demonstrations on USG guided Upper limb blocks, Annual Academic Sessions of College of Anaesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 3 October 2019, Colombo, Sri Lanka
5. Role of USG, Annual Academic Sessions of College of Anaesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 4 October 2019, Colombo, Sri Lanka
6. Basic life Support, CME cum workshop on airway management, BLS and other emergency situations, 30 October 2019, Tawang, Arunachal Pradesh
7. Role of supraglottic airway devices in emergency airway management, CME cum workshop on airway management, BLS and other emergency situations, 31 October 2019, Tawang, Arunachal Pradesh
8. Basic management in different emergency scenarios, CME cum workshop on airway management, BLS and other emergency situations, 1 November 2019, Tawang, Arunachal Pradesh
9. Lectures and Video demonstrations on US guided upper limb blocks and central venous cannulation, URAW (Ultrasound Guided Regional Anaesthesia Workshop), 7 March 2020, Delhi

### **Jyotsna Punj**

1. ACLS-are we following the guidelines?, CME cum workshop on airway Management & ACLS, 25-27 April 2019, Meghalaya
2. Basic airway management, CME cum workshop on airway Management & ACLS, 25-27 April 2019, Meghalaya
3. Experiences Orientation program of MBBS students, 17 August 2019, Aligarh
4. Anaesthetic management of a patient with peripartum cardiomyopathy, 2nd international conference of Obstetric Anaesthesia of Russia, 21-23 September 2019, Moscow, Russia
5. USG for Trigeminal Neuralgia, Celiac Plexus, Stellate Ganglion and Facet Blocks, Annual Pain sessions of Sri Lanka, 3-5 October 2019, Colombo, Sri Lanka
6. USG truncal blocks, Annual Pain sessions of Sri Lanka, 3-5 October 2019, Colombo, Sri Lanka
7. Basic airway management, CME cum workshop on airway management and BLS, 30 October-1 November 2019, Arunachal Pradesh
8. BLS, CME cum workshop on airway management and BLS, 30 October-1 November 2019, Arunachal Pradesh
9. Basic airway management, Emergency workshops, 23-25 January 2020, Mizoram
10. ACLS, Emergency workshops, 23-25 January 2020, Mizoram
11. USG truncal blocks, USRAW conference, 7 March 2020, Delhi

### **Renu Sinha**

1. Retinopathy prematurity: sedation vs general anaesthesia, 5th World Congress of Ophthalmic Anesthesia 2020, 8 February 2020, Jakarta, Indonesia
2. Basics of ultrasound, Infraclavicular & axillary brachial plexus block, Annual Academic sessions & Pre-Congress workshops of Faculty of Pain Medicine of the College of Anaesthesiologist & Intensivists of Sri Lanka (COAISL), 3 October 2019, Colombo, Sri Lanka
3. Sciatic nerve block three approaches, arterial cannulation, IJV cannulation, Annual Academic sessions & Pre-Congress workshops of Faculty of Pain Medicine of the College of Anaesthesiologist & Intensivists of Sri Lanka (COAISL), 4th October 2019, Colombo, Sri Lanka

### **Ravinder K Pandey**

1. Basic Life Support—New guidelines and its applications in different case scenarios, CME cum workshop on Basic Airway Management and Basic Resuscitation skills, 25 April 2019, Jowai, Meghalaya
2. Video-laryngoscopes and Its role in management of difficult airway case scenarios, CME cum workshop on Basic Airway Management and Basic Resuscitation skills, 26 April 2019, Jowai, Meghalaya
3. USG guided lower limb nerve blocks (Femoral, Obturator, Adductor canal, FICB & LFCN) and their uses in different lower limb surgeries, URAW (Ultrasound Guided Regional Anaesthesia Workshop), 18 May 2019, Delhi

4. Lecture and Video demonstrations on USG guided PNB (Femoral, Obturator, Adductor canal and Fascia Iliaca blocks), Annual Academic Sessions of College of Anesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 3 October 2019, Colombo, Sri Lanka
5. Lectures and Video demonstrations on USG Truncal Blocks (Paravertebral, PEC I & II, ESB and SAP blocks), Annual Academic Sessions of College of Anesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 4 October 2019, Colombo, Sri Lanka
6. Enhancing Care in Pain Management: Multiple Challenges, Simple Strategies Annual Academic Sessions of College of Anesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 5 October 2019, Colombo, Sri Lanka
7. Relieving pain: The role of nerve blocks, Annual Academic Sessions of College of Anesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, 5 October 2019, Colombo, Sri Lanka
8. Basic life Support, CME cum workshop on airway management, BLS and other emergency situations, 30 October 2019, Tawang, Arunachal Pradesh
9. Airway management in different emergencies (Trauma, Burns, Obstetrics, Pediatrics), CME cum workshop on airway management, BLS and other emergency situations, 31 October 2019, Tawang, Arunachal Pradesh
10. Basic management in different emergency scenarios, CME cum workshop on airway management, BLS and other emergency situations, 1 November 2019, Tawang, Arunachal Pradesh
11. Basic Life Support, Emergency training workshop, 23 January 2020, Aizawl, Mizoram
12. Basic Airway Management, Emergency training workshop, 24 January 2020, Aizawl, Mizoram
13. First Aid in Common Emergencies (FACE), Emergency training workshop, 25 January 2020, Aizawl, Mizoram
14. Airway Ultrasonography and Imaging (USGI) AIRWAY-2020: SEED to FRUIT, 22 February 2020, Delhi
15. Lectures and Video demonstrations on US guided PNB (Femoral, Obturator, Adductor Canal and FICB) and Truncal Blocks (TPVB, PEC I&II and ESB), URAW (Ultrasound Guided Regional Anaesthesia Workshop), 7 March 2020, Delhi

#### **Anjolie Chhabra**

1. Supraclavicular brachial plexus block, 58th Annual Conference of ISA Delhi State Chapter USG RA Workshop, 12 April 2019, New Delhi
2. Paravertebral and Erector Spinae blocks, Cadaveric Ultrasound Regional Workshop, 13-14 April 2019, Raipur
3. Anatomy of the Lumbosacral plexus, 9th National Conference of the Academy of Regional Anaesthesia of India (AORA 2019), 4-7 July 2019, Coimbatore, TN
4. USG blocks above the clavicle: Supraclavicular & Interscalene block. Anaesthesia CME cum Workshop USGRACON, 28 July 2019, Bareilly, UP
5. Overview of analgesia for breast surgery and Thoracic paravertebral block, Anaesthesia CME cum Workshop USGRACON, 28 July 2019, Bareilly, UP
6. The child in pain-assessment and management challenges—Moderator of Panel discussion, 8th International Conference on Pain Management (ICPM-2019), 12-15 October 2019, Chandigarh
7. Procedure-specific pain management in the era of ERAS—Panelist, 8th International Conference on Pain Management (ICPM-2019), 12-15 October 2019, Chandigarh
8. Ultrasound caudal analgesia for perioperative pain control in children—How I do it!, 8th International Conference on Pain Management (ICPM-2019), 12-15 October 2019, Chandigarh
9. Infraclavicular and Brachial Plexus blocks, ULTRACON, 3rd November 2019, New Delhi.
10. Regional Anaesthesia for Breast surgery, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6-8 December 2019, New Delhi.
11. Transfusion triggers in children in the Indian setting- can we go by Western guidelines?, 12th Annual Conference of the Indian Association of Paediatric Anaesthesiologists, 7-9 February 2020, Varanasi, UP.

#### **Babita Gupta**

1. Damage control resuscitation, 2nd Royal Hospital International conference, 12 April 2019, Oman
2. Recent changes in the guidelines of trauma management, 2nd Royal Hospital International conference, 12 April 2019, Oman

#### **Chhavi Sawhney**

1. Donor screening and management, In House training of Nurses on Deceased organs and tissue Donation, 12 September 2019, New Delhi

2. Basics of Ultrasound and ultrasound guided axillary nerve and infraclavicular nerve block, Ultrasound guided regional anaesthesia workshop, 18 May 2019, New Delhi
3. Maintenance of Brain dead potential organ donor, Workshop on critical care in trauma, 20-21 July 2019, Chandigarh
4. MCI: Time to get prepared, 1st international conference of Indian College of Anaesthesiology, 7 September 2019, New Delhi
5. Anaesthesia for remote locations (CT/MRI/ERCP), 2nd AIIMS PG Assembly, 3 October 2019, New Delhi

#### **Rashmi Ramachandran**

1. Use of Checklists, QI workshop, 11 May 2019, New Delhi
2. Pheochromocytoma and Paraganglioma-perioperative management, AIIMS Anaesthesiology Post-Graduate Assembly (AAPGA 19), 3 October 2019, Delhi
3. AIIMS Model—Incorporation of SBME in UG curriculum, Fourth Annual meeting of Pediatric Research and Education Society of India (PRESIDE), 22 November 2019, New Delhi
4. Panelist-Safer healthcare systems—Prepare now than repair later, 5th National conference of Pedistars on Simulation, 8 February 2020, Chennai
5. Panelist: Making a Simulation Center viable, 5th National conference of Pedistars on Simulation, 8 February 2020, Chennai
6. Megacode, VF, Pulse less VT, PEA, Asystole, BLS & ACLS Provider course, 11 February 2020, Delhi

#### **Dalim Kumar Baidya**

1. BLUE, FALLS and SESSAME Protocols of Point of Care Ultrasound in ICU, ISACON Delhi 2019 (Workshop on Ultrasound in Critical Care), 12 April 2019, Delhi
2. Transocular, Transcranial, cardiac and Lung Ultrasound, USG in Anaesthesia and Critical Care, 16 April 2019, Srinagar
3. Disease Specific ventilator strategy—ARDS, Mechanical Ventilation Workshop, 2 May 2019, Rishikesh
4. Mechanical Ventilation in COPD, Mechanical Ventilation Workshop, 2 May 2019, Rishikesh
5. Essentials of Paediatric Advanced Life Support (PALS), CME Paediatric Anaesthesiology, 21 July 2019, Jodhpur
6. Ethical aspects in Medical Research, Ethics in Research, 27 July 2019, Noida
7. Best articles in Critical Care in last five years, Rajasthan Critical Care Conference (RajCriticon), 31 August 2019, Jodhpur
8. Non-verbal communication, Simulation and Communication Workshop at ICACON Gurgaon, 5 September 2019, Gurgaon
9. Leadership in crisis, Simulation and Communication Workshop at ICACON Gurgaon, 5 September 2019, Gurgaon
10. Ethical aspects in Living donor liver transplant, TRANSCRIT 2019, 15 September 2019, New Delhi
11. Non-verbal communication, Communication Workshop, 27 September 2019, Moradabad
12. Communication and Consent, Communication Workshop, 27 September 2019, Moradabad
13. Management of Difficult Airway – Case Based Discussion, AIIMS Anaesthesiology PG Assembly, 29 September 2019, New Delhi
14. Management of a patient with Intercostal Drain, AIIMS Anaesthesiology PG Assembly, 3 October 2019, New Delhi
15. Ultrasound in Critical Care, ISACON East Zone, 18 October 2019, Bhubaneswar
16. Cost Control in ICU, ISACON East Zone, 18 October 2019, Bhubaneswar
17. Lung Ultrasound and Abdominal Ultrasound in Critical Care, Ultrasound in Medical Practice , 23 October 2019, Thimpu, Bhutan
18. USG guided Brachial plexus block, Ultrasound in Medical Practice, 24 October 2019, Thimpu, Bhutan
19. Role of Echo in Cardiac Arrest, CLUE (Comprehensive Lung Ultrasound and Echo), 22 November 2019, New Delhi
20. Perioperative Fluid therapy in major surgery (Panelist in Panel Discussion), Annual Meet of Fluid Academy of India, 1 December 2019, Faridabad
21. Role of Echo in Cardiac Arrest, CUSA (Comprehensive Symposium on Ultrasound for Anesthesiologists), 8 December 2019, New Delhi
22. Sepsis Mechanical Ventilation, ISA East Zone PG Assembly 2020, 1 February 2020, Patna
23. Crystalloid vs Colloids, Fluid Therapy, 9 February 2020, Mumbai

24. Upper Limb Nerve blocks Truncal blocks, Ultrasound guided Regional Anaesthesia Workshop, 17 and 18 February 2020, Dhaka, Bangladesh

#### **Devalina Goswami**

1. Pre & Para oxygenation, Indian Association of Paediatric Anaesthesiologists, 20 July 2019, Jodhpur
2. Difficult airway (Extubation guidelines), East Zone and Odisha ISACON, 20 October 2019, Bhubaneswar

#### **Puneet Khanna**

1. USG in Critical Care Workshop, ISA Delhi 2019 Annual conference, 12 April 2019, Delhi
2. USG in Critical Care Workshop, POCUS Workshop, 4 May 2019, Rishikesh
3. USG in Airway, NAC-Decennial, 6 September 2019, Mangalore
4. USG in Critical Care Workshop, AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 18 October 2019, New Delhi
5. High risk obstetrics patients: Anesthetic concerns, ISACON–Uttarakhand 2019, 15 and 16 October 2019, Uttarakhand
6. USG in Critical Care Workshop, Clue Workshop, 22-24 November 2019, New Delhi
7. USG in Critical Care Workshop, POCUS 2020, 19 and 20 January 2020, Bhubaneswar
8. Intraoperative awareness in children: Myth or a reality?, Facts or Myths in Anaesthesiology, 14 and 15 December 2019, New Delhi

#### **Bikash Ranjan Ray**

1. USG in Critical Care Workshop, ISA Delhi 2019 Annual conference, 12 April 2019, Delhi
2. Workshop on Point of care ultrasound, 1st International WONCA emergency medicine seminar, 10 August 2019, Kathmandu Nepal
3. Focused ECHO & AAA, EM SONO, 14 September 2019, Delhi
4. USG in Critical Care Workshop AIIMS, Neuroanaesthesia Neurocritical Care Update 2019, 18 October 2019, Delhi
5. USG in Critical Care Workshop, Clue Workshop, 22-24 November 2019 Delhi
6. Ultrasound, Pain & MSK workshop, ISPCON 2019, 10 November 2019, Delhi
7. Regional Anesthesia workshop & POCUS workshop, CUSA, 6 and 7 December 2019, Delhi
8. USG in Critical Care Workshop, POCUS 2020, 19 and 20 January 2020, Bhubaneswar

#### **Rahul Kumar Anand**

1. USG in Critical Care Workshop, ISA DELHI 2019, Annual conference, 12th April 2019, Delhi
2. USG in Critical Care Workshop, POCUS Workshop, 4 May 2019, AIIMS Rishikesh
3. USG in Critical Care Workshop, AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 18 October 2019, AIIMS, New Delhi
4. Critical care in resource limited settings, ISACON–Uttarakhand 2019, 15-16 October 2019, Haldwani, Uttarakhand
5. USG in Critical Care Workshop, Clue Workshop, 22-24 November 2019, ILBS, New Delhi
6. USG in Critical Care Workshop, POCUS 2020, 19 and 20 January 2020, AIIMS, Bhubaneswar
7. Anesthesia for geriatric patients with femur fracture, Anesthesia for extreme of ages, UPISA Bareilly City Chapter, 16 February 2020, Bareilly, Uttar Pradesh
8. Live workshop anesthesia for scoliosis surgery, Live workshop anesthesia for scoliosis surgery, 2-4 March 2020, Kolkata, West Bengal

#### **Debesh Bhoi**

1. CRPS & Spinal Cord stimulation, Neuroanaesthesia & Neurocritical care Refresher course (NANC), 7 April 2019, New Delhi
2. Workshop faculty for Thoracic & Abdominal Block, AORA 2019, 4-7th July, Coimbatore
3. Prevention and management of chronic Pain after surgery, Eastzone ISACON 2019, 19 October 2019, Bhubaneswar, Odisha
4. Basics of US, knobology & Image Optimization Quadratus Lumborum Block-Different approaches, USGRACON 2019, 28 July 2019, Bareilly, UP
5. Workshop on Regional anaesthesia—Talk on thoracic Blocks, AAPGA 2019, 29 September 2019, New Delhi

6. Knobology & image optimization-2. Lower limb-Sciatic nerve block- Subgluteal/ Popliteal nerve block-scanning on volunteers, ULTRACON 2019, 3rd November 2019, New Delhi
7. Role of Truncal Blocks in Pain Practice, 5Annual Conference of Indian Society of Pain Clinicians (ISPCCON)2019, 8 November 2019, New Delhi
8. Thoracic Block: Paravertebral & ESP block, Comprehensive symposium on Ultrasound for Anesthesiologists (CUSA 2019), 6 December 2019, New Delhi
9. Cadaveric and volunteer demonstration of upper limb blocks, thoracic blocks, Comprehensive symposium on Ultrasound for Anesthesiologists (CUSA 2019), 6 December 2019, New Delhi

#### **Manpreet Kaur**

1. Video laryngoscopy, Paediatric Airway Management, 19 July 2019, Jodhpur
2. Endotracheal Intubation, 7th Semester skill module training (SET facility), 13 August 2019, New Delhi
3. Obstructive Jaundice, Postgraduate Assembly, 2 October 2019, New Delhi
4. Opioids, Postgraduate Assembly 2 October 2019 New Delhi, Assessment of Airway by ultrasound, AIIMS Neuro Anaesthesia Neuro Critical Care Update (Ultrasound in neurocritical care), 18 October 2019, New Delhi
5. LMA Insertion, 7 Semester skill module training (SET facility), 26 November 2019, New Delhi
6. Faculty, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 December 2019, New Delhi
7. Faculty, Indian Association of Pediatric Anaesthesiologist (Regional anaesthesia workshop), Indian Association of Pediatric Anaesthesiologist Con 2020, 7 and 8 February 2020, Varanasi
8. Faculty in Simulus 5, Chennai, 9 February 2020
9. Endotracheal Intubation, 6th Semester skill module training (SET facility), 29 February 2020, New Delhi
10. Airway management in an unconscious patient, Intern skill module training (SET facility), 7 March 2020, New Delhi

#### **Souvik Maitra**

1. Complications of Mechanical Ventilation, CME Mechanical Ventilation, 27 April 2019, Rishikesh
2. Workshop on Mechanical Ventilation, CME Mechanical Ventilation, 28 April 2019, Rishikesh
3. Fluid Therapy in traumatic brain injury, CME Fluid Therapy, 9 February 2020, Navi Mumbai
4. Anaesthetic Complications of scoliosis surgery, Deformity Correction Workshop, Scoliosis Research Society, 29 February 2020, Kolkata

#### **Thilaka Muthiah**

1. Role of skills labs in quality improvement and patient safety, QI workshop, 11 May 2019, New Delhi
2. Lead Faculty, Workshop on Perioperative Simulation, 2 June 2019, Kolkata
3. Airway Problems in an Obese Patient, ISACON TAMILNADU 2019, 27 and 28 July 2019, Chennai
4. Panel Discussion: Fasting guidelines and The Ground Reality: How to overcome the inhibitions?., Paediatric Anaesthesiology CME, 21 July 2019, Jodhpur
5. Acyanotic congenital heart disease, AIIMS Anaesthesia Post Graduate Assembly, 1 October 2019, New Delhi
6. Low Fidelity Simulation, Fourth Annual meeting of Pediatric Research and Education Society of India (PRESIDE), 22 and 23 November 2019, New Delhi
7. LMA Insertion, 7th Semester skill module training (SET facility), 26 November 2019, New Delhi
8. How to develop AV file in Macbook, Content development workshop, 25 December 2019, New Delhi
9. Faculty, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 and 7 December 2019, New Delhi
10. Faculty, Training of trainers, Simulus 5, 9-11 February 2020, Chennai

#### **Kanil Ranjith Kumar**

1. USG guided Infraclavicular, Axillary, Erector spinae and Retro laminar blocks, USGRACON, ISA Branch Bareilly Conference, 28 July 2019, Bareilly, UP
2. Workshop: Ultrasound Guided lower limb blocks, Ultrasound for Anesthesiologist and Intensivist-The CME cum Workshop, 3 November 2019, New Delhi

3. USG blocks below clavicle-Axillary and Infraclavicular blocks, Comprehensive Symposium on Ultrasound for Anesthesiologists (CUSA), 6-8 December 2019, New Delhi

#### **Nishant Patel**

1. USG workshop on Upper Limbs nerve blocks, 58th Annual Conference of ISA Delhi State Chapter, USG RA Workshop, 12 April 2019, New Delhi
2. Transversus abdominis plane and rectus sheath block, USGRACON 2019, 28 July 2019, Bareilly
3. Radiology in Anaesthesia, PG Assembly AIIMS 2019, 29 September 2019, New Delhi
4. Tachyarrhythmia and Bradyarrhythmia, PG Assembly AIIMS 2019, 29 September-3 October, New Delhi
5. USG Guided Truncal Blocks, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6-8 December 2019, New Delhi

#### **Rakesh Kumar**

1. Lower limb block, Cadaveric Ultrasound regional Anaesthesia workshop, 14 April 2019, Raipur
2. Radiology, AIIMS Anaesthesiology Post Graduate Assembly 2019, 29 September 2019, New Delhi
3. Upper limb block, Comprehensive Symposium on Ultrasound for Anesthesiologist (CUSA) 2019, 6 December 2019, New Delhi
4. Lung Ultrasound and ECHO, Comprehensive Symposium on Ultrasound for Anesthesiologist (CUSA) 2019, 8 December 2019, New Delhi

#### **Arshad Ayub**

1. Sciatic nerve block at sub gluteal and popliteal fossa, USG Regional Anaesthesia and Workshop, ISACON Delhi, 12 April 2019, Delhi
2. Femoral and Adductor canal block, USGRACON Bareilly, 17 July 2019, Bareilly
3. Anaesthesia Breathing Circuits, AIIMS Anaesthesia PG Assembly, 2 October 2019, AIIMS, Delhi
4. Upper and lower limb blocks cadaver, thoracic and abdominal blocks, Workshop Comprehensive symposium on ultrasound for Anesthesiologists (CUSA), 6 December 2019, Delhi
5. Lower Limb Blocks. Thoracic Wall Blocks, Hands on USG guided Regional Anaesthesia, 17 and 18 February 2020, Dhaka, Bangladesh

#### **Yudhyavir Singh**

1. ATLS, AIIMS Anaesthesiology PG Assembly 2019, 29 September-3 October 2019, New Delhi
2. Hands on Scanning Session, Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA) 2019, 6-8 December 2019, New Delhi

#### **Abhishek N**

1. Anaesthesia workstation (Workshop), AIIMS Anesthesiology Post Graduate Assembly 2019, 2 October 2019, New Delhi

#### **Anju Gupta**

1. LMA for infants-Pro, Facts and myths in anaesthesiology, MAMC anaesthesia update, 14 December 2019, Delhi
2. Muscle relaxants, PG assembly at GTB Hospital, 25 December 2019, Delhi
3. Aggressive management of URI in children-con, Indian Association of Pediatric Anaesthesia annual conference, 7-9 February 2020, Varanasi

#### **Sulagna Bhattacharjee**

1. Workshop on point of care echocardiography, CUSA 2019, December 2019, New Delhi

#### **Venkata Ganesh**

1. Setting up and use of TCI, TIVA update 2020, PGIMER, 4 February 2020, Chandigarh
2. Cadaveric demonstration of Erector spinae and paravertebral blocks, CUSA 2019, AIIMS, 7 December 2019, New Delhi
3. Demonstration of Basic Echocardiography, CUSA 2019, AIIMS, 8 December 2019, New Delhi

## Oral papers/posters presented

1. Kundu R, Subramaniam R, Baidya DK. Integrated ultrasound protocol in predicting weaning success and extubation failure, ESICM LIVES 2018 (European Society of Intensive Care Medicine) Annual Congress, 22 October 2019, Paris, France
2. Shende DR, Ramkumar, Comparison of Sub-Tenon Block, Peribulbar Block and IV Fentanyl for Perioperative Analgesia in Pediatric Cataract Surgery, ASRA's 44<sup>th</sup> Annual Regional Anesthesiology & Acute Pain Medicine, 11-13 April 2019, Las Vegas, Nevada, USA
3. Shende DR, Velmurugan, End expiratory Occlusion test and Mini fluid challenge for predicting fluid responsiveness in acute circulatory failure, 6th SG-ANZICS Asia Pacific Intensive Care Forum 2019, 18-22 April 2019, Singapore
4. Kashyap L, Rathod P, Kumar A, Mohan VK, Bhoi D, Bikas RR, et al. Role of Q Lumborum block on neuroendocrine response in pyeloplasty, PGA 73 NYSA Postgraduate assembly, 8 December 2019, New York, USA
5. Prasad G, Gopikrishnan A, Arora MK, Kashyap L, Yadav CS. To assess the efficacy of addition of intrathecal morphine to fentanyl and hyperbaric bupivacaine in subarachnoid block for unilateral total knee, 21st General scientific meeting of Singapore society of anaesthesiologists EBPOM-ASIA 2019, 2 and 3 November 2019, Singapore
6. Rewari V, Madabhushi S, Trikha A, Ramachandran R, Anand RK. PcvCO<sub>2</sub>-PaCO<sub>2</sub>/ CaO<sub>2</sub>-CcvO<sub>2</sub> Ratio Vs Arterial Lactate in Sepsis, World Congress of Intensive Care 2019, 14-18 October 2019, Melbourne, Australia
7. Punj J, Shanmugasundaram, Pandey R, Darlong V. Randomized controlled trial to compare ultrasound and extraoral glossopharyngeal nerve block, Academic Fora, 10 and 11 August 2019, Sydney, Australia
8. Punj J, Govindarajan SR, Chandran D, Jaryal A. Duration of vecuronium and isoflurane in patients with diabetes with and without cardiac autonomic neuropathy: a pilot study, Academic Fora, 10-11 August 2019, Sydney, Australia
9. Pallavi T, Gupta B, Rewari V, Ramachandra R, Arulselvi S, Kailaivani, et al. Release of pro & anti-inflammatory cytokines and development of SIRS with different anesthetic techniques in major orthopedic trauma surgeries, 40th SICOT Orthopedic World Congress, 4-7 December 2019, Oman
10. Pandey RK, Hashir A, Bhalla AP, Garg R. Optimal Wrist Angulation Shortens Time Needed for Radial Artery Catheterisation, 73rd Post Graduate Assembly in Anesthesiology (PGA-73), 15 December 2019, New York, USA
11. Sarathkumar, Naik S, Ramachandran R, Rewari V, Trikha A, Anand RK. To determine the optimal length for catheter insertion via axillary vein cannulation. 8th Transcrit 2019 on All about liver transplantation in acute liver failure, 15 September 2019, Delhi
12. Karthiga R, Goswami D, Dehran M, Anand RK, Ganie MA. Comparison of opioid based and opioid free TIVA in laparoscopic gynaecological surgery: A randomized controlled trial, Annual Congress of Glasgow, Association of Anaesthetists of Great Britain & Ireland (AAGBI), 12 September 2019, Glasgow
13. Bhatt R, Goswami D, Roychowdhury A. Comparison of efficacy of dexmedetomidine and clonidine infusions to produce hypotensive anaesthesia in patients undergoing orthognathic surgery: a randomized controlled trial. South African Society of Anaesthesiologists, 12 March 2020, Pretoria
14. Sinha H, Baidya DK, Maitra S, Subramaniam S, Trikha A, Saxena R. Epidemiology and prognostic utility of cellular components of hematological system in sepsis, ESA Annual Conference 2019 (European Society of Anaesthesiologists), 1-3 June 2019, Vienna, Austria
15. Baidya DK, Maitra S, Subramaniam R, Arora MK, Roychowdhury A, Bansal V, et al. Intraoperative Lung protective ventilation in peritonitis patients undergoing emergency laparotomy: randomized controlled trial, Canadian Anesthesiology Society Annual Meeting 2019, 21-24 June 2019, Calgary, Canada
16. Malviya A, Sawhney C, Chhabra A, Baidya DK. The Analgesic Efficacy of Ultrasound Guided Preemptive Caudal Morphine as An Adjunct to Bupivacaine For Lumbosacral Spine Surgeries in Adults: A Randomized Controlled Trial, 8 Annual ESRA Congress 2019 (European Society of Regional Anaesthesia), 11-14 September 2019, Bilbao, Spain
17. Khanna P, Ray BR, Effect of dexamethasone on post-operative cognitive decline in elderly population: a randomized controlled triple blind trial. An intermittent analysis of a prospective ongoing trial, WSM 2020, 8-10 January 2020, London, UK.
18. Khanna P, Ray HB, Anand R, Kashyap L, Maitra S. Incidence of postoperative cognitive dysfunction in elderly patients undergoing open abdominal surgery under general anesthesia using isoflurane or desflurane, WSM 2020, 8-10 January 2020, London, UK.
19. Khanna P, Ray BR. Interim Analysis of a Prospective Trial OF Effect of wrist angulations on ease of radial artery cannulation in pediatric population: ultrasound-guided, Koreanesthesia-2019, 31 October-2 November 2019, Seoul, Korea

20. Ray BR, Khanna P, Ranjitha N. Ultrasound Assessment of Airway for Prediction of Difficult Mask Ventilation in Obese Patients: A prospective Observational Study, Koreanesthesia-2019, 31 October-2 November 2019, Seoul, Korea
21. Singh Y, Kumar S, Khanna P. The study of feasibility of ultrasound guided catheterization of right brachiocephalic vein in adult patients. 73rd New York State society of Anaesthesiologists, 13-17 December 2019, New York, USA
22. Singh Y, Kumar SA. Comparative study of two doses of intrathecal clonidine with hyperbaric bupivacaine in lower segment caesarean section, 73rd New York State society of Anaesthesiologists, 13-17 December 2019, New York, USA
23. Reshma K, Subramaniam R, Ranjith K, Singh S. CMAC Pediatric D-Blade-A valuable addition to the Anaesthesiologist's airway armamentarium. AIIMS Anaesthesiology Post Graduate Assembly, 29 September 2019, AIIMS, New Delhi
24. Thilaka M, Banupriya R, Rajeshwari S, Chhabra A. Prophylactic infusion of phenylephrine versus norepinephrine for the prevention of post spinal hypotension in parturients undergoing elective caesarean section- a randomised control trial, Annual Congress Glasgow, 11-13 September 2019, Glasgow
25. Thilaka M, Noor F, Mathews L. Minimal and effective cuff filling volumes in AMBU Aura Once™ laryngeal airway to achieve recommended cuff pressure of 60 cm H<sub>2</sub>O in adults, Annual Congress Glasgow, 11-13 September 2019, Glasgow
26. Chowdhury AR, Mohamed A, Mathews L, Thilaka M. Comparison of laryngeal mask airways proseal versus i-gel in patients undergoing laparoscopic surgeries, 2nd World Airway Management Meeting 2019, 13-16 November 2019, Amsterdam
27. Kayarat B, Bhoi D, Kataria K. Combined Serratus Anterior Plane (Sap) Block and Intermediate Cervical Plexus Block (ICPB) For Opioid Sparing Analgesia In Endoscopic Thyroid Surgery: A Case Report, AORA 2019, 4-7 July 2019, Coimbatore
28. Kalagara. R, Bhoi D, Nath S. Ultrasound guided Cervical nerves pathway block for peri-operative analgesia in Robotic Assisted Thyroid Surgery by retro-aural approach: a case series, AORA 2019, 4-7 July 2019, Coimbatore
29. Narayanan V, Bhoi D, Ayub A, Tangirala N. Initial Experience of Peng Block for Positioning During Neuraxial Block In Patients With Hip Fracture, AORA 2019, 4-7 July 2019, Coimbatore
30. Choudhary RA, Bhoi D. Combined pecto-intercostal fascial plane block (PIFB) and serratus anterior plane (SAP) block as a part of multimodal analgesia in patients undergoing breast surgeries, AORA 2019, 4-7 July 2019, Coimbatore
31. Giri S, Ayub A, Bhoi D. Ultrasound as a guide to successful Neuroaxial Anaesthesia in patients with Ankylosing Spondylitis undergoing hip arthroplasty- A case series, AORA 2019, 4-7 July 2019, Coimbatore
32. Bhoi D, Roy A, Darlong V, Mohan Kumar V, Chhabra A, Prasad G, et al. To compare the analgesic efficacy of bilateral quadratus lumborum and transversus abdominis plane block in patients undergoing laparoscopic TAPP repair of inguinal hernia: An RCT. 38th Annual ESRA Congress, 11-14 September 2019, Bilbao, Spain
33. Bhoi D, Nath S, Kalagara R, Ranjit K. Safety and analgesic efficacy of ultrasound guided cervical nerves pathway block by anterior route in robotic assisted thyroid surgery by retro-aural approach: A case series. 38th Annual ESRA Congress, 11-14 September 2019, Bilbao, Spain
34. Bhoi D. Opioid Sparing Perioperative Breast Analgesia (ESRA Video Competition), 38th Annual ESRA Congress, 11-14 September 2019, Bilbao, Spain
35. Khanna P, Ray BR. Effect of dexamethasone on post-operative cognitive decline in elderly population: a randomized controlled triple blind trial. An intermittent analysis of a prospective ongoing trial, WSM-2020, 8-10 January 2020, London, UK.
36. Khanna P, Ray BR, Interim Analysis of a Prospective Trial of Effect of wrist angulations on ease of radial artery cannulation in paediatric population: ultrasound-guided anatomical assessment, Koreanesthesia-2019, 31 October-2 November 2019, Seoul, Korea

## RESEARCH

### Funded projects

#### Ongoing

1. Enhancing the success and safety of endotracheal intubation by development of an innovative intubation system: A pilot project, Babita Gupta, ICMR, 2 years, 2020-2022, Rs 55 lakhs
2. Assessment of IJV valve incompetence and its association with POCD in patients undergoing laparoscopic pelvic surgeries in Trendelenburg position, Akhil, AIIMS, 1 year, 2019, Rs 4 lakhs
3. Randomised comparison of costoclavicular vs lateral sagittal approach for ultrasound guided continuous infraclavicular block for postoperative analgesia, Thilaka, AIIMS, 1 year, 2019, Rs 4 lakhs

4. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with COVID-19, Thilaka, AIIMS, 1 year, 2019, Rs 4 lakhs
5. Comparison of ultrasound guided dorsal radial artery cannulation and conventional radial artery cannulation at the volar aspect of wrist: A pilot randomized controlled trial, Souvik, AIIMS, 1 year, 2019, Rs 4 lakhs
6. Comparative evaluation of C-MAC D-Blade and Airtraq Video laryngoscope for endotracheal intubation in simulated cervical spine immobilization using cervical collar, Manpreet, AIIMS, 1 year
7. Comparison of dexmedetomidine as an adjuvant with ropivacaine alone for continuous wound infiltration in patients undergoing proximal splenorenal shunt (PSRS) surgery: A randomized control trial, Rakesh, AIIMS, 1 year, 2019, Rs 4 lakhs
8. Comparison of Anxiety scores with or without parental presence and its correlation with stress biomarkers during induction of anaesthesia in children undergoing ophthalmic procedures - A Randomized Controlled Trial, Nishant, AIIMS, 1 year, 2019, Rs 4.9 lakhs

### **Completed**

1. Intraoperative lung protective ventilation in peritonitis patients undergoing emergency laparotomy: Randomized controlled trial, Dalim K Baidya, AIIMS, 3 years, 2015-2018, Rs 1.8 lakhs

### **Departmental projects**

#### **Ongoing**

1. Safety, economic and environmental impact of desflurane in minimal flow anaesthesia (0.5 l/min) with or without nitrous oxide, compared to isoflurane- air-oxygen used with low flow (1 l/min)-a randomized, open labelled, single blinded study.
2. Safety and efficacy of low dose intrathecal anaesthesia in outpatient tubal ligation
3. To evaluate effects of a preoperative carbohydrate drink on postoperative vomiting in paediatric strabismus surgery: a randomised, controlled, observer- blinded trial
4. Analgesic efficacy and LA sparing effect of intrathecal morphine as adjunct for labour analgesia-a double-blinded randomized controlled trial
5. Prognostic significance of preoperative blood lactate and lactate clearance in patients undergoing emergency laparotomy for perforation peritonitis: A prospective observational study
6. Prognostic significance of red blood cell transfusion trigger in critically ill patients with sepsis and septic shock: prospective observational study
7. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: prospective observational study
8. Early administration of Vitamin D to reduce ICU length of stay in critically ill sepsis patients: randomized controlled trial
9. Evaluation of deep learning algorithm for identification of brachial plexus in ultrasound images – an explorative study
10. Epigenetic regulations of pro-inflammatory and anti-inflammatory cytokine genes in posttraumatic sepsis and septic shock-defined by sepsis-3 classification. An exploratory study in major trauma patients.
11. Gastric residual volume measured by ultrasound to correlate with feed intolerance in ICU patients – an observational study
12. Comparison of ultrasound guided gastric emptying between breast feed and formula milk feed below six month old children – an observational study
13. Effect of addition of dexamethasone to ropivacaine for extra oral mandibular block in patients undergoing mandibular surgeries under general anaesthesia.
14. Compliance of novice users in performing endotracheal intubation using either C-Mac Video laryngoscope or MacIntosh laryngoscope after manikin skill based learning using either of the devices: a prospective randomized high fidelity simulator based study
15. Effectiveness of enteral ivabradine for heart rate control in septic shock – A randomized controlled trial.
16. The effect of levosimendan infusion on diaphragm contractility assessed by ultrasonography: a single centre randomized placebo- controlled trial
17. Analgesic efficacy and safety of Clonidine as an additive to 0.25% Ropivacaine in Stellate Ganglion Block for the treatment of Complex Regional Pain Syndrome. A prospective randomized single blind study
18. Prediction of Difficult Laryngoscopy and Orotracheal Intubation Using Lateral Neck X-ray: A Prospective Observational Double Blind Study

19. Urine albumin creatinine ratio as a marker for predicting acute kidney injury and patient outcome in critically ill sepsis patients – A prospective observational study
20. Erector spinae block versus intrathecal morphine in patients undergoing percutaneous nephrolithotomy surgery: A prospective randomised comparative pilot study
21. Renal doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in ICU: A prospective observational study
22. Comparison of positive pressure extubation with traditional extubation in critically ill patients: A randomised control study
23. Comparing the efficacy and safety of ketamine and dexmedetomidine in bariatric surgery without the use of opioids; A randomized clinical trial.
24. Intra-operative monitoring of cerebral oxygen saturation using Near Infra Red Spectroscopy (NIRS) and Assessment of risk factors for Low cerebral oxygen saturation in preterm and very preterm infants with Retinopathy of prematurity during Vitreo retinal surgeries: An observational prospective study.
25. Pulmonary arterial velocity time integral and effect of sigh breaths in predicting fluid responsiveness in acute circulatory failure
26. To determine the association between altered cerebral blood flow in the frontal cortex during sevoflurane anaesthesia and incidence of postoperative emergence delirium in children: An fNIRS based observational study.
27. Comparison of analgesic efficacy and safety of erector spinae plane block versus local infiltration in video-assisted thoroscopic surgery in adult patients comparison of analgesic efficacy and safety of erector spinae plane block versus local infiltration in video-assisted thoroscopic surgery in adult patients comparison of analgesic efficacy and safety of erector spinae plane block versus local infiltration in video assisted thoroscopic surgery in adult patients
28. Comparison between lactate clearance and neutrophil lymphocyte count ratio as a predictor of mortality in patients with sepsis
29. Incidence of Postoperative Cognitive Decline in elderly patients undergoing open surgery under general anaesthesia using Isoflurane or Desflurane: A Prospective Observational Study.
30. Efficacy of hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair- a preliminary study
31. Efficacy of Erector Spinae Plane Block and Quadrates Lumborum Block for Perioperative Analgesia In Patients Scheduled for Renal Transplantation – A Single Blinded Randomized Controlled Study
32. Effect of Low Dose Ketamine On Inflammatory Markers and on Perioperative Analgesia In Patients Undergoing Laparoscopic hernia surgery—A prospective, randomized, comparative study
33. To study the outcomes of immediate sequential bilateral vitreo retinal surgery (ISBVS) in advanced ROP
34. Ultrasound Guided Erector Spinae Plane Block for Postoperative Analgesia in Patients undergoing Percutaneous Nephrolithotomy – A double-blinded, randomized controlled trial
35. Incidence and prognostic impact of myocardial dysfunction in septic shock—An observational cohort study
36. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural technique—a prospective double-blinded randomized trial
37. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with pheochromocytoma / paraganglioma undergoing surgical tumour removal- a prospective cohort study
38. Analgesic efficacy of ultrasound guided erector spinae block versus intrathecal morphine in patients undergoing Percutaneous Nephrolithotomy (PCNL) surgery: A prospective randomized comparative pilot study
39. Comparison of safety and efficacy of Air SP Vs. conventional Air-Q intubating laryngeal airway in children: A prospective, randomized comparative study.
40. Comparison of Glide scope and C-Mac Video laryngoscope for intubation in pediatric patients: A prospective, comparative & randomized study
41. To evaluate the safety and efficacy of different doses of Clonidine in Pectoral nerve blocks (PECS I, II) for pain relief in different Oncological Breast Surgeries: A prospective, comparative, randomized controlled trial.
42. Comparative efficacy and safety of I-gel supraglottic airway and self-pressurizing Air-Q intubating laryngeal airway during general anesthesia in infants: A prospective randomized
43. Effects of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications
44. Bilateral Ultrasound guided erector spinae plane block for postoperative pain relief in traumatic spine surgery: A randomised controlled trial
45. To compare analgesic efficacy and safety of ultrasound guided bilateral intermediate cervical plexus block with

- bilateral superficial cervical plexus block in patients undergoing thyroid surgeries under general anaesthesia
46. A study to find minimum effective volume of 0.5% ropivacaine for ultrasound guided costoclavicular block
  47. Effect of different dose regimens of Tranexamic acid in pelviacetabular fracture surgery: randomized clinical trial
  48. To compare the efficacy of Air-Q versus proseal in children (1-18 years) undergoing elective ophthalmic procedures – a randomized clinical trial
  49. Role of Microdialysis in accurate and early detection of a compromised free flap
  50. To evaluate the role of age-adjusted Charlson Comorbidity index in predicting 30 day postoperative outcome in patients undergoing surgery under general and regional anaesthesia
  51. Ultrasound guided suprainguinal fascia iliaca block in acetabular fracture surgery—randomized controlled pilot study
  52. Effectiveness of Retrolaminar block as perioperative analgesia in lumbosacral spine surgeries: Randomized controlled pilot study.
  53. Comparison of Percutaneous Radiofrequency Thermocoagulation and Percutaneous Microballoon Compression of Gasserian ganglion in Treatment of Trigeminal neuralgia—A randomized controlled trial
  54. Comparative Evaluation of Continuous Versus Intermittent Bolus Techniques In Ultrasound Guided Erector Spinae Block In Modified Radical Mastectomy Surgery– A Prospective Randomized Controlled Trial
  55. Pectointercostal fascial block as a novel technique for postoperative pain management in patients undergoing cardiac surgery
  56. To compare ultrasound guided bilateral intermediate cervical plexus block with bilateral superficial cervical plexus block in patients undergoing thyroid surgeries under general anaesthesia
  57. To assess the role of carotid artery corrected flow time (FTc), carotid artery peak velocity variation (CAPVV) and carotid artery velocity time integral (CAVTI) in prediction of post spinal anaesthesia hypotension in spontaneously breathing patients
  58. Comparison of clinical efficacy of intrathecal 0.75% isobaric ropivacaine with fentanyl vs clonidine as adjuvants in cesarean section: a prospective randomised controlled trial
  59. A Prospective study to evaluate improvement in pharyngeal airway volume and lengthening of mandible in simultaneous release of ankylosis and mandibular distraction.
  60. To evaluate and compare bite force and chewing efficiency in patients of TMJ ankylosis treated by alloplastic total joint replacement, gap arthroplasty with normal individuals.
  61. Correlation between Doppler derived carotid artery corrected flow time, pressure transducer derived radial artery flow time and pulse pressure variation: A prospective observational study
  62. Comparison of 5 factor modified frailty index and ASA classification to predict morbidity and mortality in patients undergoing arthroplasty – A prospective observational study
  63. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
  64. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury—a prospective study
  65. Comparison of opioid based anesthesia technique and opioid free anesthesia technique in patients undergoing laparotomy for gynaecological malignancy: randomized controlled trial
  66. Assessment of inferior vena cava collapsibility index (IVCCI) and variation of carotid artery peak velocity (CAPV) as predictor of post-spinal hypotension
  67. Effect of addition of dexamethasone to ropivacaine for extraoral mandibular nerve block in patients undergoing mandibular surgeries under general anaesthesia
  68. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: Prospective observational study
  69. Predictors of Intensive Care Unit Admission and Mortality In Acute Febrile Illness: A Prospective Observational Study
  70. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomized controlled trial
  71. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in ICU
  72. Comparison of Recovery Characteristics With Desflurane And Sevoflurane In Preterm And Ex-Preterm Infants Undergoing Retinopathy Of Prematurity Surgery: A Prospective Randomized Study
  73. Ultrasound guided costoclavicular block in paediatric population: A prospective observational study
  74. Effect of video distraction on preoperative anxiety scores in paediatric patients undergoing general anaesthesia in

- ophthalmic day care procedures: A Randomized Controlled trial.
75. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study
  76. A comparative study of optimum versus fixed positive end expiratory pressure on incidence of postoperative lung atelectasis in patients undergoing laparoscopic gynaecological surgery: A double blinded randomised control trial.
  77. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
  78. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients
  79. Association between intraoperative colloid administration & postoperative kidney dysfunction in patients undergoing major gastro-intestinal surgery: A retrospective study
  80. Effect of intraoperative oxygen use on cerebral blood flow in adult patients under general anaesthesia: A randomized controlled trial
  81. Comparison of two anaesthetic techniques in children undergoing vitreo-retinal surgery: inhalational vs TCI (Target controlled infusion) – A Randomised pilot clinical trial
  82. Comparison between medial and lateral approaches of costoclavicular brachial plexus block for upper limb surgeries- A Pilot interventional Randomised control trial
  83. Effect of High Protein Normocaloric Nutrition on Skeletal Muscle Wasting in Critically Ill Mechanical Ventilated Patients: A Randomized Double-Blind
  84. Association of malnutrition with sevoflurane requirement and awakening during day care procedures
  85. Association between pulmonary function tests and difficult airway in morbidly obese patients.
  86. Ultrasound Assessment of Gastric Emptying of Clear Fluids with Different Energy Content in Children: A Crossover Pilot Study
  87. Effect of wrist angulations on ease of radial artery cannulation in pediatric population: ultrasound-guided anatomical assessment
  88. Effect of dexamethasone on postoperative cognitive decline in elderly population: a randomized controlled triple blind trial
  89. Ultrasonographic Assessment of Tonsillar Volume in Children undergoing tonsillectomy; a predictor of post-operative morbidity
  90. Dura to spinal cord distance at different vertebral levels in children and its implications on epidural and spinal anesthesia and analgesia in Indian Population: A retrospective CT Scan - based study
  91. A randomised control trial comparing the effects of lignocaine and dexmedetomidine on the incidence of postoperative cognitive decline in elderly: a pilot study
  92. Correlation of oxygenation Index and oxygen saturation index in patients undergoing emergency laparotomy under general anesthesia: A prospective observational study
  93. A double blind randomized controlled trail – Effect of intravenous dexamethasone on the onset time and recovery profiles of atracurium in children.
  94. Effect of nicotine replacement therapy on peri-operative opioid requirement in abstinent tobacco smokers undergoing spinal fusion: a double blind randomized controlled trial.
  95. Epidemiology and clinical characteristics of COVID-19 patients requiring critical care in a tertiary care teaching hospital
  96. Comparison of Posterior tibial artery cannulation under USG guidance versus palpation technique.
  97. Association Between Perioperative Hypertension, Length of Hospital Stay and Perioperative Cardiovascular Complications: A Prospective Observational Study From Tertiary Care Centre
  98. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
  99. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study.
  100. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study
  101. Postural Impact on Gastric Ultrasound assessment in pregnancy: An observational study
  102. Effect of Different Dose Regimens of Tranexamic Acid on blood loss in Pelvic acetabular Fracture Surgery: A Randomized Clinical Trial
  103. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock

104. Comparison of standard introducer tool guided vs. suction catheter guided techniques of Proseal laryngeal mask airway (PLMA) insertion in patients undergoing elective laparoscopic gynaecological surgery: a randomized controlled trial.
105. Liberal versus Restrictive Fluid Management in Ambulatory Laparoscopic Gynaecological Surgeries: A Randomized Controlled Trial
106. Impact of Simulation-based Training in Intravascular Access (STIVA) for medical students on composite learner outcomes—A Randomized Controlled Trial
107. Comparison of blind tracheal intubation through Air-Q and LMA Blockbuster: A Randomised control trial
108. Comparison of analgesic efficacy of levobupivacaine and ropivacaine in labour analgesia by dural puncture epidural technique.
109. Comparative evaluation of C-MAC D-Blade and Airtraq Video laryngoscope for endotracheal intubation in simulated cervical spine immobilization using cervical collar.
110. Assessment of Pain Score After Administration of Injection Lidocaine Versus Lidocaine- Prilocaine Cream In Patients Undergoing Prenatal Invasive Testing
111. Association between intra-operative starch use and post-operative serum creatinine level in patients undergoing elective major gastrointestinal surgery: Interim analysis of a retrospective study.
112. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with COVID-19
113. Fascia Iliaca block above or below the Inguinal ligament? Evaluation of Efficacy in Total Hip Arthroplasty. A Randomized Prospective study
114. Effect of Airway Pressure on Cuff Pressure of Proseal Laryngeal Mask Airway in Patients Undergoing Gynaecological Laparoscopic Procedures.
115. Effective Dose of Cis-atracurium in Patients Undergoing Short Gynaecological Laparoscopic surgeries—A Prospective Double blinded Randomized trial
116. Ultrasound guided Suprainguinal Fascia Iliaca Block for Analgesia in Acetabular Fracture Repair

### **Completed**

1. Integrated ultrasound protocol in predicting weaning success and extubation failure
2. To determine whether implementation of a new ICU delirium prevention bundle will reduce the incidence of delirium compared to standard of care protocol in mechanically ventilated patients
3. Epidemiology and prognostic utility of cellular components of hematological system in sepsis
4. A comparison of efficacy of prophylactic infusion of phenylephrine versus norepinephrine for the prevention of post spinal hypotension in parturients undergoing elective Cesarean section—a randomized controlled trial
5. To compare postoperative analgesia between ultrasound guided continuous quadratus lumborum block with ultrasound guided continuous psoas compartment block in patients undergoing total hip arthroplasty under general anaesthesia
6. Efficacy of Left ventricular outflow tract velocity time integral (LVOT VTI) and carotid artery VTI as predictor of volume responsiveness to passive leg raising (PLR) in sepsis and septic shock patients by correlation with Echocardiography guided stroke volume change (delta SV%) to PLR
7. Carotid artery corrected flow time & respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing emergency laparotomy for peritonitis: A prospective observational study
8. Correlation between Doppler derived carotid artery corrected flow time and pressure transducer derived radial artery corrected flow time: A prospective observational study
9. Carotid artery corrected flow time and respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing elective surgery: A prospective observational study
10. Comparison of dexmedetomidine with a combination of ketamine and midazolam for sedation during awake fiberoptic nasal intubation, a randomized double blind comparative trial
11. Hemodynamic profile in the perioperative period in patients undergoing pheochromocytoma and paraganglionoma surgery with and without low dose diltiazem infusion
12. Anaesthetic management for ophthalmic surgical procedures in children with congenital Rubella Syndrome: A retrospective analysis
13. Correlation between duration of preoperative fasting and emergence delirium in paediatric patient undergoing

- ophthalmic examination under anaesthesia as day care procedure-observational study
14. Knee-chest position and Subarachnoid block Onset times in Obstetric parturient: A RCT
  15. Impact of preoperative anxiety on propofol induced hypotension in female patients of elective surgery under general anaesthesia
  16. Impact of preoperative anxiety on propofol induced hypotension in children undergoing elective surgery under general anaesthesia: a prospective observational study
  17. Perioperative outcome of patients undergoing major pelvic surgeries in a tertiary health centre in India: A retrospective analysis
  18. Clinical outcome, microbiological spectrum and antibiotic susceptibility of clinical isolates from adult intensive care unit in a tertiary care hospital in INDIA
  19. Effect of dexmedetomidine on serum cortisol level and perioperative haemodynamics in children undergoing elective ophthalmic surgery—A prospective, randomized, comparative study
  20. Lung Ultrasound for diagnosis of Ventilator associated pneumonia in critically ill
  21. Ultrasound assessment of airway for prediction of difficult laryngoscopy in obese patient. Observational pilot study
  22. Comparison between lactate clearance and neutrophil lymphocyte count ratio as a predictor of mortality in patients with sepsis
  23. Comparison of serum nucleosomes and tissue inhibitor of metalloproteinase 1 (TIMP1) in predicting mortality in adult critically ill patients in sepsis
  24. A comparative pilot study of manual weaning versus automated weaning in critically ill patients
  25. Accuracy of Predictive equations in guiding Tracheal intubation depth in children: A prospective observational study
  26. Comparison of Ultrasound guided femoro-sciatic nerve block versus epidural analgesia for post-operative analgesia following excision of knee tumours- A randomized control study
  27. Serum Procalcitonin, Interleukin-6 and sTREM-1 as diagnostic and prognostic markers in sepsis in Intensive Care unit
  28. Air Q ILA as a conduit for orotracheal intubation in children: A comparison between supine and lateral position
  29. Effect of different patient positions on post induction hypotension caused by Propofol— A randomized comparative trial
  30. Effect of Dexmedetomidine on Emergence Delirium and recovery parameters after Desflurane or Sevoflurane Anaesthesia in children: A prospective Observational Randomized Study
  31. Effect of positive end expiratory pressure on atelectasis in patients undergoing major upper abdominal surgery under general anaesthesia – A lung ultrasonography study
  32. Effect of change in body weight on clinical outcomes in critically ill patients
  33. Comparison of time to intubate and intubation conditions with CMAC Miller blade size 1 and CMAC Macintosh blade size 2 in paediatric patients— A Prospective randomized controlled study
  34. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury
  35. To assess the technical feasibility of ultrasound guided out of plane lumbar sympathetic block and its confirmation by fluoroscopy in patients with peripheral arterial disease: A prospective interventional study
  36. To assess the technical feasibility of ultrasound guided out plane lumbar sympathectomy block and its confirmation by fluoroscopy in patients with peripheral arterial disease: a prospective observational study
  37. Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique vs Ultrasound Guided technique in patients with Eagles Syndrome
  38. The use of Ultrasound as a reliable tool for endotracheal intubation when performed by novice Anaesthesia Residents—A Prospective Observational study
  39. Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence-based typing
  40. Evaluation of the effects of a preoperative carbohydrate drink on postoperative vomiting in paediatric strabismus surgery: a randomized controlled, observer blinded trial
  41. Transforaminal Epidural Injection of Local anaesthetic and Dorsal Root Ganglion Pulsed Radiofrequency Treatment in Lumbosacral Radicular Pain- A Randomized, Triple-Blind, Active-Control Trial
  42. Perioperative Analgesic Efficacy of Continuous Quadratus Lumborum Block or Continuous Transversus Abdominis Plane Block in Patients Undergoing Renal Transplant Surgery: A Randomized Double-Blind Controlled Study

43. To study the efficacy of serratus anterior plane block in patients undergoing trunk-based flap surgeries—a pilot study
44. Comparison between opioid based anaesthesia technique and opioid free anaesthesia technique in patients undergoing laparotomy for gynaecological malignancy: a randomized controlled trial
45. Bilateral Quadratus Lumborum Block vs bilateral transversus abdominis plane block for postoperative pain relief in TAPP laparoscopic hernia surgery: a randomised control trial
46. Diagnostic ultrasound guided lumbar medial branch block of dorsal ramus in facet joint arthropathy: Technical feasibility and validity by fluoroscopy
47. Comparison of three dimensional (3D) endovision system versus Ultra-High Definition (HD) (4K) endovision system in minimally invasive surgical procedures. An Open labelled Randomized Study
48. The effect of ultrasound guided quadratus lumborum block on postoperative analgesia and neuroendocrine stress response in paediatric patients undergoing elective open pyeloplasty—A randomized controlled trial
49. To assess the technical feasibility of ultrasound guided out of plane lumbar sympathectomy and its confirmation by fluoroscopy in patients with peripheral arterial disease: a prospective interventional study
50. Fentanyl versus Dexmedetomidine infusion in head and neck free flap surgery for comparison of haemodynamics and anaesthetic requirements
51. Comparison of efficacy of dexmedetomidine and clonidine infusions to produce hypotensive anaesthesia in patients undergoing orthognathic surgery: a randomized controlled trial
52. Incidence of postoperative cognitive decline in elderly undergoing open surgeries under general anaesthesia using isoflurane or desflurane: a prospective observational pilot study
53. Safety and efficacy of ketamine-dexmedetomidine combination versus ketamine-propofol combination for sedation during ERCP: an open-label randomized controlled trial
54. Ultrasound Guided Regional Blocks for Breast Surgery; A Comparison of Erector Spinae Plane (ESP), Thoracic Paravertebral (TPVB) and Serratus Anterior Plane (SAP) Blocks in Randomized Controlled Pilot Study
55. Ultrasound guided continuous erector spinae plane block in major hepatobiliary and lienorenal shunt surgery: a retrospective study
56. Efficacy of Left ventricular outflow tract velocity time integral (LVOT VTI) and carotid artery VTI as predictor of volume responsiveness to passive leg raising (PLR) in sepsis and septic shock patients by correlation with Echocardiography guided stroke volume change ( $\Delta SV\%$ ) to PLR
57. To study the efficacy of clonidine as an adjuvant to ropivacaine in ultrasound guided transversus abdominis plane block in adult renal transplant recipients – a double blinded randomised controlled trial
58. To assess the efficacy of local anaesthetic wound infiltration in temporomandibular joint ankylosis surgery for control of postoperative pain: Randomized controlled trial
59. To determine whether implementation of a new ICU delirium prevention bundle will reduce the incidence of delirium compared to standard of care protocol in mechanically ventilated patients
60. Evaluation of diaphragmatic muscle mass in patients receiving pressure regulated volume controlled ventilation and synchronized intermittent mandatory ventilation for acute respiratory failure: A randomized controlled trial
61. Integrated Ultrasound Protocol in predicting Weaning Success and extubation Failure: A Prospective Observational Study
62. Epidemiology and prognostic utility of cellular components of haematological system in sepsis
63. Comparison of intraocular pressure change with facemask vs laryngeal mask airway in anaesthetised children
64. Efficacy of decremental PEEP trial on postoperative oxygenation status in adult patients undergoing emergency laparotomy: A pilot randomized controlled trial
65. Carotid artery corrected flow time & respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing elective surgery: A prospective observational study
66. Effect of addition of dexamethasone to ropivacaine for extraoral mandibular nerve block in patients undergoing mandibular surgeries under general anaesthesia
67. Effect of dexmedetomidine on emergence delirium and recovery parameters after desflurane or sevoflurane anaesthesia in children: A prospective double randomized study
68. Comparison of analgesic efficacy of ultrasound guided quadratus lumborum block (QL) versus erector spinae plane (ESP) block in children undergoing open pyeloplasty—Randomized double blinded controlled trial
69. Diagnostic Ultrasound guided medial branch block of dorsal ramus in facet arthropathy: Technical evaluation and validation by fluoroscopy

70. The association between pulmonary function tests and difficult airway in morbidly obese patients
71. Pilot Study: Double Blind Randomized Controlled Trial for Comparison of Effect on Neuromuscular Blockade Recovery Between Calcium Gluconate Coadministered With Neostigmine and Neostigmine Only in paediatric Patients
72. The effect of ultrasound guided quadratus lumborum block on postoperative analgesia and neuroendocrine stress response in paediatric patients undergoing elective open pyeloplasty. a randomised controlled study
73. Focused airway sonography (FAS) for evaluation of laryngeal mask airway placement: an observational study

## **Collaborative projects**

### ***Ongoing***

1. A quantitative assessment of changes in inflammatory cytokines in patients undergoing cardiac surgeries with allogenic and autologous blood transfusion, All India Institute of Medical Sciences, Jodhpur
2. Real-Time, In-plane Ultrasound-Assisted Thoracic Epidural Placement in paediatric patients, All India Institute of Medical Sciences, Jodhpur
3. Evaluation of predictive performance of sonographic airway assessment parameters and comparison of their efficacy to predict difficult airway with clinical airway predictors: A Cross sectional, Prospective, Observational study, All India Institute of Medical Sciences, Jodhpur
4. Evaluation of sonographic difficult airway predictors in patients undergoing caesarean section and their comparison with that of non-pregnant women: An observational cohort study, All India Institute of Medical Sciences, Jodhpur
5. Comparison of postoperative analgesia by two different technique of paravertebral block: Conventional v/s Mid transverse process to pleura in Video assisted thoracic surgeries, All India Institute of Medical Sciences, Jodhpur
6. Effect of intraoperative low dose ketamine infusion on postoperative analgesia in laparoscopic cholecystectomy in adults under isoflurane anaesthesia, All India Institute of Medical Sciences, Jodhpur
7. Comparison of Landmark guided technique Vs Real-Time Ultrasound-Assisted Thoracic and Lumbar Epidural Placement in paediatric patients, All India Institute of Medical Sciences, Jodhpur
8. Effect of pneumoperitonium on oropharyngeal seal pressure of Proseal LMA, and Baska mask in patients undergoing laparoscopic cholecystectomy: A Randomized controlled trial, All India Institute of Medical Sciences, Jodhpur
9. Comparison of cadaver-based simulations with phantom models for teaching ultrasound guided regional anaesthesia, All India Institute of Medical Sciences, Jodhpur
10. Perioperative Music Therapy in Addition to standard treatment for the Improvement of Quality of Recovery after Anaesthesia Following Maxillofacial Surgeries: A Randomized Controlled Study, Maxillo-facial surgery
11. Incidence and risk factors of back pain after caesarean section: A prospective observational study, Obstetrics and Gynaecology
12. Evaluation of a single pre-operative pre-emptive dose of Etoricoxib for postoperative pain relief in dental surgeries under general anaesthesia: A randomized prospective double blinded placebo controlled trial, Maxillo-facial surgery
13. Use of pulsed electro-magnetic fields (PEMF) as an adjunct for treatment of chronic back pain: a prospective randomized study, Orthopaedics
14. Assessment of vaginal vault infiltration by Bupivacaine for postoperative pain after Total Laparoscopic Hysterectomy: A Randomized Controlled Trial, Obstetrics And Gynaecology
15. A Randomised Trial Of Peri-Operative Low Dose Vs Standard Dose Steroid Regimen In Patients Of Ulcerative Colitis, Gastrointestinal surgery
16. Effect of integrated Yoga on ART outcomes and Psychological stress in patients undergoing In-Vitro- Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Obstetrics and Gynaecology, Psychiatry and CIMR
17. To study the causes/reasons of cancellation of scheduled patients for elective surgery, Surgery

### ***Completed***

1. Comparison of Sevoflurane, Propofol and Propofol with Dexmedetomidine on intracranial pressure during laparoscopic surgeries in Trendelenburg position, All India Institute of Medical Sciences, Jodhpur
2. A study to assess the effectiveness of a planned simulation teaching on the knowledge and skill of nurses working in critical care unit of AIIMS, College of Nursing
3. UV radiation to decontamination of mobile phones of Health care workers at a tertiary care hospital, Microbiology
4. Determination of duration of vecuronium and isoflurane in type 2 diabetic patients with diabetes with and without cardiac autonomic neuropathy, Physiology
5. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural

technique-a prospective double-blinded randomized trial, Obstetrics & Gynaecology

6. Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence based typing, Microbiology
7. Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique VS Ultrasound Guided technique in patients with Eagles Syndrome, Radiology

## PUBLICATIONS

**Journals: 54**

**Abstracts: 4**

**Chapters in Books: 7**

**Books: 1**

## PATIENT CARE

Anaesthesia services were provided for elective and emergency surgeries. Apart from this, services were also provided at many peripheral areas including endoscopy, radiology, MECT, etc. The detailed list of number of patients handled is as follows

GI Surgery:	419
Surgery:	3,027
Dental surgery (CDER):	681
Plastic surgery :	298
Urology:	1416
ENT:	1154
Gynaecology:	1254
Paediatric surgery:	1568
Orthopaedics:	3835
Maternity:	2849
IVF:	663

### Ophthalmic

a) Routine+ EUA	6144
b) Emergency	1459
c) RPC USG	2567
d) MAC	536
Total	10,706

### Emergency

a) Cases	4,369
b) Calls	1,924

### ICU

a) Total	733
b) Carried forward by last month	95
c) New Admission	638
d) Discharged	520
e) Expired	118

### Peripheral services

1. MRI	316
2. MECT	642
3. CT Scan	623
4. Other radiological services (DSA, RFA, Lithotripsy)	232
5. GI endoscopy	1,360

Pain OT 552

### Pain Clinic (NEW)

a) M	418
b) F	366
c) Child (M)	2
d) Child (F)	1

e)	Ward	12
Total		799
Pain Clinic (OLD)		

a)	M	1335
b)	F	1400
c)	Child (M)	11
d)	Child (F)	9
e)	Ward (M)	60
f)	Ward (F)	30
g)	Ward	23
Total		2862

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Vishnu**, Junior resident, received first place in e-poster presentation, at AORA 2019.

**Dr Reshma**, Junior resident, received second place in e-poster presentation, at AORA 2019.

**Dr Ridhima Bhatia**, Senior resident, received ICMR grants for Annual Congress, Glasgow 2019 for a poster presentation.

**Dr Alka**, Senior resident, was awarded Best of meeting abstract in the 44th Annual Regional Anesthesiology and acute pain medicine meeting in Las Vegas Nevada, April 2019. The Anaesthesia team won the Resident Cricket League tournament held in June 2019.

**Professor Rajeshwari Subramaniam**, Chairperson of Pediatric Anesthesia session, ISNACC 2019, 16 February 2019, Gurgaon

**Professor Anjan Trikha** invited to deliver the prestigious Dr Pritam Singh Oration on 15 February 2020 during the 18th Indian Society of Anaesthesiologists (North Zone) conference held in Government Medical College Amritsar, Punjab. Nominated member of academic committee of Indian College of Anaesthesiologist. Nominated Chief Editor of Journal of Obstetric Anaesthesiologists and Critical Care.

**Professor Maya Dehran** provided Anaesthesia services in Anaesthesia department of MSSCH (Maharaj Sawan Singh Charitable Hospital), Beas (Punjab) for 10 days from last week of June to 1st week of July during Summer Vacation, 2019. Provided Anaesthesia services for adults and paediatric surgery patients for 7 days from 7 to 14 July in Sikanderpur Hospital (Haryana), Radha Soami Satsang, Beas. Provided voluntary General OPD services for 3 days from 30 December 2019 to 1 January 2020 during a big gathering of Radha Soami Satsang in Jaipur. Provided General OPD services and first aid for critically ill patients in Ajmer for a big gathering of Radha Soami Satsang for 4 days from 9 to 12 February 2020. Provided General OPD services in the Bhatti Dispensary at Radha Soami Satsang, Delhi, Bhatti Centre on all Sundays of the year except on my weekend duties in the hospital. Provided General OPD services and first aid care of critically ill patients during big Radha Soami Satsang gathering in Bhatti Centre, Delhi for 12 days in 2019.

**Professor Dilip R Shende**, part of the ROP care programme for premature infants coming for retinopathy of prematurity. Developed HDU facility with help of pediatrics faculty and residents to look after this premature population in RPC. Chaired the Symposium/Workshops “Intensive Care and Emergency Medicine” 7th Annual International “BEST OF BRUSSELS” Symposium on Intensive Care & Emergency Medicine (ISCCM) 3-7 July 2019 (during Summer Vacation) The Hyatt Regency Hotel, Pune, Maharashtra. Chaired the session, ICRA-PAIN 2019 (International Conference on Recent Advances in Pain) 14 September 2019, Nagpur, Maharashtra. Chaired the sessions (i) “Pain Education—the felt but unmet need!” (ii) “Current Controversies in Pain Management”. The 8th International Conference on Pain Management (ICPM 2019), 14-15 October 2019, Chandigarh, India. Chaired the session on 8 November 2019, 34th Annual Conference of Indian Society for Study of Pain (ISSPCON 2019). Chaired the session on— “Medical issues in Bariatric patients”, 2nd International Meeting on Bariatric and Metabolic Surgery (AIIMS BARICON 2019 13-16 November 2019) Aerocity, New Delhi. Chaired session in Session of Ophthalmic anaesthesia, Judge for poster session, World Congress of Ophthalmic anesthesia (5th WCOA 20206-8 February 2020), 7 February 2020-8 February 2020, Pullman Jakarta, Jakarta (Indonesia).

**Professor Ganga Prasad** was Member of specification committee of anaesthesia equipments for Post Graduate Institute of Medical Education and Research in New Delhi & Dr Ram Manohar Lohia Hospital, New Delhi. Member of bureau of Indian standard (BIS) for anaesthesia equipment, New Delhi. Member of committee for specification of anaesthesia equipments in Government e- marketing (GeM). BSc (OT technology) course at AIIMS. Reviewer of Indian Journal of Medical Research. Teaching Subject expert for selection of Assistant professor interview of north MCD Medical college, New Delhi. Technical

expert for anaesthesia & ICU equipments for AIIMS, Raebareli (UP). Chair session and judge for poster presentation in 12th annual conference of Indian association of paediatrics anesthesiologists from 7 to 9 February 2020 at Varanasi.

**Professor Vimi Rewari** delivered “Ultrasound guided Chest wall blocks” in the Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA) Regional Anaesthesia Workshop held on the 7 December 2019. Chaired a session on ‘CLD with Coronary Artery Disease’ in the 1st LTSIMid term meeting held on August 10 2019 at Hotel Crowne Plaza, Gurgaon. Chaired a session on ‘Coagulation – Balancing the imbalance’ in the 1st LTSI Mid-term meeting held on 11 August 2019 at Gurgaon. Panelist in the panel discussion titled “End of life care: Issues” in the 1st Rajasthan Critical Care Conference on 31 August 2019 held at AIIMS, Jodhpur. Panelist in the panel discussion titled “Practical endocrine problems” at 11th National and 1st International Conference of the Indian College of Anaesthesiologists, ICACON 2019 on 7 September 2019 in New Delhi, India. Chaired a session on ‘Transplantation in ALF’ in TRANCRIT-2019 on 15 September 2019 at the Institute of Liver and Biliary Sciences, New Delhi. Chaired a session comprising of five lectures in the 12th National Conference of Association of Obstetric Anaesthesiologists (AOA 2019) on 28 September 2019 at Sri Ramachandra Institute of Higher Education and Research Chennai. Chaired a session on “Joint Pain/Back Pain” at the 5th Annual Conference of Indian Society of Pain Clinicians (ISPCCON 2019) held from 8 to 10 November 2019 at the All India Institute of Medical Sciences, New Delhi.

**Professor Jyotsna Punj** was faculty for/conducted the following workshops. CME cum workshop on airway Management & ACLS, 25-27 April 2019, Jowai, Meghalaya; Annual Pain Sessions of Sri Lanka, October 2019; CME cum workshop on airway Management and BLS, October 2019, Tawang, Arunachal Pradesh; Emergency workshop, January 2020, Aizawl, Mizoram; USRAW conference, March 2020, New Delhi; Judge for poster session in Annual Obstetrics conference of UK, May 2020, New Castle, England; Observership in Obstetric Analgesia and Anesthesia, 25-31 May 2020, Charlotte’s Hospital, London, England.

**Professor Ravinder Kumar Pandey** was Editor-in-chief of International Journal of Perioperative Ultrasound and Applied Techniques (IJPUT) since 2014. Reviewer in Indexed Journals: Indian Journal of Anesthesia (IJA), Journal of Anesthesiology and Clinical Pharmacology (JOACP), Journal of Clinical Anesthesia (JCA). Journal of Medical Case Report. Nominated as Examiner for South Campus, Delhi University, for evaluation of MD thesis (Anaesthesiology) and MD Anaesthesiology Examinations. Chief Co-ordinator of Ultrasound Guided Hands on workshop in International Conference of Pain Management: “Annual Academic Sessions of College of Anaesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine”-2019. Chief Co-ordinator of Ultrasound Guided Hands on Regional Anaesthesia Workshop, “URAW”-2019 & 2020, New Delhi. Faculty for/conducted the following workshops: URAW (Ultrasound Guided Regional Anaesthesia Workshop), 23 March 2019, New Delhi; CME cum workshop on Airway Management & ACLS, 25-27 April 2019, Jowai, Meghalaya; URAW (Ultrasound Guided Regional Anaesthesia Workshop), 18 May 2019, New Delhi; Annual Academic Sessions of College of Anaesthesiologists and Intensivists of Sri Lanka and Faculty of Pain Medicine-2019, October 2019, Colombo, Sri Lanka; CME cum workshop on airway management, BLS and other emergency situations, October-November 2019, Tawang Arunachal Pradesh; Comparative Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 December 2019, New Delhi; Emergency workshop, January 2020, Aizawl, Mizoram; AIRWAY 2020: Seed to Fruit, February 2020, New Delhi.

**Professor Anjolie Chhabra** conducted the CMEs: USG Regional Anaesthesia Workshop at the 58th Annual Conference of ISA Delhi State Chapter on 12 April 2019 at Maharaja Agarsain Hospital, Punjabi Bagh, New Delhi; Anaesthesia CME cum Workshop USGRACON at Rohilkhand Medical College & Hospital, Bareilly, UP on 28 July 2019.

**Professor Rashmi Ramachandran** was judge, Oral Paper Presentations, ‘5th National Conference of Pedistars on Simulation’. Faculty for Curriculum development program, ‘5th National Conference of Pedistars on Simulation’. 12-16, August 2019-Visiting Faculty-Cologne University Skill Lab Program- “Learning Skills and Peer Teaching”. Received certification as Instructor, AHA accredited BLS and ACLS Resuscitation Courses.

**Dr Dalim Kumar Badiya**, Examiner of PDCC Critical Care Examination – at Institute of Liver and Biliary Sciences, New Delhi, June 2019. Examiner of PDF Critical Care Examination – at AIIMS Bhubaneswar, August 2019. Panelist in the panel discussion titled “End of life care: Issues” in the 1st Rajasthan Critical Care Conference on 31 August 2019 held at AIIMS, Jodhpur.

**Dr Puneet Khanna**, Grant by Korean Society of Anaesthesia to present a paper in Seoul, Korea in KOREANESTHESIA 31 October-2 November 2019; Grant by CSIR to present the paper in London UK from 8 to 10 January 2020.

**Dr Bikash Ranjan Ray**, Grant by Korean Society of Anaesthesia to present a paper in SEOUL Korea for 1000 USD in KOREANESTHESIA, 31 October to 2 November 2019. Grant from MAMS, from National Academy of Medical Sciences

**Dr Debesh Bhoi**, Faculty for AORA 2019, 7 July 2019, GEM Hospital, Coimbatore. Faculty for USGRACON, 28 July 2019, Rohilkhand Medical College and Hospital, Bareilly, UP. Faculty for AAGPA 2019, 29 September 2019, AIIMS, New Delhi. Faculty for CUSA 2019, December 2019, AIIMS, New Delhi.

**Dr Shailendra Kumar**, Poster session judge for PG Assembly, AIIMS, 30 September 2019, New Delhi. Faculty for the following workshops: Cadaveric Airway Workshop, AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 18 October 2019, AIIMS, New Delhi; ISPCCON 2019, 8 November 2019, AIIMS, New Delhi. CUSA 2019, 6 December 2019, AIIMS, New Delhi; National programme for trauma care, 28 January, Sardar Patel School, New Delhi.

**Dr Manpreet Kaur**, Faculty for quality improvement international collaboration “Wake up safe”, 14 September 2019, Hyderabad. 12th National Conference of the Association of Obstetric Anaesthesiologists, 27 September 2019, Chennai. CUSA 2019, 6 December 2019, AIIMS, New Delhi; Simulus 5, 9 February 2020, Chennai.

**Dr Thilaka Muthiah** was faculty in Workshop on perioperative simulation, 2 June 2019, AIIMS, New Delhi. Faculty in Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 December 2019, AIIMS, New Delhi. Faculty-training of trainers, Simulus 5, 9 February 2019, SRMC, Chennai.

**Dr Nishant Patel** was Faculty in Comprehensive Symposium on Ultrasound for Anaesthesiologists (CUSA), 6 December 2019, AIIMS, New Delhi.

**Dr Arshad Ayub** passed European Diploma in Regional Anaesthesia Part I.

**Dr Mritunjay Kumar**, Nominated by National Health Systems Resource Centre, MoHFW, Government of India as expert for Lifesaving Anaesthesia Skills (LSAS) and Emergency Obstetrics Care (EMOC) training curriculum.

**Dr Yudhyavir Singh**, Faculty for CUSA 2019, 6 December 2019, AIIMS, New Delhi.

**Dr Anju Gupta**, First prize in “facts and myths in anaesthesiology” at MAMC anaesthesia update (December 2019): Paper presentation. First prize in poster presentation at Indian Association of Pediatric Anaesthesia annual conference (7-9 February 2020) held at Varanasi.



## 9.2. Anatomy

### Professor and Head

TS Roy

### Professors

A Shariff  
Rima Dada  
TC Nag (Electron Microscopy)

Pushpa Dhar  
Arundhati Sharma (Genetics)

SB Ray  
Renu Dhingra  
Ritu Sehgal

### Additional Professor

Saroj Kaler Jhajharia

### Associate Professors

Tony George Jacob  
Seema Singh

Neerja Rani  
SC Yadav (Electron Microscopy)

### Assistant Professor

Prabhakar Singh (Electron Microscopy) from 17 March 2020

## HIGHLIGHTS

The Department has been a front runner in adapting its academic curriculum to the challenges posed by the COVID-19 pandemic: Theory lectures, MCQ quiz exercises, practical demonstrations and even dissections were organized by the faculty and residents, this indigenously developed photographic/recorded material was successfully disseminated online through live, interactive social meeting platforms.

The Clinical Ecotoxicology (Diagnostic & Research) Facility, a first of its kind facility in the country was established by Dr A Shariff and inaugurated by the Director, Professor Randeep Guleria on 5 August 2019. Patients have been referred to this facility from various clinical departments for detection of heavy metal/other element toxicity and for estimation of micronutrient minerals in blood. About 2000 tests have been performed, the new tests having proved efficacious in making a significant difference in the management of affected patients.

Cadaveric workshops organized by various other departments have been facilitated by the Faculty. Logistical support was extended to several departments affected by the devastating fire in August 2019, vis-a-vis access to the state-of-the-art Digital Histology Laboratory for academic and research activities.

Faculty members have delivered invited lectures in India and abroad, actively pursued their research goals through successful extramural grant applications, presented their work at National/International conferences, published their results in peer-reviewed indexed journals, served on the editorial boards of and as reviewers for National/International journals and have also reviewed project proposals for several government funding agencies.

The department provided patient care services including embalming, diagnostic testing for metabolic and genetic disorders as also genetic counseling services.

## EDUCATION

Eight PhD students were declared successful while six MSc students and one MD student completed their tenures in 2019-20. Students from outside Delhi underwent summer training in the department in various areas like genetics and electron microscopy. Several faculty members served as adjunct faculty at Jiwaji University, Gwalior for the MSc Neuroscience course.

### Conferences/Workshops organized

1. Nineteenth Biennial Conference of Association of Gerontology (India) AGI and Multi-disciplinary workshops on Emerging Scenario of Population Aging (with Department of Biophysics), 17 and 18 August 2019, AIIMS, New Delhi.
2. Thirty Seventh Annual Meet of Indian Academy of Neurosciences (IAN 2019) "Neuron to Behavior" (with Department of Physiology), 18-21 November 2019, AIIMS, New Delhi.

### **Facilitation in the conduct of conferences/workshops organized by various departments**

1. Surgical Disciplines, Hands-on Cadaveric Workshop, 5 April 2019, New Delhi.
2. Plastic & Burn Surgery, Hands-on cadaver dissection course, Preconference workshop of ACSICON-2019, 18 April 2019, New Delhi.
3. JPNTC, Hands-on Cadaveric Workshop, 4th AIIMS-ACSST Pelvic Acetabulum Course, 28 April 2019, New Delhi.
4. Emergency Medicine JPNTC, National Quiz as preconference workshop 'EM INDIA-2019' and "The Annual National Conference of Emergency Medicine Association & Academic College of Emergency Experts in India", 31 July-2 August 2019, New Delhi.
5. Plastic, Reconstructive & Burn Surgery, Hands-on cadaver dissection course, 28 and 29 September 2019, New Delhi.
6. Pediatric Surgery, 45th Annual Conference of Indian Association of Pediatric Surgeons, 31 October and 1 November 2019, New Delhi.
7. Anesthesiology, Pain Medicine and Critical Care, Cadaveric workshop, 5th Annual Conference of Indian Society of Pain Clinicians, 10 November 2019, New Delhi.
8. Neuroradiology, Hands-on Cadaveric workshop on Spinal Intervention, 28 and 29 November 2019, New Delhi.
9. Anesthesiology, Workshop on Ultrasound-guided Regional Anesthesia, 6-8 December 2019, New Delhi.
10. Orthopedics JPNTC, Post-conference Workshop at International Conference of Physical Therapy AIIMS 2019, 23 December 2019, New Delhi.

### **Other academic activities organized**

1. AIIMS Students' Association, Medical Exhibition 'Catalyst' for school-going students, 11 and 12 April 2019, New Delhi.
2. AIIMS Students' Association, Medical Exposure Visit of 130 students of Delhi Public School, RK Puram to department laboratories, 18 October 2019, New Delhi.

### **Lectures delivered**

#### **TS Roy**

1. Evolutionary changes in brain structure: Story of animals and humans Workshop on Social Network of Animals in Extreme Environments with special reference to Penguins, Zoological Survey of India, 22-25 April 2019, Port Blair
2. Changing Attitudes in Society towards Body and Organ Donation, CME cum Awareness Program on Body and Organ Donation – "Live Beyond Life", Government Institute of Medical Sciences, 18 September 2019, Greater Noida, Gautam Buddha Nagar
3. Auditory Pathways, Neuroscience Program for MSc Students, Jiwaji University, 7 December 2019, Gwalior
4. Visual Pathways, Neuroscience Program for MSc Students, Jiwaji University, 7 December 2019, Gwalior
5. Limbic System, Neuroscience Program for MSc Students, Jiwaji University, 7 December 2019, Gwalior

#### **A Shariff**

1. Hirschsprung's disease: Functional Anatomy, Embryology & Pathophysiology, Paediatric Surgical Pathology Symposium, ESIC, 8 June 2019, Hyderabad
2. Body and Organ Donation-Live Beyond Life, CME cum Awareness Programme, GIMS, 18 September 2019, Noida
3. Ethical & Regulatory Aspects of AI for Health, ICMR-NICF Symposium on AI for Health, 12 November 2019, New Delhi
4. Life sciences and Healthcare IT Innovations, Invited talk at LHIF, National Association of Software and Service Companies (NASSCOM), 21 January 2020, Ahmedabad
5. AI & Big data analytics in Healthcare, Digital Conclave, Indian Institute of Technology, 24 and 25 January 2020, New Delhi
6. Invited talk at National workshop of e-Office, e-Office in GOI, 31 January 2020, New Delhi
7. Digital Health—a new paradigm of connected care, ET Healthworld, Healthtech Summit, 13 March 2020, New Delhi

#### **SB Ray**

1. Behavioral studies on rodents including the assessment of pain, Hands-on Workshop at XXXVII Annual Conference of IAN, 18-21 November 2019, New Delhi

2. Cerebral cortex, Neuroscience Program for MSc Students, Jiwaji University, 28-30 November 2019, Gwalior
3. Diencephalon, Neuroscience Program for MSc Students, Jiwaji University, 28-30 November 2019, Gwalior
4. Cerebellum, Neuroscience Program for MSc Students, Jiwaji University, 28-30 November 2019, Gwalior
5. Brainstem and Reticular Formation, Neuroscience Program for MSc Students, Jiwaji University, 28-30 November 2019, Gwalior

#### **Rima Dada**

1. Yoga for health and wellness, MDNIY Refresher Course, 14 April 2019, New Delhi
2. Male infertility, Seminar on Yoga, PGIMER, 5 May 2019, Chandigarh
3. Complex Diseases–Yoga based lifestyle intervention–Clinical Implications, International symposium on Yoga, Patanjali Vidyapeeth, 8 May 2019, Haridwar
4. Your health ... your choice, NRCVEE Talk, Indian Institute of Technology, 7 August 2019, New Delhi
5. Relaxation techniques in Infertility management, National Congress: Breaking Silos across Adolescence to Menopause, 8 August 2019, New Delhi
6. Genetics of Male Infertility, National Congress: Breaking Silos across Adolescence to Menopause, 10 August 2019, New Delhi
7. Your health ... your choice, Lecture Series for Students and Faculty, TERI School of Advanced Studies, 21 August 2019, New Delhi
8. Genetics-Bench to bedside, Regional Symposium cum CME on Infertility, Genetics and Lifestyle: decoding the link, NEIGRIHMS, 11 and 12 September 2019, Shillong
9. Male Infertility Role of genetics and Lifestyle, Regional Symposium cum CME on Infertility, Genetics and Lifestyle: Decoding the link, NEIGRIHMS, 11 and 12 September 2019, Shillong
10. Oxidative stress and its impact on sperm genome and epigenome, National conference on Change in Lifestyle influencing adolescent health, SS Jain Subodh PG College, 28 and 29 September 2019, Jaipur
11. Molecular Tolerance in RA by Yoga based lifestyle intervention, Symposium on Yoga Research, International Association of Yoga Therapists (IAYT), 21-23 October 2019, Arkansas, MA, USA
12. Yoga and its impact on male infertility, India International Science Festival 2019–Wellness Conclave & Expo, Indian Institute of Chemical Biology, 6 and 7 November 2019, Kolkata
13. Ischaemic heart disease - Role of Yoga, International Conference on Yoga for Heart Care, 15 and 16 November 2019, Mysore
14. Effect of Yoga on Divyangjan, International Seminar on Yoga & Disabilities in SAMBHAV, India International Centre, 17 November 2019, New Delhi
15. Your genes are not your destiny, CME on stress management, Higginbottom University of Agriculture, Technology & Sciences, 22 November 2019, Allahabad
16. Integrated approach in management of unexplained male infertility, 15th Annual Congress of Indian Fertility Society: Fertilivision 2019, 6 December 2019, Gurugram
17. Complex Diseases - Impact of Lifestyle and Yoga, Lecture Series on Yoga, Department of Zoology, Deshbandhu College, 7 December 2019, New Delhi
18. Yoga as medicine: underlying mechanisms, 23rd International Conference on Frontiers in Yoga Research and its Application, S-VYASA, 3-6 January 2020, Bengaluru
19. Yoga for disease prevention and health promotion, Invited lecture, Department of Zoology, Deshbandhu College, 17 January 2020, New Delhi
20. Complex diseases - shared mechanisms, National symposium on Regulatory mechanisms underlying Physiology, Behavior and Development, Zoology Department, DU, 13 March 2020, New Delhi

#### **Arundhati Sharma**

1. Genetic association of Alcohol and Opioid dependence: Research findings from AIIMS, 21st Annual Meeting of the International Society of Addiction Medicine, 13-16 November 2019, New Delhi

#### **Renu Dhingra**

1. Cadaver skills laboratory: a boon for clinicians, CME-cum awareness programme on Body and organ donation - Live beyond life, GIMS, 18 September 2019, Greater Noida

#### **TC Nag**

1. An animal model to understand the mechanisms of retinal degeneration, International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), HPU, 7 June 2019, Shimla

2. Pericyte viability in ageing human choriocapillaris: Role of external forces, 19th Biennial meeting of Association of Gerontology, AIIMS, 17 August 2019, New Delhi
3. Iron induced changes in rat retina mimics pathological symptoms of age-related macular degeneration, XXXVII Annual meeting of Indian Academy of Neurosciences, AIIMS, 19 November 2019, New Delhi

### **Tony George Jacob**

1. Communication skills, Mental health at workplace, Office of Chief Nursing Officer, AIIMS, 10 April 2019, New Delhi
2. Title, Abstract, Keywords, Research Methodology Course for Postgraduates, Academic Section, AIIMS, 12 April 2019, New Delhi
3. Title, Abstract, Keywords, NMJI Workshop on preparing a manuscript, CMET, AIIMS, 26 April 2019, New Delhi
4. How to concise your remarks on the paper- in Original research, Training programme on 'Effective peer review', Indian Society of Pedodontics and Preventive Dentistry; AIIMS, New Delhi and NMJI, CDER, 19 May 2019, New Delhi
5. Clinical anatomy of the Thorax (2 lectures), EM INDIA 2019-National Emergency Medicine Conference, JPN Trauma Centre, 31 July–1 August 2019, New Delhi
6. Communication skills, Mental Health at Workplace for the Nursing Cadre; Office of Chief Nursing Officer, AIIMS, 7 August 2019, New Delhi
7. Communication skills for UG Medical Students, UG Curriculum (invited guest lecture), PGIMER and RML Hospital, 9 August 2019, New Delhi
8. Communication skills for UG Medical Students, UG Curriculum (invited guest lecture), VMMC and Safdarjung Hospital, 10 August 2019, New Delhi
9. Communication skills, Mental health at Workplace, Office of Chief Nursing Officer, AIIMS, 18 August 2019, New Delhi
10. Research in Medicine, UG Curriculum (invited guest lecture), Dr BR Ambedkar Medical College and Hospital, 26 August 2019, Delhi
11. Title, Abstract, Keywords, Research Methodology Course for Postgraduates, Academic Section, AIIMS, 25 October 2019, New Delhi
12. Neuroscience Module 2, Invited lecture series, MSc Neuroscience Course, Jiwaji University, 7 November 2019, Gwalior
13. Communication skills, Mental health at workplace, Office of Chief Nursing Officer, AIIMS, 13 November 2019, New Delhi
14. Different types of publications, Workshop on Writing a Manuscript and Publishing, National Conference of IAN, AIIMS, 18 November 2019, New Delhi
15. The MCI Curriculum 2018, MBBS Curricular Reforms at AIIMS, AIIMS UG Curriculum Organizing Group, SET Facility, 26 November 2019, New Delhi
16. Communication skills, Mental health at workplace, Office of Chief Nursing Officer, AIIMS, 27 November 2019, New Delhi
17. Immunoelectron microscopy and troubleshooting, XXXV National training program in electron microscopy (EM) for Scientific Investigators, AIIMS, 5 December 2019, New Delhi
18. Effective communication, NURSICON 2019, AIIMS, 11 December 2019, New Delhi
19. Effective communication, Mental Health at Workplace, AIIMS, 28 January 2020, New Delhi
20. Effective communication at the workplace, Workshop for development of soft-skills, College of Nursing, CMET, 10 February 2020, New Delhi
21. References, Research methodology workshop for Postgraduate students – how to write a paper, AIIMS, 6 March 2020, New Delhi
22. Title, Keywords and Abstract, Research methodology workshop for Postgraduate students – how to write a paper, AIIMS, 6 March 2020, New Delhi

### **Neerja Rani**

1. Gross anatomy of brain, MSc Neuroscience Program, Jiwaji University, 22 August, 2019, Gwalior
2. Meninges & Cerebrospinal fluid, MSc Neuroscience Program, Jiwaji University, 22 August 2019, Gwalior
3. Scalp, MSc Neuroscience Program, Jiwaji University, 22 August 2019, Gwalior
4. Skull, MSc Neuroscience Program, Jiwaji University, 22 August 2019, Gwalior

## Seema Singh

1. Shoulder joint, 8th International Conference of Physical Therapy, AIIMS-2019 (INCPT), 21 December 2019, New Delhi

## Subhash Yadav

1. Therapeutic Potential Improvement of Plant Biomolecules Through Nanotechnological Intervention, International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), Himachal Pradesh University, 5-9 June 2019, Shimla

## Oral papers/posters presented

1. Agrawal S, Priyam K, Roy TS, Jacob TG, Exocrine morphology of pancreas at six and eight weeks in the 4-week L-arginine-induced murine model of chronic pancreatitis, Asia Pacific Digestive week, 12-15 December 2019, Kolkata
2. Agrawal S, Priyam K, Sharma MK, Roy TS, Jacob TG, Progression of morphological changes in pancreas in murine model of chronic pancreatitis, 67th National conference of Anatomical society of India (NATCON 67), VMMC and Safdarjung Hospital, 17-20 November 2019, New Delhi
3. Arora P, Mochan S, Gupta SK, Saxena S, Rani N, Bhatla N, et al. Insufficient trophoblastic invasion leads to impaired placentation in preeclamptic patients: A case of control study, 67th NATCON of ASI, VMMC and Safdarjung Hospital, 17-20 November 2019, New Delhi
4. Arora P, Mochan S, Gupta SK, Saxena S, Rani N, Khetrpal P, et al. Gelatinase-A levels downregulated in early onset preeclamptic patients of Indian origin: a case control study, All India Cell Biology Conference, Indian Institute of Science Education and Research, 19-21 December 2019, Mohali
5. Arora P, Mochan S, Gupta SK, Saxena S, Rani N, Pallavi SK, et al. Status of MMP9 and TIMP1 in pregnant women with Preeclampsia in Indian population, Experimental Biology, 6-9 April 2019, Orlando, USA
6. Dhawan V, Kumar M, Chaurasia P, Deka D, Malhotra N, Singh S, et al. Unraveling the sperm transcript signature: On the road to spontaneous and assisted conception, 44th American Society of Andrology Annual Conference, 6-9 April 2019, Chicago, USA
7. Dhawan V, Kumar M, Singh N, Dadhwal V, Dada R. Paternal contributions in early embryonic gene expression: Role in recurrent pregnancy loss, 75th American Society of Reproductive Medicine Scientific Congress and Expo, 12-14 October 2019, Pennsylvania, USA
8. Ganapathy A, Jessy JP, Kapoor K, Sharma M, Singh S, Kaler S. Fate of gubernaculum testes revisited: a pre- and post-natal human cadaveric study, 19th Congress of the International Federation of Associations of Anatomists, 9-11 August 2019, London, UK
9. Gautam S, Chaurasia P, Rana D, Kumar U, Dada R. Yoga Enhances Fertility Potential and Improves Quality of Life in Infertile Men with Rheumatoid Arthritis on Disease-Modifying Anti-rheumatic Drugs, 44th Annual Conference of American Society of Andrology (Andrology, 2019, Supplement 78) ASA-2018, 6-9 April 2019, Chicago, Illinois USA
10. Gautam S, Kanga U, Kumar U, Dada R. HLA-G 3' UTR polymorphisms and its soluble protein levels in patients with Rheumatoid Arthritis from Indian population: A case-control study, 17th International Congress of Immunology (ICI), 19-23 October 2019, Beijing, China
11. Gautam S, Kumar M, Kanga U, Kumar U, Dada R. Dysregulation of immune homeostasis in Rheumatoid arthritis: Impact of yoga-based lifestyle intervention (YBLI), 14th World Congress on Inflammation, International Conventional Center, 15-19 September 2019, Sydney, Australia
12. Gautam S, Kumar M, Kanga U, Kumar U, Mishra R, Dada R. Yoga-based lifestyle intervention: Impact on disease activity and quality of life in active Rheumatoid arthritis patients Best Oral Presentation, 2nd National Biomedical Research Competition (NBRCOM) 2019, PGI 17 November 2019 Chandigarh
13. Gautam S, Kumar U, Dada R. Association of HLA-G 3' Untranslated Region Polymorphisms with Disease Susceptibility and Soluble HLA-G Levels in Rheumatoid Arthritis, 67th NATCON of ASI, Vardhman Mahavir Medical College & Safdarjung Hospital, 18-21 November 2019, New Delhi
14. Gautam S, Kumar U, Dada R. Molecular remission and immunological tolerance in rheumatoid arthritis by yoga based lifestyle intervention: a randomized controlled trial, 67th NATCON of ASI, Vardhman Mahavir Medical College & Safdarjung Hospital, 18- 21 November 2019, New Delhi
15. Gautam S, Kumar U, Dada R. Yoga and its impact on autoimmune inflammatory arthritis. Annual Conference of the International Association of Yoga Therapists, 21-23 October 2019, Albany, USA
16. Gautam S, Kumar U, Dada R. Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial, IAYT Symposium on Yoga Research, Kripalu Center for Yoga & Health

17. Gautam S, Kumar U, Kanga U, Dada R. Yoga-based lifestyle intervention reduces disease severity, improves quality of life and stress resilience in active Rheumatoid arthritis: A randomized controlled trial, EUSTM-2019, 18-20 October 2019, Vienna, Austria
18. Gorla S, Nag TC, Roy TS. Age related changes in microglial morphology and immunoreactivity in human optic nerve, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, 20 November 2019, New Delhi
19. Gupta S, Kumar R, Ray SB. Neuropeptide Y modulates the anti-nociceptive effect of morphine in aged rats, 19th Biennial conference of Association of Gerontology (India), AIIMS, 17-18 August 2019, New Delhi
20. Gupta S, Mochan S, Bhatla N, Luthra K, Sharma A, Kshetrapal P, et al. Hydrogen sulphide improves the migration potential of trophoblast cells: An in vitro study, 67th NATCON of ASI, Vardhman Mahavir Medical College & Safdarjung Hospital, 17-20 November 2019, New Delhi
21. Gupta S, Nag TC, Gupta CL, Sharma B, Roy TS. Retinal horizontal cell damage in constant intense light environment: Reversal upon exposure to normal ambient light, International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), HPU, 8 June 2019, Shimla
22. Gupta SK, Mochan S, Saxena S, Arora P, Rani N, Jacob TG, et al. Evaluation of migration potential of trophoblast cells after hydrogen sulphide treatment, All India Cell Biology Conference, Indian Institute of Science Education and Research, 19-21 December 2019, Mohali
23. Jessy JP, Rani N, Sangma SS, Kaler S, Singh S. Variant origin of inferior phrenic artery with duplicated right crus of diaphragm, 67th National Conference of Anatomical Society of India 17-20 November 2019 New Delhi
24. Jessy JP, Sangma SS, Kaler S, Rani N. Accessory right crus of diaphragm: A rare variation, International Congress of Anatomia Clinica, 24-26 June 2019, Madrid, Spain
25. Jessy JP, Sangma SS, Singh S, Verma N, Rani N. Variant origin of inferior phrenic arteries and their clinical significance, International Congress of Anatomia Clinica, 24-26 June 2019 Madrid, Spain
26. Kathpalia P, Nag TC, Sharma A, Roy TS. Regulation of BDNF expression in chick auditory system and hippocampus upon in ovo sound stimulation. XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, 20 November 2019, New Delhi
27. Kaur B, Mehta K, Pandey K, Dhar P. Arsenic Toxicity, 1st Annual Research Day, AIIMS, 25-26 March 2019, New Delhi
28. Kaur B, Mehta K, Pandey K, Dhar P. Curcumin supplementation ameliorates arsenic trioxide induced adverse effects on mouse basal forebrain, 67th National Conference of Anatomical Society of India, 18-20 November 2019, New Delhi
29. Kaur B, Mehta K, Pandey K, Dhar P. Effect of curcumin on basal forebrain of mice subjected to chronic arsenic trioxide exposure, 37th Annual conference of Indian Academy of Neuroscience, AIIMS, 19-21 November 2019, New Delhi
30. Kaur B, Mehta K, Pandey K, Dhar P. Effects of arsenic trioxide-induced oxidative stress on basal forebrain of mice, 49th annual meeting of Society for Neuroscience (Neuroscience 2019), 19-23 October 2019, Chicago, USA
31. Kumar P, Pal I, Kaur C, Jacob TG, Vanamail P, Bhardwaj DN, et al. Ultrastructural study of the human cochlear nerve at different ages, 12th Asia-Pacific Microscopy Conference (APMC-2020), 3-7 February 2020, Hyderabad
32. Kumar R, Nomani K, Kumari P, Rani N, Singh S. Dual innervation of the coracobrachialis muscle—a case report, 67th National Conference of Anatomical Society of India, 17-20 November 2019, New Delhi
33. Kumar R, Singh S, Rani N, Singh S. Anatomical diversity of inferior belly of the omohyoid muscle, 67th National Conference of Anatomical Society of India, 17-20 November 2019, New Delhi
34. Kumar R, Singh S, Sharma B, Nomani K, Rani N, Sehgal R. Unilateral variation in branching pattern of the axillary artery, 67th National Conference of Anatomical Society of India, 17-20 November 2019, New Delhi
35. Kumar S, Sharma A, Garg N, Mittal B. Common Sarcomeric Gene Polymorphisms and their role on Left Ventricular Dysfunction (LVD) in Coronary Artery Disease (CAD) Patients, 8th International Congress on Lipid and Atherosclerosis (ICoLA), 5-7 September 2019, Seoul, South Korea
36. Marik B, Bagga A, Sinha A, Hari P, Sharma A. Importance of genetic testing in the diagnosis and management of hypophosphatemic rickets, Joint event on Genetics, Genetic Disorders and Stem Cell, 13-14 May 2019, Stockholm, Sweden
37. Marik B, Bagga A, Sinha A, Hari P, Sharma A. Mutation screening by Whole Exome Sequencing (WES) and genotype-phenotype correlation in patients with Vitamin-D Dependent Rickets (VDDR), “Gyan Scholarship” from Seigenome Research Foundation Nextgen genomics, Biology, Bioinformatics and Technologies Conference (NGBT 2019), 30 September-2 October 2019, Mumbai
38. Marik B, Bagga A, Sinha A, Hari P, Sharma A. Study on the genetic basis of refractory rickets European Society

of Human Genetics (ESHG) conference, 15-18 June 2019, Gothenburg, Sweden

39. Marik B, Bagga A, Sinha A, Khandelwal P, Hari P, Sharma A. Whole Exome Sequencing (WES) in patients with hypophosphatemic rickets, IPNA travel award & AIIMS Partial Travel endowment, 18th Congress of International Pediatric Nephrology Association (IPNA Congress), 17-21 October 2019, Venice, Italy
40. Maurya M, Nag TC, Kumar P, Roy TC, Dada R. Involvement of iron regulatory proteins in bright light-induced stress in post-hatch chick retina, SfNNeuroscience-2019 meeting, October 2019, Chicago, Illinois, USA
41. Maurya M, Nag TC, Kumar P, Roy TS. Role of iron regulatory proteins in bright light-induced retinal changes under prolonged photoperiod in chicks, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, 20 November 2019, New Delhi
42. Mehta K, Kaur B, Pandey KK, Dhar P. Attenuative role of resveratrol on arsenic trioxide induced cognitive deficits, cytoarchitectural alterations and oxidative stress in adult mice hippocampus, 1st AIIMS Research Day, 26 March 2019, New Delhi
43. Mehta K, Kaur B, Pandey KK, Dhar P. Effect of resveratrol supplementation on arsenic trioxide-induced cognitive dysfunction and altered morphology in mice hippocampus (MLSU PP39), 1st IBRO/APRC Udaipur Associate School on Neurological Disorders: Advances in Research Techniques and Management, 5-11 August 2019, Udaipur
44. Mehta K, Kaur B, Pandey KK, Dhar P. Mitigating effects of resveratrol supplementation on arsenic trioxide induced neurotoxicity in mouse hippocampus (P348). IUTOX 15th International Congress of Toxicology, 15-18 July 2019, Honolulu, Hawaii (USA)
45. Mehta K, Kaur B, Pandey KK, Dhar P. Modulatory influence of resveratrol on memory and morphology of hippocampus in mice chronically exposed to arsenic trioxide (P21), 67th National Conference of Anatomical Society of India (NATCON), 18-20 November 2019, New Delhi
46. Mehta K, Kaur B, Pandey KK, Dhar P. The possible neuroprotective role of resveratrol supplementation on arsenic trioxide-induced neurotoxicity in female mice hippocampus (P119), 40th annual meeting of American College of Toxicology (ACT), 17-20 November 2019, Phoenix Arizona, USA
47. Mishra M, Arora P, Saxena S, Gupta SK, Mochan S, Kasapuram D, et al. Association of MMP 2 gene polymorphisms (-735C/T and -1306C/T) in preeclamptic patients in Indian population, Joint meeting on 6th World Congress on Human Genetics and Genetic diseases and 12th World Conference on Human Genomics and Genomic Medicine, 8 and 9 April 2019, Abu Dhabi, UAE
48. Mochan S, Gupta SK, Saxena S, Arora P, Rani N, Dwivedi SN, et al. Raised GRP78 levels is a probable key factor contributing early onset preeclampsia in pregnant mothers, All India Cell Biology Conference, Indian Institute of Science Education and Research, 19-21 December 2019, Mohali
49. Mochan S, Gupta SK, Saxena S, Arora P, Yadav V, Mishra M, et al. Up-regulated central regulator of UPR in trophoblastic cells: A hallmark of ER stress in Preeclampsia, 67th NATCON of ASI, Vardhman Mahavir Medical College and Safdarjung Hospital, 17-20 November 2019, New Delhi
50. Pal I, Bhardwaj DN, Jacob TG, Roy TS. Age-related morphological and neurochemical changes in GABAergic neurons of the human inferior colliculus, 9th Biennial Conference and workshop of Association of Gerontology, AIIMS, 17-18 August 2019, New Delhi
51. Pal I, Paltati CRB, Bhardwaj DN, Jacob TG, Roy TS. Age-related morphological and neurochemical changes in the GABAergic neurons of human inferior colliculus, Indian Academy of Neurosciences, AIIMS, 19-21 November 2019, New Delhi
52. Priyam K, Pal I, Kaur C, Jacob TG, Vanamail P, Bhardwaj DN, et al. Ultrastructural study of the human cochlear nerve at different ages, 12th Asia-Pacific Microscopy Conference (APMC-2020), 3-7 February 2020, Hyderabad
53. Priyam K, Sharma MK, Agrawal S, Garg PK, Jacob TG, Roy TS. Activation of Pancreatic Stellate cells and Progression of Fibrosis in Experimental Models of Early Chronic Pancreatitis, American Pancreatic Association (APA) Annual Meeting 2019, 6-9 November 2019, Maui, Hawaii, USA
54. Priyam K, Sharma MK, Agrawal S, Garg PK, Roy TS, Jacob TG. Evaluation of cytokines and activation of stellate cell in mouse model of experimental Early Chronic Pancreatitis, Asia Pacific Digestive Week (APDW-2019), Biswa Bangla Convention Centre, 12-15 December 2019, Kolkata
55. Priyam K, Sharma MK, Kumar P, Das UK, Garg PK, Roy TS, et al. Beneficial Effect of Garlic (*Allium sativum* L.) extract on mice models of chronic pancreatitis, AIIMS Research Day, March 2020, New Delhi
56. Quadri JA, Sarwar S, Shariff M, Shariff A. Alteration in gut endocrine signaling due to chronic fluoride exposure leads to gastrointestinal physiochemical impairments, Asian Pacific Digestive Week, 11-15 December 2019, Kolkata
57. Saini S, Kaur C, Jacob TG, Thakkar A, Roy KK, Roy TS. Development of human cochlear nuclei—a stereological study, Indian Academy of Neurosciences, AIIMS, 19-21 November 2019, New Delhi
58. Sangma SS, Rani N, Jessy JP, Sehgal R, Kaler S. Arteriovenous communication between left testicular vein with

- Accessory renal artery: A case report, International Congress of Anatomia Clinica, 24-26 June 2019, Madrid, Spain
59. Sangma SS, Rani N, Singh S, Sehgal R. Accessory left triangular ligament of liver– a case report, 67th National Conference of Anatomical Society of India, 17 – 20 November 2019, New Delhi
  60. Saroj, Dhar P, Mehta K, Kaur B, Pandey K. Effect of Reseveratrol supplementation on cardiac tissue of adult mice exposed to arsenic trioxide, 67th National Conference of Anatomical Society of India, 18-20 November 2019, New Delhi
  61. Sarwar S, Quadri JA, Singh S, Das P, Makharia G, Shariff A. In-utero fluoride exposure induces developmental defects in the gut enteric neurons, Asian Pacific Digestive Week, 11-15 December 2019, Kolkata
  62. Saxena S, Gupta SK, Arora P, Pallavi SK, Rani N, Sharma A, et al. Role of hydrogen sulphide in regulating invasion in trophoblast cells, Experimental Biology, 6-9 April 2019, Orlando
  63. Sharma B, Gupta S, Gupta CL, Nag TC, Roy TS. Retinal changes after continuous light exposure: A study in Sprague-Dawley rats, International Conference on EMAAT, HPU, 8 June 2019, Shimla
  64. Sharma MK, Priyam K, Garg PK, Jacob TG, Roy TS. Effect of calorie-restriction on Severity of Experimental Acute Pancreatitis, JDDW Travel grant, Japan Digestive Disease Week-2019 (JDDW 2019), 21-24 November 2019, Kobe, Japan
  65. Sharma MK, Priyam K, Garg PK, Roy TS, Jacob TG. Effect of chloroquine on the caerulein-induced model of severe acute pancreatitis in Swiss Albino mice, American Pancreatic Association (APA) Annual Meeting -2019, Grand Wailea, 6-9 November 2019 Maui, Hawaii, USA
  66. Sharma MK, Priyam K, Garg PK, Roy TS, Jacob TG. Effect of Rapamycin on Caerulein-Induced Model of Severe Acute Pancreatitis, Local travel grant, Asian Pacific Digestive Week (APDW-2019), Biswa Bangla Convention Hall, 12-15 December 2019, Kolkata
  67. Singh R, Gupta R, Ambedkar A, Grover T, Jain R, Sharma A. Analysis of the role of COMT gene expression in alcohol dependence, 21st Annual Meeting of the International Society of Addiction Medicine, 13-16 November 2019, New Delhi
  68. Singh R, Gupta R, Ambedkar A, Grover T, Jain R, Sharma A. Analysis of the role of COMT and DAT gene expression in patients with alcohol dependence, 37th Annual Meet of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
  69. Singh S, Kumar R, Jacob TG, Roy TS. Expression of Sox2 and DCX in the striatum of rat brain following transient occlusion of MCA, Indian Academy of Neurosciences, AIIMS, 19-21 November 2019, New Delhi
  70. Singh S, Sarwar S, Quadri JA, Mandal R, Rani N, Nag TC, et al. Development of the myenteric plexus at the ileocaecal junction in human fetuses, Asian Pacific Digestive Week, 11-15 December 2019, Kolkata
  71. Vani PC, Ganpathy A, Jessy JP, Rani N, Kaler S. Vascular foramina of talus: a morphometric study with emphasis on its surgical implications, 67th National Conference of Anatomical Society of India, VMMC and Safdarjung Hospital, 17-20 November 2019, New Delhi
  72. Yadav A, Gupta SK, Saxena S, Arora P, Mishra M, Dhingra R, Singh S, Bhatla N, Rani N Expression of High Mobility Group Box 1 (HMGB1) in preeclamptic placenta, 67th National Conference of Anatomical Society of India, 17-20 November 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. Age related changes in the human inferior colliculus: A morphological and neurochemical study, TS Roy, DST, 3 years, 2018-2021, Rs 43.86 lakhs
2. Assessment of biomarkers in aqueous humor (AH) of Retinoblastoma patients, Arundhati Sharma, ICMR, 3 years, 2019-2022, Fellowship
3. A study on the development of tolerance to morphine following co-administration of neuropeptide Y or somatostatin in rats, SB Ray, AIIMS, 1 year, 2019-2020, Rs 2 lakhs
4. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash Chandra Yadav, ICMR, 3 years, 2019-2022, Rs 35.83 lakhs
5. Development of Quick and Specific Detection System of EWS-FLI-1 Fusion Protein, Subhash Chandra Yadav, DBT, 3 years, 2019-2022, Rs 79.86 lakhs
6. DST FIST, TS Roy, DST, 5 years, 2018-23, Rs 150 lakhs

7. Effect of angiotensin receptor modulation in rat middle cerebral artery occlusion: a morphological and biochemical study, TS Roy, DBT-JRF Project (Mr Ritesh Kumar), 3 years, 2017-20, Rs 3.3 lakhs/year
8. Effects of Lifestyle Interventions and Psychological Stress on Markers of Aging, Rima Dada, ICMR, 3 years, 2017-2020, Rs 40 lakhs
9. Effect of Yoga on Epigenetic profile in RA, Rima Dada, ICMR, 3 years, 2019-2022, SRF
10. Effect of Yoga on Rheumatoid Arthritis, Rima Dada, DST, 3 years, 2017-2020, Rs 54 lakhs
11. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nano-carriers for treatment of cervical cancer, Subhash Chandra Yadav, AIIMS-IIT Delhi, 2 years, 2019-2021, Rs 10 lakhs
12. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Seema Singh, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
13. Fluorosis mitigation in ... community of Bihar through intervention and counseling, A Shariff, DST, 3 years, 2020-2023, Rs 152.76 lakhs
14. Identification, Functional characterization and in-Silico Analysis of Sarcomeric Gene Mutations in hypertrophic Cardiomyopathy Patients from Indian Population, Arundhati Sharma, ICMR, 3 years, 2018-2021, Fellowship-Research Associate
15. Identification of genetic variants and their functional evaluation in the pathogenesis of inherited cardiomyopathies, Arundhati Sharma, ICMR, 3 years, 2019-2022, Rs 72.28 lakhs
16. Identification of the underlying differential expression and disease-specific signature profile in patients with epidermal necrolysis, Arundhati Sharma, ICMR, 3 years 2019-2022 Rs 40.05 lakhs
17. Impact of advanced paternal age on sperm epigenome: Possible etiology in autism spectrum disorder, Rima Dada, DBT, 3 years, 2016-2020, Fellowship- Scientist
18. Investigation of changes in Peripheral and Central Nervous System in an experimental model of Chronic Pancreatitis in Mice, Tony George Jacob, ICMR, 3 years, 2019-2022, Rs 32.23 lakhs
19. Magnetic Nanoparticles and Quantum Dots Coupled Visual Confirmation of Cervical Cancer Cells from Cytology Sample: A Cost Effective, Quick and Suitable Test for Rural Indian Setup, Subhash Chandra Yadav, SERB, 3 years, 2018-2021, Rs 38.68 lakhs
20. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-2022, Rs 30 lakhs
21. Morphological study of the developing human cochlear nucleus and spiral ganglion. TS Roy, ICMR, 3 years, 2019-22, Rs 43 lakhs
22. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia, Renu Dhingra, DST, 3 years, 2018-2021, Rs 45 lakhs
23. Role of synaptic plasticity at spinal level in persistent pain conditions in rats, Saroj Kaler, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
24. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Renu Dhingra, CSIR, 3 years, 2019-2022, Rs 15 lakhs
25. Studying the role of RBI and MYCN in the pathogenesis of retinoblastoma, Rima Dada, CSIR, 3 years, 2018-2021, SRF
26. Unravelling the Genetic Intersections between male infertility and cancer: Role of Yoga intervention, Rima Dada, ICMR, 3 years, 2019-2022, Rs 35 lakhs
27. Unraveling the role of novel proteins in gastro-enteropancreatic and respiratory neuroendocrine tumors, Neerja Rani, DST, 3 years, 2019-22, Rs 50 lakhs
28. Utility of Artificial Intelligence in differentiating thyroid malignant lesions, Arundhati Sharma, DBT, 3 years, 2020-2023, Rs 74.16 lakhs

### **Completed**

1. Apoptosis and mitosis in developing human cochlear nucleus, TS Roy, ICMR-SRF, Project 1, 2017-2019, Rs 4.56 lakhs/year
2. Endemic fluoride induced anemia during pregnancy in Bihar...a pilot study, A Shariff, DST, 4 years, 2016-2019, Rs 39 lakhs
3. Evaluation of genetic basis of congenital hereditary endothelial dystrophy ... and clinical phenotyping of mutation positive and negative cases, Arundhati Sharma, AIIMS, 2 years, 2017-2019, Rs 10 lakhs
4. Genetic study of patients with refractory rickets and hypophosphatemia, Arundhati Sharma, ICMR, 3 years, 2015-2019, Rs 30 lakhs

5. Genome-wide association study of phenotypic extremes in primary angle closure glaucoma, Arundhati Sharma, DBT, 3 years, 2016-2019, Rs 54 lakhs
6. Simple, quick and onsite early diagnostic kit for pathogen detection during asymptomatic stage, Subhash Chandra Yadav, DBT, 3 years, 2016-2019, Rs 103 lakhs

## Departmental projects

### Ongoing

1. Age changes in the human inferior colliculus
2. Age changes in the human spiral ganglion
3. Age changes in the human cochlear nerve
4. A morphological study of the human temporomandibular joint
5. An association study of cystathionine beta synthase gene polymorphism in preeclampsia study title
6. Assessment of the efficacy of nanodrug delivery system for the treatment of open angle glaucoma in animal model
7. A study of dopaminergic neurons in the myenteric plexus of ulcerative colitis patients
8. A study of serum level of cystathionine beta synthetase and its gene polymorphisms in preeclampsia
9. A study on the genetic association and correlation of Monoaminergic and GABAergic pathway gene polymorphisms with brain imaging (PET/SPECT) in Alcohol & Opioid Dependence
10. A study on the role of ADH and ALDH gene variants in Alcohol Dependence
11. A Study to evaluate association of Single Nucleotide Polymorphisms and Epigenetic changes in Neurotransmitter Genes in Opioid Dependence
12. Autophagy and neurogenesis in middle cerebral artery occlusion of stroke model of Wistar rats
13. Correlation of fluoride levels in body fluids and bone histology in patients of ossified posterior longitudinal ligament
14. Development of nanoparticles-based detection system for cervical cancer cells from cytology samples
15. Development of the human cochlear nucleus
16. Effect of Angiotensin Receptor Modulation in Rat Middle Cerebral Artery Occlusion: a Morphological and Biochemical Study
17. Effect of curcumin on mice basal forebrain structures following arsenic trioxide exposure
18. Effect of curcumin on murine model of mild acute pancreatitis
19. Effect of garlic (*Allium sativum* L) extract on mice models of chronic pancreatitis
20. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia
21. Effect of Resveratrol supplementation on cognitive function and Estrogen receptor profile in hypothalamus and hippocampus of Arsenic trioxide-exposed adult female mice
22. Effects of fluoride exposure on development of enteric nervous system: an experimental study
23. Epidemiological studies in male infertility
24. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions
25. Epigenetic changes of Dopaminergic pathway genes and association of GRIN2A gene polymorphism in Alcohol Dependence and opioid dependence
26. Evaluation of autofluorescence in human nervous tissue
27. Evaluation of L-arginine induced chronic pancreatitis in mouse
28. Evaluation of possible association of opioid dependence with SLC6A4 and TPH2 polymorphisms
29. Evaluation of the role of curcumin supplementation on Arsenic trioxide induced neurotoxicity in the basal ganglia of mice
30. Expression of miR-22, Specificity protein-1 and cystathionine beta synthase in preeclampsia and their role in trophoblast invasion
31. Expression of nerve growth factor in colorectal carcinoma patients
32. Expression of n-myc downstream regulated gene 4 (*ndrg4*) in enteric neurons of colonic tissue of colorectal carcinoma patients
33. Genetic and Epigenetic profiling in patients of "Anterior Pituitary Adenoma
34. Genetic and Molecular basis of retinoblastoma
35. Genetic screening of patients with Men2 syndrome

36. Genetic Study of Posterior Polar Cataract
37. Immunohistochemical and Quantitative Analysis of Cytokeratin19 and cKIT in Gastrointestinal and Respiratory Neuroendocrine Tumors
38. Immunohistochemical study of microglial activation and AMPA receptors in hippocampus of rat model of experimental neuropathic pain
39. Impact of short-term Yoga based intervention on obesity
40. Impact of yoga and meditation on Epigenome in Rheumatoid Arthritis
41. Impact of Yoga based intervention on Quality Of Life Of Glaucoma Patients
42. Light-induced oxidative stress and endogenous neuroprotective mechanisms in post-hatch chick retina
43. Manta Ray study
44. Meditation and its impact on Primary Open Angle Glaucoma (POAG)
45. Meditation based stress reduction: is it therapeutic for Primary Open Angle Glaucoma (POAG)
46. Molecular analysis in Depression and impact of Yoga-A single blind RCT
47. Molecular Basis of idiopathic male infertility
48. Molecular studies in Fibromyalgia
49. Mutation analysis in Anti Mullerian Hormone gene in poor responders
50. Mutation analysis of candidate genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46, XY karyotype
51. Mutational studies in patients with Refractory rickets and Hypophosphatemia
52. Paternal factors in embryonic development
53. Remodeling in horizontal cells following light-induced retinal damage in rat
54. Role of autophagy in experimental acute pancreatitis with special reference to inflammation and cell death
55. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia
56. Role of micro RNA-30 in cystathionine gamma lyase mediated trophoblast cell invasion and status in preeclampsia
57. Role of miRNA in modulating trophoblast cell invasion
58. Role of miRNA in regulation of angiogenic factors in trophoblast cells
59. Study of microglia in the retina of rats exposed to bright light after selective Müller cell damage
60. Study of the association of matrix metalloproteinase-9 gene polymorphism in preeclampsia
61. Study on the association of Polymorphism, Methylation and Expression status of Monoamine Pathway genes with Alcohol Dependence
62. Study to identify the genetic basis underlying Stevens–Johnson syndrome (SJS)
63. Telomere dynamics in male infertility
64. To study phenotype genotype correlation in patients with 5alpha reductase 2 deficiency and androgen insensitivity
65. Visual, Rapid, Non-invasive and Cost-effective BK Virus Detection System

### ***Completed***

1. Age related changes in the Human Inferior Colliculus: A Morphological and Neurochemical Study
2. Age Related Morphological and Neurochemical changes in the Human Spiral Ganglion
3. An association study of cystathionine beta synthase gene polymorphisms in preeclampsia
4. Anatomical Variations of the Human Middle Cerebral Artery
5. A Translational randomized trial of YBLI for major depressive disorder (MDD) management in India and analyzing biomarkers of cellular aging associated with it
6. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia
7. Effect of resveratrol on arsenic trioxide induced cardiac toxicity in mice
8. Epigenetic regulation of brain-derived neurotrophic factor in the central auditory pathway and hippocampus of neonatal chicks exposed to prenatal sound stimulation
9. Immunohistochemical analysis of high mobility group box 1 (HMGB1) and receptor for advanced glycation end products (RAGE) in different zones of early and late onset preeclamptic placenta
10. Morphological study of Developing Cochlear nucleus
11. Study of the Expression of Parvalbumin and Calbindin in the Aging Human Inferior Colliculus

## Collaborative projects

### *Ongoing*

1. Checking the feasibility of aortoplasty balloon catheter for endovascular occlusion of aorta, Surgical disciplines
2. Collaborative neuroengineering platform for excellence in innovation and translation research, Neurosurgery; CSE-IIT-D
3. Cytogenetic and Molecular Analysis in Infertility, Anatomy, AIIMS, Raipur
4. Decipher mechanistic basis of the intracellular trafficking of the optically active Nanoparticles using super resolution microscopy, Biotechnology, Jawaharlal Nehru University
5. Development of procedure-based Neuroendoscopic simulation modules and their integration with interactive E-learning platform for advanced neurosurgery skills training curriculum, Neurosurgery; CSE-IIT-D
6. Development and validation of electro-mechanical partial task trainers for minimally invasive ventricular, skull base and spine neurosurgery and inertial/haptic sensor-based objective evaluation of neuroendoscopic skills, Neurosurgery; CSE-IIT-D
7. Effect of transcranial magnetic stimulation on pain modulation status in fibromyalgia patients, Physiology
8. Effect of Yoga Based Intervention on Inflammatory Markers and Gene Expression Profile in Blood, Aqueous and Trabecular Meshwork of Primary Open Angle Glaucoma Patients: A Randomized Controlled Trial, RP Centre for Ophthalmic Sciences
9. Effect of yoga-based intervention of Intra Ocular Pressure, Quality of Life, Inflammatory Markers and Gene Expression Profile in Glaucoma Patients: a Randomized Controlled Trial, RP Centre for Ophthalmic Sciences
10. Electroencephalographic changes in early and advanced Glaucoma, RP Centre for Ophthalmic Sciences
11. Evaluation of the effect of mindfulness based stress reduction in patients with advanced primary open angle glaucoma, RP Centre for Ophthalmic Sciences
12. Genetics of alcohol and drug dependence, Psychiatry
13. Genetics of angle closure glaucoma, RP Centre for Ophthalmic Sciences
14. Genetics of MEN2 syndrome, Endocrinology
15. Genetic studies in fibromyalgia, Physiology
16. Genetic studies in hypophosphatemic rickets, Paediatrics
17. Genetic studies of cardiomyopathies, Cardiology
18. Genome wide analysis to explore stress, inflammation and cellular aging following short and long term yoga based intervention in obesity and DM, Physiology
19. Identification and Characterization of novel genetic variants associated with cardiovascular diseases in diverse ethnic populations of India, Cardiology
20. Impact of advanced paternal age and poor lifestyle on sperm epigenome: possible etiology in autism spectrum disorder, Paediatrics
21. Impact of preoperative steroids on trabeculectomy outcomes: A Randomized Controlled Trial, RP Centre for Ophthalmic Sciences
22. Impact of short term yoga based intervention in obesity, Physiology
23. Impact of yoga and meditation on Epigenome in Rheumatoid Arthritis, Medicine
24. Impact of YBLI on MDD-RCT, Psychiatry
25. Levels of Oxidative stress biomarkers in Follicular fluid of women with PCOs undergoing IVF and its relation to outcome, Obstetrics and Gynaecology
26. Loss of sperm DNA integrity in childhood cancers, RP Centre for Ophthalmic Sciences
27. MEN1 gene mutation in patients of primary hyperparathyroidism, pancreatic tumors and pituitary tumors and its clinical implications, Endocrinology
28. Microsurgical comparison of operative exposure of internal acoustic canal through middle fossa and retrosigmoid hearing preservation skull base approaches – a laboratory investigation, Neurosurgery
29. Mutation analysis of seven genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46, XY karyotype, Endocrinology
30. Oxidative stress evaluation in amniotic fluid of couples with normal and couples pregnant with fetus with congenital malformation, Obstetrics and Gynaecology
31. Oxidative stress in pathogenesis of PCG, RP Centre for Ophthalmic Sciences

32. Phase-III Clinical trial with intravasal injectable male contraceptive-RISUG, Biomedical engineering
33. Quantitative analysis of far lateral approaches, Neurosurgery
34. Retinoblastoma: Genetic and Molecular study, RP Centre for Ophthalmic Sciences
35. Role of ashwagandha in management of Infertility, Centre for Ayurveda, Guru Gobind Singh University
36. Support to Indian Institutes to Conduct Training Programme in the area of Operational Research Neurosurgery Skills Training, Neurosurgery, DHR, ICMR; CSE-IIT-D; Ministry of Health & Family Welfare
37. YKL40 levels in asthma, Biophysics
38. Yoga and impact on QOL in Glaucoma, RP Centre for Ophthalmic Sciences

### **Completed**

1. Development of 3D/stereoscopy based virtual reality simulation platform for endoscopic neurosurgery training and pre-operative neurosurgical planning, Neurosurgery; CSE-IIT-D
2. Genetic studies in congenital cataract, RP Centre for Ophthalmic Sciences
3. Genetic studies in LHON, RP Centre for Ophthalmic Sciences
4. Neurosurgery Skills Training Facility with 3D Endoscopic and 3D Microscopic Facility and Central Repository Server for Archival, Streaming and Teleconferencing, Neurosurgery; CSE-IIT-D

### **PUBLICATIONS**

**Journals: 33**

**Abstracts: 17**

**Chapters in Books: 7**

### **PATIENT CARE**

#### **Embalming of Dead Bodies**

For transportation: 605 for teaching/research: 29

#### **Genetic Diagnostic and Counselling Services**

Karyotyping/Cytogenetic analyses: 439 + 720= 1159cases

#### **Molecular screening**

Yq microskeleton analyses: 102 cases ROS estimation: 680 cases DFI: 73 cases Choroidal melanoma: 17 cases  
Miscellaneous mutation detection: 36 cases

#### **Clinical Ecotoxicology (Diagnostic & Research) Facility**

Diagnostic services for heavy metals/toxic elements/micronutrients in blood/urine: 2000 tests

#### **Fluorosis Diagnostic Laboratory: Fluoride Estimation**

Total number of patients: 30

Total number of samples: 99

Urine: 32 Blood/serum: 28

Drinking water: 39

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

The students of the department presented their research work at National and International conferences and at a variety of forums. Several students won prestigious awards. The "Professor SS Parmar Research Foundation" award from the Indian Academy of Neurosciences was presented to Ms Shubhi Saini, the 'Gyan Scholarship' from Scigenome Research Foundation was awarded to Ms Binata Marik, the 'Corporate Member Council In-Training' award by the American Society of Reproductive Medicine was received by Dr Vidhu Dhawan and the International Immunological Society award was conferred on Ms Surbhi Gautam. The American Association of Anatomists Awards were presented to Dr Sankat Mochan, Mr Sunil Kumar Gupta and Dr Pallavi Arora. Best oral and poster presentation awards were received by Ms Surbhi Gautam at the 2nd National Biomedical Research Competition (NBRCOM 2019), IAYT Symposium 2019 on Yoga Research, Annual Conference of The International Association of Yoga Therapists and ICNPHH-2020. Ms. Priyam Kumari received the Young Investigator award from the American Pancreatic Association (APA) and Dr Soumya Agrawal received the APDW student grant. Travel grants by extramural funding agencies like the Lalor Foundation & American Society of Andrology (ASA), ICMR, DST, International Pediatric Nephrology Association (IPNA), American Pancreatic Association (APA), Asia Pacific Digestive Week (APDW-2019) and Japan Digestive Disease Week (JDDW 2019) were received by Dr Vidhu Dhawan, Ms. Surbhi Gautam, Ms Binata Marik, Kumari Priyam and Mr Manish Kumar Sharma. The AIIMS, New Delhi Endowment Fund Travel Grant were awarded to Dr Pallavi Arora for the Experimental Biology conference at Orlando, USA and the AIIMS Partial Travel endowment was granted to Ms. Binata Marik for the 18<sup>th</sup> IPNA Congress at Venice, Italy. Ms Surbhi Gautam also received the 'Excellence & Innovation in Yoga Research' awards at the 2019 IAYT Symposium on Yoga Research held at Stockbridge in USA, Annual Conference of the International Association of Yoga Therapists at Albany, USA and ICNPHH-2020 at New Delhi.

**Professor TS Roy** is currently member of the Editorial board of the journal ‘Medicine’ and associate editor of the journals ‘Pancreas’ as well as ‘Journal of Experimental and Clinical Medicine’. He undertook lecture series as Visiting Faculty for the MSc Neuroscience Program at Jiwaji University, Gwalior, Madhya Pradesh. He served as member of the PhD Reforms Committee, Staff Council, Dean’s Committee, Centralized Core Research Facility (CCRF) and Anti-Ragging Committee of AIIMS. He was paper setter and conducted comprehensive viva for PhD course at National Brain Research Center (NBRC), Manesar. Dr. Roy participated in the meeting of Board of Studies for Amity Institute of Neuropsychology & Neurosciences, Amity University, Noida and the symposium on “CME cum Awareness Programme on Body and Organ Donation – Live Beyond Life” at the Government Institute of Medical Sciences, Greater Noida. Dr Roy was resource person for the ‘Workshop on Social Network of Animals in Extreme Environments’ with special reference to penguins at Port Blair, Andaman & Nicobar Islands, in collaboration with the Ministry of Earth Sciences, Government of India and Zoological Society of India. He was the external examiner for MD examination conducted by Delhi University. He was also the MBBS external examiner for the following colleges/universities: North DMC Medical College & Hindu Rao Hospital, Malka Ganj, Delhi; Guru Gobind Singh Indraprastha University and Sardar Patel Medical College, Bikaner, Rajasthan Health University. Dr Roy was the co-organizer for the 37th Annual Meet of Indian Academy of Neurosciences (IAN 2019) “Neuron to Behavior” and the Nineteenth Biennial Conference of Association of Gerontology (India) AGI and Multi-disciplinary workshops on Emerging Scenario of Population Aging held at AIIMS, New Delhi. He chaired the ‘BK Bachawat Memorial Lifetime Achievement Award’ oration and was a panelist for the ‘School Children Science Interaction Meet’ sessions conducted during the IAN conference. He chaired the ‘MS Kanungo Lifetime Achievement Oration in Biogerontology’ at the 19th Biennial conference of the Association of Gerontology, India. He holds the following designations at AIIMS, New Delhi: Central Public Information officer (CPIO) of Anatomy Department for disclosure under the RTI Act, 2005; Chairperson of the Store Purchase Committee (SPC, DO); MBBS Preclinical Curriculum Committee and Chairperson of the Institute Cultural Committee. He was Chief Election Commissioner for election of the AIIMS representative for Delhi Medical Council (DMC). He has actively participated as member of various cultural, sports and welfare activities at the Institute and several events like the Institute Day and SYS day were organized with him at the helm, during the year 2019-20. He has served as member of the Faculty Selection Committee for the following institutions and universities: AIIMS New Delhi, AIIMS Jodhpur, AIIMS Bhubaneswar, AIIMS Rishikesh, AIIMS, Raipur, PGIMER Chandigarh, Research & Medical Education Department of Punjab Government and Sri Sri University, Bidyadharpur at Cuttack, Orissa

**Professor A Shariff** established the Clinical Ecotoxicology (Diagnostic & Research) Facility in August 2019, and since then patients are being referred from various clinical departments including Medicine, Anesthesiology, ICUs, Neurology, Endocrinology, Gynecology, Gastroenterology, Dermatology, ENT, Orthopedics, Urology, Orthodontics, Geriatric medicine, Paedodontics, etc. for toxin and micronutrient detection. He also inaugurated the Community-based Defluoridation units in Nawada, Bihar, under the project funded by The Department of Science & Technology (DST), Government of India. Dr Shariff was featured as a Promising Tech Guru in Indian Healthcare, “Celebrating the Champions of Digital Health Excellence” - a reference book published by the Economic Times newspaper. He currently holds the following designations and portfolios at AIIMS, New Delhi: Professor In-charge, Computer Facility; Chairman, Telemedicine Facility; Chairman of Store Purchase Committee (SPC), CDER; Member, Departmental Promotion Committees; Member, Project Monitoring Committee of the New OPD; Member of Core Committee for the Redevelopment of AIIMS; Member of Ethics Committee; Member of the Election Commission for FAIMS; Chairman of the CCTV committee and Chairman of Technical specification for CUG Mobile Telephony Service System. He has served as expert member of the Selection Committees for various AIIMS-like institutes in several states of India: AIIMS, Kalyani, Bhubaneswar; AIIMS, Jodhpur; AIIMS, Patna and AIIMS, Bhopal. Dr Shariff also served as Member of the Expert Committee for DHR-ICMR AI Cell, New Delhi and Member of Project Review & Steering Group (PRSG), Ministry of Electronics & Information Technology, Government of India. He was invited as Expert for the selection of General Manager for IT at ILBS, New Delhi in April and for Faculty selection at JIPMER, Puducherry in October 2019.

**Professor Pushpa Dhar** completed her last year as faculty member at AIIMS, New Delhi in March 2020. She was a Resource Faculty at the Pre-Conference Workshop of the 37<sup>th</sup> annual conference of Indian Academy of Neuroscience held at AIIMS, New Delhi. She served as Member of the Committee for addressing complaints of Sexual harassment at the Institute. She was a Member of the Board of Studies for MSc & MD (Anatomy) at the Hamdard Institute of Medical Sciences and Research (HIMSR), Delhi.

**Professor SB Ray** undertook a lecture series as Visiting Faculty for the M.Sc. Neuroscience Program at Jiwaji University, Gwalior, Madhya Pradesh. He was a Resource Faculty at the 37th annual conference of Indian Academy of Neuroscience held at AIIMS, New Delhi. He was the external examiner in Anatomy at the Delhi University for the following examinations: BPT Part I examination conducted in June 2019; MBBS first Professional examination conducted in July 2019.

**Professor Rima Dada** delivered the Dr Labhsetwar Oration at the 30th Annual Meeting of ISSRF and World Congress on Reproductive Health and the Dr Sukhbir Prasad Jain Memorial Oration at the 67th National Conference of Anatomical Society of India.. She and her team received 5 awards at National and 4 awards at International conferences. She chaired sessions in 12 conferences and SIG workshops. Dr Dada was appointed Expert for Program on Science and Yoga organized by Vigyan

Bharti, GOI. She was nominated as expert for the NBE Accreditation Assessment Programme and invited as expert for Faculty selection at various medical colleges. She was designated Central Public Information Officer and Member Secretary for Surekha Vishram Sadan, Sai Vishram Sadan and Rajgarhia Vishram Sadan. Dr Dada is currently Member of the MCI Accreditation Council for assessment, accreditation and academic audit of various medical colleges. She was nominated as an Editorial board member for the 'Annals of Neuroscience' journal and served as reviewer/board member for the following journals: Restorative Neurology and Neuro-restoration, In-Vitro Fertilization, Translational Genetics and Genomics Telomere and Telomerase, PLOs one, RBM online and several others. She was invited as expert by NCERT for revision of genetics curriculum in schools and colleges. She continues to be Jury member for Medical Research Council fellowships, Edinburgh and for Royal International Research awards in Reproductive Biomedicine and Stem cells, Iran. She is a member of the ICMR task force on male Infertility. She reviewed projects submitted to DBT, ICMR, Indo-US Technology Forum and the Wellcome Trust. Dr Dada also served as member of the ICMR Expert Committee meeting to establish centres for advanced research. She was invited as expert for PhD selection at IIT Delhi. She has evaluated 4 MD and 7 PhD theses in Genetics and was external examiner for PhD thesis in Genetics at the Ambedkar Centre and South Campus. She was examiner for BSc Genetics at Pandit BD Sharma University, Rohtak. She served as Member for the following committees at AIIMS, New Delhi: Core Committee for AIIMS convocation, Committee for selection of DMA medal, Anti-ragging committee, Curriculum committee, Institute Bio-safety committee on Recombinant DNA research and Institute committee for improvement of standard of research activities in autonomous institutions. She was election commissioner for the Students Union election. Dr Rima Dada is external faculty for MDNIY, HIMS, New Delhi, and Durgabhai Deshmukh College, Deshbandhu College, New Delhi. Her articles appeared in several national and international newspapers and she also appeared in a documentary produced by DST to promote Yoga as a Science. She appeared several times on TV programmes: Total health, Doordarshan, Vigyan Prasaar, Rajya Sabha TV and India Science App. Her article on paternal factors in early pregnancy loss published in the leading Andrology journal 'Andrologia', was the most downloaded article in 2019.

**Professor Arundhati Sharma** acted as a reviewer for many PhD theses and has been an external examiner for PhD thesis at GNDU, Amritsar. She has reviewed many manuscripts for possible publication in several journals and several project proposals of various extra-mural funding agencies. She is a Member of the Skill India Initiative of the Government of India.

**Professor Renu Dhingra** is currently a Member of the International Society of Plastination, Executive member of DASMOS, Member of the Academic Advisory panel for Virtual Teaching and Member of the Teaching Schedule committee at AIIMS, New Delhi. She is designated the Faculty in-charge of Departmental Stores. Dr Dhingra was invited as expert for Faculty Selection in various medical colleges. She also reviewed projects from ICMR, postgraduate theses from other medical colleges and research articles submitted to several journals. She facilitated soft embalming and dye injections for cadaver preparation and was the Resource Faculty in various cadaveric workshops at AIIMS: pre-conference workshop of ACS(I)CON (cadaveric dissection course for fillers and botox), cadaveric dissection course for skin grafts and flaps, cadaveric Ultrasound-guided Regional Anesthesia workshop and post-conference workshop at International Conference of Physical Therapy (INCPT-2019). She organized, directed and coordinated the online teaching programme in response to the COVID-19 pandemic as 2nd Semester Teaching In-charge for the MBBS 2019-20 batch.

**Professor TC Nag** was conferred the Fellowship of the Electron Microscopy Society of India, nominated for a plenary lecture (under Medical Sciences) and acted as a member of the National Advisory Committee at the 12th Asia-Pacific Microscopy Conference held in Hyderabad. He also served as an executive committee member at the 37th Annual meeting of Indian Academy of Neurosciences (IAN), held in AIIMS, New Delhi, where he conceived, organized and chaired a special symposium session on 'Plasticity in Developing Neuronal Circuits'. He chaired two sessions at the International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), held in Himachal Pradesh University, Shimla. He reviewed a total of 14 manuscripts for the following journals: Aging and Disease, Anatomical Record, Archives for Physiology and Biochemistry, Biofactor, Experimental Eye Research, Journal of Microscopy and Ultrastructure, Biomedicine and Pharmacotherapy, Journal of Neuroscience Research, Microscopy Research and Technique, Pharmaceutical biology and Redox Biology. He also examined two PhD theses during this period. One MBBS student was awarded the ICMR STS fellowship and worked under him.

**Professor Ritu Sehgal** reviewed manuscripts for the journal 'Medicine'. She participated in the workshop-cum-meeting and is currently a member of the e-Learning Resource Material (eLRM) Expert Group for developing e-Learning resources and Competency Based Medical Education for MBBS students. She holds the designation of the Central Assistant Public Information officer (CAPIO) for Anatomy Department under the RTI Act, 2005. She served as Member of the Exhibition Committee for the 64<sup>th</sup> Institute Day organized in September 2019 and was a special invitee for the Advisory Council of the AIIMS Students' Union Elections held in February 2020. She was the external examiner and paper setter for the regular and supplementary Anatomy First Professional MBBS examination at the HIMSR, Jamia Hamdard University and the internal examiner for the regular and supplementary Anatomy First Professional examination for 1st year MBBS, BSc (MTR) and two new BSc Dental courses (Dental Operating Room Assistance and Dental Hygiene).

**Dr Saroj Kaler Jhajharia** was the chairperson in a scientific session at the 67<sup>th</sup> National Conference of the Anatomical society of India. She was awarded the Dr PC Bansal Memorial Gold Medal for published papers in the Journal of Anatomical

Society of India during this conference. She served as a member for the following: International Association for Study of Pain (IASP), Indian Academy of Neurosciences and AIIMS Teaching Schedule Committee. She has reviewed research articles submitted to various journals. She acted as external examiner for the Anatomy First Professional MBBS examination at AIIMS, Mangalagiri. She was Resource Faculty for the workshop and symposium 'Ultrasound for Anesthesiologists' CUSA. She was a member of the management committee for 37th Annual Meeting of Indian Academy of Neurosciences at AIIMS, New Delhi.

**Dr Tony George Jacob** served as a Member of the Working Committee, National Medical Journal of India. He participated in the Workshop and Consultative meeting of Expert Group for MCI Board of Governors, for developing question banks and is currently a member of the Expert Group for development of e-Learning Resource Material for MBBS students including Foreign Medical Graduates, MCI/NMC. He was a Special invitee to the Institutional Animal Ethics Committee in August 2019. He was also a Special invitee to the Advisory Council of AIIMS Students' Union Elections for the year 2020. Dr Tony served as a Member of the Experimental Animal Welfare Committee at AIIMS, New Delhi and Member Secretary of the Committee for Training, Consultation & Co-ordination of various activities related to the management of patients during the COVID-19 pandemic. He has represented AIIMS at four Pre-Medical and Postgraduate Entrance Examinations held in 2019 and one in 2020. He was involved in framing and validation of the question bank for the National Board of Examinations. He was also the External Examiner for the Anatomy First Professional Examinations conducted by the Delhi University and University College of Medical Sciences. He reviewed articles for various National (National Medical Journal of India, Journal of Anatomical Society of India) and International (Surgical and Radiological Anatomy, Medicine, Journal of Chemical Neuroanatomy, Journal of Microscopy and Ultrastructure, Pancreatology) journals.

**Dr Neerja Rani** was appointed Visiting Faculty at Jiwaji University, Gwalior for the M.Sc. Neuroscience course. She was also appointed as external examiner to assess the project work and conduct viva-voce related to the projects of the MSc Neuroscience 4<sup>th</sup> semester students at Jiwaji University, Gwalior. She evaluated PhD thesis and was the external examiner for the PhD thesis at the SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu. She acted as the External examiner and paper setter for the regular and supplementary Anatomy First Professional MBBS examination at the HIMSR, Jamia Hamdard University and the paper-setter for the BSc Nursing first year Anatomy Annual examination at PGIMS Rohtak. Dr Neerja chaired a scientific session at the 67th National Conference (NATCON) of the Anatomical Society of India. She also served as Finance Secretary for the 37th Annual Meeting of Indian Academy of Neurosciences at AIIMS, New Delhi. She was Resource Faculty for various workshops and symposia: Hands-on cadaveric workshop organized by Surgical Disciplines, AIIMS, New Delhi; Comprehensive Symposium on Ultrasound for Anesthesiologists CUSA. She has reviewed manuscripts for the Histology and Histopathology Journal.

**Dr Seema Singh** served as the Nodal officer for organizing Anatomy classes for two new BSc Dental courses (Dental Operating Room Assistance and Dental Hygiene). She was nominated for attending the pre-bid meetings for the upcoming AIIMS (HITES). Dr Seema participated and contributed in the following conferences: Thirty seventh Annual Conference of the Indian Academy of Neurosciences (IAN-2019), Comprehensive Symposium on Ultrasound for Anesthesiologists and the 8th International Conference of Physical Therapy (INCPT-2019).

**Dr Subhash Chandra Yadav** received the six-monthly "Long-Term International Research Fellowship" from the Department of Health Research, Government of India to work on Cryo-Electron Tomography at Stanford University, California. He was the moderator for a session at the International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), held in Himachal Pradesh University, Shimla.

#### **VISITING SCIENTIST**

Keith Crutcher, Department of Neurosurgery, College of Medicine, University of Cincinnati, USA delivered a lecture on "The fruitful cycle of technology and science" on 13 February 2020.

### 9.3. Biochemistry

#### Professor and Head

Subrata Sinha

#### Professors

SS Chauhan  
Kalpana Luthra

MR Rajeswari  
Alpana Sharma

PP Chattopadhyay  
Kunzang Chosdol

#### Additional Professors

Sudip Sen

Archana Singh-I

#### Associate Professors

Archana Singh-II  
Ashok Sharma

Jayanth Kumar P

Subhradip Karmakar  
Pragyan Acharya

#### Assistant Professors

Riyaz Ahmad Mir  
Pramod Kumar Gautam

Rakhee Yadav  
Siddhartha Kundu

### HIGHLIGHTS

- 51 research projects are ongoing in the department funded by various national and international agencies such as DBT, DST, ICMR, DHR, DRDO, UGC (MOOCS), Indo-Austrian, Indo-South Africa, Wellcome Trust, Ministry of AYUSH and Intramural AIIMS, amounting to Rs. 26.5 crores and 9 research projects (Rs. 3.2 Crores) were completed this year.
- 52 departmental projects and 49 collaborative projects are ongoing with different faculty of the department.
- 53 research publications and 9 abstracts published in indexed National and International Journals of repute.
- 38 Invited talks were delivered by the faculty and 47 research papers were presented by faculty/research students (oral/poster) at various national and international scientific forums.
- Faculty and students received various awards and prizes for oral presentations along with travel grant at various national and international conferences.
- 12 MSc, 13 MD, 6 SR and 40 registered Ph D students are working in the department.
- The practical for MBBS and coursework for MD & MSc students teaching curriculum was further expanded to add more advanced classes in various topics encompassing the current advances in research.
- Department organized a Symposium on World Immunology Day on 30 April 2019.
- Department is providing clinical services to the patients and performed different tests in total of 15,298 samples.

### EDUCATION

#### Undergraduate

The department introduced some modifications in the UG teaching curriculum, aimed at enhancing both the skill development and to keep the knowledge at par with the current developments in biochemistry. Case discussions related to didactic lectures and demonstration practical on POCT devices for glucose monitoring and pregnancy testing were introduced to improve the theory-practical connect. Kit based practical were introduced for some of the routine biochemical analytes (uric acid and HDL cholesterol) for students to appreciate the differences between traditional and autoanalyzer based methods in use. Techniques related to current applications in molecular biology such as restriction digestion and restriction site mapping were also added to the curriculum.

#### Postgraduate

These include 12 M.Sc. and 13 MD students. The department also has 40 Ph.D. students. There are three DST women scientists & three N-PDF working as postdoctoral students. The postgraduate teaching curriculum was further expanded to add more advanced classes in the Molecular Biology and Cancer Biology modules. The 'Clinical Case Discussion' has been modified to discuss complex case reports from various journals for the MD, MSc students and Senior Residents. As Course Coordinator, Professor M Rajeswari has successfully completed two SWAYM-MOOCs courses in July-December

2019 under National Mission on Education through Information & Technology (NME-ICT)-through UGC-MHRD. The two courses were: 1. Biomolecules: Structure & function in health and disease and 2. Analytical techniques in Biochemistry. The number of learners registered in each course was more than 2000 and 1500 in each.

A formal course work for PhD students is also initiated.

## **CMEs/Workshops/Symposia/National and International Conference**

### ***Conference Organized***

- A Symposium on World Immunology Day on 29th April 2019 was organized by the department (Prof Alpana Sharma) at AIIMS under the auspices of Indian Immunology Society.

### **Lectures delivered**

**Subrata Sinha: 7**

**Kalpana Luthra: 3**

**Archna Singh I: 2**

**Pragyan Acharya: 1**

**Shyam S Chauhan: 2**

**Alpana Sharma: 6**

**Subhradip Karmakar: 2**

**Riyaz Ahmad Mir: 1**

**MR Rajeswari: 4**

**Kunzang Chosdol: 1**

**Ashok Sharma: 5**

**Pramod Kumar Gautam: 1**

### **Subrata Sinha**

1. Global Mental Health in an Era of Sustainable Development Family Studies in Endogamous Groups Enable the Elucidation of Distinct Predisposing Pathways in Dyslexia, South African Academy of Sciences, 31 May 2019, Johannesburg, South Africa
2. Behavior, genetics and biology: How dyslexia links divergent approaches and pathways, SNCI, Jamia Hamdard, 10 October 2019, New Delhi
3. The role of molecular biology in interventional therapeutics, NAMSCON Symposium, 12 October 2019, Bhopal
4. Scientific and clinical issues in the treatment of genetic and rare diseases, INSA Symposium, 18 December 2019, Goa
5. Genetic studies on dyslexia: What these tell us about this complex disorder, Maharashtra Dyslexia Association, 9 February 2020, Mumbai
6. Targeting hypoxia signaling in glioma, IACR, 7 February 2020, Thiruvananthapuram
7. Family studies identify novel predispositions to Dyslexia, Asian Pacific Symposium of Clinical Biochemistry and Laboratory Medicine, 18 November 2019, Jaipur

### **Shyam S Chauhan**

1. Prognostic and Therapeutic Relevance of Cysteine Cathepsins in Leukemia, Annual Day Lecture, Institute of Home Economics, 25 September 2019, New Delhi
2. Cathepsin B: A potential Therapeutic Target in Pediatric AML, 15th Asia Pacific Federation of Clinical Biochemists and Laboratory Medicine, 17-20 November 2019, Jaipur, Rajasthan

### **MR Rajeswari**

1. Triplex-forming Oligonucleotides (TFO) targeted to HMGB1 gene shows antiproliferative effect in human hepatoma cells, 107th Indian Science Congress, 3-7 January 2020, Bangalore
2. Analysis of pbmc proteome and ppi-interactome to explore the therapeutic effect of epo in Friedreich's Ataxia, International conference Movement disorder Society, India, 31 January-2nd February 2020, Trivandrum
3. Oxidative stress in a rare, neurodegenerative disorder Friedreich's ataxia, International Conference on Role of free radicals in management of human disease and Society of Free radicals research, India 12-115, February 2020 Mumbai
4. Influence of anticancer drug on the Differential expression of proteins in Hepatoma, Asia-Pacific Conference on Life Sciences & Biological Engineering, 26-28 March 2019, Kyoto, Japan

### **Kalpana Luthra**

1. Applications of single cell sorting workshop on High-Dimensional Cell and Data Analysis organized by TCS 24 April 2019 AIIMS, New Delhi
2. Isolation and characterization of an HIV-1 broadly neutralizing antibody from a clade C infected pediatric elite neutralizer FCOIS 2019, 18-21 June 2019, Boston, USA

3. Coevolution of viral and antibody response in a pair of HIV-1 infected monozygotic pediatric twins with elite neutralizing activity' IMMUNOCON 2019, 14-16 November 2019, Mumbai

#### **Alpana Sharma**

1. Reconnoitring the Plasticity and functional diversity of gamma-delta T-cells in Pemphigus vulgaris, IMMUNOCON 2019, 14-16 November 2019, Mumbai
2. MicroRNAs in multiple myeloma: From diagnosis to therapeutics, 15th APFCB Congress 2019, 17-20 November 2019, Jaipur
3. Potential of autophagy related molecules as novel diagnostic markers in liquid biopsy of cervical cancer, 30th Annual Meeting of ISSRF-2019, 7-8 August 2018, Katra, Jammu
4. Ayurvedic herbal extracts and their integration in Multiple Myeloma. Jeevaneyam 2020, 12 and 13 February 2020, New Delhi
5. Elucidating the Plasticity and functional diversity of  $\gamma\delta$ -T-cells in Pemphigus vulgaris IABSCON 2020, 27-29 February 2020, Kolhapur, Maharashtra
6. Role of antioxidants in Food fortification 9th International Conference on Food Processing, Nutrition and Fortification with Emphasis on Vitamin D 5 and 6 March 2020, Jamia Hamdard, New Delhi

#### **Kunzang Chosdol**

1. Hypoxia promotes FAT1 mediated oncogenic properties in glioma, 13th International Symposium on Cancer Prevention and Treatment, 20 and 21 February 2020, Delhi

#### **Archna Singh I**

1. Antiatherogenic functions of HDL are impaired in subjects with myocardial infarction, Women in Sciences and Engineering, IIT-Kanpur, 19 and 20 October 2019, Kanpur
2. HDL subfraction and antioxidative activity in subjects with coronary artery disease and impact of statin therapy ICC 2019, 26th Annual Conference of Indian College of Cardiology, 20-22 September 2019, Kochi

#### **Subhradip Karmakar**

1. Biology of MDS ICTR, Pune, 7 November 2019, Pune, India
2. FBXO4 and Breast Cancer ASCO 31 May 2019, Chicago, USA

#### **Ashok Sharma**

1. Epigenetic regulation of POTE genes in Epithelial Ovarian Cancer World Congress on Cancer" (WCC) 2020, 3-5 February 2020, Jaipur, India.
2. Epigenetic regulation of POTE National Conference on Cancer Biology and Therapeutics 29 and 30th November 2019, Bhubaneswar Odisha
3. Epigenetics & Cancer Young Scientists' Conference (YSC), 5th India International Science Festival (IISF 2019), 5-7 November 2019, Kolkata, WB
4. Evolving Landscape of Translational Cancer Research and Future Challenges in India, TCGA-themed conference and hands-on workshop, 21-25 September 2018 IISER Pune
5. Epigenetics & Human Diseases Science Fest, 4th September 2019, New Delhi

#### **Pragyan Acharya**

1. The Structure and Function of a Manuscript XXXVII Indian Association of Neuroscience Pre-workshop conference on Science Communication, 19-21 November 2019, New Delhi

#### **Riyaz Ahmad Mir**

1. Modern trends in Laboratory and diagnostic services National medical professionals' week (NMLW), 18 July 2019, Delhi

#### **Pramod Kumar Gautam**

1. Herbal Plant Extract Based Synthesized Metal Nanoparticle Enhances Anti-Tumor potential, Global Congress and expo on Biomaterials, 13-14 May 2019, Kuala Lumpur, Malaysia

## Oral papers/posters presented

1. Arora M, Chauhan SS. Coexpression of MAGE gene family members in cancer: An in-silico analysis, 1st TCGA Conference in India, 21-23 September 2019, Pune
2. Gupta J, Arora M, Chauhan SS. TOX expression with an inflammatory tumor microenvironment is associated with a favorable prognosis in breast cancer. First TCGA Conference in India, 21-23 September 2019, Pune
3. Arora M, Kumari S, Singh J, Chopra A, Chauhan SS. Post transcriptional regulation of PTEN by RNA binding protein hnRNP D in oral cancer, World Congress on Cancer, 3-5 February 2020, Jaipur
4. \*Anjani, Kumar V, Chauhan SS. TOX expression with an inflammatory tumor microenvironment is associated with a favorable prognosis in breast cancer. Translation Oncology Conference, 14 and 15 February 2020, New Delhi
5. Arora M, Kumari S, Singh J, Chopra A, Chauhan SS. Transactivation of HnRNP D/Auf-1 by NF- $\kappa$ B(P65/RelA) in oral cancer, Translation Oncology Conference, 14 and 15 February 2020, New Delhi
6. Kumar V, Chauhan SS. EMBO 2019 Workshop: RNP network dynamics in development and disease, 29 September-2 October 2019, Ljubljana, Slovenia
7. Pathak D, Srivastava AK, Gulati S, Padma MV, Rajeswari MR. PBMC proteome changes in Freidreich's ataxia: Unravelling downregulated Actin a cardiac muscle 1 in patients, XXIV World Congress on Parkinson's Disease and Related Disorders (IAPRD-2019), 16-19 June 2019, Montreal, Canada
8. Kumar R, Luthra K. Evaluation of Alterations in Natural Killer Cells in HIV-1 Infected Children CME-cum-workshop on Advanced Molecular Techniques in Medical Diagnostics, 22-23 April 2019, GIMS, Greater Noida
9. Kumar R, Luthra K. Evaluation of Alterations in Natural Killer Cells and Dendritic cells in HIV-1 Infected Children, High Dimensional Data Analysis Workshop, 23 and 24 April 2019, AIIMS, New Delhi
10. \*\*Mishra N, Luthra K. Expression of complement regulatory proteins on leukocytes of coronary artery disease patients, ISAR-DCCON 2019, 3 August 2019, AIIMS, New Delhi
11. Kumar R, Aggarwal H, Ravinder, Lodha R, Das B, Luthra K. Basic and Advanced Translation Immunology, Immunology course work certification of IUIS/IIS/FIMSA Course, 12-16 October 2019, RUHS, Jaipur
12. Mishra N, Luthra K. Identification of viral envelope glycoproteins with potential to serve as clade C based immunogens from HIV-1 infected pediatric elite neutralizers, International Science Symposium on HIV & Infectious Diseases, 12-14 October 2019, Chennai
13. \*\*\*Mishra N, Luthra K. Viral Envelope Glycoprotein Diversification Pathways in HIV 1 Clade infected Monozygotic Pediatric Twins with Elite Neutralizing Activity, IMMUNOCON 2019, 14-17 November 2019, Mumbai
14. # Kumar R, Aggarwal H, Hussain AW, Ravinder, Lodha R, Das B, et al. Effect of early initiation of ART on alterations in Natural killer cell of HIV-1 infected children, IMMUNOCON 2019, 14-17 November 2019, Mumbai
15. Sharma A, Khan R, Gupta N, Sharma M. Clinical significance of autophagy related molecules in liquid biopsy of cervical cancer, ESGO-2019, 2-5 November 2019, Athens, Greece
16. Kumar R, Himani, Gupta N, Haq A, Mirza AA, Sharma A. Unveiling molecular associations of polymorphic variants of VDR gene (FokI, BsmI and ApaI) in multiple myeloma patients of Indian population, 9th International Conference on FNA-VD 2020, 5 and 6 March 2020, New Delhi
17. \$Gupta N, Das D, Akhtar J, Khan AA, Sharma A. Evaluation of anti-tumor efficacy of a unani herbal formulation Habb-e-Asgandh in Multiple Myeloma in vitro, 7th International Congress of the Society for Ethnopharmacology, India (SFEC 2020), 15-17 February 2020, New Delhi
18. Nafees S, Gupta N, Rahman AU, Akhtar J, Khan AA, Sharma A. Characterisation and evaluation of anti-cancer potential of Unani formulation Itrifal-e-Aftimoon in Chronic Myeloid Leukemia, 7th International Congress of the Society for Ethnopharmacology, India (SFEC 2020), 15-17 February 2020, New Delhi
19. Gupta N, Kumar R, Seth T, Garg B, Sharma A. Targeting of versican, a proteoglycan in bone marrow microenvironment by microRNAs inhibit multiple myeloma progression, Translation Oncology Conference, 14 and 15 February 2020, New Delhi
20. Nafees S, Gupta N, Rahman AU, Akhtar J, Khan AA, Sharma A. Identifying the anti-cancer potential of Unani formulation Itrifal-e Aftimoon in Chronic Myeloid Leukemia, International Conference on "Fundamentals of Unani Medicine: The Basis for Complete Health", 3 and 4 December 2019, Aligarh
21. Gupta N, Kumar R, Sharma A. Targeting of versican, a proteoglycan in bone marrow microenvironment by microRNAs inhibit multiple myeloma progression, ESMO Asia Congress, 22-24 November 2019, Singapore
22. Santosh KV, Das D, Gupta S, Arava SK, Sharma A. Elucidating the role of  $\gamma\delta$ -T cells and its immunomodulatory receptors in the immunopathogenesis of vitiligo, Immunocon 2019, 14-16 November 2019, Mumbai

23. Ashu, Sharma A. Role of dendritic cells in immunopathogenesis of vitiligo, Immunocon 2019, 14–16 November 2019, Mumbai
24. Sharma D, Das D, Arava S, Gupta S, Sharma A. The altered frequency and functions of DCs and NK cells in immunopathogenesis of Pemphigus Vulgaris, Immunocon 2019, 14–16 November 2019, Mumbai
25. \$Akhtar S, Sharma A Exploring the genes commonly regulated in endothelial dysfunction and associating it with nitric oxide level, 32nd Annual Conference and International Symposium of Indian Society for Atherosclerosis Research, 8-10 November 2019, New Delhi
26. Saini C, Srivastava RK, Ramesh V, Sharma A. Th17 cells produce heterodimer IL-17A+/F+ protein and create neutrophilia in leprosy reversal reactions, Cytokine 2019, 19–23 October 2019, Vienna, Austria
27. Saini C, Tarique M, Rai R, Ramesh V, Khanna N, Sharma A. IL-17 producing Gamma Delta T cells associated with inflammation and immunopathology of leprosy reactions, International Leprosy Congress, 10–13 September 2019, Manila, Philippines
28. Gupta N, Kumar R, Seth T, Garg B, Sharma A. Targeting of versican, a proteoglycan in bone marrow microenvironment by microRNAs inhibit multiple myeloma progression, 17th Annual Meeting of Japanese Society of Medical Oncology (JSMO) 2019, 18–20 July 2019, Kyoto, Japan
29. Das D, KV Santosh, Sharma A, Arava S, Sharma A. Comprehending the phenotypic and functional diversity of  $\gamma\delta$  T cell subtypes in autoimmune skin disease Pemphigus Vulgaris, AAI-IMMUNOLOGY 2019, Annual Meeting of American Association of Immunologist, 9-13 May 2019, San Diego, USA
30. \*\*\*\*Dey D, Shrivastava V, Singal CMS, Bhat MA, Sharma JB, Palanichamy JK, et al. Using human fetal neural stem cells and oligodendrocytes as a disease model to delineate the pathogenesis of cerebral palsy , 8th Annual CME of Clinical Biochemistry, 25 April 2019, New Delhi
31. ##Kaur A, Bhattacharya A, Bhat M, Agrawal SK, Ghosh D, Sen S. Evaluating the therapeutic role of Metformin on differentiation and tumor microenvironment of human colorectal cancer stem cells in vitro, Digestive Disease Week (DDW) Annual meeting 2019, 18–21 May 2019, San Diego
32. @Shrivastava V, Dey D, Singh A, Singal CMS, Jaiswal P, Sharma JB, et al. Evaluating glutamate transport after hypoxic injury in astrocytes derived from human fetal neural stem cells in vitro, 37th Annual meeting of Indian Academy of Neurosciences (IAN), 19–21 November 2019, New Delhi
33. Dey D, Agrawal SK, Shrivastava V, Bhattacharya A, Jingar P, Manhas J, et al. Symphytum officinale treatment in human bone marrow derived stem cells increases osteoblast differentiation in vitro, 7th International Congress of the Society for Ethnopharmacology (SFEC 2020), 15–17 February 2020, New Delhi
34. Thakkar H, Vincent V, Roy A, Lakshmy R, Kalaivani M, Singh A. Antiatherogenic functions of HDL are impaired in subjects with myocardial infarction. Women in Sciences and Engineering, IIT-Kanpur, 19 and 20 October 2019, Kanpur
35. Singh A, Kumar B. HDL subfraction and antioxidative activity in subjects with coronary artery disease and impact of statin therapy, ICC 2019-26th Annual Conference of Indian College of Cardiology, 20-22 September 2019, Kochi
36. ###Singh A, Panda S, Diravyaseelan M, Luthra K. Role of hyperglycemia on macrophage effector function in pathophysiology of pulmonary tuberculosis, International Science symposium on HIV and Infectious diseases. ISSHID 2019, 12-14 October 2019, Chennai, India
37. Singh A\*, Panda S, Diravyaseelan M, Luthra K, Mohan A. Alteration of macrophage effector function in pathophysiology of pulmonary tuberculosis patients with diabetes, NATCON 2019, 20-22 December 2019, Chennai, India
38. Singh A, Panda S, Tiwari A, Luthra K, Sharma SK. Role of vitamin D in innate immunity modulation based therapeutic targets in pulmonary tuberculosis. India EMBO Symposium Mycobacterial heterogeneity and host tissue tropism, 11-15 February, Delhi
39. Sharma G, Nidhi T, Jain A, Boby E, Chattopadhyay P, Singh A, et al. Role of IGF2BP1 in B-cell Acute Lymphoblastic Leukemia: A multifaceted study, EMBL Practical Workshop: Humanized Mice in Biomedicine, November 2019, Heidelberg, Germany
40. Dhar R, Karmakar S. Biology of Preeclampsia, North Bengal Medical College, January 2019, Bagdogra, Siliguri
41. Dhar R, Kalaki P, Seth R, Karmakar S. BRAF mutation and data mining in LCH, CMMC Rare Disease, August 2019, Cologne, Germany
42. Kundu S, Sharma A. 3D Genome Architecture: A major player in the Epigenetic regulation of CA/CG antigen POTE in Ovarian Cancer, World Congress on Cancer (WCC) 2020, 3-5 February 2020, Jaipur, India.
43. Sharma N, Manav N, Kundu S, Quazi S, Kumar P, Sharma A. Expression Analysis of Cancer Testis Antigen POTE using TCGA data mining to correlate its biomarker potential for Ovarian Cancer, Multi-Omics Studies in Cancer- Learnings from TCGA, 21-25 September 2019, Pune

44. Acharya P, Kaur C, Mandage R, Pramanik A, Co-infections Predominate in Malaria Associated Acute Febrile Illnesses: Spectrum and Incidence from India, Biomalpar XV: Biology and Pathology of the Malaria Parasite, 28-30 May 2019, Heidelberg, Germany
45. Acharya P. Co-infections and Plasmodium Mixed Species Infections are Potential Determinants of Malaria Severity, 30th National Congress of Parasitology and Global Summit on Malaria Elimination, 26-28 September 2019, New Delhi
46. Yadav R, Aggarwal S, Singh A, Mir R. Effect of surgically induced weight loss on serum adiponectin levels and its association with the gene expression in visceral adipose tissue of morbidly obese, EUROMEDLAB (IFCC)-Barcelona 2019, 19 May 2019, Barcelona, Spain
47. Sachan A, Aggarwal S, Singh A, Khan MA, Shukla S, Yadav R. Study of changes in the circulating adipocytokines due to bariatric surgery induced weight loss and their association with co-morbidities in Obesity, 15th APFCB Congress 2019, 18-21 November 2019, Jaipur

\* Ms. Anjani awarded First Prize: Poster presentation

\*\* Mr. Nitesh Mishra awarded First Prize: Oral presentation

\*\*\* Mr. Nitesh Mishra awarded First Prize: Oral presentation

# Dr Romsha Kumar awarded First Prize: Poster presentation

\$ Dr Nidhi Gupta awarded First Prize: Oral presentation

\$\$ Dr Shamima Akhtar awarded Second Prize: Poster presentation

\*\*\*\* Devanjan Dey received 2nd prize : Oral presentation-”Young Scientists’ Presentation”

## Dr. Amarpreet Kaur received an International travel award to attend and present the poster.

@ Vadanya Shrivastava received the Suttee Nag award for Best poster presentation.

### Dr Archana Singh awarded Second Prize: Oral presentation

## RESEARCH

### Funded projects

#### Ongoing

1. Rational strategies for tackling hypoxia induced adverse phenotype and therapeutic resistance in neoplasia using a glial tumor model, Subrata Sinha, DST, 5 years, 2017 –2022, Rs 98 lakhs
2. Programme Support: CRISPR-mediated technologies for the development of new therapeutics and diagnostics, Subrata Sinha, DBT, 2 years, 2020-2022 , Rs 2.89 crores
3. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer, SS Chauhan, ICMR, 3 years, 2019-2022, Rs 35 lakhs
4. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, SS Chauhan, ICMR, 1 year, 2019-2020, Rs 5 lakhs
5. Identification of Novel Blood Based Biomarker for Early detection of Human Gallbladder Cancer, SS Chauhan, DRDO, 3 years, 2018-2021, Rs 46.16 lakhs
6. MOOCs-Swayam Biomolecules, MR Rajeswari, MHRD, 6 months, Jan-May 2020, Rs 7.2 lakhs
7. MOOCs-Swayam Analytical Techniques, MR Rajeswari, MHRD, 1 year, 2018-2020, Rs 13.5 lakhs
8. MOOCs-Swayam Re-Run Analy Tech, MR Rajeswari, MHRD, 6 months, Jan-June, 2019, Rs 1.2 Lakhs
9. Neurodegeneration with Brain Iron Accumulation: Iron-biomarker and therapeutic options MR Rajeswari PI: Austria, B Mojdehkar, International Collaboration India-Austria via DST-WTZ, 2 years, 2017-2019, Rs 18.85 lakhs
10. Assessment of Anticancer effect of Triplex Forming Oligonucleotides (TFOs) on the Expression of HMGB1 in Hepatoma Animal model system, MR Rajeswari, DST, 3 years, 2017-2020, Rs 63.14 lakhs
11. Interaction between nanoparticles and cancer cells in context of hypoxia and stemness and invasiveness characteristics, P Chattopadhyay, DST, 3 years, 2017-2020 , Rs 80 lakhs
12. Exploring the link between the RNA binding protein IGF2BP3, long non-coding RNA linc-RNA and their targets in migration and invasion of epithelial cancer cell lines, P Chattopadhyay, SERB, 3 years, 2018-2021, Rs 42 lakhs
13. Generation and characterization of HIV-1 subtype-C based trimeric immunogens from infected children, Kalpana Luthra, DBT, 3 years, 2019-2022, Rs 1.60 crores
14. Isolation and characterization of monoclonal antibodies from HIV-1 subtype C infected individuals , Kalpana Luthra, DBT, 3 years, 2017-2020, Rs 88 lakhs

15. A study of immune pathways in the pathogenesis of chronic pancreatitis, Kalpana Luthra, AIIMS, 1 year, 2019-20, Rs 5 lakhs
16. Unveiling the therapeutic potential of an Unani herbal formulation in hematological malignancy, Alpana Sharma, AYUSH, 3 years, 2017-2020, Rs 62.12 lakhs
17. Prevalence of Human Papilloma Virus (HPV) in Indian patients of Penile cancer, Alpana Sharma, DHR, 3 years, 2018-2021, Rs 25 lakhs
18. Deciphering the role of functional determinants of Dendritic cells and their immune cross talk with NK cells: Possible therapeutic target(s) in Pemphigus vulgaris, Alpana Sharma, ICMR, 3 years, 2018-2021, Rs 42.31 lakhs
19. Identifying the role of Treg cells and MDSCs in endothelial dysfunction, Alpana Sharma, ICMR, 3 years, 2019-2022, Rs 45.31 lakhs
20. Delineating the anti-cancer potential and the mechanism of action of Unani medicinal formulation Itrifal-e-aftimoon in Chronic Myelogenous Leukemia, Alpana Sharma, CCRUM AYUSH, 3 years, 2019-2022, Rs 68.66 lakhs
21. Signalling interaction between FAT1 and p53 under hypoxia: Their influence on tumor phenotype and identification of novel molecular targets in glioma, Kunzang Chosdol, DBT, 3 years, 2016-19, Rs 55.52 lakhs
22. To study the functional role of NFkB on FAT1 gene expression in Glioma, Kunzang Chosdol, ICMR, 3 years, 2017-20, Rs 33.33 lakhs
23. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma, Kunzang Chosdol, AIIMS, 2 years, 2018-2020, Rs 20 lakhs
24. The role of FAT1 regulated miRNAs in glioblastoma (GBM) aggressiveness: Identification of potential miRNA(s) as clinical marker(s) in GBM patients, Kunzang Chosdol, SERB-DST, 3 years, 2019-22, Rs 42.33 lakhs
25. Effect of hypoxia on different neural cell types in vitro—a model to design therapeutic strategies against cerebral palsy in preterm infants, Sudip Sen, DBT, 3 years, 2018-2021, Rs 49 lakhs
26. Deciphering the osteogenic effect of *Symphytum officinale* using human bone marrow derived mesenchymal stem cells and rodent model, Sudip Sen, CCRH, AYUSH, 2 years, 2019-2021, Rs 45 lakhs
27. Deciphering neural plasticity of fetal neural stem cells on exposure to hypoxia, Sudip Sen, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
28. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Archana Singh, SERB-DST, 3 years, 2017-2020, Rs 40.1 lakhs
29. Role of hyperglycemia on macrophage effector function in pathophysiology of pulmonary tuberculosis, Archana Singh, SERB-DST, 3 years, 2018-2021, Rs 49 lakhs
30. Study of effect of Hyperglycemia on phenotypic and functional alteration in differentiated macrophages from THP1 cell line and monocytes from pulmonary tuberculosis patients, Archana Singh, ICMR, 3 years, 2019-2022, Rs 30 lakhs
31. Study of *Mycobacterium indicus pranii* and Human beta defensin-2 as adjunct and chemo-immunotherapy against *Mycobacterium tuberculosis* in vitro, Archana Singh, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
32. Evaluation of l-arginine levels in correlation with iNOS expression and NO levels in pulmonary tuberculosis and their household contacts in comparison with healthy controls, Archana Singh, TB Association of India (TBAI), 6 months, 2019-2020, Rs 0.25 lakhs
33. Role of IGF2BP1, an RNA binding protein in lymphomagenesis, Jayanth Kumar Palanichamy, DBT-Wellcome Trust India Alliance Early Career Fellowship for Clinicians and Public Health Researchers, 5 years, 2016-2021, Rs 187 lakhs
34. Role for RNA methyl transferase machinery in B-cell Acute Lymphoblastic Leukemia, Jayanth Kumar Palanichamy, AIIMS-THSTI Collaborative Research Grant, 2 years, 2019-21, Rs 20 lakhs
35. Placenta Organoids, Subhradip Karmakar, ICMR, 3 years, 2020-2023, Rs 60 lakhs
36. Nuclear hormone network in GBC, Subhradip Karmakar, DHR, 3 years, 2021-2024, Rs 70 lakhs
37. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for cancer patients, Ashok Sharma, MEITY, 2 years, 2020-2022, Rs 292 lakhs
38. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Ashok Sharma, ICMR, 3 years, 2019-2022, Rs 42.5 lakhs
39. Genome-Wide DNA Methylation & Genomic Instability Profiling and Evaluating Its Potential as a Biomarker and Immunotherapeutic Target for Ovarian Cancer, Ashok Sharma, DBT-Ramalingaswami Project, 5 years, 2015-2020, Rs 32.5 lakhs
40. Nuclear Architecture as an Epigenetic Regulator in Pericentromeric localized Cancer-Testis/Germline Antigen POTE Expression in Ovarian Cancer, Ashok Sharma, DST, 3 years, 2017-2020, Rs 55 lakhs

41. A pilot study to analyze serum levels and intra-tumour expression of cancer-testis antigen POTEE as a new biomarker for ovarian cancer, Ashok Sharma, DHR, 2 years, 2018-2020, Rs 25 lakhs
42. Molecular characterization of Endometrial Cancer and its correlation with clinicopathological Features, Ashok Sharma, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
43. Cell Free DNA as a Tool to Predict Acute Kidney Injury in Acute on Chronic Liver Failure, Pragyan Acharya, DBT, 3 years, 2017-2020, Rs 49 lakhs
44. Tumor Dynamics and Immune cell interactions in anaplastic thyroid carcinoma, Riyaz Ahmad Mir, ICMR, 3 years, 2020-2023, Rs 30 lakhs
45. Interactome Analysis of COVID-19 spike protein C terminus: identification of potential druggable target for virus entry, Riyaz Ahmad Mir, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
46. Role of PAQosome/R2TP complex in the functional assembly of wild type and mutant p53, Riyaz Ahmad Mir, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
47. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Rakhee Yadav, ICMR, 3 years, 2019-2022, Rs 46 lakhs
48. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in Obesity associated Adipose Tissue dysfunctions, Rakhee Yadav, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
49. Role of Macrophages in regulation of Bone and Blood forming stem and progenitor cell migration and development, Pramod Kumar Gautam, DST, 5 years, 2017-2022, Rs 35 lakhs
50. Development of targeted drug delivery using liposomes/nanoparticles on cancer stem cell using herbal plant extract and hsp70- tumor antigen and to evaluate its anti-tumor function, Pramod Kumar Gautam, SERB-DST, 3 years, 2019-2022, Rs 49 lakhs
51. To study the role of  $\beta$ -defensin on stem cells, cancers stem cells remodeling and its associated microenvironments, AIIMS, Pramod Kumar Gautam, 2 years, 2018-2020, Rs 10 lakhs

### **Completed**

1. Study the Role and Regulation of Human Heterogeneous Ribonucleoprotein D Expression in Oral Carcinogenesis, SS Chauhan, DST, 3 years, 2016-2019, Rs 74.66 lakhs
2. Plasma circulating DNA in mitochondrial the assessment of Friedreich's Ataxia (FA), MR Rajeswari, ICMR, 2 years, 2017-2019, Rs 34.59 lakhs
3. Isolation and characterization of human monoclonal antibodies from memory B cells of HIV-1 infected children, Kalpana Luthra, DST, 3 years, 2016-2019, Rs 63 lakhs
4. Isolation and molecular characterization of colorectal cancer stem cells, Sudip Sen, DBT, 3 years, 2015-2019, Rs 25 lakhs
5. Differentiation of fetal neural stem cells to oligodendrocytes – a disease model to decipher the pathogenesis and devise therapeutic strategies for cerebral palsy, Sudip Sen, DBT, 2 years, 2018-2020, Rs 29.2 lakhs
6. Role of TET2 in AML, Subhradip Karmakar, SERB, 3 years, 2017-2020, Rs 42 lakhs
7. Estimate the Serum Levels of Cancer-Testis Antigen POTE as a Biomarker in Epithelial Ovarian Cancer, Ashok Sharma, AIIMS, 2 years, 2016-2018, Rs 10 lakhs
8. Investigation of Purine Salvage Pathway Metabolites and Enzymes and Their Association with Severe Malaria Outcomes, Pragyan Acharya, SERB, 3 years, 2017-2020, Rs 34 Lakhs
9. Endoplasmic Reticulum (ER) stress in obesity induced adipose tissue dysfunction and inflammation, Rakhee Yadav, AIIMS, 2 years, 2017-2019, Rs 8 lakhs

### **Departmental projects**

#### **Ongoing**

1. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
2. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
3. Role of Prothymosin alpha in Glial tumorigenesis
4. Role of Human Heterogeneous Nuclear Ribonucleoprotein D (hnRNP D) in Oral Cancer
5. Proteomics of FRDA positive, FRDA-suspected and FRDA-carriers
6. Effect of nanoparticles on stemness and migration characteristics of cancer cells under different oxygen concentration
7. Uptake of biodegradable nanoparticles by cancer cells
8. Internalization of Carbonic Anhydrase 9 in invasive subset of cancer cell

9. Effect of zeta potential on uptake of PLGA biodegradable nanoparticles by cancer cells
10. Epigenetic therapy to reverse EMT and suppress cancer metastasis
11. Generation and Characterization of anti HIV-1 human monoclonal antibody(s) from a subtype C infected pediatric elite neutralizer
12. Generation and Characterization of pseudoviruses from an adult HIV-1 infected long term non progressor (LTNP) for potential subtype C based immunogen
13. Generation and Characterization of anti HIV-1 human monoclonal antibody from subtype C infected adult long term non progressor
14. Generation and characterization of pseudoviruses from children with perinatally acquired HIV-1 infection
15. Isolation and characterization of Human anti-HIV-1 monoclonal antibodies from infected children
16. A longitudinal study of the effect of early initiation of ART on the innate immune responses in HIV-1 infected children
17. Generation and characterization of pediatric HIV-1 C trimers towards immunogen design
18. Role of Macrophage phenotypes in the regulation of Mesenchymal stem cell migration and development in Breast Cancer
19. Effect of Bio-conjugated chemotherapeutic molecules on cancer stem cell and their associated Microenvironments
20. Elucidating the functional role of exosomes in renal carcinoma
21. To Investigate the role of R2TP complex in the assembly of p53
22. Exploring the role of innate lymphoid cells in the immunopathogenesis of pemphigus vulgaris
23. Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis
24. Epigenetic regulation and immunotherapeutic potential of human cancer testis/germline antigen POTE
25. Characterization of monocytes and macrophages in acute on chronic liver failure
26. Identification of novel blood based biomarker for early detection of human gallbladder cancer
27. Role of gamma delta T cells and scavenger receptors in vitiligo
28. Elucidating the immune escape mechanism in renal cell carcinoma
29. Study of B cell subsets and their immune regulatory functions in urothelial carcinoma of bladder
30. Study of innate lymphoid cells in the immunopathogenesis of Pemphigus vulgaris
31. Functional interaction of FAT1 and miRNA in glioma
32. To study the gene expression in GBM cell lines under different degree of hypoxia and the role of p53 in HIF1 regulation under severe hypoxic condition
33. Hypoxia and response to chemotherapy: A study in glial tumor cell lines
34. FAT1 and p53 on chemo-sensitivity of Glioma
35. Molecular Signature of Glioma in the context of WHO 2016 classification of Glioma
36. FAT1 protein: Its processing and cellular function in glioma cells
37. Study on mitochondrial metabolic reprogramming in pediatric acute lymphoblastic leukemia (ALL).
38. Exploring a unified pathway for the anti-atherogenic effects of adiponectin, sphingosine 1-phosphate (S1P) and high-density lipoprotein (HDL) on endothelial cells
39. Investigation of the involvement of plasma membrane ATP binding cassette transporter (ABCA1) in adipose tissue mediated insulin resistance
40. Role of hyperglycemia on macrophage effector function in pulmonary tuberculosis Sudhasini: Newton bhabha fellowship (4 months, 2019)
41. Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis
42. To study the role of B cells on macrophage polarization and their effector functions in immunopathogenesis of pulmonary tuberculosis
43. Role of IGF2BP1 in of ETV6-RUNX1 positive B cell Acute Lymphoblastic Leukemia
44. Role of RNA methylation and IGF2BP expression in B-cell Acute Lymphoblastic Leukemia.
45. The interplay of RNA methylation and IGF2BP family of RNA binding proteins in regulation of gene expression in cancer
46. Functional Characterization, Expression, and Clinical Significance of Cancer-Testis/ Germline Antigen POTE in Ovarian Cancer
47. Role of 3D Genome Architecture as Epigenetic Regulator of Pericentromeric localized Cancer-Testis/Germline

#### Antigen POTE in Cancer

48. Innate Immune Responses in Acute on Chronic Liver Failure
49. Characterization of Monocytes and Macrophages in Acute on Chronic Liver Failure
50. Study of ECM remodeling in adipose tissue dysfunctions in obesity
51. Role of macrophage phenotypes in the regulation of mesenchymal stem cell migration and development in Breast Cancer
52. Effect of Bio-conjugated chemotherapeutic molecules on Stem cells, Cancer stem cells and their associated Microenvironment

#### **Completed**

1. Elucidation of Molecular Mechanism of Differential Expression of Cathepsin B in Breast Cancer Cells with Different Metastatic Potential
2. To assess the potential utility of Cathepsin L and Cathepsin B as universal biomarker for cancer.
3. Human Heterogenous Ribonucleoprotein D (hnRNP D) mediated post transcriptional regulation of Phosphatase and Tensin homolog (PTEN) in oral cancer
4. The Expression and Clinical Significance of Serum microRNAs in Human Gallbladder Cancer
5. Inflammatory biomarkers HMGB1 and TGF-1 in peri-miniscrew implant crevicular fluid (PMICF)
6. Exploring the role of Versican and its regulation by miRNA in Multiple Myeloma
7. Gamma delta T cells in immunopathogenesis of Pemphigus vulgaris
8. Regulation of FAT1 Gene Expression in Gliomas
9. Signaling interactions between FAT1, p53 and HIF1a in glioma
10. A study on the effect of HMG-CoA Reductase inhibitors on HDL functionality in Acute Coronary Syndrome (ACS).
11. Study of Mycobacterium indicus pranii and Human Beta Defensin as adjunct in Chemo-immunotherapy against Mycobacterium tuberculosis in vitro.
12. Cloning and Functional analysis of Cancer Testis Antigen POTE in Epithelial Ovarian Cancer
13. Effect of DNA Methylation in Expression of Cancer-Testis/Germline Gene POTE in Ovarian Cancer
14. DNA Methylation Effect on POTE B Expression in Epithelial Ovarian Cancer
15. TNF alpha in Malaria Patients

#### **Collaborative projects**

##### **Ongoing**

1. A study of epigenetics of Breast cancer by evaluation of tissue site-specific Promoter DNA methylation profiles in Breast Cancer, Surgical Disciplines
2. Expression of Reg-4 and MUC-4 in patients with carcinoma of pancreas, Gastroenterology
3. miRNA as biomarker in chronic pancreatitis patients who are at high risk for developing pancreatic cancer, Gastroenterology
4. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology
5. Assessment of single versus subsequent microosteoperforation stimulated IL-1beta levels during orthodontic tooth movement- a pilot study, Dental Surgery
6. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomised controlled trial, Dental Surgery
7. N22 region of torque teno virus: Cloning, Expression and use of translational peptides in immunological assays and proteomic analysis, Laboratory Medicine
8. Rare disease modelling using induced pluripotent stem cells, Stem Cell Facility
9. Study to identify the genotype phenotype correlation in testicular biosynthetic defects and 5- $\alpha$  reductase deficiency with respect to disorders of sex development, Paediatric surgery
10. Role of Hydrogen Sulfide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia, Anatomy
11. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance, Dr BRA IRCH

12. Combating the challenge of antibiotic tolerance: combining conventional anti-tubercular drugs with DevR dormancy regulator targeted approaches for improving *M. tuberculosis* clearance, Biotechnology
13. Role of T-regulatory cells (Tregs) and their clinical correlation in epithelial ovarian cancer, Surgical Oncology
14. NF- $\kappa$ B expression and its relation to functional capabilities of CD4<sup>+</sup> and other T cells among HIV infected Indian population, Microbiology
15. Human Papillomavirus status in Penile carcinoma in Indian patients and correlation with Clinico-pathological staging, Urology
16. Prospective non-randomized controlled trial to compare the efficacy of subcutaneous etanercept versus oral methotrexate in moderate to severe chronic plaque psoriasis and to correlate response with Th1, Th2, Th17 and Treg cell patterns, Dermatology
17. Study of osteogenic humoral factors on fracture healing in patients with head injury: decoding the mystery, Orthopaedics
18. Immunological evaluation in IVF failure patients, Obstetrics and Gynaecology
19. A comparative pilot study of rectus fascia pubovaginal sling surgery vs TOT in patients with urodynamically proven SUI, Obstetrics and Gynaecology
20. To study the correlation between candida and proinflammatory cytokines and chemokines in Oral Leukoplakia with antifungal therapy, Centre for Dental Education & Research
21. Molecular characterization of NF $\kappa$ B pathway in uveal melanoma, Dr R.P. Centre
22. Molecular Characterization of malignant lacrimal gland tumours, Dr R.P. Centre
23. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), IRCH
24. Dietary diversity and nutritive value of indigenous foods in addressing food security and nutritional status of vulnerable tribal communities of India, IIPH-Delhi, PHFI, India
25. Role of Serum CA-125 Level in Diagnosis and Monitoring of Treatment Response in Pulmonary and Extra-pulmonary Tuberculosis, Medicine
26. A randomized double blind placebo controlled pilot study evaluating the effect of topical urea as pre-treatment for preventing hand foot skin reaction in cancer patients on sunitinib therapy, Pharmacology
27. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Pharmacology
28. Effect of vitamin D supplementation on seizure frequency in persons with drug resistant epilepsy and its correlation with biomarkers, Pharmacology
29. Anemia Research Consortium as part of National Centre of Excellence and Advanced Research on Anemia (NCEAR-A), Community medicine
30. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban slum of Delhi-A community based prospective study, Community medicine
31. Effect of bioconjugated chemotherapeutic molecules on stem cell, cancer stem cells and their associated microenvironment, Biochemistry
32. Role of Macrophages phenotype in the regulation of mesenchymal stem cell migration and development in breast cancer, Biochemistry
33. Profile of serum hepatotrophic factors, serum ammonia levels and Quality of life in patients of EHPVO, Paediatric Surgery
34. Identification and in-vitro functional assay of novel driving tyrosine kinases in Indian BCR-ABL-like acute lymphoblastic leukemia: DBT Wellcome Trust India Alliance Intermediate Fellowship, Laboratory Oncology, IRCH
35. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML): DST SERB Core Research Grant, Medical Oncology, IRCH
36. Molecular Analysis to explore resistance against RTK in mRCC, Urology
37. Role of Specific Single Nucleotide Polymorphism ... in Opioid Dependency, Psychiatry
38. Role of PARP1 and  $\gamma$ -Glutamyl cysteine Synthetase Inhibitor in Cisplatin Sensitivity & Correlation With DNA Methylation in Ovarian Cancer, IRCH
39. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis, Anatomy
40. The Role of Leukotriene A4 hydrolase gene Polymorphism and Clinical outcome correlate in Corticosteroids treated Tubercular Meningitis Patients, Neurology
41. One carbon metabolism and cognitive impairment in older Indians, Geriatric Medicine
42. Estimation of novel Proteins among Older Subjects as biomarker for cognitive impairment, Geriatric Medicine

43. To evaluate the effect of intralipid supplementation on implantation rate in women with two or more failed IVF/ICSI with elevated natural killer cell levels—a pilot randomized controlled trial, AIIMS
44. Expression of Cancer Testis Antigen POTE in Ovarian Tumors and its Clinical Significance: A Pilot Study, AIIMS
45. Molecular Characterization of Endometrial Cancer and its correlation with clinicopathological Features, AIIMS, New Delhi
46. Department of Biotechnology-Consortium on Celiac Disease, Gastroenterology
47. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Surgical Disciplines
48. Development of single cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on HNC, JNU
49. Artificial Intelligence in oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for cancer patient, Biochemistry

### Completed

1. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia, Anatomy
2. Identification of Glucose related protein 78(GRP78) as a biomarker for tumor behavior in patients of renal cell carcinoma, Urology
3. Placental growth factor as a predictive and prognostic marker for development of pre-eclampsia in high risk patients, Obstetrics and Gynecology
4. Role of placental growth factor, uterine artery Doppler and 3D Doppler ultrasound of placenta for prediction of pre-eclampsia in high risk pregnancies, Obstetrics and Gynecology
5. Role of Vascular Endothelial Growth Factor – in management of Recurrent Respiratory Papillomatosis, Otorhinolaryngology (ENT)
6. Role of placental growth factor, uterine artery Doppler and 3D Doppler ultrasound of placenta for prediction of pre-eclampsia in high risk pregnancies, Obstetrics and Gynecology
7. The effect of ultrasound guided quadratus lumborum block on postoperative analgesia and neuroendocrine stress response in paediatric patients undergoing elective open pyeloplasty. a randomised control trial, Anaesthesia Pain medicine & Critical Care
8. Development of a multiplex real time PCR (qPCR) assay for simultaneous detection of hepatitis viruses (a-g) in serum, Laboratory Medicine
9. Role of peroxisome proliferator activated receptor alpha (ppar alpha) in trophoblast invasion, Biochemistry

### PUBLICATIONS

**Journals: 42                      Abstracts:              10              Chapters in Books: 1**

### PATIENT CARE

1. CEA 2723		6. Beta HCG	682	11. Free T3	1532
2. CA 19-9	2481	7. AFP	589	12. Free T4	1532
3. Total PSA	332	8. Serum Ferritin	772	13. TSH	2035
4. CA 125	846	9. Vitamin B12	794		
5. CA 15.3	186	10. Folate	794	<b>Total</b>	<b>15298</b>

### Quality control:

Apart from routine internal quality assurance scheme, Successful monthly participation in External quality assurance scheme (EQUAS) for last one year to deliver quality reports. Department has standardized the porphyria tests and started receiving samples from different depts. of the Institute.

Department of Biochemistry has done free genetic test for ataxia patients with FRDA and suspected FRDA coming from Neurology and Paediatric Neurology and Paediatric genetics.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Subrata Sinha** was **Fellow of** Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences, National Academy of Medical Sciences and Indian Academy of Neurosciences. Elected as INSA Vice President 2019, Convener INSA Delhi Chapter (since 2018); **Member, Institutional Committees (Governance)**, Institute Body, Governing Body, Standing Selection committee and Academic Committee JIPMER Pondicherry (from 2019); Society, Institute of Life Sciences, Bhubaneswar (from 2018); Indian Association of Cultivation of Science (from 2020);

**Institutional Committees (Scientific, Research, Academic)** Member of Scientific Advisory Group (SAG) - Basic Medical Sciences, ICMR; Scientific Advisory Committee (SAC) of Institute of Pathology, ICMR (2008- currently Chairman); Research Council (RC) Centre for Cellular and Molecular Biology, Hyderabad (from 2017); RC, Indian Institute of Chemical Biology, Kolkata (2014-2016; from 2017); RC, Central Drug Research Institute (Special Invitee); SAC - Rajiv Gandhi Centre of Biotechnology (from 2008); SAC Institute of Life Sciences, Bhubaneswar – Special Invitee, areas related to cancer; SAC National Institute of Biomedical genomics (from 2017); **Committees of Scientific Ministries and Departments – Department of Science and Technology (DST):** Chairman, Cognitive Science Research Initiative (from 2014) and Science and Technology of Yoga and Meditation (from 2015); Member PRC Medical Sciences (SERB) (2018-20); **Indian Council of Medical Research (ICMR):** Chairman, PRC for Biochemistry, Immunology and Allergy (from 2012); Member, PRC for Translational Neurosciences (from 2014); Member, PRC for Cell and Molecular Biology (from 2013); Member, National Committee of Stem Cell Research and Therapy (from 2017); Member, PRC Nanotechnology (from 2017); Member NAC SCRT National Apex Committee, Stem Cell Research and Therapy (from 2018); Chairman – GTAC Gene Therapy Advisory Committee (from 2018).

**Professor SS Chauhan** selected for Dr Khanolkar Oration of National Academy of Medical Sciences, Chairperson of AIIMS Biosafety Committee and Professor Incharge B.B. Dixit Library, member of SERB Young Scientist –Life Sciences Expert Committee of DST. Served as expert for evaluation of intramural research grants at AIIMS, Jodhpur and selection of faculty at AIIMS Jodhpur, AIIMS Patna, AIIMS, Bhopal, PGIMER Chandigarh, Institute of Liver and Biliary Sciences, Delhi. He served as subject expert for selection of DBT-RA, CSIR-RA and ICMR post-doctoral fellowship. Prof. Chauhan is also the member of pre Scientific Advisory Committee of National Institute of Pathology (ICMR), New Delhi, and member Expert Committee of Guru Gobind Singh Indraprastha University for recognition of medical teachers. Appointed as member of UG expert committee by Board of Governors in Suppression of Medical Council of India, member of Library Committee, Institute day Celebration Committee, Biotechnology Teaching Advisory Committee, AIIMS, Bio-Safety committee, VP Chest Institute, University of Delhi, and DBT-nominee for Bio-safety committee of Institute of Genomics and Integrative Biology, Mall Road, Delhi, member, Board of Studies of Aligarh Muslim University, Aligarh and Central university of Haryana, Mahendergarh, and Course Curriculum Committee of King George Medical University Lucknow. Member, Editorial Board of Research and Reports in Biochemistry and Indian Journal of Clinical Biochemistry as well as reviewer for various national and international scientific journals. Life member of Society of Biological Chemists (India), Association of Clinical Biochemists of India, Indian Association for Cancer Research and Indian Academy of Biomedical Sciences.

**Professor MR Rajeswari**, Vice President of Society of Neurochemistry, India, December 2016, President of “DNA Society of India”. ICMR Project Review Committee (PRC) for Neurochemistry, 2006 onwards. Research Advisory Board, Central University of Rajasthan, Ajmer, Advisory Board member- Rare Disease society of India, University Grants Commission- on various committees. Member-School of Life Sciences, Central University, Rajasthan, 2013-onwards. Member, Research Council, SV University, Tirupati; Executive Council Member of Indian biophysical Society.

**Professor Kalpana Luthra** Executive Committee Member of the Indian Immunology Society. Member secretary for Expert group for developing of e-learning resource material for MBBS students and foreign medical graduates, Appointed by Medical Council of India. Member of DBT-BIRAC, Advisory Committee for evaluation of proposals on Snakebite Envenoming. Member of Expert committee to review project proposals to Biotechnology Industry Research Assistance (BIRAC) under the National Biopharma Mission Program. Member of Expert committee to review quarterly work progress of program entitled ' Translational Research Consortium for Establishing Platform Technologies to support prophylactic and therapeutic strategies for Dengue-Discovery to Proof-of-Concept, funded by NBM, BIRAC, 2019. Member of Selection committee for the post of Scientist E (Non-Medical) at ICMR, May 2019. Member of PRC of allergy immunology & Human Genetics, ICMR & Expert Group review committee of ICMR to review proposals under Cell and Molecular Biology, Genomics and Stem Cell Research. Expert member of TARE Expert committee of SERB, August 2019. Chairperson of Local Research Committee for multidisciplinary Research Unit, MAMC, 2019. External member of the Academic Committee at THSTI, Faridabad, for 2 years. Appointed as a member of Technical Evaluation committee (TEC) of HRD Scheme of DHR-ICMR (September 2019). Reviewer to international journals: Journal of Diabetes; Therapeutic Advances in Vaccines, National Journal: NMJI Co-Chairperson for Annual Report Editing Committee, AIIMS. Member of committee for MBBS curricular Reforms at AIIMS, 2019 and of AIIMS Store Purchase committee. Member, Core Committee for CCRF; Faculty Coordinator of General Facility of CCRF; member of BSL 2/3 & Flowcytometry committees. Co-chairperson for AIIMS Cultural Committee. Nominated as First Appellate Authority under Right of Information Act for College of Nursing, AIIMS, New Delhi. Member, committee for addressing complaints of Sexual Harassment at the AIIMS, December, 2019. Ph.D student Mr. Sanjeev Kumar awarded prestigious Wellcome Trust DBT India Alliance Early Career Fellowship- (June 2019) independent grant, Dr Arun Fotedar Memorial AIIMSONIANS award for best published work by AIIMS for the year 2019 and HIV Research Trusts Scholarship, UK, under the supervision of Prof. Dennis R. Burton, NAC-IAVI, The Scripps Research Institute, San Diego, California, USA from June 2019 to August 2019.

**Professor Alpana Sharma** was awarded Fellowship of Indian Academy of Biomedical Sciences, 2019 for outstanding contribution in the field of Biomedical Science. Expert Selection Committee for faculty posts at Dr Baba Saheb Ambed-

kar Medical College, Delhi Government and Lady Hardinge. New Delhi. Expert, appraisal committee of Scientist C at CCRUM New Delhi. Expert award committee of AYUSH award in Unani Medicine at AYUSH, New Delhi; Organized the Symposium on International Immunology Day on 29th April 2019 at AIIMS, New Delhi. Active member of American Association for Cancer Research, USA and International Gyne Cancer Society, USA. Assessor DNB Biochemistry Exam. External examiner for PhD thesis and viva conduction at PGIMER, Chandigarh, JN Med College, Aligarh Muslim University, JIPMER, Puducherry and KGMU, Lucknow. External examiner for MD at AIIMS, Bhubaneswar, Delhi University, Swami Vivekanand University and JN Med Col AMU and MSc at IOM, Kathmandu. Reviewed Adhoc research proposals of DBT, DST, AYUSH and UPST submitted for financial grant. Member, Annual Report Committee, AIIMS and Teaching Schedule Committee for UG at AIIMS; Dr Nidhi Gupta, PhD student awarded First Prize in Oral presentation at Int Conference of Ethnopharmacology at Jamia Hamdard; Dr Shamima Akhtar was N-PDF under mentorship awarded Second Prize at ISARCON 2019; Ms Nidhi Gupta: Received award of appreciation for PhD work from Cancer Research Foundation, February 2020.

**Dr Sudip Sen's** PhD student (Devanjan Dey) received the 2nd prize (oral presentation) "Young Scientists' Presentation" at the 8th Annual CME of Clinical Biochemistry at Sir Ganga Ram Hospital, New Delhi, 25 April 2019; PhD student (Dr Amarpreet Kaur) received an International travel award to attend and present the poster at the the Digestive Disease Week (DDW) Annual meeting, at San Diego, California, USA from 18 to 21 May 2019; MD student (Dr Vadanya Shrivastava) received the Sutte Nag award for Best poster presentation at the 37th Annual conference of Indian academy of Neurosciences, at AIIMS, New Delhi from 19-21 November 2019; PhD student (Dr. Janvie Manhas) was awarded the "Women Overseas Student Internship Award in STEMM- WISTEMM" by the Indo-U.S. Science and Technology Forum (IUSSTF), an autonomous bilateral organization jointly funded by both the Governments to promote Science, Technology, Engineering and Innovation. Under this fellowship, Janvie is visiting the 'Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research' at the University of Southern California (USC), Los Angeles, USA, to train under Prof Leonardo Morsut in the Dept. of Stem Cell Biology and Regenerative Medicine, Keck School of Medicine, USC, for 6 months (January to June, 2020). She is working on developing synthetic biology tools to target cancer stem cells in solid tumors. The fellowship consists of a grant-in-aid budget of USD 19,000.

**Dr Jayanth Kumar**, EMBO Travel Grant to attend the 'Humanized Mice in Biomedicine' workshop held at Heidelberg, Germany. Grant provided by European Molecular Biology Organization (EMBO) November 2019. (Also won the best poster award at the same workshop)

**Dr Subhradip Karmakar**, research work on decoding Pabda fish Genome showcased in Nature Asia. News Commentary on decoding Padba sih Genome covered in Indian Express. Research Work on decoding Peacock Genome covered in Indian Express 21 August 2019

**Dr Ashok Sharma** invited by Department of Biotechnology's for the Nobel Prize Series 2019. Invited by Ministry of Health & Family Welfare and DBT India Jointly for colloquial lecture in the Young Achiever's, Young Scientists' Conference (YSC), 5th India International Science Festival (IISF 2019) held at Biswa Bangla Convention Centre (BBCC), Kolkata. Member committee of establishing the Indian Council of Medical Research- Indian Cancer Research Consortium (ICMR-ICRC), New Delhi

**Dr Rakhee Yadav**, my MD student Dr Astha Sachan (2nd year) won Mrs. Dwarka Prasad Trust Travel Grant for the session October 2019-March 2020 to present her work at 15th Asia Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB) Congress; Jaipur in Nov 2019.

## VISITING SCIENTISTS

1. Dr Suman Mukhopadhyay from National Cancer Institute –RAS initiative, USA has delivered talk on Uncovering the distinct impacts of oncogenic RAS on metabolism on 30<sup>th</sup> Jan 2020.
2. Dr Sunil K Tadepalli, Director, Centogene, India delivered talk on Molecular genetics on 29<sup>th</sup> Jan 2020.
3. Dr Syed Shadab Raza from USA delivered talk on ROS triggered autophagy is associated with human stem cells' impairment and survival in an aschemic brain: observations from an oxygen glucose deprivation study on 12 September 2019.
4. Prof Bhagavatula Moorthy, Director, Texas Children's Hospital, Baylor College of Medicine, Houston, USA delivered talk on Mechanistic role of cytochrome P450 (CYP1A/1B1) enzymes in hyperoxic lung injury on 9 August 2019.
5. Dr Tayla Heavican, Graduate Student Senator, Dept of Pathology and Microbiology, Univ of Nebraska Medical Centre, US delivered talk on Long term deficiency of Tet2 in CD 4+ T-cells promotes T-cell lymphoma with a Tfh cell immunophenotype on 8 May 2019.

## 9.4. Biomedical Engineering

<b>Professor and Head</b>		
Harpal Singh		
<b>Associate Professors</b>		
Neetu Singh Dinesh Kalyanasundaram		Sandeep Jha Anup Singh
<b>Assistant Professors</b>		
Deepak Joshi Amit Mehndiratta	Jayanta Bhattacharyya Arnab Chanda	SMK Rahman Biswarup Mukherjee
<b>Emeritus Professor</b>		
Veena Koul		
<b>Honorary Professor</b>		
SK Guha		

The Department of Biomedical Engineering (also known as CBME, Centre for Biomedical Engineering at IIT Delhi) now has strength of eleven permanent faculty, one emeritus professor and one honorary professor.

### HIGHLIGHTS

The department was established in 1971 as a joint venture of AIIMS, New Delhi and Indian Institute of Technology, Delhi. The department has applied engineering principles to address medical and biological problems. It has collaborative projects with major institutes and hospitals in India. The department has its vision of dissemination of knowledge and development of techniques, tools and methods for diagnosis, follow-up of treatment responses, drug delivery and help in disease treatment. The faculty of the department are dedicated towards research in the following priority areas:

- Biomaterials
- Bioinstrumentation
- Biomechanics
- Medical Imaging

In the past year, the “**Biomechatronics Lab**” was setup by Dr Arnab Chanda at the biomedical engineering department at AIIMS and the following equipment were installed for applied and clinical research

- Skid Resistant Tester from Ram Incredible Solution on 24 December 2019 for conducting Biotribology experiments
- Machining equipments (Mini CNC machine, Shear Cutting machine) from Amit Engineering Co. On 15 January 2020
- InBody 720 Analyser from InBody Inc., USA on 21 October 2020.

Ethical clearance from AIIMS was approved to launch a pilot study to understand the correlation of facial features and obesity in Indian population, by Dr Arnab Chanda (PI). 50+ subjects have already participated in this study so far.

Apart from research, the department is engaged in teaching where PG, UG and Pre-PhD courses relevant to biomedical engineering are offered at IIT Delhi.

### EDUCATION

Nine PhD students graduated in the past year.

Candidate	Thesis Title	Supervisor
M. Marieswaran	Experimentation and musculo-skeletal modelling of femur - anterior cruciate ligament - tibia complex (FATC)	Dinesh Kalyanasundaram and Sandeep Jha
Dilpreet Singh	Design, manufacturing and evaluation of customized elbow implant	Dinesh Kalyanasundaram and Pulak Pandey (Mechanical)
Vinod Parmar	Laser-material interaction studies for optoelectronics and biomedical applications	Dinesh Kalyanasundaram and GV Prakash (Physics)

Vijay Goud	Studies on carbon/polypropylene composites made through electrostatic powder coating and other methods	Dinesh Kalyanasundaram, and R. Alagurusamy and Apurva Das (Textile)
Snekha Thakran	Quantitative Analysis of Multi-Parametric MRI Data for Improving Breast Tumor Diagnosis and Grading.	Anup Singh
Ayan Debnath	Development of quantitative CEST MRI methods with clinical applications	Anup Singh
Neha Singh	Design of Robotic Hand Bases Intervention with Brain Stimulation Applications for Post-Stroke Neuro-Rehabilitation	Amit Mehndiratta
Sumit Madan	Development and evaluation of topical drug delivery system for treatment of inflammatory disorders	Veena Koul
Smita Patil	Controlling Stem Cell Differentiation for Tissue Engineering	Neetu Singh

## RESEARCH

### Patents filed: 7

1. Dinesh Kalyanasundaram, Rohan Chawla, Jayanta Bhattacharyya and Lata Kaushik, Ocular Chemoport, Indian Patent Application No: 201911043252, Filed on 24 October 2019
2. Deepak Joshi, Ashutosh Tiwari, Indian Patent Application No. 201911034729, titled Insole based foot pressure measurement system, filed in August 2019
3. Amit Mehndiratta, Neha Singh, Indian Patent Application No. 201911027688, titled Physiological Signal Guided Brain Stimulation with Adaptive Performance Feedback, filled on 10 July 2019
4. Anup Singh, Amit Mehndiratta, Sandeep Panwar Jogi, Rafeek T, Indian Patent Application No. 201911021295, titled Device for Exerting Axial Load on Load Bearing Joint of Human Being During Scanning, filed on 29 May 2019
5. Veena Koul, Indian Patent No. 330077, Application No. 2478/DEL/2013, Superparamagnetic iron oxide nanoparticle formulation as MRI negative contrast enhancing agent for cancer detection of organs of the reticuloendothelial system and process of its preparation thereof, filed in 2019
6. Singh Neetu, Kaur Tejinder, Application no. PCT201911046377, Hydrogels to improve diabetic wound healing (Applied, 2019)
7. Surender Kharbanda, James Hill, Sireesh Appajoyosyulan, Mark Rosenberg, Harpal Singh Application number PCT WO2020018778A1, Polymeric nanoparticles comprising salinomycin

### Technology Transfer to Industry: 2

1. Harpal Singh, Technology transfer to UFLEX Ltd. NOIDA for PPE Coverall for production and commercialization May 2020.
2. Harpal Singh, Technology transfer to Fibrex Construction and Chemicals Pvt. Ltd. Faridabad for breathable PPE Coverall for production and commercialization May 2020.

## RESEARCH

### Funded projects

#### Ongoing

1. Re-engineering High End Audiometric Devices for Robust and Affordable audiological testing sound, Dinesh Kalyanasundaram, Indo-German Science and Technology Centre, Rs 55 lakhs
2. Design-development-evaluation of aptamer based high sensitive-low cost kits for the detection of mycotoxins, Hariprasad, DST, Rs 36 lakhs
3. Development of methodology for quantitative multi-parametric MRI and evaluating its potential along with Machine Learning in classification of brain tumor and treatment follow up, Anup Singh, SERB-DST, Rs 30 lakhs
4. Artificial skin (Bio-inspired bi-layer polymeric hybrid Scaffold) for burn injuries and trauma care, Veena Koul, IMPRINT India, MHRD and MOH, Rs 220 lakhs

5. MUC1 pulsed DC-derived exosomes for cancer immunotherapy, Jayanta Bhattacharyya, DBT, Rs 63 lakhs
6. International Biodesign Programme, Prof. Harpal Singh, DBT, Rs 150 lakhs

## PUBLICATIONS

**Journals: 33**

**Abstracts: 23**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Students

Rupsa, PhD student, guided by Dr Anup Singh, received Magna Cum Laude in May 2019.

Rafeek, PhD student, guided by Dr Anup Singh, received Magna Cum Laude in May 2019.

Veena Arora, guided by Dr Neetu Singh, received young researcher award by IIT Delhi, and was the NASI-SCOPUS Young scientist awardee for the year 2019

**Dr Amit Mehndiratta** received the E.K. Zavoisky award at 27th Proceeding of International Society of Magnetic Resonance in Medicine (ISMRM) 2019, Montreal, Canada.

**Dr Arnab Chanda** was selected for the Indo China Tour organized by the Department of International cooperation, Ministry of Science and Technology of China and Indian Embassy; visited prominent universities in Singapore and Brunei as a part of the Institute of Eminence (IOE) delegation from India.

**Dr Neetu Singh** organized the AIIMS-IITD Biodesign Summer Workshop, 2019

## VISITING SCIENTISTS AND INVITED TALKS

1. **Professor Pedro Irazoqui**, Reilly Professor of Biomedical Engineering and Professor of Electrical and Computer Engineering, Purdue University, USA, 26 February 2020, **Title:** Electroceuticals
2. **Dr Manoj Kumar**, Stem cell Institute, Department of development and regeneration, KU Leuven, Belgium, 6 January 2020, **Title:** Complex in-vitro Liver models: does organoid technology hold key for disease modelling in preclinical settings?
3. **Dr Sanhita Sinharay**, Faculty Research Instructor at MD Anderson Cancer Center, Houston, Texas in the department of Cancer Systems Imaging, 19 September 2019, **Title:** Picturing the future of healthcare through molecular imaging.



## 9.5. Biophysics

### SERB Distinguished Professor

TP Singh

### Professor and Head

Punit Kaur

### Professors

Savita Yadav

Sujata Sharma

### Additional Professors

G. Hariprasad Rao

Sharmishtha Dey

### Associate Professor

Ethayathulla AS

### Assistant Professors

Krishna Kumar Inampudi

Saroj Kumar

Pradeep Sharma

### Scientists

Asha Bhushan

S. Baskar Singh

Manoj Kumar

Uddipan Das

## HIGHLIGHTS

During the period under report, the department had over 25 ongoing research projects funded by extramural grants. Research in the Department is concerned with determining the molecular basis of biological process, rational structure-based drug design and discovering new specific biomarkers. The department provides facilities for data collection on protein and small molecule crystals, medical bioinformatics, protein sequencing and peptide synthesis, proteomics and dynamic light scattering. The Department had received a Fund for Improvement of Science and Technology Infrastructure in Higher Educational Institutions (FIST) grant from Department of Science and Technology (DST), Govt. of India, which has been ongoing in the last year. In the past one year, faculty and scientists had 36 research publications in various peer reviewed journals. The Department continued providing postgraduate education and short and long term training to MSc, PhD and MD students. The faculty members and scientists were invited to deliver lectures and seminars all over the country and have delivered 46 lectures. The Department was awarded the second prize for the Best exhibit at the Institute Day on 25 September 2019.

## EDUCATION

### Postgraduate

The faculty and scientists of the Department of Biophysics continued with teaching and guiding students for PhD degree, MSc (Biophysics) and MD (Biophysics). The postgraduate teaching includes theory classes, hands-on practical classes and a dissertation project.

### Short and Long term Training

The Department also imparted long- and short-term training to MSc and MTech students from different institutes and universities.

### Lectures delivered

**TP Singh: 10**

**Punit Kaur: 3**

**Savita Yadav: 5**

**Sujata Sharma: 1**

**Sharmistha Dey: 3**

**Saroj Kumar: 2**

**Jyotirmoy Banerjee: 5**

**Manoj Kumar: 1**

### **TP Singh**

1. Structure and function relationship of innate immune proteins and their applications as protein antibiotics, Workshop on Recent Advances in Bioinformatics, 23 May 2019, Jorhat
2. Observing multiple ligands in the substrate binding site of bovine lactoperoxidase, Conference on Multidisciplinary Research at ESRE: An opportunity for Indian Science, 14 June 2019, Faridabad
3. Protein antibiotics as new generation weapons against invading microbes, Newly emerging trends in the Biotechnology Under the Summer Undergraduate Research Programme, 15 July 2019, Delhi
4. Innate immunity proteins and their applications as protein antibiotics, International Conference on Molecular Medicine, 27 September 2019, Changa
5. Protein structure and drug discovery, International Symposium on New horizons in Biotechnology, 20 November 2019, Trivandrum
6. Molecular association of innate immunity proteins enhances their potency for acting as Protein Antibiotics, International Conference on Recent Trends in Structural Biology and Computer Aided Drug Design, 11 December 2019, Karaikudi
7. Structural biology and molecular medicine, Kerala Literature Festival, 16 January 2020, Kozhikode
8. Innate immunity proteins as resistance-free antibiotics- the structural basis, International Workshop on Advances in Genomics, Proteomics and Drug Discovery and Development, 5 February 2020, Bangalore
9. The role of mammalian heme peroxidase in breast cancer and Nature's remedial effort and drug designer's strategy, Emerging Trends Molecular Oncology, 14 February 2020, Jhajjar
10. Structural basis of the exploitation of innate immunity proteins as new generation antibiotics, Annual Conference of Biotechnology and Bioinformatics, 27 February 2020, Thanjavur

### **Punit Kaur**

1. Role of Structural Bioinformatics in Biological Sciences, QIP Short Term Course on Emerging Computational tool in drug design and discovery (ECTD3), 7 October 2019, Varanasi
2. Exploring C-terminal domain from Gyrase A as a drug target in *S. Typhi*, International Conference on New Horizons in Biotechnology, 20 November 2019, Trivandrum
3. Sequence based identification of resistance mechanism in *Salmonella Typhi* clinical isolates from Northern India, Advancement in Genomics, Proteomics to Drug Discovery and Development associated with neurological disorder, 5 February 2020, Bangalore

### **Savita Yadav**

1. Differential Salivary Proteomics: A tool for searching early screening markers of ovarian cancer, National conference on Changes in Lifestyle Influencing Adolescent Health, 28 September 2019, Jaipur
2. Environment, Lifestyle and Human cancers National Conference on Biotechnology in present Era, Impact on human life and Environment, 23 August 2019, New Delhi
3. Characterization of Proteins from Medicinal Plant and Scope in Management of Cancer National, Seminar on Integrative approach for management of cancer, 12 February 2020, New Delhi
4. Discovery of Differential Semen Protein Signatures for elucidation of Fertility of Acute Lymphoblastic Leukemia (ALL) Survivors, ISSRF-2020, 15 February 2020, Katra
5. Exploring differential salivary proteome in a quest for devising a non-invasive method for early screening of cervical cancer, 9th Annual International Conference of Indian Academy of Biomedical Sciences, 28 February 2020, Kolhapur

### **Sujata Sharma**

1. Structural Studies on Lactoferrin, A Moonlighting Protein Wonder, Workshop entitled Exploring Biology through macromolecules, 26 February 2020, Aligarh

### **Sharmistha Dey**

1. Novel biomarkers for sarcopenia and frailty in old age, Gericon 2019, 7 December 2019, Vellore
2. Novel blood-based biomarkers of Alzheimer's disease, IBRO-APRC MLSU School of Neuroscience, 5 August 2019, Udaipur
3. Blood based protein marker of Head & Neck Squamous Cell Carcinoma and their therapeutic intervention, Indian Science Congress 2020, 6 January 2020, Bangalore

### **Saroj Kumar**

1. Applications of infrared micro spectroscopy in disease, 6th International Congress on microscopy and spectroscopy, 12 May 2019, Turkey
2. Sample preparation, Mass spectrometry & data analysis, School and symposium on advances in Biomedical Mass spectrometry & workshop in metabolomics, 11 November 2019, Kolkata

### **Jyotirmoy Banerjee**

1. Training & demonstration of patch-clamp technique, Workshop on advanced electrophysiological methods and symposium on ion channels, 27 September 2019, New Delhi
2. Basic Neuroscience Research in Drug Refractory Epilepsy, Annual AIIMS-COE Epilepsy Workshop: SEEG, 12 November 2019, New Delhi
3. Cold Atmospheric Plasma Jet Treatment for Brain Tumors: A Possible Adjunct Therapy, Seminar on Plasma Technologies for Health Sector (PTHS-2019), 29 November 2019, Gandhinagar
4. GABAA receptor-mediated epileptogenicity varies with age at seizure onset in patients with focal cortical dysplasia (FCD), 21st Joint conference of Indian Epilepsy Society and Indian Epilepsy Association (ECON 2020), 17 January 2020, Ahmedabad
5. Investigation of the role of mass spectrometric lipid profiles of brain tissues resected from patients with focal cortical dysplasia (FCD) in defining the epileptogenic zone (EZ), 21st Joint conference of Indian Epilepsy Society and Indian Epilepsy Association (ECON 2020), 17 January 2020, Ahmedabad

### **Manoj Kumar**

1. Current Status of Protein Bioinformatics, National Conference on Recent Advances in Protein Bioinformatics, 24 February 2020, Rohtak

### **Oral papers/posters presented**

1. Kaur P, Katiyar A, Sharma P, Sharma A, Kapil A, Whole Genome Sequencing of Clinical Isolates in Salmonella Typhi from Northern India, ASM Microbe 2019, June 20-24, 2019, San Francisco, USA
2. Tiwari P, Kumar M, Sharma P, Kapil A, Ethyathulla AS, Kaur P, Identification and Biological Evaluation of Novel anti-microbial inhibitors against MurD Ligase, Frontiers in Biochemistry and Biotechnology, Strategies to combat human diseases, 12 and 13 February, 2020, Delhi
3. Kapil A, Sharma P, Kaur P, Kumar M, Dahiya S, Sood S, et al. Discovery of novel DNA Gyrase inhibitors against Salmonella Typhi using structure-based drug delivery approach, LXIV Annual Meeting of the Biophysical Society, 15-19 February 2020, San Diego, USA
4. Tikhomirov A, Korolev A, Kumar M, Haque M, Sharma S, Kaur P, et al. Identification of new secretory glycoprotein SPX-40 ligands, XLIV FEBS Congress, 8 July 2019, Krakow, Poland
5. Yadav S, Tajmul Md., Chandra KB, Saini A, Sandeep R, Mathur SR, et al. Saliva: Hub of Plausible Ovarian Cancer Proteomic Markers, ESGO-2019 Congress, 3 November 2019, Athens
6. Ahmad N, Singh PK, Viswanathan V, Rani C, Sharma P, Sharma S, et al. Crystal structure of yak lactoperoxidase with two crystallographically independent molecules in asymmetric unit at 2.50 Å resolution, Exploring Biology through Macromolecules, 26 and 27 February 2020, Aligarh
7. Viswanathan V, Sharma P, Sharma S, Singh TP. Structure of peptidyl-tRNA hydrolase from Acinetobacter baumannii at 0.95 Å resolution, 47th National Seminar on Crystallography, 19-22 June 2019, Mumbai
8. Viswanathan V, Sharma P. Atomic resolution crystal structure of Peptidyl-tRNA hydrolase from Acinetobacter baumannii, 16th Conference of the Asian Crystallographic Association (AsCA 2019), 15-20 December 2019, Singapore
9. Singh P, Singh, Sharma S, Singh TP. Structural basis of activation of mammalian heme peroxidases, 16th Conference of the Asian Crystallographic Association (AsCA 2019), 15-20, 2020 December Singapore
10. Sikarwar J, Singh PK, Sharma S, Kaur P, Singh TP. Crystal Structures of Nucleoside diphosphate kinase from Acinetobacter baumannii and Pseudomonas aeruginosa, International Conference on Drug Discovery 2020, 29 February- 1 March 2020, Hyderabad
11. Das U. Structure based rational drug design and its future scope in Medicine, National conference on Computer aided Drug Design and Computational Biology, 7 September 2019, Rishikesh
12. Paul D, Dixit A, Srivastava A, Tripathi M, Banerjee J, Prakash D, et al. Elucidating Transforming Growth Factor Beta (TGFβ) signalling in epileptogenesis in patients with hippocampal sclerosis, Biozest 2019, 3rd Annual International Science Event, New Delhi, 7 November 2019, New Delhi

13. Sharma D, Dixit A, Prakash D, Sarkar C, Kumar K, Tripathi M, et al. Integrated Genome-Wide Dna Methylation & RNAseq analysis of resected brain tissues identifies aberrant signalling pathways in patients with Focal Cortical Dysplasia, Biozest 2019, 3rd Annual International Science Event, New Delhi, 7 November, 2019, New Delhi
14. Srivastava A, Dixit A, Dodamanni R, Banerjee J, Tripathi M, Sharma MC, et al. Expression Profile of Histone Deacetylases in Patients with Hippocampal Sclerosis, IAN 2019, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, New Delhi, 18-21 November 2019, New Delhi
15. Sharma D, Dixit A, Prakash D, Sarkar C, Chandra PS, Tripathi M, et al. Deciphering the role of GABAA Receptor subunit  $\alpha 4$ , alterations in patients with Focal Cortical Dysplasia, IAN 2019, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, New Delhi, 18-21 November 2019, New Delhi
16. Paul D, Dixit A, Srivastava A, Tripathi M, Banerjee J, Prakash D, et al. Transforming Growth Factor Beta (TGF $\beta$ ) and Matrix Metalloproteinase 9(MMP9): possible interactions in Mesial temporal lobe epilepsy (MTLE)?, IAN 2019, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, New Delhi, 18-21 November 2019, New Delhi
17. Dey S, Dixit A, Tripathi M, Chandra PS, Banerjee J. Reduced Kynurenic acid synthesis leads to hyperexcitability associated with Mesial Temporal Lobe Epilepsy-Hippocampal sclerosis, IAN 2019, XXXVII Annual Meeting of Indian Academy of Neurosciences, AIIMS, New Delhi, 18-21 November 2019, New Delhi
18. Srivastava A, Dixit A, Dodamanni R, Banerjee J, Tripathi M, Sharma MC, et al. Altered Expression of Histone Deacetylases in Patients with Hippocampal Sclerosis, 21st Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, ECON2020, Ahmedabad, 17-19 January 2020, Ahmedabad
19. Dubey V, Srivastava A, Dey S, Kumar K, Dixit A, Chandra PS, et al. Region specific alterations of NMDA receptor subunits in pilocarpine model of epilepsy, 21st Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, ECON2020, Ahmedabad, 17-19 January 2020, Ahmedabad
20. Aggarwal Y, Dixit A, Doddamani R, Vaidya A, Tripathi M, Chandra PS, et al. Effect of cold-atmospheric plasma on tumor tissues resected from patients with brain tumor and tumor-linked refractory epilepsies, 21st Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, ECON2020, Ahmedabad, 17-19 January 2020, Ahmedabad
21. Chakraborty A, Kumar K, Banerjee J, Dixit A, Tripathi M. Genome-wide copy number variation (CNV) analysis identifies variants likely associated with drug resistant epilepsy (DRE) in Indian population, 21st Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, ECON2020, Ahmedabad, 17-19 January 2020, Ahmedabad
22. Sharma D, Dixit A, Banerjee J, Tripathi M, Prakash D, Chandra PS. Understanding the altered expression of GABAA Receptor Subunits  $\alpha 4/ \alpha 1$ , in Focal Cortical Dysplasia, 21st Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, ECON2020, Ahmedabad, 17-19 January 2020, Ahmedabad

## RESEARCH

### Funded projects

#### Ongoing

1. Structure and function studies of peptidoglycan recognition proteins from innate immune systems, TP Singh, SERB-DST, 5 years, 2014-2019, Rs 141 lakhs
2. Structure based In Silico Identification, Chemical Synthesis and Biological Evaluation for inhibitors against DNA Gyrase from Salmonella Typhi, Punit Kaur, ICMR, 3 years, 2019-2022, Rs 56.5 lakhs
3. AMR-Diag: A Novel Diagnostic Tool for Sequence Based Prediction of Antimicrobial Resistance, Punit Kaur, ICMR (Indo-Norway), 3 years, 2018-2021, Rs 136 lakhs
4. Characterization of silk fibroin film prepared from oak tasar (*Antheraea proylei*) cocoon for potential biomaterial applications, Punit Kaur, DBT-NER, 3 years, 2018-2021, Rs 29.67 lakhs
5. Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products, Punit Kaur, DBT-NER, 3 years, 2018-2021, Rs 23.99 lakhs
6. Effect of Non-Ionizing Electromagnetic field (EMF) on human health, Savita Yadav, ICMR, 5 years, 2017-2022, Rs 61 lakhs
7. Exploring male factors in recurrent pregnancy losses: A genomics and proteomics based approach, Savita Yadav, ICMR, 3 years, 2019-2022, Rs 49 lakhs
8. Rational Structure-based ligand design for developing the novel antibacterial agents against Peptidyl RNA-hydrolase, a drug target from the multidrug resistant bacteria, *Acinetobacter baumannii*, Sujata Sharma, ICMR, 3 years, 2017-2020, Rs 68 lakhs

9. Rational Structure-based ligand design for developing the novel antibacterial agents against the enzymes of CoA synthetic pathway in drug resistant bacteria, *Acinetobacter baumannii*, Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
10. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide, Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 60 lakhs
11. In silico structural and functional characterization of mycobacterium tuberculosis elongation factors, Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 24 lakhs
12. Structural and Biochemical characterization of glyceraldehyde-3-phosphate dehydrogenase (GAPDH) from *A. baumannii* and design of inhibitors, Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 25 lakhs
13. Therapeutic intervention of small molecule based novel activator of Sirtuin on rat model of Alzheimer's disease, Sharmistha Dey, ICMR, 3 years, 2019-2022, Rs 65 lakhs
14. Structural and biophysical characterization of bacterial cell division protein FtsZ from *Salmonella enterica*: antimicrobial drug target, AS Ethayathulla, DST, 3 years, 2016-2019, Rs 33 lakhs
15. Biophysical and structural characterization of curcumin as a potential ligand to restore p53 Y220 mutant function in human cancer, AS Ethayathulla, AIIMS, 2 years, 2017-2019, Rs 9.8 lakhs
16. Structural and functional characterization of translational rescue system by Peptidyl tRNA hydrolase by forming non-hydrolysable peptidyl tRNA complex to gain insights for drug development against tuberculosis, Krishna K Inampudi, DST, 4 years, 2017-2021, Rs 4.9 lakhs
17. Structure based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Krishna K Inampudi, ICMR, 3 years, 2019-2022, Rs 65 lakhs
18. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Krishna K Inampudi, DST, 3 years, 2020-2023, Rs 40 lakhs
19. Development of potent inhibitors for NSP RNA polymerase and PL protease from novel corona virus for the treatment of COVID-19, Krishna K Inampudi, AIIMS, 2 years, 2020-22, Rs 8 lakhs
20. Design and development of novel imaging agents for the earlier diagnosis of Alzheimer's disease, Saroj Kumar, ICMR, 3 years, 2019-2022, Rs 37 lakhs
21. To investigate the role of dysfunctional benzodiazepine binding site on GABAA receptor in benzodiazepine-resistance associated with pharmaco-resistant epilepsy, Jyotirmoy Banerjee Office of Principal Scientific Adviser to Govt. of India under the project "Advanced Epilepsy Research: A Multidisciplinary Approach, 3 years, 2018-2021, Rs 136 lakhs
22. Investigating the role of metabolites and neurotransmitters in abnormal synaptic transmission associated with mesial temporal lobe epilepsy (MTLE) and focal cortical dysplasia (FCD): Possible biomarkers for localization of epileptogenic foci, Jyotirmoy Banerjee, DBT, Govt. of India under the project "Centre of Excellence for Epilepsy Research Phase-II", 3 years, 2018-2021, Rs 168 lakhs
23. Elucidating region-specific alterations of glutamatergic excitatory neurotransmission in a rodent pilocarpine model of temporal lobe epilepsy, Jyotirmoy Banerjee, DBT, 3 years, 2018-2021, Rs 61 lakhs
24. Effect of plasma jet on tumor tissues resected from patients with tumor linked refractory epilepsy, Jyotirmoy Banerjee, Dept of Atomic Energy (DAE), 3 years, 2018-2021, Rs 33 lakhs
25. Role of  $\alpha 7$  and  $\alpha 4\beta 2$  subtypes of nicotinic receptors in abnormal synaptic transmission associated with hippocampal sclerosis, Jyotirmoy Banerjee, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
26. Rational structure-based ligand design for developing the novel antibacterial agents against proteins involved in the histidine biosynthesis pathway in *Acinetobacter baumannii*, Pradeep Sharma, ICMR, 3 years, 2020-2023, Rs 60 lakhs
27. Drug repurposing against SARS-CoV-2 main protease: Structural and functional studies, Pradeep Sharma, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
28. Structure based identification of antimicrobial compounds, Pradeep Sharma, DBT, 5 years, 2020-2025, Rs 50 lakhs
29. Comparative proteomics analysis to identify potent biomarkers during the transformation of premalignant oral conditions to malignant oral squamous cell carcinoma, S. Baskar Singh, DST, 3 years, 2019-2021, Rs 43 lakhs

### **Completed**

1. Structural Studies of peptidoglycan recognition proteins (PRPs), Peptidyl tRNA-hydrolase, Dihydrodipicolinate synthase (DHDPS), Dihydrodipicolinate reductase (DHDPR) and phospholipase A2, TP Singh, INSA, 5 years, 2014-2019, Rs 25 lakhs
2. Structure based design and synthesis of novel antitumor heteroarene anthracenediones, Punit Kaur, DST-RFBR, 2.5 years, 2017-2020, Rs 24.4 lakhs

3. Peptidyl tRNA hydrolase (Pth): Structure and functional mechanism of Pth with Non hydrolysable peptidyl tRNA, Krishna K Inampudi, AIIMS, 2 years, 2017-2020, Rs 9.8 lakhs
4. Characterization of fibroblasts to understand the possible role in breast cancer progression by FTIR imaging, Saroj Kumar, AIIMS, 2 years, 2017-2019, Rs 9.8 lakhs
5. Structural characterization of Sulfate Activation Complex from Mycobacterium tuberculosis, Uddipan Das, AIIMS, 2 years, 2017-2019, Rs 8 lakhs

## Departmental projects

### *Ongoing*

1. A structure based approach for understanding the role of Hsp90 in relation to Cdh1/Fzr, an activating subunit of anaphase promoting complex/cyclosome with drug targets
2. Structure determination of MurE ligase from Salmonella Typhi and structure based ligand design for developing new drugs
3. Design of inhibitors against MurB from S. Typhi to develop drugs for MDR pathogens using in silico screening and structure based approach
4. Therapeutic intervention of Alzheimer's disease by targeting Sirtuin in in-vivo model
5. Study on circulating level of inflammatory proteins, their signalling cascade in metastatic breast cancer and therapeutic implications for the same.
6. Study of potential modulators targeting pathways involved in hyperphosphorylation of Tau
7. Analysis of Anti-neurotoxicity of Amyloid Beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting Lipoxygenases
8. Structural and Functional Studies of FtsZ cell division protein as a potential drug target against Salmonella Typhi.
9. Structural and functional reactivation of p53 mutant using natural compounds in human cancer cell lines harbouring mutation Y220C
10. Structural and functional characterization of p53
11. Structural and biophysical characterization of p73DBD with p53 natural promoter sequence
12. Structural and Functional studies of Mycobacterium Tuberculosis Peptidyl tRNA hydrolase - A Novel drug target of Multidrug Resistance Tuberculosis
13. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors
14. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluid exosomes by iTRAQ based quantitative proteomics
15. Structure based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer
16. Elucidate the role of Semaphorin in epileptogenesis and hyperexcitability associated with temporal lobe epilepsy.
17. Understanding age dependent dysmaturity of cerebral cortex in cortical dysplasia.
18. Understanding the mechanism of AMPA Receptor clustering in Cortical Dysplasia and non-cortical dysplasia pathologies.
19. Role of  $\alpha$ 7-nAChR and  $\alpha$ 4 $\beta$ 2-nAChR in altered synaptic transmission associated with cortical dysplasia and non-cortical dysplasia DRE pathology.
20. Elucidating the role of cytosolic phospholipase A2 in mesial temporal lobe epilepsy.

### **Completed**

1. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach
2. Intervention of non-classical class I Human leukocyte antigen G in HNSCC and its therapeutic implications
3. Structural and Biophysical Characterisation of p53 Wild Type and Mutant R337H
4. Peptide inhibitor designing and validation for sEGFR using computational Protein design
5. Identification of DNA Aptamers against human sEGFR to treat lung cancer
6. Biophysical characterization of the ATPase domain of SugABC transporter from Mycobacterium tuberculosis
7. Computational analysis of resistance to imatinib and related drugs in CML due to mutations in BCR-Abl kinase and design of mutation resilient inhibitors
8. Identification of DNA aptamers against human sEGFR to treat lung cancer

## Collaborative projects

### *Ongoing*

1. Genomic Analysis of *S. Typhi*, Microbiology
2. Synthesis of novel DNA Gyrase inhibitors, JMI, New Delhi
3. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India (LASI), Geriatric Medicine
4. Medicine Study of Regeneration of Skeletal Muscle in Old Age, Geriatric Medicine
5. Structure-based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Life Sciences, Shiv Nadar University, Center for Computational Biology and Bioinformatics, Central University of Himachal Pradesh, Pulmonary Medicine and Sleep Disorders, AIIMS
6. A nanomedicine approach against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Pulmonary Medicine and Sleep Disorders, AIIMS, Chemistry, IIT Delhi, Biochemistry, Microbiology and Immunology, University of Ottawa, Canada
7. Targeting drug resistant tumor harboring mutant EGFRs: A next generation molecular approach for the treatment of Non-Small Cell Lung Cancer, Department of Chemistry, IIT Delhi, Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi
8. Role of Inhibitors of Apoptosis Proteins in Gastroenteropancreatic Neuroendocrine Tumors, Anatomy
9. Development of early detection technique for Parkinsons disease, Neurology
10. Development of early screening technique and understanding of cognitive impairment, Geriatrics and Neurology
11. Deciphering the role of casein kinase 2 in mesial temporal lobe epilepsy, Neurosurgery

### *Completed*

1. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach, Lab Oncology, IRCH
2. Evaluation of novel intracellular proteins in serum as marker of ageing, Geriatric Medicine
3. Evaluation of perimplant crevicular fluid metalloproteinase-8 (MMP-8) and cathepsin- k (CTSK) levels in immediate loaded and delayed loaded dental implants, Centre of Dental Education and Research
4. Role of kynurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy (MTLE), Neurosurgery
5. Deciphering the role of GABAA receptor alterations in pediatric and adult patients with focal cortical dysplasia, Neurosurgery
6. Deciphering the role of ATF3 and TGF $\beta$  signaling in Mesial Temporal lobe epilepsy (MTLE) patients, Neurology

## PUBLICATIONS

**Journals: 34**

**Abstracts: 2**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor TP Singh** received SASTRA-G.N. Ramachandran Award for Excellence in Science-2020. Elected President of the Bio-informatics and Drug Design Society (BIDDS) (2020-2022). Elected President of the Biotech Research Society of India (2019-2021). Awarded SERB-DST Distinguished Fellowship (2019-2024)

**Professor Punit Kaur** was Elected President of Indian Crystallographic Association. Elected member of INSA-IUPAB Committee

**Professor Savita Yadav** received Fellowship of National Academy of Medical Sciences, New Delhi; Elected as Vice-President of Indian Academy of Biomedical Sciences, India; Received AIIMS Oncology Research Award (Third Prize)

**Professor Sujata Sharma** received the Kalpana Chawla Excellence Award for excellence in Science

**Dr Hariprasad G** received 2nd Prize for Logo Designing for Central Core Research Facility, AIIMS, New Delhi. The logo is displayed at the entrance of CCRF.

**Dr Sharmistha Dey** received the First prize in AIIMS Oncology Research award, 2019 AIIMS, New Delhi

**Dr Ethayatulla AS** organized the Indo-Italian Elettra Beamline Workshop: Application in drug discovery from 11 to 12 November 2019 in New Delhi.

**Dr Saroj Kumar** invited review in journal Acta Biomaterialia (Elsevier Publications, IF: 7.15), 2019; invited by MedTech4Health, Uppsala to participate in Indo-Swedish Health Year 2019 at the Swedish Embassy, India; Joint Secretary; 19th Biennial Conference of Association of Gerontology, 2019; Expert reviewer of “Polish National Grant Application”, Poland, 2019

**Dr Jyotirmoy Banerjee** received Best platform presentation at 21st Joint conference of Indian Epilepsy Society and Indian Epilepsy Association (ECON 2020) at Ahmedabad, Gujarat jointly with Dr. Aparna Dixit; Co-Editor for the journal Neurology India; Reviewing Editor for the journal Frontiers in Neuroscience (Neuropharmacology section).

## **VISITING SCIENTISTS**

The following noted scientists and eminent academicians have visited the department for presenting lectures and scientific cooperation in the past year:

Dr Rafi Ahmad, Norway

Dr Arne Michael Taxt, Norway

Dr Ekaterina Avershina, Norway

Dr Sonika Bhatnagar, New Delhi

## 9.6. Biostatistics

### Professor and Head

RM Pandey

### Professors

SN Dwivedi      V Sreenivas

### Additional Professor

Maroof A Khan

### Scientist-I

M Kalaivani

Shivam Pandey

Nilima

### HIGHLIGHTS

The department conducted two hands on workshop on various aspects of biostatistics for faculty/residents and PhD students in the Institute. Department had four ongoing extramural funded research projects. Collaborative research projects with various Centers/Departments in the Institute, includes 81 ongoing and 58 completed research projects. Faculty and Scientist in the department had 155 research publications in various peer reviewed medical journals. Faculty and Scientist: Continued to be reviewer for almost all the major medical journals in the country and for several International Medical Journals from various medical specialties; Served on various administrative and scientific committees in the Institute; Invited members of various scientific committees of the ICMR, DBT, DST, AYUSH; served on Data Safety Monitoring Boards (DSMB) of several National and International Clinical Trials; delivered invited lectures in various Institutes/Universities in the country and abroad; and served as examiners of PhD thesis submitted to various universities in the country.

### EDUCATION

The department continued teaching “Biostatistics and Essentials of Research Methods” for the undergraduate, paramedical and postgraduate courses, viz. MBBS, BSc (Hons) in Medical Technology in Radiology, MBiotech, BSc and MSc Nursing, and MD Community Medicine. Department plays major role in conducting Research Methodology, Writing and Communication workshops for the residents in the Institute, a mandatory 5 days course work in four batches. On request, faculty members delivered series of lectures for the residents, PhD students and participated in departmental scientific presentations in various Centers/Departments in the Institute. Besides guiding PhD students in the department, faculty members and scientists contributed to the academic activities of other departments in the Institute as Co-Guides, DC Members of PhD, DM, MCH, MD/MS/MHA/MDS, students. Also, departmental faculty and scientists delivered 29 invited lectures in various workshops on Research Methodology and Biostatistics in various national and international workshops/conferences.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

RM Pandey: 7

SN Dwivedi: 22

V Sreenivas: 5

Shivam Pandey: 5

#### RM Pandey

1. Data Management and Statistical Analysis, Clinical Research Symposium of Clinical Research Methodology and Medical Writing, 24 and 25 August 2019, Coimbatore
2. Determination of Sample Size and Statistical Analysis, Workshop on Research Methodology and Research Paper Writing Techniques, 5 and 6 September 2019, Dharamshala
3. Statistical Aspects in Clinical and Genetic Epidemiology, Advance Course on Clinical & Genetic Epidemiology, 12-14 September 2019, Kalyani
4. Design and Conduct of Randomized Control Trial, Workshop on Randomized Control Trial, 23 and 24 September 2019, Kochi
5. Statistical Aspects in Development of Research Protocol, CME & Training of Trainers on How to Write Thesis, 16 and 17 October 2019, Guwahati
6. Interpreting Medical Statistics in Medical Research, Workshop on Interpreting Medical Statistics in Clinical and Public Health decision making, 11 January 2020, Meerut

7. Five lecturers on Essentials of Biostatistics, Introduction to Statistical Methods at Anti-Doping Laboratory Qatar, 25-27 November 2019, Doha, Qatar

### **SN Dwivedi**

1. Systematic Review and Meta-analysis in Non-Communicable Diseases and Public Health, CME for MPH Students, 15 April 2019, Gurugram
2. Biostatistical Issues in Medical Research, CME at Oncology Forum Academic, 17 April 2019, New Delhi
3. An Overview of Research Methodology, PG Orientation cum CDE Program on Biostatistics and Research Methodology, 14 August 2019, Rohtak
4. Building Knowledge for Precision Medicine: Baseline Data of 7137 Participants from Indo-Dutch Cohort Study, 19th Biennial Conference of the Association of Gerontology, 17 and 18 August 2019, New Delhi
5. Sampling and Sample Size Determination, Training Course on Data Analysis using Statistical Software for Health and Demographic Research, 5 September 2019, New Delhi
6. Statistics in Evidence Based Medicine for Treatment of Breast Cancer, National Conference on Emerging Trends in Statistics and Data Sciences, 7 September 2019, New Delhi
7. Designing a Randomized Controlled Trial, XXI Annual Conference of the International Society of Addiction Medicine, 13 November 2019, New Delhi
8. Fundamentals of Study Design and its measure, Workshop on Introductory Course on Research Methodology and Biostatistics for Nursing Professionals, 19 and 20 November 2019, Dehradun
9. Fundamental of Statistics, Data, Data Quality & Collection Methods, Workshop on Introductory Course on Research Methodology and Biostatistics for Nursing Professionals, 19 and 20 November 2019, Dehradun
10. Fundamental of Inferential Statistics, Workshop on Introductory Course on Research Methodology and Biostatistics for Nursing Professionals, 19 and 20 November 2019, Dehradun
11. Parametric Test & Its interpretation, Workshop on Introductory Course on Research Methodology and Biostatistics for Nursing Professionals, 19 and 20 November 2019, Dehradun
12. Issues under Randomized Controlled Trials, Workshop under the Research Project: “Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Enhancement in Stroke Care study- InQuEST)” under Indian Stroke Research Network, 23 November 2019, Varanasi
13. Indian Cohort, LoCARPN Study on Stroke and Cognitive Decline: The Cohort Profile, 37th Annual Conference of Indian Society for Medical Statistics, 5-7 December 2019, Patna
14. Issues in Data Collection, Large Population Based Cohort Studies, Building Knowledge for Prevention of Stroke and Dementia: A National Workshop on Population Based Cohort Studies, 17 December 2019, New Delhi
15. Research Question and Designs of Research Studies, Workshop on Fundamentals of Biostatistics and Hands on Training on SPSS for PG Students/Faculty, 16-18 January 2020, Gangtok
16. Epidemiological and Statistical Measures of Association between Categorical Variables, Workshop on Fundamentals of Biostatistics and Hands on Training on SPSS for PG Students/Faculty, 16-18 January 2020, Gangtok
17. Testing of Hypothesis: Principles, Workshop on Fundamentals of Biostatistics and Hands on Training on SPSS for PG Students/Faculty, 16-18 January 2020, Gangtok
18. Parametric and Non-Parametric Tests, Workshop on Fundamentals of Biostatistics and Hands on Training on SPSS for PG Students/Faculty, 16-18 January 2020, Gangtok
19. Statistics in Evidence Based Health Care, Annual festival “Simulation-2020”, 13 February 2020, New Delhi
20. Effectiveness of regimens used under Neo-adjuvant Chemotherapy in Treatment of Breast-Cancer: Network Meta Analysis, 8th International Translational Cancer Research Conference, 13-16 February 2020, Varanasi
21. Advanced Statistical Methods in Evidence Based Health Care: Pair vs. Network Meta Analysis, Workshop on “Statistical Techniques and Data Analysis using Software”, 25 February-1 March 2020, Rohtak
22. Sampling Methods in Qualitative Studies, CME on Qualitative Research, 5 March 2020, Gurugram

### **V Sreenivas**

1. Study Designs & Basic Analysis, Research Methods workshop for Young Scientists, 2 July 2019, New Delhi
2. Chance, Bias & Confounding, Research Methods workshop for Medical Faculty, 4 September 2019, New Delhi
3. Case-Control Study, Young Clinicians Program, 12 October 2019, Chennai
4. Sampling & Sample size estimation, Research Methods workshop for Medical Faculty & Scientists, 23 October 2019, NOIDA

5. Sample Size Determination, PG Residents, Radiotherapy, 17 March 2020, New Delhi

### **Shivam Pandey**

1. Study Designs & Basic Analysis, Research Methods workshop for Young Scientists, 2 July 2019, New Delhi
2. Chance, Bias & Confounding, Research Methods workshop for Medical Faculty, 4 September 2019, New Delhi
3. Case-Control Study, Young Clinicians Program, 12 October 2019, Chennai
4. Sampling & Sample size estimation, Research Methods workshop for Medical Faculty & Scientists, 23 October 2019, Noida
5. Sample Size Determination, PG Residents, Radiotherapy, 17 March 2020, New Delhi

### **Oral papers/posters presented**

1. Upadhyay AD, Dwivedi SN, Dhawan A, Sreenivas V. Determinants of Substance Abuse among Adolescents in India through Conventional and Hierarchical Models, 1st South East Asia Regional Group Meeting of the International Epidemiological Association, 19-21 September 2019, Colombo, Sri Lanka
2. Singh V, Deo SVS, Dwivedi SN., Negative Binomial Regression Model Assessing Factors Associated with Nodal Involvement in Oral Cancer Patients, Joint Statistical meeting (JSM2019), 27 July-1 August 2019, Denver, USA
3. Dwivedi A, Perera M, Dwivedi SN, Shukla R. Methods for Evaluating Heterogeneity in Treatment Effects in a Randomized Clinical Trial, Joint Statistical Meeting (JSM2019), 27 July-1 August 2019, Denver, USA
4. Pathak M, Dwivedi SN, Deo SVS, Thakur B, Sreenivas V. Hazard Models for Distant Recurrence in Presence of Competing Risks, namely Loco regional Recurrence & Deaths, among Breast Cancer Patients, 37th Annual Conference of the Indian Society for Medical Statistics, 5-7 December 2019, AIIMS, Patna

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Air Pollution and It's Effect on Health: 20 City Multi-site Study, RM Pandey, Ministry of Environment, Forest and Climate Change, Govt. of India, 3 years, 2019-2021, Rs 26.40 lakhs
2. Multi-centric trial to study the effect of early active mobilization as compared to three weeks immobilization following tendon transfer procedures for claw hand (Data coordination and study monitoring), V Sreenivas, ICMR, 5 years, 2015-2020, Rs 21.22 lakhs
3. Chron's disease in India: A multi-center study from a country where intestinal tuberculosis as well as Johne's disease is endemic (Data coordination and study monitoring), V Sreenivas, DHR, 3½ years, 2016-2020, Rs 28.0 lakhs
4. The effect of geographical health inequalities on under five child mortality in India, MA Khan, DST, 3 years, 2017-2020, Rs 16.0 lakhs

### **Departmental projects**

#### ***Completed***

1. Pattern and Associated Factors of Lymph Node Involvement and Local Recurrence among Oral Cancer Patients: Biostatistical Considerations

### **Collaborative Projects**

#### ***Ongoing***

1. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A Cross-Cultural Perspective, Neurology
2. Role of hydrogen sulphide on migration of human trophoblast cells, Anatomy
3. Comparison of Critical Care TEE vs. conventional TEE in low perfusion states in patients with Septic Shock- A double blinded observational study, Anesthesiology, Pain Medicine and Critical Care
4. Interventions of human leukocyte Antigen-G in HNSCC & its therapeutic implications, Biophysics
5. Analysis of Anti-neurotoxicity of Amyloid Beta (Ab) in Alzheimer's disease (AD) pathology targeting Lipoxigenases, Biophysics

6. Study on circulating level of inflammatory proteins, their signaling cascade in metastatic breast cancer and therapeutic implications for the same, Biophysics
7. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial, Cardiology
8. Development of a scale to measure eHealth literacy among college going students aged 18-24 years, (English Version) in Faridabad, India, Centre for Community Medicine
9. To study the role of point of care ultrasound for carotid pulse check in cardiac arrest patients, Emergency Medicine
10. To study clinic epidemiological profile of patients presenting with acute abdominal pain in emergency department, Emergency Medicine
11. Harmonized diagnostic assessment of dementia (DAD) for longitudinal aging study of India (LASI), Geriatric Medicine
12. Video-observed home-based Nordic walking training versus directly-observed Nordic walking training for pre-frail older adults, Geriatric Medicine
13. Development of Indian Frailty Registry of Older Adults, Geriatric Medicine
14. Impact of frailty and geriatric syndromes on outcome of major orthopaedic surgery in older Indian, Geriatric Medicine
15. Minimally invasive evaluation of genomic aberrations in multiple myeloma, Laboratory Oncology, IRCH
16. Weight management module for menopause women: A practical guide for gynaecologists, Medicine, University of Delhi
17. Predictors of successful weight loss outcome amongst obese adults undergoing comprehensive weight loss intervention at a tertiary care hospital Medicine, University of Delhi
18. Incidence, outcome and risk factors of paradoxical reaction in HIV negative lymph node tuberculosis, Medicine
19. Predictors of severe dengue and development of a scoring system for severity, Medicine
20. Molecular characterization of Neisseria meningitides isolated from cases of acute bacterial meningitides in Delhi and adjoining area, Microbiology
21. Phenotypic and genotypic characterization of non-typeable haemophilus influenza (NTHi) from North India, Microbiology
22. Molecular epidemiology of Mycoplasma pneumonia and Pneumocystis jirovecii in immunocompromised individuals, Microbiology
23. Study of Cognition and Quality of Life in Chronic Intractable Epilepsy using Functional Magnetic Resonance Imaging (fMRI), Neurology
24. Investigation of Role of Transcranial Magnetic Stimulation in Parkinson's Disease, Neurology
25. Prevalence and determinants of cerebral micro-bleeds in people aged 50 years and above residing in urban Delhi: A population based cross sectional study, Neurology
26. Prevalence of incidental findings on Brain MRI in adults aged 50 years and above: A population based cross-sectional study, Neurology
27. Association of Vascular Risk Factors, Brain MRI Measures, Cognition and Gait in Community Dwelling adults aged 50 years and above: A population based cross sectional study, Neurology
28. Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Improvement in Stroke Care Study), Neurology
29. Role of MR guided Biopsy in detection of Prostate Cancer, NMR
30. Role of Magnetic Resonance in assessing therapeutic efficacy of ayurvedic treatments, NMR
31. Study on cytogenetic toxicity of low dose 131I therapy in hyperthyroid patients by using micronuclei assay, Nuclear Medicine
32. Comparison of Alpha Emitting 225Ac-DOTATATE Versus Beta Emitting 177Lu-DOTATATE Therapy in Advanced End-Stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients, Nuclear Medicine
33. Assessment of the Changes in Quality of life and symptom burden in patients with pulmonary or airway related disease requiring pulmonary interventions- Prospective study, Onco-anesthesia & Palliative medicine
34. To study the role of vascular function and pain sensitivity in micro vascular angina, Physiology
35. Psychological Trauma Resilience in Children Adolescents: development and Psychometric Properties of a Multidimensional Scale, Psychiatry
36. Biostatistical Aspects of Prognostic Factors including Molecular Parameters in Breast Cancer Patients: An Epidemiological Appraisal, Radiotherapy

37. Role of T-Regulatory cells (tregs) and their clinical correlation in epithelial ovarian cancer, Surgical Oncology
38. Expression of selective neurotransmitters and neuropeptides in the spinal cord of morphine tolerant rats, Anatomy
39. Effects of pre & postnatal exposure to fluoride on enteric nervous system, Anatomy
40. Role of TET2 protein in Myelodysplastic syndrome, Biochemistry
41. Role of TET2 proteins in pathogenesis of AML, Biochemistry
42. Strengthening/Promoting evidence based advocacy for influenza prevention and control in India, Centre for Community Medicine
43. Effect of Vitamin D supplementation on outcome in children undergoing open heart surgery: A Randomized controlled trial, CTVS
44. Early Enteral feeding with supplemented mother's milk in post-operative pediatric cardiac surgical patients – A Randomized Controlled Trial, CTVS
45. Molecular insights into the complications of Idiopathic Hypoparathyroidism, Endocrinology & Metabolism
46. Exploration of Autoimmune basis of Indian patients with Idiopathic Hypoparathyroidism, Endocrinology & Metabolism
47. Unique features of Idiopathic Hypoparathyroidism, Endocrinology & Metabolism
48. Development and validation of a tool for assessment of adherence to gluten free diet in Indian Celiac disease patients, Gastroenterology & Human Nutrition
49. Psychiatric co-morbidities in TB/HIV co-infection, Medicine
50. Quality improvement of the invasive procedures routinely done in medicine ward, Medicine
51. Efficacy of Yoga on symptom severity and quality of life of patients suffering from pain predominant medically unexplained symptoms, Medicine
52. Psychiatric co-morbidities in TB/HIV co-infection, Medicine
53. Stoppage of empirical antibiotic therapy at clinical recovery versus at neutrophil recovery, Medical Oncology
54. Analysis of triple negative breast cancer, Medical Oncology
55. Effectiveness of bundled intervention in surgical site infections among patients undergoing clean orthopedic surgery with hardware implants: A randomized control trial, Microbiology
56. Development of a diagnostic panel of blood markers in the diagnosis and prognostication of acute ischemic stroke, Neurology
57. Genetic and clinical factors associated with aspirin resistance in Indian patients with Ischemic stroke, Neurology
58. Evaluating the role of structured education to care-givers in reducing complications in hospitalized stroke patients and improving their outcomes – A clustered randomized trial, Neurology
59. Utility of 8-channel EEG in detecting generalized spike and wave discharges in generalized epilepsy – a diagnostic study, Neurology
60. Safety and Efficacy of N-Acetylcysteine (NAC) as an adjunct to standard treatment in patients with acute Ischemic stroke – A phase-II Randomized Controlled Trial, Neurology
61. Development and use of an instrument for assessing competence of trainee doctors in providing Epilepsy primary care, Neurology
62. Early outcomes in children with ano-rectal malformations following single stage abdomino-peremeal pull-through using hanging bowel technique, Pediatric Surgery
63. Study to identify the genotype phenotype correlation in testicular biosynthetic defects and 5- $\alpha$  reductase deficiency with respect to disorders of sex development, Pediatric Surgery
64. A study on differential expression of molecular markers in urine with respect to genetic propensity to congenital uropathies, Pediatric Surgery
65. Investigations of arterial wall mechanics of low flow mediated constriction in peripheral conduit arteries, Physiology
66. Genomic expression and protein profile correlates of peripheral blood mononuclear cells in obesity after Yoga-based lifestyle intervention, Physiology
67. Muscle regeneration after iron oxide nanoparticle implantation and effect of magnetic field in complete spinal cord injury rat model, Physiology
68. Psycho-social correlates of care giving experience among caregivers of patients with Schizophrenia, Psychiatry
69. Development of Psychological Intervention Manual for adolescents with dissociative conversion disorder, Psychiatry
70. Role ultrasound guided wire localization of axillary lymph nodes in increasing the accuracy of sentinel lymph node biopsy after NACT in breast cancer, Radio-diagnosis

71. Efficacy of neoadjuvant Chemotherapy in carcinoma Esophagus – Pilot study comparing Cisplatin + 5Fu with Paclitaxel + Carboplatin, Surgical Oncology
72. A study comparing contrast enhanced computer tomography abdomen vs diagnostic laparoscopy in patients with penetrating abdominal trauma – A Randomized controlled trial, JPNA Trauma Centre
73. A randomized double blind placebo controlled pilot study evaluating the effect of topical urea as pre-treatment for preventing hand foot skin reaction in cancer patients on sunitinib therapy, Pharmacology
74. Effectiveness of Cranberry Extract Mouth- Rinse compared to Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children- A Randomized Controlled Trial, Center for Dental Education Research
75. Depressive disorder among adolescents in Ballabgarh, Haryana, India: A Community based cross-sectional study, Center for Community Medicine
76. Mild Cognitive Impairment (MCI) and associated factors among elderly persons in an urban resettlement colony in Delhi, Center for Community Medicine
77. Effect of Resveratrol supplementation on cognitive function and Estrogen receptor profile in hypothalamus and hippocampus of arsenic trioxide-exposed adult female mice, Anatomy
78. Mapping functional and biochemical correlates in brain of Parkinson's patients with mild cognitive impairment, NMR
79. Evaluation of the blood inventory management in a hospital based blood bank and evolution of strategy to minimize shortage and outdate of blood, Biochemistry
80. Role of sperm molecular factors in recurrent pregnancy loss, Anatomy
81. Effect of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopedic trauma surgery, Anaesthesiology and intensive care (JPNATC)

### ***Completed***

1. Role of Fluoride Toxicity on Renal Pathogenesis in Childhood Nephrotic Syndrome: an Ultra structural, Biochemical and Proteomic Study, Anatomy
2. The Effect of Ultrasound Guided Quadratus Lumborum Block on Postoperative Analgesia and Neuroendocrine Stress Response in Paediatric Patients undergoing Elective Open Pyeloplasty. A Randomized Control Trial, Anesthesiology, Pain Medicine and Critical Care
3. Study of potential modulator targeting pathways involved in the hyperphosphorylation of tau in Alzheimer disease, Biophysics
4. Development of serum protein marker and study of antioxidative effect using potential modulator for Alzheimer's disease, Biophysics
5. Effect of structured Yoga program on Stress and Professional Quality of Life among selected nursing staff in a tertiary care hospital of Delhi- A small scale phase-2 trial, Centre for Community Medicine
6. Comparison of post extraction bleeding complication in patients taking oral anticoagulants, with and without bridging therapy: a pilot study, Center for Dental Education & Research
7. Q-sofa score as a predictor of 7 & 28 days outcome in patients with suspected infection presenting to Emergency Department, Emergency Medicine
8. Gait and balance assessment in patients attending memory clinic, Geriatric Medicine
9. Comprehensive geriatric assessment of older adults attending fragility clinic in a tertiary health care setting in India, Geriatric Medicine
10. A randomized control study to evaluate the efficacy of scrambler therapy in the management of oncological pain in cancer patients, Onco-anesthesia & Palliative medicine
11. Awareness and knowledge of Indian breast cancer patients pertaining to genetic aspect of breast cancer, Surgical Oncology
12. Efficacy of intensive dietary counseling on metabolic, anthropometric and ultrasound parameters among adult Indian Non-Alcoholic Fatty Liver Disease (NAFLD) patients: A Randomized Controlled Trial, Medicine, University of Delhi
13. Biological and behavioral risk factors for obesity among outpatients and perceived barriers to weight loss among obese patients in a hospital based set-up, Medicine, University of Delhi
14. Designing and validation of evidence based questionnaire in English and Hindi for a population based cohort study in India, Neurology
15. High dose dexamethasone for primary supratentorial intracerebral hemorrhage: a pragmatic parallel group open-level randomized trial with blinded endpoint assessment (PRoBE), Neurology

16. Identification of biomarkers in Parkinson's disease using NMR, NMR
17. Metabolomics study of prostate cancer by using NMR spectroscopy, NMR
18. Dosimetric Study in Children and Adults with Differentiated Thyroid Cancer Undergoing Radionuclide (<sup>131</sup>I-Na) Therapy, Nuclear Medicine
19. Therapeutic Efficacy of Abiraterone Acetate versus Concomitant <sup>177</sup>Lu-DKFZ-PSMA-717 and Abiraterone Acetate therapy in patients with Metastatic Castration Resistant Prostate Cancer: Open Label, Two Arm, Phase II Trial, Nuclear Medicine
20. Detection of Minimal Residual Disease (MRD) in B-cell Lineage Acute Lymphoblastic Leukemia by Flow Cytometry at end of Induction, Pediatrics
21. A study of endothelial function and gene expression in healthy individuals, and their correlation with various somatotype classifications, Physiology
22. Economic Burden, Prevention and Control of Pneumonia among Elderly, Centre for Community Medicine
23. Oral Sildenafil administration in patients undergoing fontane surgery – A double blind randomized controlled trial, CTVS
24. Comparison of Pleural Effusion in fenestrated and non-fenestrated Fontane surgeries – A Randomized Prospective Study, CTVS
25. Comparison of Plasmalyte-A based del Nidocardioplegia solution with plain ringer based del Nidocardioplegia solution in pediatric patients undergoing open heart surgery – A prospective double blind randomized controlled trial, CTVS
26. The impact of modified ultrafiltration on post-operative course in patients undergoing surgery for tetralogy of fallot – a double blinded Randomized control trial, CTVS
27. A prospective split face randomized controlled study comparing injection of autologous fat alone versus autologous fat mixed with platelet rich plasma for age related facial volume deficit especially tear trough deformity; with isolation and characterization of adipose derived stem cells, Dermatology & Venereology
28. Descriptive epidemiological study of patients with dermatophytic infections attending tertiary care centre in Northern India, Dermatology & Venereology
29. Comparison of Efficacy of non-cultured extracted hair follicle root sheath cell suspension with noncultured epidermal cell suspension in re-pigmentation of leucotrichia in vitiligo, Dermatology & Venereology
30. A descriptive study to classify periocular hyperpigmentation based on clinic-investigative profile, Dermatology & Venereology
31. Estimation of epidermal ceramides in autosomal recessive congenital ichthyosis and its correlation with phenotype and genotype, Dermatology & Venereology
32. Cross-sectional study to assess autonomic nervous system imbalance and its correlation with cutaneous manifestations in patients with systemic sclerosis, Dermatology & Venereology
33. Biomarkers for assessment of villous abnormalities in patients with celiac disease and other enteropathies, Gastroenterology & Human Nutrition
34. To Study the diagnostic performance of presepsin in sepsis – A pilot study Medicine
35. Role of N-Terminal pro-BNP and cardiac Troponin-I as a biomarker to predict mortality in patients of sepsis, Medicine
36. Clinical and Biological significance of mutations in mitochondrial DNA in AML, Medical Oncology
37. A study to determine the association of trace elements and heavy metals with lung cancer and their correlation with smoking, Medical Oncology
38. Role of hENT1, RRM1, RRM2 and ERCC1 expression in advanced carcinoma of Gallbladder treated with Gemcitabine—Platinum Doublet, Medical Oncology
39. Three arm phase II/III RCT in patients with unresectable or metastatic GBC with poor performance status by best supportive care vs Erlotiniv vs capecitabine, Medical Oncology
40. Gene expression profile and its correlation with mitochondrial energy metabolism in pediatric AML, Medical Oncology
41. Role of Bone marrow micro-environment in multiple myeloma, Medical Oncology
42. To Study the diagnostic performance of presepsin in sepsis – A pilot study, Medicine
43. Quantitative real time PCR and genotyping for Cytomegalovirus in ulcerative colitis, Microbiology
44. Magnitude of Prosthetic Joint Infections (PJI) and role of amplification based DNA analysis for identifying microbial profile of prosthetic joint infections in a Tertiary Care Hospital, Microbiology

45. Impact of early organism identification by MALDI TOF on antibiotic prescription pattern & clinical outcomes, Microbiology
46. Study on role of intensive physiotherapy and trans cranial magnetic stimulation (TMS) in stroke recovery and the correlation of growth factors with intervention and recovery, Neurology
47. Standardization of dynamic F-18 FDG PET/CT protocol and comparison of whole body F-18 FDG PET CT with whole body diffusion weighted MRI for early treatment response evaluation in non-small cell lung cancer, Nuclear Medicine
48. Understanding the BRB Transponder Functions and Evaluation of Aptamers in the Experimental Model of Uveitis, Ocular Pharmacology, RP Center of Ophthalmic Sciences
49. Developing and validating QSPR model for enhanced penetration of drugs across blood ocular barriers, Ocular Pharmacology, Dr. RP Center of Ophthalmic Sciences
50. A study on the prevalence of polymorphisms in congenital uropathies and their influence on renal functional outcomes, Pediatric Surgery
51. Pharmacological modulation of inflammation in experimental model of Ischemia reperfusion injury in rat heart, Pharmacology
52. Development and validation of a questionnaire for assessing the medication adherence of hypertensive patients in India, Pharmacology
53. Randomized controlled trial to study the efficacy of exercises in early stage Parkinson's disease, Physical Medicine and Rehabilitation
54. Effect of Angiotensin Converting Inhibitor on Autonomic, Vascular and Endothelial function in Type2 Diabetes with newly diagnosed Hypertension, Physiology
55. Role of interventional radiology in obstetric related hemorrhage, Radiodiagnosis
56. A Study of Chronic Respiratory Diseases and Associated Factors among Elderly Persons in a Rural Area of Haryana, Centre for Community Medicine
57. Effect of curcumin on mice basal forebrain structures following arsenic trioxide exposure, Anatomy
58. The effect of candida and antifungal therapy on pro inflammatory cytokines in oral leukoplakia- A pilot study, Center for Dental Education & Research

## PUBLICATIONS

**Journals: 119**

**Abstracts: 9**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor RM Pandey** had the following honors and significant events. **Ethics Committee:** Chairperson of Indian Institute of Public Health (Under PHFI), Delhi; Member: United Nations Regional Centre for Biotechnology, Under DBT. **Coordinator:** Mandatory 5 days workshop on Research Methodology, Writing and Communication, for the PG Students at the AIIMS; **Member:** Scientific Advisory Committee of National Institute of Epidemiology (ICMR); Steering Committee Member of Multi-centric collaborative study of the clinical, biochemical and molecular characterization of Lysosomal storage disorders in India; Expert Committee, Task Force project on Cleft Lip and Palate Anomaly (ICMR); Technical Advisory Group on grand challenges India/Nutrition and Health funded by Bill Milanda Gates Foundation and DBT; Expert Committee to evaluate R&D proposals on the possible impact of IMF Radiation Exposure from Mobile towers and handsets on life and related R&D initiative by DST; Expert Committee on estimation of burden of Pediatric HIV cases in India (ICMR); **Member DSMB:** Community based kangaroo mother care on newborn mortality, coordinated by WHO; **Examiner:** Ph.D. thesis submitted at Delhi University, Delhi; CMC Vellore and Kerala University.

**Professor SN Dwivedi** was **Member:** UGC Nominee, Advisory Committee, Department of Statistics, Calcutta University; National Organizing Committee for the 29th International Population Conference of International Union for Scientific Study of Population(IUSSP), to be held at Hyderabad(2021); Board of Post Graduate Studies in Statistics, Assam University, Silchar; Governing Body, Institute of Applied Statistics and Development Studies, Lucknow; Selection Committee for AIIMS, Patna; Editorial Board for World Journal of Meta Analysis; Expert Committee on Gestational Diabetes Mellitus (GDM), Task Force Committee on Methods and Project Review Committees, for Indian Council of Medical Research; International Epidemiological Association, USA; Fellow, Royal Statistical Society, UK; Committee to review the "Proposal for the Creation of a School of Public Health & Epidemiology" at the AIIMS, New Delhi; Fellowship Committee regarding FSMS Award of Indian Society for Medical Statistics(ISMS); Search Committee for other ISMS awards (Prof SK Bhattacharya Oration, Smt. Ramrati Lalima Sahai Award, Life-time Achievement Award, Prof A Indrayan Travel Grant). Institute Ethics Committee for Post Graduate studies; **Chairman,** Selection Committee, Research Section, AIIMS, Delhi; Project Steering

Committee (PSC) for New Task Force study on “Situational Analysis of Health Care Facility and Community Preparedness for Implementing Government of India Guidelines for Gestational Diabetes Mellitus”, of ICMR, New Delhi; Expert Committee to provide opinion to the National Institute of Health and Family Welfare, New Delhi, regarding recruitment rules for the post of Assistant Professor; Chaired an Invited Talk Session at Ramanujan College, University of Delhi, during a National Conference on Emerging Trends in Statistics and Data Sciences; Chaired a technical session on Alternative Ways to manage Cancer during 8<sup>th</sup> International Translational Cancer Research Conference in BHU, Varanasi; One of the Panelists for discussion on Consensus and Controversies of Medical Research in Clinical Practice in a Oncology Forum Academic Meeting at New Delhi; External Examiner to evaluate Ph.D. thesis for award of Ph.D. Degree in Statistics of University of Jammu, Jammu; Statistical Editor, Indian Journal of child Health; Editor, Demography India; Editorial Board Member, Biostatistics and Biometrics Open Access Journal; Reviewer for World Journal of Surgical Oncology; Reviewer, American Journal of Public Health; Reviewer, “Pediatrics, American Academy of Pediatrics”; Reviewer, International Society for Clinical Biostatistics; Systematic Reviews; International Journal of Educational Research and Reviews; Member, Editorial Board of Indian Spine Journal; Member, Reviewer, Indian Journal of Medical Research; Member, International Society for Clinical Biostatistics; Elected Member, International Statistical Institute, & International Association for Statistical Education, Netherlands; Founder Vice-President, Society for Evidence Based Health Care; Advisor for two Ph.D. students, University of Delhi.

**Professor V Sreenivas** was **Member**: Scientific Advisory Committee (SAC) of the National Institute for Cancer Prevention & Research, ICMR; Assessment Board for promoting the Scientists of the Indian Council of Medical Research; Task Force Committees of ICMR on Neurology, Studies on sleep disorders and DM with traditional medicines, Polycystic Ovarian Disease, Male contraceptive RISUG trial; Selection Committees & Screening Committees for various posts, ICMR; Project Review Committees of Neurology, Indian Council of Medical Research, Dept. of Health Research, India. Statistical Consultant to the Indian Journal of Dermatology and Venereal Diseases (IJDVL); Biostatistics Reviewer for Journal of Clinical Oncology (American Society for Clinical Oncology), Pediatrics (American Academy of Pediatrics), Indian Journal of Dermatology, Venereology and Leprology, and Indian Pediatrics; Statistical Consultant to the Journal of Indian Association of Child and Adult Mental Health (JIACAM); Expert for Reviewing the Research proposals, Medical Research Council, UK.; Institutional Ethics Committee, AIIMS; Subject Expert, Selection Committee for the selection of Biostatistics Faculty, Banaras Hindu University, Varanasi.

**Dr Maroof A Khan** was Editorial Board Member (Biostatistics)-International Journal of Scientific Reports; Scientific reviewer of Indian Journal of Medical Research, India; Scientific reviewer of Journal of Model Assisted Statistics & Applications, USA; Scientific reviewer of Journal of Obesity, UK; Scientific reviewer of Journal of Biomedical research, UK etc.

**Dr Shivam Pandey** was invited as a Resource Person for two & half days workshop on Introduction to Statistical Methods, at Anti-Doping Laboratory Qatar (ADLQ), Doha, Qatar.



## 9.7. Biotechnology

### Professor and Head

Jaya S Tyagi (up to 31 May 2019)

Shyam S Chauhan (from 1 June 2019)

### NASI Senior Scientist, Platinum Jubilee Fellow

Jaya S Tyagi (from June 2019 onwards)

### Associate Professor

Anushree Gupta

### Assistant Professors

Rupesh Kumar Srivastava  
Sirish Kumar Ippagunta

Bhupendra Kumar Verma  
Sumit Rathore  
Vineet Choudhary

Vikram Saini  
Mahendra Seervi

### Scientist

Shrabani Saugandhika

## HIGHLIGHTS



1. Professor Jaya S Tyagi, Chairperson, CCRF being felicitated by the AIIMS director.
2. Ms Kiran Kumari, PhD student, receiving first prize for CCRF logo designing from AIIMS director.
3. Osteoimmunology group of Dr Rupesh Kumar Srivastava, celebrating 25th anniversary of the journal 'Immunity', was featured on the journal cover page.
4. Dr Vikram Saini with Nobel laureate Dr Venki Ramakrishnan and other dignitaries during CCRF-BSL3 inauguration.
5. Ms. Leena Sapra, PhD student, receiving first prize for poster presentation at the FIMSA-IUIS-IIS International conference at Jaipur.
6. Dr Saurabh Sharma receiving JBC poster award at India-EMBO TB symposium 2020 at New Delhi.

The departmental faculty served as experts in several scientific committees of various institutes and universities of the Government of India. The department also started student mentorship and career awareness program, to cater the needs of students from diverse backgrounds.

## EDUCATION

### Postgraduate Teaching

- The Department conducts a 2 year postgraduate course in Biotechnology with emphasis on Medical Biotechnology leading to MBiotech degree. The teaching program covers 16 subjects, namely Cell and Developmental Biology, Genetics, Human Biochemistry, Medical Microbiology, Immunology & Immunotechnology, Molecular Biology, Infectious Disease Biology, Genetic Engineering & Genome Technology, Biophysics (Principles, Techniques & Applications in Medicine), Bioinformatics, OMICS (Genomics, Transcriptomics, Proteomics & Metabolomics), Biostatistics, Seminars in Laboratory Techniques (Principles & Instrumentation), Medical Biotechnology (Journal Club & Communication Skills), Seminars in Molecular Medicine & Biotechnology and Dissertation in frontier areas of medical research.
- The Department has introduced three five new credit courses in the course curriculum of M. Biotechnology (2019-2021) namely, Infectious Disease Biology, OMICS: Genomics, Transcriptomics, Proteomics, and Metabolomics, Intellectual Property Rights, Bioethics and Biosafety (IBB), Molecular Diagnostics and Clinical Biochemistry (MDB) and Laboratory course on Medical Microbiology and Infectious Disease Biology”.
- Students are given individual attention and extensive hands on training in Practical classes.
- Experts are invited from PGIMER, JNU, IGIB, ICGB, NII, IIT, THSTI, RCB, BCIL, TERI, Jamia Hamdard and University of Delhi in addition to AIIMS faculty from various specialties, to deliver seminars in biotechnology, bioinformatics, molecular medicine, genomics, proteomics etc.
- The Department conducts a Ph.D. program in the area of Medical Biotechnology.
- The Department mentors and supports young Scientists having DBT and DST National Post-Doctoral and Young Scientist award.

### CMEs/Workshops/Symposia/National and International Conferences

1. One day Workshop on single-cell capture workflow using BD Rhapsody single-cell analysis platform, 30 July 2019, Drs Rupesh K Srivastava and Bhupendra K Verma
2. Two-day workshop on Imaging techniques 24-25 May 2019, Dr. Bhupendra K Verma

### Lectures delivered

**Shyam Chauhan** (please see 9.3 Biochemistry)

**Anushree Gupta: 1**

**Bhupendra Kumar Verma: 3**

**Sirish Kumar Ippagunta: 1**

**Mahendra Seervi: 1**

**Jaya S. Tyagi: 1**

**Rupesh Kumar Srivastava: 5**

**Vikram Saini: 7**

**Sumit Rathore: 2**

**Vineet Choudhary: 1**

### Jaya S. Tyagi

1. TB diagnosis: Challenges and Opportunities Seminars in Molecular Medicine, DBT, AIIMS, 5 March 2020, New Delhi

### Anushree Gupta

1. Systems Medicine: Network of Networks Seminars in Molecular Medicine, Department of Biotechnology, AIIMS 14 March 2020 New Delhi

### Rupesh Kumar Srivastava

1. Microcystin-LR induces bone loss and impairs bone micro-architecture by modulating host immunity: Implications for Bone Health, International Conference on Breakthrough in Toxicology and Human Health (ICBTHH-2019) and 39th Annual Meeting of Society of Toxicology (STOX), Jiwaji University 27-29 December 2019, Gwalior
2. Osteoimmunology and its implications in Translational Research, Integrative Molecular Epidemiology Workshop: Bridging Environmental Health and Translational Research, ICMR-National Institute for Research in Environmental Health, 12 December 2019, ICMR-NIREH, Bhopal
3. Harnessing Immunomodulatory potential of Probiotics in management of postmenopausal osteoporosis, ICMR-NIRRH Golden Jubilee celebrations and International conference on Women's reproductive health: A step towards

improving quality of life, 20-23 February 2020, ICMR-NIRRH, Mumbai

4. Translating Immunomodulatory potential of Probiotics in management of Osteoporosis Conference on Translational and Regenerative Medicine, Noida International University, 21-23 January 2020, Noida
5. Immunoporosis: Immunology of osteoporosis Seminars in Molecular Medicine, Department of Biotechnology, AIIMS, 28 February 2020, New Delhi

#### **Bhupendra Kumar Verma**

1. Spliceosome: many facets, Seminars in Molecular Medicine, Department of Biotechnology, AIIMS, 24 February 2020 New Delhi
2. RNA toxicity and mis-splicing: Mutations in minor spliceosome results growth hormone deficiency, International Conference on Breakthrough in Toxicology and Human Health (ICBTHH-2019) and 39th Annual Meeting of Society of Toxicology (STOX), Jiwaji University, 27-29 December 2019, Gwalior
3. Basic and applied aspects of Minor spliceosome mediated gene regulation: links to human diseases, 3rd BIO-Group meeting, IIT Kanpur, 26-27 July 2019, Kanpur

#### **Vikram Saini**

1. Challenges of TB in India and the relevance of BSL3 laboratories in Medical Research Institutes, 14<sup>th</sup> Asia Pacific Association (A-PBA) Annual Bio risk Conference Biosafety & Biosecurity – For Sustainable Development in Health and Agriculture, 17-20 September 2019, Dhaka, Bangladesh
2. Disease, environment, and therapy: An integrated framework for tuberculosis control, International Centre for Diarrhoeal Disease Research (ICDDR), Dhaka, 18 September 2019 Dhaka, Bangladesh
3. Targeting host endogenous factors as a novel therapeutic strategy against tuberculosis infection, 17th Annual Meeting of SFRR-India (SFRR-INDIA-2020) & International Conference on “Role and Management of Oxidative Stress in Human Disease, BARC, 12-15 February 2020, Mumbai
4. Applications of Omics Based Approaches to understand Mycobacterial virulence and pathogenesis, Advancements in Molecular Microbiology in the Revolutionary ‘Omics’ Era” and “Micro quest” under the aegis of the Star College Scheme, Bhaskaracharya College, Delhi University, 20 February 2020, New Delhi
5. Environmental Modifiers of tuberculosis Infection and Disease control. Seminars series in Molecular Medicine, AIIMS, 23 February 2020, New Delhi
6. BSL-3 Facilities at CCRF AIIMS. Scope and possibilities, CCRF Seminar Room, 9th Floor, Convergence Block, AIIMS, 11 March 2020, New Delhi

#### **Sirish Kumar Ippagunta**

1. Negative control of immune response genes in hematopoietic and non-hematopoietic cells is essential to protect from inflammatory disease, Seminars in Molecular Medicine, Department of Biotechnology, AIIMS 02 March 2020, New Delhi

#### **Sumit Rathore**

1. Organelle dynamics and Proteomic profiling of Plasmodium falciparum under different stress conditions, 30th National Congress of Parasitology & Global Summit on Malaria Elimination, 26-28 September 2019, New Delhi
2. Plasmodium invasion, Biology Seminar in Molecular Medicine Series, 27 February 2020, New Delhi

#### **Mahendra Seervi**

1. Reversal of apoptosis: role of ‘anastasis’ in cancer relapse and drug resistance, Seminar in Molecular Medicine and Biotechnology, 29 February 2020, AIIMS, New Delhi

#### **Vineet Choudhary**

1. Biogenesis of Lipid Droplets from specialized ER subdomains: implications for lipodystrophy disease, Seminar in Molecular Medicine and Biotechnology, 29 February 2020, AIIMS, New Delhi

#### **Oral papers/posters presented**

1. Arora M, Chauhan SS. Co-expression of MAGE gene family members in cancer: An in silico analysis, 1st TCGA Conference in India, 21-23 September 2019, Pune
2. Gupta J, Arora M, Chauhan SS TOX expression with an inflammatory tumor microenvironment is associated with a favorable prognosis in breast cancer, 1st TCGA Conference in India, 21-23 September 2019, Pune
3. Arora M, Kumari S, Singh J, Chopra A, Chauhan SS.\* Post transcriptional regulation of PTEN by RNA binding

protein hnRNPD in oral cancer, World Congress on Cancer, 3-5 February 2020, Jaipur

4. Anjani, Kumar V, Chauhan SS.\* TOX expression with an inflammatory tumor microenvironment is associated with a favorable prognosis in breast cancer. Translation Oncology Conference \*(Best Poster Award), 14-15 February 2020, New Delhi
5. Arora M, Kumari S, Singh J, Chopra A, Chauhan SS.\* Transactivation of HnRNPD/Auf-1 by NF- $\kappa$ B(P65/RelA) in oral cancer, Translation Oncology Conference, 14-15 February 2020, New Delhi
6. Kumar V, Chauhan SS.\* Transactivation of HnRNPD/August-1 by NF- $\kappa$ B (P65/RelA) in oral cancer. EMBO 2019 Workshop: RNP network dynamics in development and Disease, 29 September-2 October 2019, Ljubljana, Slovenia
7. Kumari P, Kaur K, Sharma S, Sehgal S, Tyagi JS DevS/DosS sensor is bifunctional and its phosphatase activity prohibit the aerobic regulon expression of DevR/DosR in Mycobacterium tuberculosis, 2019 Gordon Research Conference (Frontiers in Science) on TB Drug Discovery & Development, 7-12 July 2019, Castelldefels, Spain
8. Sikri K, Duggal P, Batra SD, Tyagi JS Vitamin C boosts the sensitivity of Mycobacterium tuberculosis subpopulations to anti-tubercular drugs in combination therapy, 2019 Gordon Research Conference (Frontiers in Science) on TB Drug Discovery & Development, 7-12 July 2019, Castelldefels, Spain
9. Sharma S, Kumari P, Vashist A, Kumar C, Nandi M, Tyagi JS. Activation of DevR (DosR) dormancy regulon in Mycobacterium tuberculosis by metabolite acetyl phosphate necessitates targeting DevR and not the cognate sensor kinases DevS/DosT in anti-mycobacterial therapy, 2019 Gordon Research Conference (Frontiers in Science) on TB Drug Discovery & Development, 7-12 July 2019, Castelldefels, Spain
10. Anthwal D, Lavania S, Gupta RK, Verma A, Myneedu VP, Sharma PP, et al. Development and evaluation of novel bio-safe filter paper-based kits for sputum microscopy and transport to directly detect Mycobacterium tuberculosis and associated drug resistance, 2019 Gordon Research Conference (Frontiers in Science) on TB Drug Discovery & Development, 7-12 July 2019, Castelldefels, Spain
11. Sharma S, Kumari P, Vashist A, Kumar C, Nandi M, Tyagi JS. Acetyl phosphate mediated activation of DevR (DosR) dormancy regulon in Mycobacterium tuberculosis highlights the importance of targeting DevR and not the cognate sensor kinases DevS/DosT in anti-mycobacterial therapy, Challenges of TB: UK-India Newton-Bhabha Fund RSC Researcher Links Workshop, 16-19 December 2019, Pune
12. Vashist A, Sikri K, Lavania S, Gupta P, Gupta UD, Tyagi JS. Perturbation of signaling by isolated receiver domain of DevR/DosR Response Regulator knocks down its gene function in Mycobacterium tuberculosis, Challenges of TB: UK-India Newton-Bhabha Fund RSC Researcher Links Workshop, 16-19 December 2019, Pune
13. Lavania S, Das R, Dhiman A, Myneedu VP, Verma A, Singh N, et al. Aptamer-based rapid and sensitive diagnostic tests for screening pulmonary tuberculosis patients, Challenges of TB: UK-India Newton-Bhabha Fund RSC Researcher Links Workshop, 16-19 December 2019, Pune
14. Sharma S, Kumari P, Vashist A, Kumar C, Nandi M, Tyagi JS.\* Acetyl phosphate mediated activation of DevR (DosR) dormancy regulon in Mycobacterium tuberculosis: Implications in targeting DevR for anti-mycobacterial therapy, India-EMBO TB symposium 2020–Mycobacterial Heterogeneity and host tissue tropism, 11-15 February 2020, New Delhi
15. Vashist A, Chauhan P, Dhiman A, Datta I, Mishra SK, Kumar A, et al. Development and characterization of G-Quadruplex-forming DNA aptamers targeting DevR/DosR response regulator of Mycobacterium tuberculosis, India-EMBO TB symposium 2020 – Mycobacterial Heterogeneity and host tissue tropism, 11-15 February 2020, New Delhi
16. Srivastava RK. Harnessing Immunomodulatory potential of Probiotics in management of postmenopausal osteoporosis, IUIS-IIS-FIMSA Course on Basic and Advanced Translational Immunology, 12-16 September 2019, Jaipur
17. Srivastava RK. Dietary Salt intake and Bone Health: Role of Immune System, India International Science Festival-IISF (under Ministry of Science and Technology, Gov. of India), 5-7 November 2019, Kolkata
18. Sapra L, Srivastava RK. (Oral) Sodium Benzoate (NaB) - a food additive, enhances Bone Health by modulating Regulatory Immune axis, FIMSA-IUIS-IIS, International conference, Rajasthan University of Health Sciences (RUHS), 12-16 October 2019, Jaipur
19. Sapra L, Ahmad A, Azam Z, Shokeen N, Bhardwaj A, Srivastava RK. Sodium Benzoate (NaB)—A Food Additive, enhances Bone Health by upregulating anti-Osteoclastogenic T cells, FIMSA-IUIS-IIS, International conference, Rajasthan University of Health Sciences (RUHS), 12-16 October 2019, Jaipur
20. Bhardwaj A, Pandey A, Sapra L, Azam Z, Srivastava RK. Lactobacillus rhamnosus enhances bone health in osteoporotic mice via modulating host immune system, FIMSA-IUIS-IIS, International conference, Rajasthan University of Health Sciences (RUHS), 12-16 October 2019, Jaipur
21. Azam Z, Sapra L, Shukla P, Sharma V, Srivastava RK. Cissus quadrangularis prevents Bone loss in Postmenopausal Osteoporotic mice model, FIMSA-IUIS-IIS, International conference, Rajasthan University of Health Sciences

(RUHS), 12-16 October 2019, Jaipur

22. Kalra P, Kumar P, Mitchell T, Saini V.\*\* High dietary oxalate compromises mitochondrial bioenergetics and redox homeostasis to increase predisposition of kidney stone formers to urinary tract infections (UTI), Regional Young Investigator meeting at National Institute of Plant Genome Research (NIPGR), 6-7 August 2019, New Delhi
23. Saini V, Negi S, Kalra P. Development of Novel Therapeutic Strategies against Tuberculosis, Regional Young Investigator meeting at National Institute of Plant Genome Research (NIPGR), 6 and 7 August 2019, New Delhi

\*Dr Saurabh Sharma received JBC Young Emerging Scientist Best Poster Award' at "India-EMBO TB symposium 2020-Mycobacterial Heterogeneity and host tissue tropism"

\*\*Young Researcher Award to Dr Priya Kalra (2nd prize in poster presentation).

## RESEARCH

### Funded projects

#### *Ongoing*

1. Combating the challenge of antibiotic tolerance: Combining conventional anti-tubercular drugs with DevR dormancy regulator-targeted approaches for improving M. tuberculosis clearance. \*Vikram Saini/Jaya S. Tyagi, DBT, 3 years, 2018-2021, Rs 47.30 lakhs
  2. Aptamer-based Tuberculosis Diagnostics Toolbox. \*Vikram Saini/Jaya S. Tyagi, DBT, 3 years, 2018-2021, Rs 16.52 lakhs
  3. Elucidation of Cellular mechanisms involving GUT resident regulatory T cells in Probiotics mediated inhibition of Osteoporosis, Rupesh K. Srivastava, DST-SERB, 3 years, 2018-2021, Rs 65 lakhs
  4. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, Rupesh K. Srivastava, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
  5. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis, Bhupendra K. Verma, DST-SERB, 3 years, 2019-2022, Rs 39.41 lakhs
  6. HarGobind Khorana Innovative Young Biotechnologist Award (IYBA), Department of Biotechnology, Govt. of India, Vikram Saini, DBT, 3 years, 2019-2022, Rs 59.06 lakhs
  7. Modulation of host bioenergetics health and redox function via Selenium supplementation as a novel approach to tuberculosis management, Vikram Saini, DST-SERB, 3 years, 2019-2022, Rs 53.85 lakhs
  8. Characterization of L, D-transpeptidases from Mycobacterium abscessus: An Emerging Opportunist Pathogen, Vikram Saini (Mentor to Dr Namrata Kushwaha Woman Scientist) DHR, 3 years, 2020-2023, Rs 30.9 lakhs
  9. Probing the biology of Toll-like receptor and Interleukin-1 Receptor in peripheral blood mononuclear cells of healthy donors using novel small molecule inhibitor, Sirish Kumar Ippagunta, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
  10. Exploring the immunomodulatory activities of novel Toll-like receptor-signaling inhibitors in peripheral blood mononuclear cells from lupus patients: A study to identify TLRs as drug targets for lupus, Sirish Kumar Ippagunta, SERB, 3 years, 2020-2023, Rs 68.01 lakhs
  11. Characterization of Parasite ligand-host receptor interactions in Plasmodium vivax infections, Sumit Rathore, ICMR, 3 years, 2019-2022, Rs 65 lakhs
  12. Circulating miRNA in Plasmodium vivax severe malaria, Sumit Rathore, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
- \*PI since 1 June 2019 upon superannuation of Dr Jaya S. Tyagi

#### *Completed*

1. To Dissect the role of Treg-Th17 cells in Lactobacillus rhamnosus mediated inhibition of Bone loss in ovx mice, Rupesh K Srivastava, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
2. Novel gene regulatory circuits associated with Dengue Virus: Exploring therapeutic potential. Bhupendra K. Verma, AIIMS, 2 years, 2018-2020, Rs 9.9 lakhs
3. Selenium supplementation and mycobacterial infections. Vikram Saini, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
4. To understand organelle dynamics in malaria parasite-Role of Autophagy. Sumit Rathore, DST, 5 years, 2013-2018, Rs 35 lakhs
5. Mechanism of anastasis in cancer cells: Its impact in disease relapse and therapy. Mahendra Seervi, DST-SERB Young Scientist, 3 years, 2016-2019, Rs 26 lakhs

6. To study the role of High salt Diet (HSD) in male fertility: Role of bone hormone osteocalcin. Shrabani Saugandhika, AIIMS, 2 years, 2017-2019, Rs 10 lakhs

## **Departmental projects**

### ***Ongoing***

1. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
2. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
3. Role of Prothymosin alpha in Glial tumorigenesis
4. Role of Human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in Oral Cancer
5. Adaptation of Mycobacterium tuberculosis and infected host in vitamin C dormancy model.
6. Analysis of host transcriptional response to Mycobacterium tuberculosis in vitamin C ex vivo model of infection and comparison with clinical responses in active TB and latent TB infection.
7. To study the role of Bifidobacterium longum in modulating Bone Health via regulating the host Osteo-immune system
8. To study the effect of Sodium Benzoate (NaB) in regulating Bone Health via modulating the host Immune System
9. Characterizing pre-mRNA splicing in context of Dengue virus
10. Characterization of functional interaction between minor spliceosome and polyadenylation machinery
11. Analyzing the effect of novel small molecule antagonist on cell surface toll-like receptor-induced pro-inflammatory cytokine expression in healthy peripheral blood mononuclear cells.
12. Analyzing the effect of novel small molecule antagonist on endosomal toll-like receptor-induced pro-inflammatory cytokine expression in healthy peripheral blood mononuclear cells.
13. Surface Proteomics of Reticulocytes in Plasmodium vivax severe malaria patients
14. To study the effect of physiological gases on metal homeostasis in microbes
15. Development of Strategies for an Efficient Expression and Purification of proteins of Mycobacterium indicus pranii
16. Identification of interacting proteins of Plasmodium vivax Tryptophan Rich Antigen 26.3 (PvTRAg26.3) with erythrocyte surface

### ***Completed***

1. Elucidation of Molecular Mechanism of Differential Expression of Cathepsin B in Breast Cancer Cells with Different Metastatic Potential
2. To assess the potential utility of Cathepsin L and Cathepsin B as universal biomarker for cancer
3. Human Heterogeneous Ribonucleoprotein D (hnRNPD) mediated post transcriptional regulation of Phosphatase and Tensin homolog (PTEN) in oral cancer
4. The Expression and Clinical Significance of Serum microRNAs in Human Gallbladder Cancer
5. Insights into transcriptional factors that co-regulate the Mycobacterium tuberculosis adaptation response to Vitamin C
6. Theranostic Application of a Novel G-Quadruplex-Forming DNA Aptamer Targeting Malate Synthase of Mycobacterium tuberculosis
7. To study the nexus between probiotic Lactobacillus rhamnosus (LR) and T cell lineages in Ovx mice
8. To dissect the role of TH17-Treg cells in Microcystin-LR induced bone loss
9. Functional characterization of minor spliceosomal proteins
10. Role of YBX proteins in RNA splicing and stability
11. Impact of micro-nutrient supplementation of microbial infections
12. Cloning, expression and purification of putative antigenic proteins of Mycobacterium indicus pranii

## **Collaborative projects**

### ***Ongoing***

1. A study of epigenetics of Breast cancer by evaluation of tissue site-specific Promoter DNA methylation profiles in Breast Cancer, Surgical Disciplines
2. Expression of Reg-4 and MUC-4 in patients with carcinoma of pancreas, Gastroenterology

3. miRNA as biomarker in chronic pancreatitis patients who are at high risk for developing pancreatic cancer, Gastroenterology
4. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology
5. Role of Th9 cells in Osteoclastogenesis, THSTI, Faridabad
6. Role of BPA on Bone health, Delhi University
7. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
8. Role of Immune system in Pancreatitis, Gastroenterology
9. Expression profile of tRNA-derived fragments in T-lineage acute lymphoblastic leukemia, IRCH
10. Minor spliceosomal & Dengue, THSTI, Faridabad
11. YBX proteins in RNA splicing and stability, THSTI, Faridabad
12. Clinical significance of cancer stem cells markers and its proteins in different grades astrocytomas, Biotechnology and RP Centre
13. Exploring the Tryptophan metabolism via Kynurenine pathway and their correlation with clinical outcome in Keratoconus and Fuch's endothelial corneal dystrophy patients undergoing corneal transplantation, RP Centre
14. Link between mitochondrial morphology and mitochondrial biogenesis in Acute lymphoblastic leukemia, Biochemistry
15. To study the role of iPSC derived hematopoietic progenitor cells for hematopoietic failure among trauma Hemorrhagic shock using animal model, Emergency Medicine

### **Completed**

1. miRNA as evaluation Biomarker for tuberculosis treatment response, ICGEB New Delhi, and InStem Bangalore

### **PUBLICATIONS**

**Journals: 17   Abstracts: 2   Chapters in Books: 2**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Shyam S Chauhan** (please see 9.3 Biochemistry)

**Professor Jaya S Tyagi** is recipient of NASI Senior Scientist Platinum Jubilee Fellowship. She is Honorary Visiting Professor, THSTI, Faridabad, Fellow of Indian National Science Academy, Fellow of Indian Academy of Sciences, Fellow of National Academy of Sciences (India), Member of Guha Research Conference, Vice-President and Council member of National Academy of Sciences (India), Member, Panel on Scientific Values, Indian Academy of Sciences, Bengaluru, Member of Scientific Advisory Committee of National Institute for Research in Tuberculosis, Chennai, Member of Scientific Advisory Committee of THSTI, Member of RAP-SAC of National Institute of Immunology and Centre for DNA Fingerprinting and Diagnostics, Member of DBT Expert Group on Tuberculosis, Member of DBT Steering Committee and Task Force on HRD, Member of DBT Technical Evaluation Committee for Infectious Disease Biology, Member of DBT Technical Evaluation Committee in Medical Biotechnology-II for NER, Chairperson, Institutional Human Ethics Committee of IGIB, Special invitee, Intellectual Property Management Committee, AIIMS.

**Dr Anushree Gupta** is Central public Information Officer for the Department of Biotechnology, Bioinformatics course Coordinator, Attended one-week short Faculty Development Programme on “Computational Biology and Translational Bioinformatics” at IIT Roorkee from 30 September-4 October 2019.

**Dr Rupesh Srivastava.** Coordinator of departmental M. Biotech Program, Received Certificate of Appreciation by AIIMS for contribution towards establishing CCRF-Flow Facility at AIIMS-CCRF, Inauguration on January 24th, 2020, Member of Institutional IPR committee and Institutional CCRF-FLOW Cytometry committee, Invited Editor: 24th issue of the Indian Society for the Study of Reproduction and Fertility (ISSRF) Newsletter on “Translational Research in Reproductive Health” (ISSN 2395-2806), September 2019, Member of Institutional COVID-19 literature appraisal committee, his Osteoimmunology laboratory is part of the #Immunity Community that was featured as mosaic cover on the occasion of 25th anniversary of the journal ‘Immunity’, Ms Leena Sapra, PhD Scholar from this laboratory has received travel award and also won first prize for Oral presentation at FIMSA-IUIS-IIS, International conference, 12 to 16 October 2019 at Rajasthan University of Health Sciences (RUHS), Jaipur, India, Ms Asha Bhardwaj and Mr Zaffar Azam, PhD Scholars from this laboratory have received travel award Travel Award (PhD Scholar-) to be able to attend FIMSA-IUIS-IIS, International conference, 12 to 16 October 2019 at Rajasthan University of Health Sciences (RUHS), Jaipur, India.

**Dr Bhupendra Kumar Verma.** Departmental M Biotech Program Coordinator. Member, Institute “CoViD 19 diagnostic management committee”. Member, Institute “CoViD 19 Literature appraisal committee” for “Immunology, Molecular Biology and Vaccine Development”.

**Dr Vikram Saini** is the recipient of Har Gobind Khorana Innovative Young Biotechnologist Award (IYBA), Department of Biotechnology, India (2018-19). He was invited speaker for the distinguished “Overseas Friends of ICDDR” series at the International Centre for Diarrhoeal Disease Research (ICDDR), Dhaka, Bangladesh (16-17 September 2019). He was facilitated by Govt of Haryana state for contribution in education on 73rd Independence day of India. He is involved in several initiative at AIIMS including being the Convener of PPE Decontamination and Re-use committee for Covid-19, Member Secretary of Institutional Covid-19 Diagnostic Committee, Member of Central Resource Committee, Member of Selection of PPE usage at the AIIMS, New Delhi during Covid-19, Member of Institutional Biosafety Committee (IBSC), AIIMS, Core Committee member CCRF, Expert Member of CCRF-Biosafety Lab (BSL-2 and BSL-3 laboratory) sub-committee, AIIMS, Expert Member of technical Committee for nude-mice/Transgenic mice facility and A-BSL3 facility at Central Animal Facility, AIIMS, coordinator of Career awareness program in Biotechnology at Dept. of Biotechnology, AIIMS. In addition, Dr. Saini serves as the review editor at journal *Frontiers in Microbiology*.

#### VISITING SCIENTISTS

1. Dr Pawan K Dhar, Professor, JNU, New Delhi delivered seminar on 24 February 20.
2. Dr Sunil K Arora, Professor, PGI Chandigarh delivered seminar on 26 February 20.
3. Dr Amit Awasthi, Associate professor, THSTI, Faridabad delivered seminar on 26 February 20.
4. Dr Gobardhan Das, Professor, JNU, delivered seminar on 2 March 20.
5. Dr Rahul Pal, Scientist, NII, New Delhi delivered seminar on 4 March 20.
6. Dr Neel S Bhavesh, Scientist, ICGEB, New Delhi delivered seminar on 4 March 20.
7. Dr V Perumal, Associate professor, IIT, New Delhi delivered seminar on 5 March 20.
8. Dr Rita Singh, Professor, DU, New Delhi delivered seminar on 6 March 20.
9. Dr Sagar Sen Gupta, Scientist, NII, New Delhi delivered seminar on 11 March 20.
10. Dr Manidipa Banerjee, Associate Professor, IIT, New Delhi delivered seminar on 12 March 20.
11. Dr Debi Sarkar, Professor, DU, New Delhi delivered seminar on 13 March 20.
12. Dr Manjula Kalia, Associate Professor, RCB, Faridabad delivered seminar on 13 March 20.
13. Dr Shankar Bhattacharya, Scientist, THSTI, Faridabad delivered seminar on 14 March 20.

## 9.8. Centre for Community Medicine

### Professor and Head

Shashi Kant

### Professors

Sanjeev Kumar Gupta  
Baridalyne Nongkynrih

Kiran Goswami  
Puneet Misra  
YS Kusuma Kumari

Anand Krishnan  
Sanjay Kumar Rai

### Additional Professors

Kapil Yadav

Sumit Malhotra

Anil Kumar Goswami

### Associate Professors

Partha Haldar  
Harshal Ramesh Salve

Ravneet Kaur  
Rakesh Kumar

### Assistant Professor

Mohan Lal Bairwa

## HIGHLIGHTS

Community based teaching, research and service provision has been the focus of faculty and staff housed within Centre for Community Medicine (CCM), at AIIMS, New Delhi. Strong outreach programmes and models of care are rendered through Urban Field Practice Area (at Dakshin Puri Extension, New Delhi) and Comprehensive Rural Health Services Project (CRHSP), Ballabgarh. Inputs are provided to several of national health programmes and initiatives of Government of India.

1. The department is designated as the National Centre of Excellence and Advanced Research on Anemia control (NCEAR-A) and spearheads *Anemia Mukht Bharat* in the country with support of several stakeholders.
2. The CCM serves as National Institute for HIV surveillance and supports National AIDS Control Organization (NACO), Government of India.
3. The department houses WHO Collaborating Centre for Research and Capacity Building on Community-based Non Communicable Diseases (NCD) Prevention and Control.
4. Mortality surveillance in the country is strengthened through AIIMS Technical support unit for SRS (Sample Registration System) based verbal autopsy in collaboration with RGI (Registrar General of India), Ministry of Home Affairs and network of institutions (MINErVA).
5. Support to Comprehensive Primary Health Care (CPHC), under Ayushman Bharat, is nurtured through an Innovation and Learning Centre that provides technical strengthening to Health and Wellness Centres (HWCs) in aspirational district, Nuh, Haryana.
6. Health promotion and focus on community level engagement in Yoga is supported in field practice area.
7. Collaborative international research projects are executed on influenza with CDC and air pollution with Health Effects Institute, USA.

The department organized “64th Annual National Conference of Indian Public Health Association (IPHA)” at AIIMS, New Delhi from 29 February to 2 March 2020 that was attended by more than 1100 national and international public health delegates.

## EDUCATION

### *Undergraduate MBBS students*

MBBS students are oriented to community-based practice through several opportunities and postings. Students in 4th and 5th semesters participate in urban based structured program and Family Health Advisory Services (FHAS), wherein families are allocated to them. They also are exposed to community-based research wherein research projects are undertaken by them both in urban and rural postings. During their 7th semester they are posted at CRHSP Ballabgarh, in four batches for six weeks each. This is a residential posting wherein they are taught concepts of epidemiology, are given an orientation to community health, including social determinants of health, community aspects of child health and mental health,

health systems at various levels, and health programmes. There are special modules to train on Integrated Management of Neonatal and Childhood Illness (IMNCI) and epidemiology. The students also undertake a brief qualitative method-based research project under module Orientation of Undergraduates to Community Health (OUCH) during this posting. Postings are concluded with internal formative assessments.

### ***Interns***

The interns are posted for a total duration of three months at the CRHSP Ballabgarh. This period is divided into six weeks at SDH, and 3 weeks at each of the PHCs located at Dayalpur and Chhainsa. The entire posting is residential. At Sub District Hospital (SDH), interns are posted in OPD and Wards that help them in learning basic clinical skills, as well as in-patient management, including conducting normal deliveries. They are rotated in all the available clinical disciplines at SDH under the supervision of respective Senior Resident (SR). During PHC posting, interns participate in health care delivery at the clinics of PHC, sub-centres as well as in antenatal clinics. They are also posted at the delivery hut at each PHC under overall supervision of SR of Community Medicine. They get experience in community level activities such as supervision of health workers, follow-up of patients that have defaulted while on anti-tuberculosis treatment, supervision of sub-centres, undertaking outreach activities, immunization and other ongoing activities at the PHC. Interns are also involved in special activities at PHCs such as Kayakalp assessment, annual census, public awareness generation and school health related activities. At the end of the CRHSP posting interns submit their log-book duly signed by respective SRs under whom they were posted for end posting assessment.

### ***Postgraduate students of Community Medicine***

The postgraduate students of Community Medicine are posted at CRHSP Ballabgarh for 18 months. This posting is residential. Out of the total duration, they spend 5 months and 10 days each, at the sub-district hospital and both PHCs on a rotation. This gives them adequate opportunity to gain the necessary skills and experiences both at the SDH and PHC. They are encouraged to take active participation in decision making and administration at the PHC. The regular teaching programme includes seminars, family and clinical case presentations, problem exercises based on hospital and field-practice area. Rest of the posting is in urban field practice area.

### ***BSc Nursing and Post certificate Nursing Students***

BSc nursing students and post certificate nursing students are posted for one and half months at CRHSP Ballabgarh. This posting is residential in nature. They spend one month at SDH and two weeks in either of the two PHCs. They are provided training in antenatal care, management of ward, and immunization. They are posted both in OPD and in Ward. They provide health talks, and IEC in OPD, and ward. Training of nursing students is supervised by a Faculty Member from the College of Nursing, AIIMS, New Delhi.

### ***In-service Training***

In addition to teaching of students, periodic in-service trainings were conducted for different cadres of staff working at the CRHSP Ballabgarh. The trainings conducted during 2019-20 were as following:

1. A refresher training on Neonatal Resuscitation for nursing staff and field health workers of the intensive field practice area was conducted on February 2020, in collaboration with Faculty members of the College of Nursing.
2. A total of 50 hours of in-service training for Health Workers and ASHA workers (24\*2=48) were conducted at PHC Dayalpur and Chhainsa (figures are inclusive). These are conducted during the meetings, each month. Topics were decided based on the training needs identified during field supervision; for the reporting period, these were as following: identification of JSY beneficiaries and facilitating them to avail benefit, management of animal bite cases, management of LBW babies, family planning - methods, importance and how to improve coverage, management of biomedical waste management, Tracking of High Risk Pregnancy and management, postnatal care for mother and newborn including complication management and kangaroo mother care, IMNCI-Identification and management of sick baby, identification, care and management of malnutrition at field level, Training on cold chain management PHC to immunization site and back to PHC, Diagnosis and management of TB cases.

### ***CMEs/Workshops/Symposia/National and International Conferences***

1. Workshop for Operational Framework of Behavioral Surveillance Survey Lite (BSS Lite-2019-2020), 4-5 April 2019, AIIMS, New Delhi.
2. INSPIRE Collaborators Meeting, 25-27 April 2019, Kolkata
3. National training of trainer workshop for BSS Lite, 20-23 May 2019, Gurugram, Haryana.
4. A Training programme on the use of "Larvicide and Insecticides", 23 July 2019, AIIMS, New Delhi
5. Centralized Training for Sampling Frame Development for BSS Lite for Central team members, 17-20 August 2019, Gurugram, Haryana.
6. INSPIRE Collaborators Annual Meeting 22-23 October 2019, Delhi

7. Workshop on “Operational research” on (pre-conference workshop during 23rd Annual Conference of North Zone Indian Association of Preventive and Social Medicine-2019), 1 November 2019, Nuh, Haryana
8. MINErVA Network and Technical Advisory Group meeting, 8 and 9 November 2019, Delhi
9. International Workshop on “Priorities for Advancing Research on Health Effects of Air Pollution in India”, 2-4 December 2019, AIIMS, New Delhi
10. Centralized training of Trainers for BSS Lite (Main Survey), 9-12 December 2019 AIIMS, New Delhi.
11. Following Pre-and post-conference workshops were organized by the department as part of 64th Annual National Conference of Indian Public Health Association, (29 February-2 March 2020)
  - a Writing a research paper (Venue: AIIMS, New Delhi)
  - b Leadership skills for public health professionals (Venue: AIIMS, New Delhi)
  - c From evidence (Meta-Analysis) to public health (Venue: AIIMS, New Delhi)
  - d Disaster Management- (Venue: NIHF, Munirka)
  - e Yoga for stress management (Venue: Morarji Desai National Institute of Yoga)
  - f Efficient Quality-assured Mobile Based Data Capture (Venue: CRHSP, Ballabgarh)

#### Lectures delivered

**Shashi Kant: 1**

**Baridalyne Nongkynrih: 6**

**YS Kusuma Kumari: 1**

**Anil Kumar Goswami: 10**

**Rakesh Kumar: 2**

**Kiran Goswami: 4**

**Puneet Misra: 6**

**Kapil Yadav: 1**

**Ravneet Kaur: 7**

**Mohan Lal Bairwa: 2**

**Anand Krishnan: 11**

**Sanjay K Rai: 3**

**Sumit Malhotra: 11**

**Harshal Ramesh Salve: 10**

#### Shashi Kant

1. Use of FCM in pregnancy and post-partum period, 64th Annual National Conference of Indian Public Health Association, 29 February-2 March 2020, New Delhi

#### Kiran Goswami

1. District disaster preparedness & management during the floods situations, Capacity Building for Public Health Emergencies Management- In collaboration with MOHFW, 1 May 2019, New Delhi
2. District disaster preparedness & management during the cyclone and Tsunami, District Preparedness for Public Health Emergencies Management for District Health Officers, NIHF, 1 May 2019, New Delhi
3. District disaster preparedness & management during the cyclone and Tsunami situations, Training of Trainers (ToT) Course on “District Preparedness for Public Health Emergencies Management” for Senior Faculties of Partner Institutions from 10-22 June 2019, New Delhi
4. District disaster preparedness & management during the floods, District Preparedness for Public Health Emergencies Management for District Health Officers, NIHF, 16-28 September 2019, New Delhi

#### Anand Krishnan

1. Influenza Burden Pyramid in India–The INSPIRE study, WHO Consultation on Influenza burden with Focus on using data for Policy and Estimating the Whole Influenza Disease Burden (the Pyramid), 25-27 June 2019, Geneva
2. Addressing Climate change and ambient air pollution: together we can, Symposium on “Climate Change Resilience in Health Sectors” on 110th foundation day of National Centre for Disease Control (NCDC), 30 July 2019, New Delhi
3. Crucial gaps in delivering health care. What is done and what is ignored, Health Care in India Series at India International Center, 22 August 2019, New Delhi
4. Violence in Hospitals, TEDEX AIIMS, 23 August 2019, New Delhi
5. The science and politics of promoting Physical Activity in urban spaces, Cross-Cultural Perspectives on urban Sustainability and health: Smart Solutions for Smart Cities in India. Webinar organized by NIEHS, USA, 30 September 2019, New Delhi
6. Climate Change and Health: Time to act is now, National Conference cum Workshop On Disaster Management and Climate Change: Perspectives from India’s North East, Jamia Millia, 16 and 17 October 2019, New Delhi
7. Non-communicable Diseases: Disease Burden, Risk Factors and Multi-Sectoral Policies, 9th Annual SEAPHEIN meeting, IIMR, 13-15 November 2019, Jaipur
8. Role of primary healthcare in changing burden of diseases: Synergizing HWC and NHPS for Ayushman Bharat, Advanced Professional Programme in Public Administration (APPA), IPA, 26 December 2019, New Delhi
9. Gender and SDGs: Non- communicable Disease, National Consultation on Gender and SDGs, 2-3 February 2020, New Delhi

10. Community based approach to make India plastic-free: What have we learnt from other environmental issues, International Conference on Innovative approaches for Plastic Free India, Jesus and Mary College, 26 February 2020, New Delhi
11. Evidence on Influenza Burden and control in India, 64th Annual National Conference of Indian Public Health Association, 29 February-2 March, New Delhi

#### **Baridalyne Nongkynrih**

1. Update on MINERVA, MINERVA: Annual network meeting-TAG meeting, 8 and 9 November 2019, New Delhi
2. Introduction to VA forms, Training of PTE on Verbal Autopsy on maternal Deaths, 19-21 November 2019, Aizawl
3. State level NPCDCS review findings, NPCDCS Regional Review Meeting, 5 and 6 December 2019, Faridabad
4. MINERVA–Understanding causes of death to save lives, NE India Public Health Conclave 2019, 12-14 December 2019, Manipur
5. Strengthening of NCD management in Primary Health Care, NE India Public Health Conclave 2019, Pre-conference workshop, 12-14 December 2019, Manipur
6. State level NPCDCS review findings, NPCDCS Regional Review Meeting, 19 and 20 December 2019, New Delhi

#### **Puneet Misra**

1. Ayushman Bharat, International Epidemiological Association South Asia Regional Meet, 19-21 September 2019, Colombo, Sri Lanka
2. Gestational Diabetes Mellitus, National Symposium on Education and Practice of Community Medicine, November 2019, Bhubaneswar
3. Career Counselling, National Conference of Indian Association of Preventive and Social Medicine, 28-30 January 2020, Mahabalipuram
4. AYUSH, 64th Annual National Conference of Indian Public Health Association, 29 February-2 March 2020, New Delhi
5. Sustainable Development, 64th Annual National Conference of Indian Public Health Association, 29 February-2 March 2020, New Delhi

#### **Sanjay K Rai**

1. BSS Lite conceptual framework, Workshop for Operational Framework of Behavioral Surveillance Survey Lite (BSS Lite-2019-2020), 4 April 2019, New Delhi
2. Quality control of SFD, Centralized Training for Sampling Frame Development for BSS Lite, 17 August 2019, Gurugram
3. Public health landscape in India beyond 2020, 1st National Symposium on Education and Practice in Community Medicine, 11 November 2019, Bhubaneswar

#### **YS Kusuma Kumari**

1. Internal migrants' health and healthcare access; an Indian experience, Resilient Future India Initiative (RFII), 16 December 2019, Mumbai

#### **Kapil Yadav**

1. Test and Treat strategy for Anemia Mukht Bharat, National Workshop on Anemia Mukht Bharat, September 2019, New Delhi

#### **Sumit Malhotra**

1. Cross-sectional studies, AIIMS PG workshop on research methodology, writing and communication, 9 April 2019, New Delhi
2. Health Promotion and prevention, Induction training on Community Health Officers (CHOs) to deliver Comprehensive Primary Health Care (CPHC), Haryana, 30 April 2019, Sohana, Haryana
3. Health promotion and prevention under CPHC, CPHC through Health and Wellness Centres (HWCs)- District Orientation Workshop, 9 May 2019, Hyderabad, Telangana
4. Planning services under health programs, knowing your team, health promotion and prevention, Induction training of CHOs to deliver CPHC-Haryana, 13 and 14 May 2019, Panchkula, Haryana
5. Delivering maternal nutrition services including counseling during antenatal and postnatal periods, impact of breastfeeding, Improving quality of Maternal Nutrition, Infant and Young Child Nutrition (MIYCN) service delivery in medical colleges, 23 and 24 May 2019, Patna, Bihar

6. Planning services under health programs, knowing your team, health promotion and prevention, Induction training of CHOs to deliver CPHC- Haryana, 10 and 11 June 2019, Panchkula, Haryana
7. Cross-sectional studies, AIIMS PG workshop on research methodology, writing and communication, 3 September 2019, New Delhi
8. Introduction to operational research, Preconference workshop-23rd Annual Conference North Zone Indian Association of Preventive and Social Medicine, 1 November 2019, Nuh, Haryana
9. Technical evaluation of VA process-validity and representativeness, Annual network meeting of mortality in India Established through Verbal Autopsy (MINErVA) Network, 8 November 2019, New Delhi
10. Advances in verbal autopsy based mortality surveillance systems- MINErVA update, Indian Public Health Association Conference 2020, 2 March 2020, New Delhi
11. Overview of CPHC through HWCs, roles and responsibilities of CHOs, work coordination of CHOs with primary care team, State Training of Trainers- Induction module for CHOs- Andhra Pradesh, 3-4 March 2020, New Delhi

#### **Anil Kumar Goswami**

1. Malnutrition, Awareness and sensitization programme, 8 April 2019, New Delhi
2. Hypertension, diabetes and ANC, Street play by undergraduate students, 26 April 2019, New Delhi
3. Prevention and Control of Dengue, Public Lecture, 16 May 2019, New Delhi
4. Hypertension, diabetes and child marriage, Street play by undergraduate students, 2 September 2019, New Delhi
5. Urban & Rural Health Services provided by CCM, AIIMS, Orientation to Students from Medical College Nasik, Maharashtra, 19 September 2019, New Delhi
6. Joint pain among elderly, Awareness campaign, 14 October 2019, New Delhi
7. HIV/AIDS, Health talk, 1 December 2019, New Delhi
8. World Leprosy Day, Health awareness programme, 30 January 2020, New Delhi
9. Social Research in Health Care, AIAMSWPCON 2020, Imphal, 6 February 2020, Imphal
10. COVID-19, Health awareness programme, 12 February 2020, New Delhi

#### **Ravneet Kaur**

1. PTE training materials, MINErVA Mid-Year Network Review Meeting and ToT for PTE Training: Workshop for Trainers, 17 May 2019, New Delhi
2. Diagnosis and Testing of Anemia, National Level Training of Master Trainers for *Anemia Mukh Bharat*, 10 October 2019, New Delhi
3. Parenteral iron, National Level Training of Master Trainers for *Anemia Mukh Bharat*, 10 October 2019, New Delhi
4. Cross-sectional studies, Research methodology workshop for PGs, 22 October 2019, New Delhi
5. Verbal Autopsy for maternal deaths, Training session for PTEs of Gurugram, Faridabad and Palwal Districts of Haryana, 31 October 2020, Gurugram
6. Expediting VA coding in MINErVA platform, Annual Network meeting MINErVA network, 8 November 2019, New Delhi
7. Ensuring timeliness in VA coding, TAG meeting of MINErVA network, 9 November 2019, New Delhi

#### **Harshal Ramesh Salve**

1. Cross-sectional Study, PG research Workshop, 22 October 2019, New Delhi
2. MINErVA – case study for involvement of medical colleges in mortality surveillance in India, THRICON 2019, 29 October 2019, Thrissur
3. Research interest groups under Minerva Network, Technical Working Group and Network meeting under MINErVA, 9 November 2019, New Delhi
4. Flip Class Room, SET Facility meeting, November 2019, New Delhi
5. Air Pollution and Health risks–case studies from New Delhi, Environmental Training Program for CPCB Research Officers, 6 December 2019, Chandigarh
6. NPCDCS State Performance Review, Meeting on NPCDCS review by MOHFW and WHO-India, 16 December 2019, Karnataka
7. Air Pollution and health risk and action needed, Annual Day function, NCDC, 1 January 2020, New Delhi
8. Assessment of quality and best practices under DMHP – Methods, 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS), 25 January 2020, West Bengal

9. A collaborative research network on air pollution and health effects research in India (CAPHER) – Proposed 9 mechanism for advancing research agenda, 64th Annual National Conference of Indian Public Health Association, 2 March 2020, New Delhi
10. Climate change and its health impact: Global and national evidence, 64th Annual National Conference of Indian Public Health Association, 2 March 2020, New Delhi

#### **Rakesh Kumar**

1. Improving Quality of VA Coding, Annual network meeting of Mortality In India Established through Verbal Autopsy (MINerVA) Network, 8 November 2019, New Delhi
2. Introduction to Ballabgarh HMIS and its service and research utilisation over 60 years, Workshop on 'Efficient Quality-assured Mobile Based Data Capture', 3 March 2020, Ballabgarh

#### **Mohan Lal Bairwa**

1. Application of meta- analysis in estimating the prevalence of depression among the elderly population in India, Innovations in Data and Statistical Sciences (INDSTATS) 2019, 29 December 2019, Mumbai
2. Cross Sectional and Case Control Study: Design and conduct, Student Orientation and Research Methodology, Writing & Communication Workshop, AIIMS, New Delhi, 2 March 2020, New Delhi

#### **Oral papers/posters presented**

1. Ahmad A, Salve H, Nongkynrih B, Sagar R, Krishnan A,\* Mental Health Literacy among adolescents using a scale-based measure, 47th Annual National Conference of Indian Association of Preventive and Social Medicine, 28–31 January 2020, Chennai
2. Ahmad A, Salve H, Nongkynrih B, Sagar R, Krishnan A, Common mental disorders among adolescents in an urban area of Delhi, 64th Annual National Conference of Indian Public Health Association, 29 February–2 March 2020, New Delhi
3. Prabhakaran AO, Saha S, Gupta V, Fowler KB, Sullender WM, Broor S, et al. Determinants of influenza transmission in households in rural north India, Options X for the Control of Influenza, 28 August-1 September 2019, Singapore
4. Chandra A, Kumar R, Kant S, Krishnan A. Direct and indirect patient costs of tuberculosis care in India: A systematic review, South East Asia Regional Group Meeting of the International Epidemiological Association (IEA), 19-21 September 2019, Colombo, Sri Lanka
5. Dar L, Krishnan A, Jain S, Kumar R, Dhakad S, Choudekar A, et al. Nasal shedding of vaccine viruses after immunization with a Russian back bone live attenuated influenza vaccine in India, OPTIONS X for the Control of Influenza, 28 August-1 September 2019, Singapore
6. Salve HR, Nitika, Sharma N, Kumar R, Yadav K, Kant S, Comprehensive Structured Undergraduate Teaching Program – Learnings from CRHSP Ballabgarh, First National Symposium on Education and Practice of Community Medicine, Bhubneshwar, 12 November 2019, Odisha
7. Salve HR, Kamble B, Krishnan A, Sagar R, Lakshmi R, Kant S, et al. Association of Common Mental Disorders with Diabetes Mellitus – Evidence from community based matched case - control study in north India, 47th Annual National Conference of Indian Association of Preventive and Social Medicine, 28–31 January 2020, Chennai
8. Jaiswal A, Goswami K, Haldar P, Salve HR, Singh U. Pattern of disability due to knee osteoarthritis among elderly in rural North India, International Epidemiology Association Conference-IEA 2019, 19-21 September 2019, Colombo, Sri Lanka
9. Malhotra S, Kalaivani M, Rath R, Vashist P, Gupta N, Gupta SK. Cataract surgical coverage, its determinants and barriers for cataract surgery among adults aged 50 years and above in a rural community of northern India, 64th Annual National Conference of Indian Public Health Association, 29 February-2 March 2020, New Delhi
10. Mohta A, Malhotra S, Gupta SK, Kalaivani M, Patra BN, Nongkynrih B. Prevalence and factors associated with depression among adolescents in a rural community of north India, 47th Annual National Conference of Indian Association of Preventive and Social Medicine, 28–31 January 2020, Chennai
11. Mohta A, Malhotra S, Gupta SK, Kalaivani M, Patra BN, Nongkynrih B. Depression among adolescents in Ballabgarh, Haryana, India: A community based cross-sectional study\*\*, 64th Annual National Conference of Indian Public Health Association, 29 February–2 March 2020, New Delhi
12. Santosh Kumar PS, Goswami K, Goswami AK, Sreenivas V, Tayade P. Physical activity determinants among undergraduate medical students of All India Institute of Medical Sciences, New Delhi, International Society of Behavioural Nutrition and Physical Activity (ISBNPA) 2019 annual meeting, 4–7 June 2019, Prague Congress Centre

13. Kumar R, Ritvik A, Prabhakaran AO, Kumar R, Choudhary A, Giridara G, et al. Preliminary estimates of the incidence of influenza – associated acute respiratory infection among adults aged >60 years in a multi-site community cohort in India, OPTIONS X for the Control of Influenza, 28 August-1 September 2019, Singapore
  14. Kumar R, Choudekar A, Dhakad S, Chaudhary A, Potdar V, Kumar G, et al. Setting up network of laboratories to estimate the burden of real time polymerase chain reaction (rt-PCR) confirmed influenza among older adults in the community in a low resource setting, OPTIONS X for the Control of Influenza, 28 August-1 September 2019, Singapore
  15. Narayan VV, Iuliano AD, Roguski K, Chadha MS, Haldar P, Sreenivas V, et al. Regional Estimates of Influenza-associated Mortality in India, 2007–2013, WHO Consultation on Influenza burden with Focus on using data for Policy and Estimating the Whole Influenza Disease Burden (the Pyramid), 25-27 June 2019, Geneva
- \* Best paper award, \*\* Second best paper award

## RESEARCH

### Funded projects

#### *Ongoing*

1. National Centre of Excellence and Advanced Research on Anemia Control, Shashi Kant, UNICEF, 2 years, 2018-2020, Rs 1.8 crores
2. Strengthening/Promoting evidence-based advocacy for influenza prevention and control in India, Anand Krishnan, CDC, Atlanta, 5 years, 2018-23, Rs 8.1 crores
3. Establishing a technical support unit for Verbal Autopsy based cause of death ascertainment in the sample registration system, Anand Krishnan, Registrar General of India, 3 years, 2017-2020, Rs 2.8 crores
4. Development of training course for NCD programme managers and directors for enhancing managerial and leadership skills for NCD, multisectoral governance and coordination, Anand Krishnan, WHO-SEARO, 6 months, 2019, Rs 7 lakhs
5. Effect of structured yoga program on hypertension, diabetes, stress and wellness in a community setting, its feasibility and long-term sustainability, Puneet Misra, DST, 1 year, 2018-19, Rs 40 lakhs
6. HIV Sentinel Surveillance NI and RI, Sanjay Rai, NACO, MoHFW, GoI, 2 years, 2018-2020, Rs 234.44 lakhs
7. Improving healthcare access and quality in the context of achieving universal health coverage among scheduled tribes: An implementation research in Visakhapatnam district, Andhra Pradesh, YS Kusuma, ICMR, 2.5 years, 2020-2022, Rs 29.2 lakhs
8. Assessment of Iodine status amongst pregnant women in select district of India, Kapil Yadav, ICMR, 2.5 years, 2016-20, Rs 57.6 lakhs
9. Effectiveness of point of care testing by front line workers-ANM, AWW, and ASHA in anemia control, Kapil Yadav, ICMR, 2 years, 2020-22, Rs 98.49 lakhs
10. Human Resource Development Health Research Scheme-Operational Research, Sumit Malhotra, DHR, 7 years, 2014-2021, Rs 56 lakhs
11. Innovation Learning Centre for supporting implementation of Comprehensive Primary Health Care in a selected district of Haryana, Sumit Malhotra, National Health Systems Resource Centre (NHSRC), MoHFW, 2 years, 2018-2020, Rs 41.45 lakhs
12. Assessment of implementation and barriers related to weekly iron folic acid supplementation programme in out of school adolescents within National Territory of Delhi, Sumit Malhotra, Delhi State Health Mission, Department of Health and Family Welfare, Government of NCT of Delhi, 2 years, 2018-2020, Rs 16 lakhs
13. A study to understand the effectiveness of the tele-mentoring Extension for Community Healthcare Outcomes model in improving ASHA's knowledge, skills and practice in comprehensive health care in Nuh district, Haryana, Sumit Malhotra, ECHO India, 1 year, 2019-20, Rs 21.75 lakhs
14. Prevalence of Anemia residing in Resettlement Delhi an Urban Colony of among elderly persons, Anil K. Goswami, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
15. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban area of Delhi – A community-based study, Ravneet Kaur, AIIMS, 2 years, 2019-21, Rs 8.25 lakhs
16. Comparative assessment of various models of Mobile Medical Units in rural, and remote areas, Ravneet Kaur, NHSRC, MoHFW, 2 years, 2019-20, Rs 25 lakhs
17. Developing Community level Climate based Early Warning System (CCEWS) for Vector

18. Borne Diseases in National Capital Region, India, Harshal Salve, Climate Change Program (SPLICE), DST, 3 years, 2017–2020, Rs 55.62 lakhs
19. Mortality burden of ambient PM 2.5 exposure in Delhi NCR, Harshal Salve, AIIMS–IIT Joint Collaborative Project Grant, 2 years, 2018-2020, Rs 8.9 lakhs
20. Pilot study on implementation of screening and management protocol for COPD/ Asthma under NPCDS in rural North India, Harshal Salve, NCDC, 6 months, 2019-2020, Rs 0.4 lakhs
21. Priorities for Advancing Research on Health Effects of Air Pollution in India, Harshal Salve, Health Effects Institute, Boston USA, 5 months, 2019-2020, Rs 19.93 lakhs
22. Effect of glycemic status on initial presentation and treatment response in newly diagnosed sputum positive pulmonary tuberculosis patients: A prospective study, Rakesh Kumar, AIIMS, 2 years, 2019-2021, Rs 9.85 lakhs

### **Completed**

1. Development implementation evaluation of social, and behaviour change communication (SBCC) strategy for the prevention and control of dengue in slums and slum like pockets in Delhi, Y Kusuma, ICMR & ICSSR, 2 years, 2017-19, Rs 17.8 lakhs
2. Development of assessment tools for review of National Programme for Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), Baridalyne N, WHO-India, 6 months, 2019, Rs 15.04 lakhs
3. Development of tool for intervention at School level using WHO advocated Health promoting School for addressing NCD Risk factors, Harshal R Salve, WHO-SEARO, 6 months, 2018–2019, Rs 6.28 lakhs

### **Departmental projects**

#### **Ongoing**

1. Prevalence of GDM among Pregnant Woman attending ANC in a secondary care health facility in Haryana, India: A hospital-based study
2. Assessment of select nutritional problems among adolescent girls in an urban resettlement colony, New Delhi- A mixed method study
3. Knowledge and self-efficacy about diabetes management and its association with diabetes control in a low Socio-economic community in urban Delhi
4. Dietary diversity and associated factors among women of reproductive age in an urban resettlement colony in Delhi
5. Consumption of High Fat, Salt, Sugar (HFSS) food among adolescents in rural Haryana, India
6. Health and nutrition behavior needs assessment of community-based youth in north India.
7. Depressive disorders among adolescents in Ballabgarh, Haryana, India: a community-based cross-sectional study.
8. Evaluation of coverage of population-based screening under National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) using Lot Quality Assessment Sampling (LQAS) technique in Faridabad District, Haryana.
9. Mild cognitive impairment and associated factors among elderly persons in an urban resettlement colony in Delhi.
10. Diabetes and hypertension among elderly persons in an urban resettlement colony of Delhi.
11. Prevalence of anemia among elderly persons in a resettlement colony of Delhi.
12. Impaired lung function among patients successfully treated for pulmonary tuberculosis at Ballabgarh Tuberculosis Unit, district Faridabad, Haryana
13. Economic burden, prevention and control of pneumonia among elderly
14. Relevance and capture of narratives in verbal autopsies for cause of death
15. Patterns and determinants of cooking fuel use and barriers to adoption of Pradhan Mantri Ujjwala Yojana in rural Ballabgarh, Haryana - A mixed method study
16. Development of a scale to measure e-Health Literacy among college going students aged 18-24 years (English version) in Faridabad, India
17. Determinants of treatment default in TB patients in a rural community of north India: A community based mixed method study
18. Feasibility of implementation of hospital based trauma registry for road traffic injuries at different level of health care setting and its effect on quality of patient care
19. Community based operational research study on involvement of ASHA in strengthening of primary eye care services for urban vulnerable population of Delhi
20. Community based operational research feasibility of introducing yoga and its effect on stress and perceived well-being on new medical undergraduate students of AIIMS, New Delhi.

21. Evaluation of anemia control programme in district Faridabad of Haryana: A mixed method study
22. Common Mental disorders and related mental health literacy among adolescents in an urban area of Delhi
23. A cross sectional study to assess the financial toxicity and non-compliance with its associated selected background variables among patients undergoing chemotherapy at IRCH, AIIMS New Delhi
24. A study to identify the risk factors and prevalence of oral cancer through screening among security personnel working at AIIMS, New Delhi.”
25. Impact of Comprehensive Nutritional Package (CNP) on Nutritional Status of Under-Five Malnourished Children at secondary care hospital in Ballabgarh, Haryana
26. A study to assess knowledge and practices of postnatal mothers on essential newborn care and evaluate competencies of trained ASHAs in home based newborn care in rural Haryana
27. Iron status of women who had received intravenous iron sucrose during pregnancy for treatment of moderate anaemia; 6 and 12 months post infusion

### **Completed**

1. Effect of structured Yoga program on Stress and Professional Quality of Life among selected nursing staff in a tertiary care hospital of Delhi - A small scale phase-2 trial
2. A study of chronic respiratory diseases and associated factors among elderly persons in a rural area of Haryana
3. Study of knowledge and behaviours related to salt consumption and sources of dietary sodium in women aged 20-59 years in an urban resettlement colony, New Delhi
4. Prevalence of hypertension among adolescents in rural Ballabgarh, Haryana
5. Determinants of treatment default in tuberculosis patients in a rural area of north India: a community-based mixed-method study.
6. Diabetes and hypertension among elderly persons in a rural area of Ballabgarh, Haryana.
7. Patient costs and treatment delays among newly diagnosed adult tuberculosis patients registered under Revised National Tuberculosis Control Programme in Ballabgarh block of district Faridabad, Haryana
8. Estimation of mortality burden in India due to respiratory viruses: Influenza & Respiratory Syncytial Virus,
9. Association of knowledge and self-efficacy of diabetes management with its control among patients in an urban resettlement colony in Delhi,
10. A Study of Chronic Respiratory Diseases and Associated Factors among Elderly Persons in a Rural Area of Haryana,
11. Prevalence of visual impairment and its association with vision-related quality of life among elderly persons in a resettlement colony of Delhi,
12. Cobalamin and folate status amongst children aged 6-59 months attending a secondary health care facility in district Faridabad, Haryana.

### **Collaborative projects**

#### **Ongoing**

1. First contact and pre-referral management and compliance to treatment in patients with uveitis., RP Centre for Ophthalmic Sciences
2. Development of longitudinal growth reference and assessment of growth velocity, cardio-metabolic measures and its correlates among children in India– a prospective study, Biostatistics
3. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Pulmonary Medicine and Sleep Disorders
4. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Pulmonary Medicine and Sleep Disorders
5. Delhi Emergency Live Heart-Attack Initiative—“MISSION DELHI” Saving Heart Saving Lives, Cardiology
6. Capacity building plan for a Phase III, randomized, double-blind, placebo-controlled trial to evaluate the efficacy and safety of VPM1002 and Mw (MIP) vaccines in preventing tuberculosis (TB) in healthy household contacts of new pulmonary TB patients, Pulmonary Medicine and Sleep Disorders
7. Acceptability and adherence to nutritional supplement in the form of ready to use therapeutic food as adjunct to standard DOTS therapy among adult malnourished pulmonary tuberculosis patients in Ballabgarh Haryana, Pulmonary Medicine and Sleep Disorders
8. Unraveling causes of stroke and cognitive decline in general population, Neurology

9. Assessment of the prevalence and pattern of traumatic dental injuries in Kabaddi players of Delhi-NCR region, Centre for Dental Education and Research
10. Implementation of an Evaluation and Treatment Package for Uniform Stroke Care and outcomes in the Medical Colleges (IMPETUS). An Implementation Research Study, Neurology
11. Development and validation of dental trauma awareness tool for school teachers, Centre for Dental Education and Research
12. Development of a Comprehensive Electronic Integrated Road Traffic Injuries Surveillance – India (IRIS-India), IIHMR University, Jaipur
13. Public Health Perspective: Stroke Awareness: Education and Training to Community, Schools and Paramedical Staff in Himachal Pradesh, Neurology
14. Psycho-social Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Psychiatry
15. Mortality burden of ambient PM 2.5 exposure in Rural Ballabgarh, Haryana, North India, IIT Delhi
16. Assessment of Quality and Best Practices under District Mental Health Programme, Psychiatry
17. Genome based antigenic diversity analysis of *P. vivax* in Indian populations to identify global vaccine candidates, Microbiology, Medicine
18. Emerging drug resistance in community-acquired urinary tract infection and molecular insights into dynamics of resistance traits in Indian isolates- A multi-centric cross-sectional study, Microbiology, Medicine
19. ICMR Task Force Centre on Rational use of drugs, Pharmacology
20. Taskforce projecton prevalence of hearing impairment and etiology, ENT
21. Oral health toolkit for Pediatric Oncology Patients, CDER
22. Extent of mental health issues and addictive behavior among adolescents seeking help in adolescent friendly clinics in Delhi, NDDTC, Ghaziabad
23. Prevalence of congenital heart disease in adults residing in Ballabgarh block of Haryana, India: A population based study, Cardiology
24. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variation in response to different therapeutic modalities among Indian women with Polycystic Ovarian Syndrome (PCOS): A multi-centric study across India, Obstetrics and Gynecology
25. Comprehensive Anemia Program and Personalized Therapy, Obstetrics and Gynecology, Pediatrics
26. Emerging drug resistance in community-acquired urinary tract infection and molecular insights into dynamics of resistance traits in Indian isolates: A multi-centric-cross-sectional study, Microbiology
27. Advanced Nodal Centre for Surveillance Network of AMR in Typhoidal Salmonella in India, Microbiology

### **Completed**

1. Prevalence of NAFLD and its association with cardio- metabolic disease risk factors in North India, Endocrinology and Metabolism
2. ‘Feeding Infants and Toddlers Study’ (FITS) and the ‘Kids Nutrition and Health study’ (KNHS) in India, IIHMR University, Jaipur
3. Association of Particulate Matter Exposure and Depression: A Systematic Review and Meta-Analysis, Psychiatry, Biostatistics

### **PUBLICATIONS**

**Journals: 47    Books: 1**

### **PATIENT CARE**

Patient care at Comprehensive Rural Health Services Project (CRHSP), Ballabgarh is provided through (i) One sub district hospital (SDH), and (ii) Two Primary Health Centres (PHCs) at Dayalpur, and at Chhainsa. The Intensive Field Practice area of CRHSP as of 31 March 2020 consisted of a total population of **1,03,510**.

### **Healthcare provision statistics at CRHSP Ballabgarh**

- OPD services: **4,36,383** patients
- In-patient services: **12,115** patients
- Emergency services: **86,592** patients
- A total of **4,080** deliveries were conducted for pregnant women
- Total number of surgeries - **2,394** (only at the SDH Ballabgarh)

**Outpatient Departments:****Daily, Once weekly**

- General Medicine, Non Communicable Disease Clinic
- General Surgery, Physical Medicine and
- Rehabilitation (PMR)
- Paediatric, Paediatric Surgery
- Obstetrics and Gynaecology, Neurology
- Ophthalmology, Plastic surgery
- Psychiatry, Nutrition OPD

**Dental, Thrice weekly**

- AYUSH(Homeopathy), Ante-natal clinic
- AYUSH (Ayurveda), **Twice weekly**
- Orthopaedics, Dermatology
- Ear, Nose and Throat

<b>A. Patient care services provided at SDH Ballabgarh: (2019-20)</b>	
<b>Total Outdoor Patients</b>	
Outpatient Department (OPD) Total (New+Old)	3,50,709
New OPD patients (%)	1,91,630 (54.6%)
Medicine (New+Old)	1,04,570
Paediatrics (New + Old)	73,752
Obstetrics and Gynaecology (New + Old)	26,476
Antenatal care clinic registrations, Total visits (New+Old)	22,176
Ophthalmology (New + Old)	15,302
Surgery (New + Old)	14,172
ENT (New + Old)	10,442
Dental	8,988
Physical Medicine & Rehabilitation (New + Old)	2,307
Non-Communicable Ds clinic, Total (New + Old)	8,439
Dermatology (New + Old)	13,579
AYUSH (Homeopathy + Ayurveda)	10,394
Orthopaedics (New + Old)	27004
Psychiatry	10,029
Nutrition	397
Plastic Surgery	41
Neurology	1484
Paediatric surgery	1,157

**In-patient services**

- **Total no. of beds: 50**

<b>a. Total Admissions (including births)</b>	<b>11,322</b>
• Admission through casualty	1,560
• Admission through OPD	6,489
• Admission of New Born (births)	3,273

<b>b. Disaggregation of admissions, by specialty (n=12,608)</b>	
· Obstetrics and Gynaecology	6,869
· Paediatrics	213
· Ophthalmology	696
· Surgery	157
· Medicine	64
· ENT	47
· Physical Medicine and Rehabilitation (PMR)	3
<b>c. Average Bed Occupancy Rate (%)</b>	106.4%
<b>d. Average duration of stay for all patients (in days)</b>	1.80
<b>e. Total Deliveries Conducted (including IUD)</b>	3,294

<b>Casualty Services: No of beds 10</b>	
· Patients registered	73,326
· Medico-legal cases	5,073
· Emergency admissions	1,581

<b>Total surgical procedures at SDH Ballabgarh</b>	
1. Ophthalmology	650
2. Obstetrics and Gynaecology	892
3. General Surgery	482
4. Paediatric Surgery	247
5. ENT	110
6. Physical Medicine and Rehabilitation	13
<b>Total</b>	<b>2,394</b>

<b>Laboratory and Diagnostic Services</b>	
a. Laboratory investigations (biochemical and haematological)	2,62,794
b. X-ray	21,507
c. Ultrasound	11,036
d. Malaria slides	5,619
· P. vivax	2
· P. falciparum	NIL
e. Counselling and testing services provided for HIV	14,338

#### **Revised National Tuberculosis Control Programme:**

SDH Ballabgarh is a Tuberculosis Unit (TU) under the Revised National Tuberculosis Control Programme. Three designated microscopy centres (DMCs) are attached to this unit. Total tuberculosis cases treated at Ballabgarh Hospital were as follows:

<b>Total cases started on treatment</b>	<b>1033</b>
a. New case	961
b. Previously treated case	72

## B. Community Health Services

CRHSP, Ballabgarh provides community health services in Intensive Field Practice Area (IFPA) of 28 villages through a network of two Primary Health Centres (Dayalpur and Chhainsa), and 12 sub centres. Domiciliary, outpatient, inpatient, and referral services are provided in the IFPA. Important demographic indicators for the IFPA for year (2019-20) were as follows:

Indicator	Value
Population	1,03,510
Birth Rate per 1,000 population	19.4
Death Rate per 1,000 population	6.7
Sex ratio at Birth (females per 1,000 males)	866
Infant mortality rate per 1,000 live births	30.8
Under 5 mortality rate per 1,000 live births	35.4

- 1. OPD Services in Intensive Field Practice Area:** This includes health care services provided at OPD of the PHC, as well as the OPD of the Extended Health Clinics, that are conducted at each of the villages of IPHA

PHC	New Cases	Repeat Visits	Total
Dayalpur	23,120	21,088	44,208
Chhainsa	19,116	15893	35,009
<b>Total</b>	<b>42,236</b>	<b>36,981</b>	<b>79,217</b>

Total No. of AYUSH OPD Patients registered at PHC Dayalpur: **6457**  
(There is no AYUSH OPD at PHC Chhainsa)

- 2 Inpatient Services provided at the PHCs:**

PHC	Total
Dayalpur	415
Chhainsa	378
<b>Total</b>	<b>793</b>

- 3. Emergency Services at PHCs:**

PHC	Total
Dayalpur	9843
Chhainsa	3423
<b>Total</b>	<b>13266</b>

- 4 Family Welfare and Maternal Child Health**

The following services are provided as per the guidelines of National Health Mission

Indicator	Value
Total ante natal registration	2,634
Complete TT coverage of registered cases (%)	86.8
<b>Percentage of Institutional delivery in IFPA</b>	
PHC Chhainsa (%)	98.2%
PHC Dayalpur (%)	97.7%
<b>Total deliveries in delivery huts at the PHCs</b>	
PHC Chhainsa	378
PHC Dayalpur	415

## 5. Other National Health Programmes

**National Vector Borne Disease Control Programme:** Collection of blood slides are done as a part of passive surveillance in OPD and as active surveillance during domiciliary visits in the IFPA.

Indicator	PHC Chhainsa	PHC Dayalpur
Total number of malaria slides tested	6550	6162
Total number of positive cases	9	7
Annual Parasite Incidence (per 1,000 population)	0.17	0.132
Annual Blood Examination rate (%)	12.9%	11.63%
Slide Positivity Rate (%)	0.13%	0.11%

### Revised National Tuberculosis Control Programme:

The Revised National Tuberculosis Control Programme is carried out in the IFPA according to national guidelines. Dayalpur PHC has been designated as a Microscopy Centre and caters to all villages under the IFPA. Tuberculosis patients treated in the IFPA (category wise) is as follows:

Indicator (2019-2020)	PHC Chhainsa	PHC Dayalpur
Total number of patients started on treatment	81	72
New Cases	19	72
Previously treated cases	2	0

**6. Special services:** Out Reach Speciality OPD (ORSO) is a special activity conducted at each PHC where Senior Residents posted at SDH Ballabgarh attend the patients at PHCs on a weekly basis. The services were started in June 2013. During the past year the cases attended to at each PHC were as follows:

Services	PHC Chhainsa	PHC Dayalpur
Gynaecology	170	577
Paediatrics	280	533
Ophthalmology	408	768
Psychiatry	100	252
<b>Out-Reach Speciality OPD (ORSO)* (Total)</b>	<b>958</b>	<b>2130</b>

## 7. Animal Bite Management Clinics

Special services to pregnant women	PHC Chhainsa	PHC Dayalpur
Pregnancy received IVIS	336	370
PPIUCD	83	52
High Risk Pregnancy	446	373

Both PHC Chhainsa and Dayalpur have Animal Bite Management Clinic. A total of 907 doses of Anti-rabies vaccination was provided in PHC Chhainsa and **2048** doses in PHC Dayalpur.

**8. IEC Activities:** 28 and 55 Health Talks were conducted in PHC Chhainsa and Dayalpur respectively. Neonatal care and kangaroo mother care, Breast feeding and weaning, Antenatal care, high risk pregnancy, anaemia in pregnancy, importance of institutional delivery, Immunization, Malaria and Dengue, Tuberculosis, anaemia in children, malnutrition in children, Vitamin-A deficiency, Diabetes, Hypertension, HIV/AIDS, accidents in children, personal hygiene, family planning methods, postnatal care and diet, care of newborn, swine flu, geriatric care, Mental health programme, etc.

**9. Short film shows:** Films were screened in Child welfare centre, Ballabgarh, PHC Dayalpur, and PHC Chhainsa on important topics i.e. breast feeding, antenatal care, child care, female feticide, eye care, Vitamin A deficiency, malnutrition, and diarrhoea during OPD timings.

#### 10. Special activities during financial year 2019-20 at PHCs

- 1. Intensive Mission Indradhanush:** Both the PHCs participated in Intensive Mission Indradhanush where almost 60 pregnant women and 275 kids were immunized against seven vaccine preventable diseases.
- 2. Assessment for National Quality Assurance Standards:** Both the PHCs have been working very hard with a mission of providing quality comprehensive care to the beneficiaries. Both the PHCs were certified that they follow National Quality Assurance Standards

#### Urban Health Programme

The field practice area of the Urban Health Programme, Centre for Community Medicine is located at Dakshinpuri Extension, Dr Ambedkar Nagar in South Delhi, consisting of Blocks 1-7,14,15,19, Subhash camp, Dakshinpuri catering to a population of around 35,363. Patient care services are provided at the Urban Health Centre.

#### Clinical Services

Activities	Number
OPD: Total no of patients seen (including immunization)	20440
<i>Laboratory services</i>	
Total Lab Tests	3845
No. of Hb. Test Conducted	1371
Of which numbers having Hb <7 g/dl (General+ ANC)	36
Of which numbers having Hb <11 g/dl (General + ANC)	780
Blood sugar	2222
Urine albumin and sugar tested	73
RDT for Malaria	53
Blood group	100

#### Child Health services

Number of immunization sessions held: 99	
BCG	50
DPT 1/Pentavalent 1	227
DPT 2/pentavalent 2	196
DPT 3 /pentavalent 3	184
OPV 0 dose (Birth dose)	33
OPV1	227
OPV2	196
OPV3	185
Hepatitis-B 1	2
Hepatitis-B 2	6
Hepatitis-B 3	1

Injectable IPV Fractional 1	227
Injectable IPV Fractional 2	183
Rotavirus 1	100
Rotavirus 2	63
Rotavirus 3	47
MR 1st dose	231
MR 2nd dose	219
DPT / OPV Booster 1	208
DPT / OPV Booster 2	258
TT /DT-10 years	311
TT/DT- 16 years	101
Vitamin A -Administered between 9 months and 5 years	94
Albendazole under 5 children	241
Number of severely underweight provided health checkup (0-5 years)	58

### Maternal Health Services

<i>Antenatal Care</i>	<i>n</i>
Total number of times pregnant women seen in the Urban Health Centre (new cases=210)	690
Number of pregnant women given TT1/DT-1	94
Number of pregnant women given TT2/DT-2=79 + TT/DT Booster=11	90
Total number of pregnant women given 180 IFA tablets	111
<i>Family Planning</i>	
No of Condoms distributed	1115
No of Oral contraceptive pill cycles distributed	2
New RTI/ STI Cases Identified	116

### Health Education material developed, formatted and designed:

1. Developed a NSS banner, Banner, 01, English
2. Updated a booklet on “Dengue, Malaria and Chikungunya” 2nd Edition 2019, Booklet, 02, Hindi and English
3. Developed 2 posters 24x36 inches on “Corona” in Hindi and 2 posters on Corona in English, Posters, 04, Hindi & English
4. Developed 14 Short messages posters on “Corona” in Hindi and 14 short messages posters on Corona in English, Posters, 28, Hindi & English
5. Developed 2 Hoardings 6x4 feet size on “Corona” in Hindi and 2 Hoardings on Corona in English, Hoardings, 04

### National Service Scheme (NSS) Activities at AIIMS:

- Organized a Poster Competition on “**Global Warming**” among NSS Volunteers of AIIMS in front of JLN Audi on 18 April 2019. (20 students participated)
- Organized “Pradhan Mantri Surakshit Matritva Abhiyan Campaign under Poshan Abhiyan Test & Treat programme” on 10 June 2019 at 25 sites with NSS Volunteers in Delhi
- Four Under Graduates interventions activities on “**Malnutrition among women, Nutrition among elderly, Joint pain among elderly, Birth Complications among recent mothers and their Preparedness and COVID-19**” were conducted at Urban Health Centre, Dakshinpuri Extension on 8 April 2019, 5 July 2019, 21 August 2019, 14 October 2019 and 12 February 2020 respectively.
- An “**NSS Orientation and Sensitization Programme**” for New Batch of MBBS students (2019) was organized

on 9th July 2018, at CCM AIIMS (82 MBBS students participated)

- In the Family Health Advisory services Intervention Programme, Six Street Plays on “**Hypertension, Diabetes Mellitus and Anemia, Child Marriage and ANC**” were conducted on 26 August 2019 & 2 September 2019 (Round 300 Community People attended the activity)
- Conducted **two role plays** on “**Blood Donation**” one at Foyer and one at CNC entrance by CON, NSS volunteers in co-ordination with Dr Shashi Mewar
- An Exhibition was organized on “**World Leprosy Day**” at Dakshinpuri Extension on 30 January 2020, (50 Community people participated)
- Poster Competition was organized among NSS volunteers of AIIMS, New Delhi on “**Global Warming**” on 18 April 2019 (Total Participants 20)

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Kayakalp award** for Primary Health Centers: Among all the Primary Health Centers in the District Faridabad, CRHSP's PHC Dayalpur was recognized as the best, for Kayakalp Award, while CRHSP's second Primary Health Center, i.e. PHC Chhainsa the commendation award, for the Kayakalp programme.

**Kayakalp award** for Sub-district hospital, Ballabgarh: At the state level, CRHSP's sub district level Ballabgarh hospital received the commendation award.

**Professor Shashi Kant** was nominated to the National Task Force on COVID-19 which was chaired by Dr. Vinod K Paul, Member of NITI Ayog. He contributed in various policy formulations that were later notified by the Ministry of Health and Family Welfare. He was also the member of High Level Committee Chaired by Hon'ble Union Health Minister, Government of India; contributed in epidemiological response to Corona pandemic as a member of Epidemiology and Surveillance Working Group constituted by Indian Council of Medical Research, New Delhi; Member, Governing Body, All India Institute of Medical Sciences, Nagpur. In that capacity he participated in selection of Faculty members for AIIMS, Nagpur. In addition, he has also facilitated selection of Faculty members of Community Medicine at AIIMS, Bhopal. He is either Chair or Member of various Project Review Committees of ICMR. He also continues to be the Member of the National Operational Research Committee under RNTCP, MoHFW; Member of National Working Group of HIV estimation in India which has been constituted by MoHFW; Member of Technical Resource Group for HIV Sentinel Surveillance in India. He attended the National consultation on global and local evidence to improve the HIV cascade in India, organized by NACO, MoHFW; Member of Technical specification committee under Anemia Mukta Bharat (AMB) programme constituted by MoHFW; delivered an oration during National Symposium on Education and Practice in Community Medicine, 11 November 2019, AIIMS, Bhubaneswar; Chairman of the Organizing Committee of 64th Annual National Conference of Indian Public Health Association. He chaired the scientific session on “Leadership in Health” at 64th Annual National Conference of Indian Public Health Association.

**Professor Sanjeev Kumar Gupta** was Member of the- Task Force to develop Operational Guidelines for Primary Care in Geriatric Care, Ministry of Health and Family Welfare, Government of India, New Delhi, Expert Committee for revision of the PGDMCH Programme at the Indira Gandhi National Open University, New Delhi, Data Safety Management Board (DSMB) for the project entitled “Determination of efficacy of 9 months, 12 months and 18 months of anti-tubercular treatment (ATT) for tuberculous meningitis (TBM): a randomized controlled, non-inferiority trial.”, Main Negotiation Committee (DO) of the AIIMS. Reviewer of many journals, e.g., The National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Community Medicine. Life member of Jansankhya Sthirata Kosh of the Ministry of Health and Family Welfare, Government of India. Assisted the UPSC as an Advisor in the P.T. Board for Combined Medical Services Examination on 9-11 December 2019. Participated as an expert member of the Selection Committee for the post of Faculty at the Delhi Pharmaceutical Sciences and Research University, New Delhi on 6 November 2019; Chairman, Scientific Programme Committee of the 64th Annual National Conference of Indian Public Health Association held at the AIIMS, New Delhi on 29 February-2 March 2020.

**Professor Kiran Goswami** was Member National institution and Central Regional Institute: Expert and resource person for HIV Sentinel Surveillance BSS Lite 2019- 2020. Expert Committee Member- SEED Division, TIASN, DST, Programme Advisory Committee Meeting on SCSP, SEED Division and DST Expert Committee Paper Setting UGC-NET Exam., Nov. 2019. Chaired sessions: Community Engagement and Ethical Considerations during National Consultation Meeting on Operational Framework for BSS Lite, 4 -5 April 2019 and Overview of BSS Lite- Methodology, Centralized training for Sampling Frame Development for BSS Lite, National Training of Trainers, 20-23 May 2019. Programme Coordinator, NSS Unit, AIIMS. Participated as external examiner for Community Medicine- MBBS Final and Supplementary Examination Delhi University, November 2019 and March 2020; MBBS 3rd Professional Supplementary Exam. at AIIMS Jodhpur, February 2020; won second prize, essay writing competition, during Rastrabhasha Pakhwara Celebration AIIMS 2019, first prize, slogan writing competition, and first prize, essay writing competition as part of AIIMS, Vigilance week celebrations 2019.

**Professor Anand Krishnan** heads WHO Collaborating Centre on Research and Capacity Building on Community-based NCD Prevention and Control, AIIMS technical Support Unit for SRS-VA and the MINERVA Network, Scientific Advisory Committee of ICMR-NIREH Bhopal, Scientific Advisory Committee of ICMR-NIOH, Ahmedabad, Non-communicable Diseases and Environment Chapter in Indian Academy of Public Health and Regional Councilor, SE Asia, World NCD Federation. Member of WHO Working Group in Influenza Burden of Disease, Project Appraisal Committee, Health Technology Assessment India, Department of Health Research, Centre for Excellence, Climate and Health for Cardio-pulmonary Disorders at AIIMS New Delhi, Monitoring cum Expert Committee” for “Next Generation Influenza Vaccine Projects” DBT Influenza Vaccine, Scientific Advisory Group for NCD Division, ICMR, Centre Committee for Centre for Social Medicine and Community Health, JNU, NCD Policy Group for the Comprehensive National Nutrition Survey (CNNS) constituted by MOHFW, Governing Body of National Health System Resource Centre, MoHFW, PG expert Committee of Medical Council of India, Task Force to review the Certificate Programme in Community Health (CPCH) curriculum and training quality and to create mentoring mechanisms for Community Health Officer (CHOs), Special Invitee Scientific Advisory Group for ICMR-National Institute of Medical Sciences, New Delhi, Project review Committee of Cardio-vascular Diseases, ICMR -Task Force Projects on Neurocognitive diseases, cardio-vascular disease, Indian Hypertension Management Initiative, ICMR Advisory Group on Health System Research, Project Review Committee for Implementation Research, India TB research Consortium and Selection Committee for Community Medicine, SCTIMST, JIPMER, AIIMS Rishikesh, NIMHANS; received SEAPHEIN Public Health Education Leadership Award November 2019, at Jaipur

**Professor Puneet Misra** was Member/ expert of program advisory committee DST, Govt. of India, SYST, AWSAR; expert committee and paper reviewer for SEED Division, DST, Govt. of India, ICMR task force member for PCOS and GDM, TEC member ICMR on Diabetes, Metabolic Disorders, Kidney and Liver Disorders, Cardiovascular diseases, Project Reviewer for ICMR, DST, DBT, member Research section AIIMS, selection committee. Participated as an expert in faculty selection, AIIMS, Gorakhpur on 1 May 19, faculty selection, AIIMS, Jodhpur, faculty selection AIIMS Bhubaneswar, NAAC assessor for Health and Medical Universities. Ph D Thesis evaluator and examiner KGMU and DU, MD Examiner AMU Aligarh, MBBS examiner – AIIMS Rishikesh, MD Thesis AIIMS Rishikesh. Member of Data Safety Monitoring Board (DSMB) for Vi- DT typhoid conjugate vaccine phase III clinical trial in Nepal. Reviewer of PLOS one, IJCM, BMJ, Lancet Public Health, Indian Journal of Public Health, Indian Journal of Pediatrics, NMJI, BMC, International Journal of Diabetes in Developing Countries, Addictive Behaviors, International Journal of Adolescent Medicine and Health, BMC Public Health, BMC Women’s Health, BMC Infectious disease, Biomedical and Environmental Sciences, Family Medicine and Community Health, NMJI, Proposals for DST, ICMR and many others. Participated as an expert on many TV channels for raising awareness on many public health issues- Lok Sabha TV – Malaria, Asthma, malnutrition; Desh Deshanter RS TV on cancer; RS TV on Corona – big picture, RS TV – Corona, Desh Deshanter, RS TV Coronavirus COVID 19 – Q and A, RS TV Corona – News Feed bytes and RS TV population control, Mirror Now- Corona, Zee TV – Corona, India TV–Corona, AVP news–Corona.

**Professor Sanjay K Rai** was Nominated by National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India as a “focal person” of NACO designated National Institute for HSS at AIIMS New Delhi to provide technical assistance for HIV Sentinel Surveillance (HSS) of entire country. Made several visits to several districts of Uttar Pradesh, during October and November 2019 to provide technical support to HSS 2019 of these states. Member of the Technical Resource Group (TRG) of NACO, MoHFW, GoI on HIV Estimations in India and participated in several TRG meetings during 2019. Nominated by West Bengal University of Health Sciences, West Bengal, Delhi University, Delhi, UP University of Medical Sciences, Saifai, Etawah, and KGMU Lucknow, UP as a member of the Board of Examiners for MD Community Medicine. As an external examiner conducted MD Community Medicine examination at Burdwan Medical College, Burdwan, West Bengal (11-12 April 2019), Lady Hardinge Medical College, New Delhi (23-26 April 2019), UP University of Medical Sciences, Saifai (16-17 July 2019), and KGMU, Lucknow (29-30 November, 2019). As a member of Scientific Advisory Committee (SAC) of ICMR-NICED, participated as an expert in 47th SAC meeting of ICMR-NICED from 26-27 September 2019 at ICMR-NICED Kolkata. Deputed by AIIMS examination centre to supervise the Online CBT for MD/MS/MDS/DM/, and M.Ch, and MBBS entrance examination, Chennai, Tamil Nadu, and Aligarh, UP on 5th May 2019 and from 25-26 May, 2019 respectively. Member of the core committee of the AIIMS under the Revised National Tuberculosis Control Programme. As a member of AIIMS Engineering Advisory Committee (EAC) participated in several engineering advisory committee meetings to streamline the working of engineering services. As a Professor In-Charge of store of CCM participated in budget preparation, and procurement of various items for CCM during 2019-20. As a member of Standing Selection Committee of Directorate of Research and Medical Education, Punjab, and All India Institute of Medical Sciences, Bhopal, assisted for the selection of various faculty positions on 8 June 2019, and 17 December 2019 at National Institute of Technical Teachers Training and Research (NITTTR), Sector 26, Chandigarh, and AIIMS, Bhopal respectively. Elected “President” of Indian Public Health Association for the year 2019-2022.

**Dr Kapil Yadav** was Member of “Test and Treat” technical sub-group constituted for formulation operational guidelines for “Anemia Mukta Bharat” by Ministry of Health and Family Welfare, GoI and Focal Point for “National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A)”, Ministry of Health and Family Welfare, GoI.

**Dr Sumit Malhotra** was Member of working committee of Clinical Research Unit (CRU) under Research Section, AIIMS, New Delhi; focal point for “Innovation and learning Centre” for supporting implementation of comprehensive primary health care in aspirational district, Nuh, Haryana; national trainer for community health officers and part of national task force constituted by Ministry of Health and Family Welfare, Govt. of India to review the Certificate Programme in Community Health (CPOCH) curriculum and training quality and to create mentoring mechanisms for Community Health Officer (CHOs), participated in regional workshop on comprehensive primary health care –Health and Wellness Centres (HWCs) at Amritsar (6 September 2019); was part of Delhi team for 13th Common Review Mission under National Health Mission (16-23 October 2019), national level expert in an multi-site Indian Association of Preventive and Social Medicine (IAPSM) study (Rapid assessment of knowledge and practices regarding MIYCN among obstetricians and pediatricians working in private health care establishments), member of AIIMS technical Support Unit for SRS-VA and the MINerVA Network and National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A), was convener for pre-conference committee and venue committee, member of scientific committee as part of organizing team of 64th Annual National Conference of the Indian Public Health Association 29 February -2 March at AIIMS New Delhi and was part of ICMR project review committee to review Ad-hoc and fellowship proposals on vector borne diseases; was conferred with fellowship award of Indian Public Health Association (IPHA), 2019-20.

**Dr Anil Kumar Goswami** was Patron of a National Body “All India Association of Medical Social Work Professionals” Chandigarh. 2016-20. Designated Nodal Officer of “Disease Prevention Outbreak Response Cell” (DPORC) AIIMS since 2008 till date. Was a member of sub-committee for “Hygiene Promotion” (KRA-7 of Clean and Green AIIMS) and “Public Feedback” (KRA-8 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign). Nominated by Director AIIMS, New Delhi as a member of the “Expert Committee for Development of New Specified Health Warnings” in the Tobacco Control Division, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi. Panelist in a Technical Symposium on Dengue on “National Dengue Day-16 May 2019”, AIIMS New Delhi, Invited to Judge the “Street Play competition in PULSE, 2019” a Cultural Week of Student Union. Participated in a National Annual “Peer Assessment Kaya Kalp Monitoring & Evaluation Programme” at Lady Hardinge Medical College on 28 November 2019 and at AIIMS New Delhi on 20 January 2020. Chaired a Session “All India Association of Social Work Professionals Conference (AIAMSWPCON)” 2020 at Imphal, Manipur.

**Dr Partha Halder** was Member of Technical Resource Group (TRG) for Hepatitis Surveillance in India, constituted by the National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, Government of India. He takes the Health Economics Module for Post Graduate students of Community Medicine. He is also a member of the National Institute for HIV Surveillance in India, which is head quartered at AIIMS New Delhi. He is also a member of the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A), AIIMS, New Delhi. Dr Partha was convener for the Environment Committee of the 64th Annual National Conference of the Indian Public Health Association, conducted from 29 February-2 March at AIIMS, New Delhi.

**Dr Ravneet Kaur** was Faculty for SET (Skill, e-learning and Telemedicine) facility, AIIMS and prepared skill modules for undergraduate teaching. Member of working group of MOHFW (Maternal Health Division) for development of operational guidelines for management of high risk pregnancies. Contributed in preparing ‘Training module for Medical Officers, Staff nurses and Auxillary Nurse Midwives for Diagnosis and Treatment of Anemia under *Anemia Mukh Bharat*’. Reviewer of journals (Global Health Research and Policy, BMJ Open, Indian Journal of Public Health, Journal of Post graduate Medicine). Member of organizing committee of the 64th Annual National Conference of Indian Public Health Association held from 29 February-2 March 2020 at New Delhi. Convener of Reception committee, and member of scientific committee, and Souvenir Committee

**Dr Harshal Ramesh Salve** was Elected as General Secretary of Faculty Association of AIIMS (FAIMS). Resource Faculty in SET Facility by AIIMS, New Delhi. Part of Expert team by MOHFW and WHO India Country Office for assessment of quality of care and best practices of District Mental Health Programme in India. Participated as faculty coordinator for AIIMS PG entrance Examination in Aurangabad, MBBS Examination in Nagpur and Online CBT based Examination for Recruitment of Nursing Officers (Grade II) for AIIMS at Nagpur. Invited Speaker THRICON 2019 Conference 25 October 2019 organized by Thrissur Medical College, Thrissur, Kerala. Part of Core team and National trainer for MINerVA Network for SRS by RGI – AIIMS New Delhi. National Trainer for Program Mangers Training under NPCDCS in India. Member of Disease Outbreak Response Cell (DPORC), AIIMS, New Delhi. Participated in meeting WHO - SEARO Expert Group for Developing Health Promotion Tools for Prevention of Non-Communicable Diseases at New Delhi (8 – 9 April, 2019). Participated in Workshop on “Clinical Trial: Basics and Specialized Topics” organized by CEU, CMC Vellore, Tamil Nadu (17–19 October, 2019), First National Symposium on Education and Practice of Community Medicine, Bhubneshwar, (10–12 November 2019), nominated faculty in MBBS Curriculum Development Workshop at SET Facility AIIMS, New Delhi (26 November 2019), resource person in Training Program for PCB researcher on Air Pollution organized by SPH, PGIMER, Chandigarh (6 January 2020), invited speaker on Annual day of national Centre for Diseases Control (NCDC), New Delhi on Air Pollution, symposium as Speaker in 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS),

Kolkata, West Bengal (25 January 2020), visited Patna for assessment of data management system of medical colleges for World bank (12 and 13 March 2020), part of organizing team (Convener of - Fund raising & Plenary Sessions Committee, Travel and accommodation committee) of 64th Annual National Conference of Indian Public Health Association.

**Dr Rakesh Kumar** was Part of the Expert Advisory Committee of project entitled “Strengthening Mechanisms for Tuberculosis Death Reporting under the Revised National Tuberculosis Control Program (RNTCP) and the Registrar General of India” and was member of the Project Review Committee of Indian Council of Medical Research for extramural adhoc research in Urology; received Travel Fellowship Award by the International Society for Influenza and other Respiratory Virus Diseases (ISIRV) for presenting an oral paper during the Options X for Control of Influenza conference at Singapore; attended the workshops “Health Technology Assessment for Vaccines” and “SPHERIC infectious disease modelling” at Singapore. Reviewer for Indian Journal of Public Health, the Journal of Obstetrics and Gynaecology of India and International Journal of Medicine and Public Health.

**Dr Mohan Lal Bairwa** was Special Invitee, Board of Management and Member, Board of Studies, IIMR University, Jaipur, India. Examiner of MPH Program, Delhi Pharmaceutical Sciences and Research University, New Delhi. Associate Editor (Global Health), BMC Public Health and Section Editor (Research Methods), Lung India. Reviewer of International Journal for Equity in Health; International Journal of Injury Control and Safety Promotion; BMJ Open; Indian Journal of Community Medicine; Human Vaccines and Immunotherapeutics; PLoS ONE; Global Health Action; BMC Public Health; Indian Journal of Community and Family Medicine; Bulletin of WHO; BioMed Research International

## 9.9. Dermatology and Venereology

### Professor and Head

Vinod K Sharma

### Professors

Neena Khanna  
Binod K Khaitan

Kaushal K. Verma  
Sujay Khandpur  
Somesh Gupta

M Ramam  
G Sethuraman

### Associate Professor

Kanika Sahni

### Assistant Professors

Neetu Bhari

Vishal Gupta

### EDUCATION

The department is training 22 junior residents, 10 senior residents and guiding four PhD candidates. A Competency based training of 2 weeks for MD (Medicine) and DM (infectious disease) residents has been started. Dermatology residents are being posted on rotation for 2 weeks in these departments also.

### CMEs/Workshops/Symposia/National and International Conferences Organized by the department

1. Ninth Annual conference of Contact and Occupational Dermatoses Forum of India (CODFICON 2019), 31 August and 1 September 2019.
2. First Annual Meeting of the Asian Society of Dermatopathology and Annual Meeting of DSI, 15-17 November 2019, New Delhi

### Lectures delivered

#### Vinod K. Sharma

1. Panel Discussion on Alopecia, IADVL- SIG Trichology CME-2019, 18 August 2019, New Delhi
2. Eczema in elderly, CODFICON 2019, 31 August and 1 September 2019, AIIMS, New Delhi
3. Drug Provocation if drug reaction, 5th PGCON 2019, 14 -15 September 2019, Amritsar
4. Genital Ulcer management, 37th annual conference of IADVL UP-UK CUTICON, 19 and 20 October 2019, Jhansi M.P.
5. Standardization of vitiligo Surgery, 8th DASIL World Congress, 30 October-2 November 2019, Goa
6. Photodermatosis in India, Malabar Bonhomie 2020, 15 -18 February 2020, Calicut
7. Adult Onset Eczema, Dermacon 2020, 29 January-2 February 2020, Pune

#### Neena Khanna

1. Cutaneous manifestations of PCOS & their management, 2nd M P PCOS meeting, 12 May 2019, Kolkata
2. Non melasma facial pigmentation, Cosdermindia 2019, 2-4 August 2019, Mumbai
3. Childhood leprosy -Still a problem in the era of elimination, 20<sup>th</sup> International Leprosy Congress, 10-13 September 2019, Philippine International Convention Center, Manila, Philippines
4. Are we clinically missing leprosy in era of elimination, 20th International Leprosy Congress, 10-13 September 2019, Philippine International Convention Center, Manila, Philippines
5. Adult onset acne: Overcoming management challenges, South Asian Regional Association of Dermatologists (SARCD-2019), 15-17 November 2019, Pokhara, Nepal
6. Panel discussion: Psoriasis Panel discussion: Pigmentary disorders, Dermacon 2020, 30 January-2 February 2020, Laxmi Lawns, Magarpatta City, Hadapsar, Pune

#### Kaushal K Verma

1. Occupational Dermatoses in Field Workers, 24th World Congress of Dermatology, 10-15 June 2019, Milan, Italy

2. Challenges in Management of Dermatophytosis and Acne vulgaris, CME of Doctor's Forum, MCD, 25 June 2019, New Delhi
3. Plant dermatitis- current trends and understanding, Annual Conference of Contact occupational of India, (CODFICON), 31October-1 September 2019, New Delhi
4. Can increase in concentration of test allergen reduce the patch test occlusion time?, 15th Asia-Pacific Environmental and Occupational Dermatology, 12-15 September 2019, Kuala Lumpur, Malaysia
5. Air-borne occupational contact dermatitis in tropics- challenges in diagnosis and management, 15th Asia- Pacific Environmental and Occupational Dermatology, 12-15 September 2019, Kuala Lumpur, Malaysia
6. Parthenium dermatitis- diverse manifestations and difficulties in management, XI South Asian Regional Conference of Dermatologists (SARCD-2019), 15-17 November 2019, Pokhara, Nepal
7. Patch test: An eye to Eczema, XI South Asian Regional Conference of Dermatologists (SARCD-2019), 15-17 November 2019, Pokhara, Nepal
8. Cosmetics contact dermatitis - emerging challenges, Dermatozone South 2019 Conference, 22-24 November 2019, Kovalam, Kerala
9. Parthenium allergy in India, Expert Panel on Fragrance Safety meeting, 20-22 January 2020, New Delhi
10. Recent advances in diagnosing contact dermatitis-breaking the glass ceiling, 48<sup>th</sup> National Conference of Indian Association of Dermatologists, Venereologists & Leprologists, 30 January-2 February 2020, Pune, India

### **M Ramam**

1. Granulomatous and Infectious skin diseases: Sensitivity specificity of histological examination alone. Are there any specific clues, Basic Dermatopathology Workshop and CME, 30 June 2019, Visakhapatnam
2. Histopathologic spectrum of cutaneous tuberculosis., CME on Cutaneous TB 'a Multidisciplinary Approach', 28 July 2019, New Delhi
3. Madura foot and other implantation mycoses, XL Symposium of the International Society of Dermatopathology, 19-21 September 2019, Lisbon, Portugal
4. Spontaneous repigmentation and stability in vitiligo, 8th DASIL World Congress, 30 October-2 November 2019, Goa
5. Ethical and effective use of placebo in dermatology practice., Annual CUTICON of IADVL DSB, 24 November 2019, Delhi
6. How to use placebo ethically and effectively, Cuticon-Haryana, 28 December 2019, Karnal
7. Pattern Analysis of Granulomas: Cutaneous Tuberculosis, Workshop cum CME on Granulomatous Disorders, 4 and 5 January 2020, Hyderabad
8. Histopathological Marker for Epidermal Cutaneous Mosaicism, 24th Regional Congress of Dermatology, 25-28 February 2020, Bangkok, Thailand
9. Leprosy or Sarcoidosis, 24th Regional Congress of Dermatology, 25-28 February 2020, Bangkok, Thailand
10. Pattern recognition, Dermatopathology CME of CAPPCON 2020, 14 and 15 March 2020, Kolkata
11. The spectrum of leprosy, Dermatopathology CME of CAPPCON 2020, 14 and 15 March 2020, Kolkata

### **Sujay Khandpur**

1. Spindle cell tumours, 2nd Dermatopathology Workshop and CME, 27 and 28 April 2019, Dehradun
2. Leprosy histopathology, Dermatopathology Workshop and CME, 27 July 2019, VMMC and Safdarjung Hospital, New Delhi
3. Autoimmune vesico-bullous diseases (pemphigus): Untangling the clinical, immunological & therapeutic challenges in pemphigus, 28th EADV Congress, 9-13 October 2019, Madrid, Spain
4. Role of histopathology in genital dermatoses, First Annual Meeting of Asian society of Dermatopathology and Annual Meeting of Dermatopathology Society of India, 15-17 November 2019, New Delhi
5. Deep fungal infections, Workshop cum CME on Granulomatous Disorders of Skin, 4 January 2020, Hyderabad
6. Dermatopathology slide review, PGcon, 18 and 19 January 2020, Dr RML Hospital, New Delhi
7. Conventional immunosuppressants in pemphigus: Rituximab versus pulse therapy in pemphigus, Dermacon 2020, 30 January–2 February 2020, Pune
8. Cutaneous panniculitis Role of histopathology in pigmentary dermatoses, CAPPCON 2020, 14 and 15 March 2020, Kolkata

**Kanika Sahni**

1. Panel discussion, Scar revisions and Flaps - Dermatologist Vs Plastic Surgeons View, Daas summit, 5-7 July 2019, Hotel Eros International, New Delhi
2. Patient selection for vitiligo surgery, Vitiligo Surgery workshop, Aesthetics 2019, 9-11 August 2019, India Habitat Center, New Delhi
3. Successful treatment of involuted posthemangioma scar with autologous micro fat transfer, DIAD-DIAL Conference, 12 February 2020, Dubai
4. Irritant Dermatitis, CODFICON, 1 September 2019, AIIMS, New Delhi

**Neetu Bhari**

1. PRP in patterned hair loss, ACSICON (Annual National Conference of The Association of Cutaneous Surgeons Of India) 2019, 20 April 2019, Gurugram
2. Dermatologic Manifestations of Systemic Diseases, Indian Society of Pediatric Mid Term Conference of INNOVATIVE PHYSICIANS FORUM (IPF), 7 July 2019, SMS Medical College, Jaipur
3. Quiz master, Dermatopathology Workshop-cum-CME, Dermatopathology Workshop-cum-CME, 27 July 2019, VMMC and Safdarjung Hospital, New Delhi
4. Panel discussion, Tuberculosis-The changing scenario: Epidemiology, Diagnosis, RNTCP guidelines, Resistance. Tuberculosis CME, 28 July 2019, Maulana Azad Medical College, New Delhi
5. Systemic contact dermatitis, 9th Annual conference contact and occupation dermatoses forum of India, 31 August 2019, All India Institute of Medical Sciences, New Delhi
6. Should we prescribe sunscreen/anti-tan lotion routinely?, Indian Society of Pediatric Dermatology Annual Conference 2019, 13 September 2019, Agra
7. Panel discussion, How to manage emergencies in pediatric dermatology, Indian Society of Pediatric Dermatology Annual Conference 2019, 13 September 2019, Agra
8. Normal skin structure, First Annual Meeting of Asian Society of Dermatopathology and Annual Meeting of Dermatopathology Society of India, 15 November 2019, All India Institute of Medical Sciences, New Delhi
9. Bedside tests in Dermatology, National PG update, 18 and 19 January 2020, Dr RML Hospital and PGIMER, New Delhi, New Delhi
10. How TSC affects the skin, Tuberos Sclerosis Complex Roadshow, 12 February 2020, All India Institute of Medical Sciences, New Delhi

**Vishal Gupta**

1. Platelet counts achieved by various methods – a comparative review, 17th National Conference of Association of Cutaneous Surgeons (ACSICON), 19-21 April 2019, Gurugram, India
2. Contact dermatitis to metals, 9th National Conference of Contact and Occupational dermatoses Forum of India (CODFICON), 31 August and 1 September 2019, AIIMS, New Delhi, India
3. Autoimmune bullous disorders- Difficulty in management, 2nd International Geriatric and Aesthetic Dermatology Conference (GADCON), 7 and 8 September 2019, Jaipur, India

**Oral papers/posters presented**

1. Sharma VK, Singh S, TNFAIP3 gene polymorphism in North Indian psoriasis patients, 28th EADV Congress, 9-13 October 2019, Madrid. Spain
2. Childhood leprosy–Still a problem in the era of elimination., 24th World Congress of Dermatology, 10-15 June 2019, Milan Conference Centre, Milan, Italy
3. Verma KK, Gupta P, Kumar R, Bal CS, Radioisotope P 32/Re 188 incorporated radioactive skin patches for treatment of Basal Cell Carcinoma, 24th World Congress of Dermatology, 10-15 June 2019, Milan, Italy
4. Verma KK, Himabindu S, Sethuraman G, Kalaivani M, Increase in concentration of allergen decreases occlusion time of patches - a time dose relationship for patch test reactivity, 24th World Congress of Dermatology, 10-15 June 2019, Milan, Italy
5. Dev T, Sethuraman G, Verma KK, Dermatosurgery for long standing Tropical diseases: cutting the treatment short!, 8th DASIL (Dermatologic & Aesthetic Surgery International League) World Congress, 30 October-02 November 2019, Goa, India
6. Sahni K Intractable figurate erythema as a harbinger of underlying malignancy: Erythema Gyrate Repens in an old farmer DERMACON, 30 January-2 February 2020, Pune

## RESEARCH

### Funded projects

#### *Ongoing*

1. Elucidating the role TNIP1, IL2B and NFkBIA and their target micro RNA in regulating the inflammation and skin homeostasis in psoriasis, VK Sharma, ICMR, 3 years, 2019, Rs 36.62 lakhs
2. A randomized, investigator-blind, placebo-controlled, split-head pilot study to evaluate the effects of autologous platelet-rich plasma on hair growth and lesional T-helper and T-regulatory cells expression markers in alopecia areata, VK Sharma, IADVL, 2 years, 2018, Rs 5.22 lakhs
3. A Phase 3 Multicenter, Double-Blind Study to Evaluate the Long-Term Safety and Efficacy of Baricitinib in Adult Patients with Atopic Dermatitis, VK Sharma, Eli Lilly, 1 year, 2019, Rs 1 lakh
4. A multi-center, randomized, double-blind, active and placebo-controlled study to investigate the efficacy and safety of ligelizumab (QGE031) in the treatment of Chronic Spontaneous Urticaria (CSU) in adolescents and adults inadequately controlled with H1-antihistamines. (Funded project), Neena Khanna, Novartis, 3 years, 2019-2021, Rs 11.24 lakhs
5. A phase 2, multicenter, randomized, double blind, comparative study to evaluate the reduction in incidence of scarring in acne vulgaris subjects treated with combination of benzoyl peroxide (2.5%/5%), zinc oxide and polysiloxanes compared to benzoyl peroxide (2.5%/ 5%), Neena Khanna, Dr Reddy's Laboratories, 2 years, 2017-2019, Rs 5.20 lakhs
6. Evaluation of effect of cyclosporine on inflammatory cytokine levels and dermatitis in patients of air-borne contact dermatitis due to plant parthenium, Kaushal Verma, DST, 3 years, 2019-2022, Rs 36 lakhs
7. Comparison of the efficacy of Rituximab infusion and Dexamethasone cyclophosphamide pulse in moderate to severe pemphigus vulgaris, Sujay Khandpur, ICMR, 3 years 9 months, 2015-2018, Rs 29.72 lakhs
8. Prospective non-randomized controlled trial to compare the efficacy of subcutaneous etanercept versus oral methotrexate in moderate to severe chronic plaque psoriasis and to correlate response with Th1, Th2, Th17 and Treg cell patterns, Sujay Khandpur, Pfizer Pharmaceutical, 2 years, 2016-2018, Rs 11.61 lakhs
9. A double-blind randomized trial of transplantation of cultured melanocytes from outer root sheath of plucked hair follicles vs. cultured melanocytes from epidermis, Somesh Gupta, DBT, 2017-2020, Rs 60 lakhs
10. Efficacy and safety of non-cultured extracted follicular outer root sheath cell suspension and conventional epidermal cell suspension transplantation in stable vitiligo and correlation with constituent stem cell populations, Somesh Gupta, ICMR, 2016-2020, Rs 30 lakhs
11. Analysis of the diagnostic and/or predictive potential of metabolomics in bacterial vaginosis, its treatment failure, relapse and susceptibilities to other sexually transmitted infections, Somesh Gupta, AIIMS, 2018-2020, Rs 16 lakhs
12. Th2/Th17 inflammatory cytokines modulating filaggrin expression and disease severity in children with atopic dermatitis, Neetu Bhari, IADVL, 2 years, 2019-2021, Rs 7.45 lakhs

#### *Completed*

1. Defining the role of genetic, epigenetic and immunological components involved in the pathogenesis of alopecia areata., VK Sharma, ICMR, 4 years, 2015-2019, Rs 56 lakhs
2. A phase 3 Multicenter double –blind study to evaluate the long-term safety and efficacy of baricitinib in adult patient with atopic Dermatitis, VK Sharma, Eli Lilly and company, 1 years, 2019-2020, Rs 12 lakhs
3. Measurement of quality-of-life in patients with lichen planus pigmentosus and its comparison with vitiligo and melasma, VK Sharma, IADVL, 2 years, 2017-2019, Rs 0.6 lakhs
4. Comparison of the efficacy of Rituximab infusion and Dexamethasone cyclophosphamide pulse in moderate to severe pemphigus vulgaris, Sujay Khandpur, ICMR, 3 years 9 months, 2015-2018, Rs 29.72 lakhs
5. Prospective non-randomized controlled trial to compare the efficacy of subcutaneous etanercept versus oral methotrexate in moderate to severe chronic plaque psoriasis and to correlate response with Th1, Th2, Th17 and Treg cell patterns, Sujay Khandpur, Pfizer Pharmaceutical, 2 years, 2016-2018, Rs 11.61 lakhs

### Departmental projects

#### *Ongoing*

1. A cross sectional descriptive study to categorize the etiology in patients with self-reported excessive facial hair

2. A cross sectional study to assess autonomic nervous system imbalance and its correlation with cutaneous manifestations in patients with systemic sclerosis
3. A prospective randomized controlled trial to compare the efficacy of Rituximab infusion versus intravenous Dexamethasone Pulse therapy in Pemphigus vulgaris and its correlation with phenotypic and functional determinants of B and T cells
4. An open label non-randomized preliminary study comparing handheld NB-UVB device with standard whole body NB- UVB therapy in treatment of localized vitiligo.
5. An open label non-randomized preliminary study comparing two targeted phototherapy devices i.e. daily use of home-based hand-held Narrow Band UVB comb device versus biweekly hospital-based excimer light therapy in treatment of localized vitiligo
6. Benefit of yoga in systemic sclerosis as compared to standard therapy alone: A pilot randomized control trial.
7. Comparison of patch test positivity after 24 and 48 hours of occlusion time in patients of allergic contact dermatitis.
8. Efficacy of adding PRP to 5-FU ointment and microneedling in the treatment of Acral Vitiligo
9. Evaluation of a paraffin based moisturizer as compared to a ceramide based moisturizer in children with atopic dermatitis: A double blinded, two group equivalence randomized controlled trial
10. Prospective randomized trial to compare efficacy and cost-effectiveness between rituximab therapy and dexamethasone pulse in pemphigus vulgaris
11. Quality of Life on Pruritus- Comparison of different scales
12. Study of epidemiological factors contributing to treatment failure in patients with dermatophytic infection attending tertiary care hospital in Northern
13. Study of Single Nucleotide polymorphism in TNF.α, TNFAIP3, TNIP1, TRAF3IP2, IL-17, IL-23R, IL-12 B & HLA-C genes in Indian Psoriasis patients and their association with clinical characteristics.
14. Study of vaginal microbiome and metabolome in women with bacterial vaginosis (BV) and apparently healthy controls and their correlation with diagnostic criteria, treatment failure and relapse
15. To evaluate the effectiveness and safety of topical triple therapy formulation with fractional CO2 laser and triple therapy alone in the treatment of melasma in split face randomized control study.

### ***Completed***

1. Elucidating role of micro RNA in the pathogenesis of active generalized vitiligo & in pigmentation.
2. Patch testing with mercapto mix with a high content of 2-mercaptobenzothiazole
3. Evaluation of effectiveness of combination of isotretinoin with terbinafine and terbinafine alone in the treatment of recurrent dermatophytosis
4. Patch testing with a Methylchloroisothiazoline/methylisothiazolinone mix with a higher concentration of methylisothiazoline
5. Efficacy of topical Rituximab encapsulated in nanoparticle in patients of oral pemphigus vulgaris - a randomised double blind placebo controlled trial

### **Collaborative projects**

#### ***Ongoing***

1. Th2/Th17 inflammatory cytokines modulating filaggrin expression and disease severity in children with atopic dermatitis, Genetics, Cardiac Biochemistry
2. Deciphering the mechanism of alarmins induce necroptosis and its role in immune homeostasis and inflammation in athero - sclerosis, Cardiac Biochemistry
3. Defining the role of Neutrophil Extracellular Traps (NETs) in immune regulation and inflammation, Cardiac Biochemistry
4. Evaluation of prevalence, regional phenotypic variation, co morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A multicenter study across India (ICMR-PCOS task force), Multicentric national study
5. Development of a population based leprosy Registry (PBLR) & new case detection strategies (NCDS) to eradicate leprosy in urban areas, TLM Shahdara
6. Radioactive Skin Patches for Treatment of Basal Cell Carcinoma, Nuclear Medicine
7. Radiocative Skin Patches for Treatment of Basal Cell Keloids, Nuclear Medicine

8. Exploring the role of innate immunity in immunopathogenesis of pemphigus vulgaris, Biochemistry
9. Autologous fat transfer for correction of cicatricial ectropion, Ophthalmology

### **Completed**

1. Exploring the role of gamma-delta T-cells in immunopathogenesis of pemphigus vulgaris, Biochemistry

## **PUBLICATIONS**

**Journals: 37**

**Chapters in Books: 9**

**Books: 3**

## **PATIENT CARE**

The department has 29 bedded ward including two isolation rooms. The total number of long admissions from April 2019 to March 2020 was 771 and total short admission was 2132. The OPD caters to both general dermatology patients (in first half) and special clinics (STD, leprosy, dermatosurgery, Pigmentation, Allergy) and lasers (Diode, Carbon dioxide, NdYAG laser, Pulse Dye laser) in afternoon. Side lab procedures and dermatosurgery procedures are conducted in both morning and afternoon. According to census, 30263 new cases were attended in Out Patient department and total number of old patients was 55857. One Senior Resident is visiting Ballabgarh for skin OPD twice a week and the department has started community dermatology OPD services in Jhajjar twice a week.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor VK Sharma** was Editorial Board-International Journal of Dermatology, Dermatitis, British Journal Dermatology; Member, Executive Committee, International Society of Dermatology; Member, Research Committee, AIIMS, Rishikesh; Organizing chairperson, 9th Annual conference contact and occupation dermatoses forum of India, 31 August and 1 September 2019, All India Institute of Medical Sciences, New Delhi; Chaired Plenary session, 4th Pigmentarycon, 15-17 November 2019, Kolkata; Chairperson, Management of Hand Dermatitis, MID -CUTICON, 2nd June, Delhi; Chairperson, PEDDERMA-CON 2019, 27 and 28 July, Telangana.

**Professor Kaushal Verma** was awarded FAMS-2019 by the national Academy of Medical Sciences, New Delhi; Nominated Inspiring Physicians for 2019 by the Royal College of Physicians of Edinburgh, UK; Visiting faculty Michigan University Department of Dermatology, 19-25 July 2019 Ann Arbor, Michigan, USA; Chaired a symposium on “Occupational Dermatoses” along with Prof. Swen M. John and Prof. Hiro Yokozeki from Japan at 24th World Congress of Dermatology, 10-15 June 2019 Milan, Italy; Chaired a symposium on “Regional responses to global HIV/STI trends-IUSTI Special Symposium” at STI & HIV-2019 World Congress (IUSTI- World Conference) 13-17 July 2019 at Vancouver, Canada; Represented the Asia Pacific region as Regional Chair of the IUSTI- AP region and participated in the World Executive meeting of the IUSTI-World, 13 July 2019 Vancouver, Canada; Represented the Asia Pacific region as Regional Chair of the IUSTI- AP region in the General Assembly 15 July 2019, Vancouver, Canada; Co-Chair, Scientific Committee (Clinical Track) of the IUSTI- World Congress 2020 to be held at Bangkok, Thailand; Participated in the Scientific Committee meeting of the IUSTI- World Congress 2020 to be held at Bangkok, Thailand on 15 July 2019 at Vancouver, Canada; Participated and represented the country in the International Contact Dermatitis Research Group (ICDRG) Board meeting on 13 September 2019, Kaula Lumpur, Malaysia; Participated in the APEODS Board meeting representing India on 13 September 2019 at Kaula Lumpur, Malaysia; Chaired a Scientific session at Face Aesthetics Dermatologists Society (FADS) Annual Conference, 9 and 10 November 2019, Gurugram, Delhi NCR; Contributed to Community service health care program at Ladakh from 29 September–6 October 2019; Participated as an Expert in live phone-in Show Skin health and Skin care in Summers on DD National, Prasar Bharati on 2 May 2019; Expert for Faculty Selection, to AIIMS Jodhpur, 8 September 2019 Jodhpur, Rajasthan; External Examiner, MD (Dermatology & Venereology) Examination, BPKIHS, Dharan Nepal, 15 and 16 August 2019.

**Professor Sujay Khandpur** was President of IADVL Delhi Branch 2020; Associate Editor of IADVL Textbook of Dermatopathology; Secretary, Dermatopathology Society of India, 2019-20; Member, Special Interest Group of Dermatopathology, IADVL

**Dr Kanika Sahni** won First prize in International Case Presentation Competition at DIAD-DIAL conference in Dubai, UAE, February 2020

**Dr Neetu Bhari** was awarded Best letter to editor, IJDVL, year 2019. Patra S, Bhari N, Mohta P, Singh S, Ramam M, Agarwal S. Adult-onset Still’s disease presenting as blotchy and flagellate pigmentation. *Indian J Dermatol Venereol Leprol.* 2019; 85(6):626–8; Organizing secretary, 9th Annual conference contact and occupation dermatoses forum of India, 31 August and 1 September 2019, All India Institute of Medical Sciences, New Delhi; Clinical image competition IJMR, 2019 award

## 9.10. Emergency Medicine

### Professor and Head

Praveen Aggarwal

### Professors

LR Murmu

Sanjeev Kumar Bhoi

### Associate Professor

Nayer Jamshed

Tej Prakash Sinha

### Assistant Professors

Meera Ekka

Akshay Kumar

Prakash Ranjan Mishra

### HIGHLIGHTS

The department has been in the forefront of providing round-the-clock, holistic and world-class emergency care to patients with all types of medical, paediatric and non-traumatic surgical, as well as some of the traumatic emergencies. Nearly 1,49,443 patients visited the department in the year 2019-2020. The department has been providing training to its post-graduates in the specialty of Emergency Medicine since July 2012. In addition, the departmental faculty is involved in teaching and training of postgraduates from other departments (including Medicine, Surgery, Geriatric Medicine, Critical Care Medicine, Dermatology, Psychiatry and several others), undergraduate students, nursing students and paramedics in the field of emergency medicine including life support courses. The department is also involved in training the existing and future faculty from other colleges and hospitals in the specialty of Emergency Medicine.

Under the aegis of the Ministry of Health and Family Welfare, the department is involved in developing guidelines for comprehensive primary healthcare for burns and trauma as well as for Emergency Department at District Hospitals under the Ministry. In collaboration with South East Asia Region, WHO, the department is involved in formulating guidelines on road safety, injury prevention, as well as integration of emergency and trauma care in India. Under the AIIMS Quality Improvement Programme, Emergency Medicine Department has started several projects to further improve patient care and outcome. This has also resulted in shorter stay of patients. At international level, the department has been actively collaborating with several universities from the USA with the aim of training doctors, nurses and paramedics. Some of these Universities include University of South Florida and SUNY Downstate, New York.

### EDUCATION

The faculty organized life support courses for undergraduates, postgraduates and nurses posted in the department. It has conducted AIIMS Emergency ECG and rapid sequence intubation courses for the postgraduates of Institute as well as other colleges. The department runs a schedule of academic activities for the residents of Emergency Medicine (seminars, journal clubs, case discussions) twice a week for 9 hours. Education and skills are imparted to residents on the use of ultrasound in emergency care of patients. Simulation-based teaching (both table-top and on high-fidelity simulator) is imparted to the residents. In addition, the Faculty of the department are involved in didactic teaching of undergraduates, postgraduates and nursing students through lectures and seminars.

The department imparted short term training to Mr Yann Le Lay (France), Mr Matthieu Perin (France), Ms Fatma Azim Khan (Riyadh), Ms Karen Borges (Belgium) and Mr Ketan Singh (UK) from other countries.

### Continuing Medical Education

#### Conferences/seminars/workshops organized

1. Tactical combat course for CRPF on 5 April 2019 at JPNATC, AIIMS, New Delhi
2. CME on Trauma Update and AUTLS workshop from 9 to 10 April 2019 at AIIMS, Jodhpur
3. Emergency Sonography Workshop from 6 to 7 May 2019 at AIIMS, Rishikesh
4. EM-INDIA, National Conference on Emergency Medicine, at AIIMS, New Delhi from 31 July to 4 August 2019
5. AUTLS (Advanced Ultrasound and Trauma life support) Workshop from 6 to 7 September 2019, Pune
6. AIIMS EM-SONO Workshop on Emergency and Point of care Ultrasonography held from 14 to 15 September 2019 at LHMC, New Delhi
7. Compressive life support course for CRPF from 20 to 21 November 2019, JPNATC, AIIMS, New Delhi
8. HEMS-INDIA, Workshop on helicopter-based emergency medical services, at AIIMS, New Delhi from 26 to 28 November 2019

9. Advanced point of care ultrasound course held from 5 to 6 December 2019 at Texas, USA
10. WACEM ULTRAMAC Workshop (World Academic Council of Emergency Medicine's Ultrasound in Mass Casualties Workshop) at Tel Aviv, Israel on 12 January 2020
11. 5th National Emergency Medicine Board Review of India Course (NEMBRIC), at National Board of Examinations from 8 to 12 February 2020, New Delhi

#### **Lectures delivered**

**Praveen Aggarwal: 11**

**Sanjeev Bhoi: 14**

**Nayer Jamshed: 5**

**Tej Prakash Sinha: 14**

**Meera Ekka: 8**

**Akshay Kumar: 13**

**Prakash Ranjan Mishra: 8**

#### **Praveen Aggarwal**

1. Aortic Dissection in the Emergency Department, Emergency Cardiology 2019 Conference (EMCARD), 10-12 May 2019, Goa
2. Master class by Titans: Newer Antidotes, EMINDIA 2019, National Emergency Medicine Conference, 1 August 2019, Delhi
3. Acute Poisoning, National Emergency Life Support Course, 2-6 December 2019, Delhi
4. Role of ultrasound in mass casualties—An overview, 6th International Conference on Preparedness & Response to Emergencies & Disasters, 12-14 January 2020, Tel Aviv, Israel
5. Dengue surge capacity triage at AIIMS, 6th International Conference on Preparedness & Response to Emergencies & Disasters, 12-14 January 2020, Tel Aviv, Israel
6. Acute Toxicology and Pharmacology, 5th National Emergency Medicine Board Review of India Course (NEMBRIC), 8-12 February 2020, Delhi
7. Injuries to Bones and Joints, 5th National Emergency Medicine Board Review of India Course (NEMBRIC), 8-12 February 2020, Delhi
8. Update in management of OP pesticide poisoned patients in the ED, Middle East-North Africa Toxicology Conference, 19-22 February 2020, Istanbul, Turkey
9. Poisonings from animal toxins (Moderator), Middle East-North Africa Toxicology Conference, 19-22 February 2020, Istanbul, Turkey
10. Approach to altered mental status in ED, MAHAEM (Maharashtra Emergency Medicine) Conference, 7 and 8 March 2020, Pune
11. Cerebral Resuscitation (Panelist), MAHAEM (Maharashtra Emergency Medicine) Conference, 7 and 8 March 2020, Pune

#### **Sanjeev Bhoi**

1. Airway and Secondary survey, Trauma Update and AUTLS workshop, 9 and 10 April 2019, Jodhpur
2. FAST and e-FAST, Emergency Sonography Workshop, 6 and 7 May 2019, Rishikesh
3. Breathing Emergency, Ultrasound Course during Emergency cardiology inaugural national summit EMCARD, 10-12 May 2019, Goa
4. Pre-hospital USG, MASHAV meet, 21 June 2019, Delhi
5. Refractory seizures, National Emergency Medicine Conference (EMINDIA-2019), 31 July to 4 August 2019, Delhi
6. Mechanism of injury, QI in triage, Triage workshop, 2 August 2019, Delhi
7. The approach, Workshop on basic ECG, 2 August 2019, Delhi
8. Airway, Secondary survey AUTLS (Advanced Ultrasound and Trauma life support) Workshop, 6 and 7 September 2019, Pune
9. FAST and e-FAST, AIIMS EM-SONO, 14 and 15 September 2019, Delhi
10. General overview and lung USG: Pre-hospital USG, 5th World Academics Congress for Emergency Medicine, 20-24 October 2019, Dubai, UAE
11. USG in primary care, International workshop on strengthening trauma and emergency in Southeast Asian region, 25-29 November 2019, Khon-kaen, Thailand
12. Country update, International workshop on strengthening trauma and emergency in Southeast Asian region, 25-29 November 2019, Khon-kaen, Thailand
13. Airway, Breathing, Advanced point of care ultrasound course, 5-6 December 2019, Texas, USA

14. Pre-hospital USG, 6th international conference on preparedness & response to emergency & disaster, 12 and 13 January 2020, Tel Aviv, Israel

#### **Nayer Jamshed**

1. Acute coronary syndrome, EM INDIA ECG workshop, 1 August 2019, Delhi
2. Lumbar puncture, Cadaveric skill development workshop for postgraduate student, 12 October 2019, Delhi
3. Organophosphate poisoning, 18th Annual Scientific Congress of Asia Pacific Association of Medical Toxicology, 4-7 November 2019, Putrajaya, Malaysia
4. Involvement of Peripheral Nervous System in OP Poisoning, 18th Annual Scientific Congress of Asia Pacific Association of Medical Toxicology, 5 November 2019, Putrajaya, Malaysia
5. Needle decompression in tension pneumothorax, Medical Education & Content development Workshop, AIIMS, 31 January 2020, Delhi

#### **Tej Prakash Sinha**

1. Initial assessment, FAST and e-FAST Trauma Update and AUTLS Workshop, 9 and 10 April 2019, Jodhpur
2. Initial assessment, Breathing Emergency Sonography Workshop, 6 and 7 May 2019, Rishikesh
3. Country update, Global experts Emergency Network conference, 11-13 May 2019, Ann Arbor, Michigan, USA
4. Pre-hospital USG, MASHAV meeting, 21 June 2019, Delhi
5. Emergency thoracotomy and ultrasound, EMINDIA-2019 (National Emergency Medicine Conference), 31 July to 4 August 2019, Delhi
6. Mechanism of injury, QI in triage, Triage Workshop, 2 August 2019, Delhi
7. Initial assessment, FAST and e-FAST AUTLS (Advanced Ultrasound and Trauma life support) Workshop, 6 and 7 September 2019, Pune
8. Initial assessment, Breathing AIIMS EM-SONO, 14-15 September 2019, Delhi
9. Pediatric USG, 5th World Academics Congress for Emergency Medicine, 20-24 October 2019, Dubai, UAE
10. Shock CAPFS Course: comprehensive emergency and trauma care training of medical and paramedical staff and doctors, 20-21 November 2019, Delhi
11. USG in primary care, International Workshop on strengthening trauma and emergency in Southeast Asian region, 25-29 November 2019, Khon-kaen, Thailand
12. Country update, International Workshop on strengthening trauma and emergency in Southeast Asian region 25-29 November 2019, Khon-kaen, Thailand
13. Initial assessment, FAST and e-FAST Advanced point of care ultrasound course, 5 and 6 December 2019, Texas, USA
14. Pre-hospital USG, 6th international conference on preparedness & response to emergency & disaster, 12 and 13 January 2020, Tel Aviv, Israel

#### **Meera Ekka**

1. National registry on heart failure and chest pain in Emergency Department in India, EMCARD 2019, Emergency Cardiology Inaugural National Summit, 10-12 May 2019, Goa
2. Neonatal resuscitation, EMINDIA 2019, 3 August 2019, Delhi
3. Disaster Management: A Mock Drill, EMINDIA 2019, 3 August 2019, Delhi
4. Planning of Mass casualty in a teaching hospital in resource limited settings, EMINDIA 2019, 3 August 2019, Delhi
5. Sepsis-3 update and Sepsis bundles, EMINDIA 2019, 4 August 2019, Delhi
6. Incorporating Concept of Hospital Disaster Preparedness in Medical Education Curriculum/Training, EMINDIA 2019, 4 August 2019, Delhi
7. Surgical airway, Cadaveric skill development workshop for postgraduate students, 12 October 2019, Delhi
8. Shock in Trauma patients, CAPFS Course: Comprehensive emergency and trauma care training of medical and paramedical staff and doctors, 21 November 2019, Delhi

#### **Akshay Kumar**

1. Communication in Emergency Medicine, EMINDIA, 1 and 2 August 2019, Delhi
2. Sepsis in ED, EMINDIA, 1 and 2 August 2019, Delhi

3. Central Line Insertion and Needle Tracking using Ultrasound Cadaveric skill development workshop for postgraduate student, 12 October 2019, Delhi
4. Primary Survey, Acute Critical Care Course and Workshop for Residents and Interns, 30 and 31 October 2019, Delhi
5. Sepsis and Altered Sensorium Acute Critical Care Course and Workshop for Residents and Interns, 30 and 31 October 2019, Delhi
6. Advanced Cardiac Life Support in Adults CAPFS Course: Comprehensive emergency and trauma care training of medical and paramedical staff and doctors, 20 and 21 November 2019, Delhi
7. Hi-fidelity Simulation Paediatric Research and Education Society of India (PRESIDE) 2019, 22 November 2019, Delhi
8. Faculty Medical Education & Content development Workshop at AIIMS, 5 December 2019, Delhi
9. Basic Life Support and Assessment of Sick Patient, Emergency Care Training and Workshop for Central Government Medical Officers, 28 December 2019, Delhi
10. Testing a Change Idea, Analysis and Measurement in Improvement Science Quality Improvement Workshop National Emergency Medicine Conference, 9 January 2020, Mysore
11. Triaging the Triage - Reducing Waiting Time Through Quality Improvement Training in Quality Improvement, 5 March 2020, Delhi
12. Overview of COVID-19–A Clinician’s Perspective, National Webinar on Novel Coronavirus Disease–COVID 19 at International Society of Emergency Radiology, 20 March 2020, AIIMS, New Delhi
13. Crisis Communication, EMINDIA (National Emergency Medicine Conference), 1 August 2019, AIIMS, New Delhi

#### **Prakash Ranjan Mishra**

1. Advanced procedural USG workshop, EM INDIA (National Emergency Medicine Conference), 31 July 2019, Delhi
2. Arrhythmias, killer ECGs and arrest rhythms, EM INDIA, Emergency ECG Workshop, 1 August 2019, Delhi
3. Master class by Titans on Emergency Sonography and Sono-protocols in ED, EM INDIA, 2 August 2019, Delhi
4. What’s new in trauma hemorrhagic shock, EM INDIA, 3 August 2019, Delhi
5. Blocks in ED, EM INDIA, 4 August 2019, Delhi
6. USG-guided thoracocentesis and Intra-osseous access, Cadaveric skill development Workshop, 12 October 2019, Delhi
7. Basic ECG CAPFS Course: Comprehensive emergency and trauma care training of medical and paramedical staff and doctors, 20 November 2019, Delhi
8. Managing Common Emergencies in Secondary Level Hospitals Training programme for GDMOs: Coal India Limited, 25 February 2020, Delhi

#### **Oral papers/Posters presented**

1. Abhijit S, Praveen Aggarwal, Shalimar, Nayer Jamshed, Meera Ekka. Comparison of 3 scoring systems (AIMS 65, Pre-endoscopic Rockall, Glasgow Blatchford bleeding score) to predict 1 week outcome in patients acute Upper GI bleed presenting to Emergency Department WACEM 2019 (World Academic Congress of Emergency Medicine), 20-24 October 2019, Roda AL Bustan, Dubai
2. Gaurav Kumar, Meera Ekka, Nayer Jamshed, Praveen Aggarwal Fatal Suicidal toxicity with Sodium Azide: Minor oral presentation 18TH Annual Scientific Congress of Asia Pacific Association of Medical Toxicology (APAMT 2019), 7 November 2019, Putrajaya, Malaysia
3. Meera Ekka, Gaurav Kumar, Nayer Jamshed, Praveen Aggarwal Fatal suicidal poisoning with Imidacloprid: A rare case Report 18th Annual Scientific Congress of Asia Pacific Association of Medical Toxicology (APAMT 2019), 4-7 November 2019, Putrajaya, Malaysia

## **RESEARCH**

### **Funded Projects**

#### **Ongoing**

1. Delhi Emergency Life Heart Attach Initiative: Mission Delhi, Praveen Aggarwal, ICMR, 3 years, 2017-2020, Rs 4.9 crores
2. Evaluation of a health system-based intervention on change in thrombolysis rate in ST-segment elevated myocardial

infarction (STEMI) across selected districts of the country – A health implementation research project, Praveen Aggarwal, ICMR, 3 years, 2020-2022, Rs 87.93 lakhs

3. To study the gene expression, activation of cellular signalling pathway and its correlation with clinical outcome among trauma hemorrhagic shock THS. Sanjeev Bhoi, ICMR, 3 years, 2019-2022, Rs 58 lakhs
4. Current status of facility-based emergency and injury care in tertiary care, Sanjeev Bhoi, Niti Aayog, 1 year, 2019-2020, Rs 37 lakhs
5. Current status of facility-based emergency and injury care in secondary care. Sanjeev Bhoi, Niti Aayog, 1 year, 2019-2020, Rs 34 lakhs

## **Departmental projects**

### ***Ongoing***

1. Accuracy of AIIMS sepsis triage protocol in early identification of sepsis in Emergency Department
2. Assessing accuracy of smartphone ECG - Sanketlife in diagnosing arrhythmias
3. Assessing accuracy of smartphone ECG - Sanketlife in diagnosing STEMI
4. Assessing the serum chymase levels an early predictor of Dengue severity
5. Assessment of internal jugular vein and femoral vein collapsibility in the determination of intravascular volume status as compared to inferior vena cava collapsibility
6. Biochemical markers for the prediction of outcome in patients of cardiac arrest
7. Clinical epidemiological profile of patients with AKI in CLD
8. Clinical epidemiological study of acute abdominal pain in ED
9. Clinical profile of patients requiring emergency airway management in the Department of Emergency Medicine
10. Clinico-epidemiological profile of patients with corrosive poisoning presenting to emergency department
11. Comparative efficacy of low vs high dose Terlipressin in the management of upper Gastrointestinal bleeding: An Open label Randomized Control Trial
12. Comparison of the full outline of unresponsiveness (FOUR) score and the Glasgow Coma Scale in predicting clinical outcome of patients with altered sensorium in the Emergency Department
13. Diagnostic accuracy of transcranial ultrasound to detect clinically significant conditions in post-craniectomy patients
14. Efficacy of intra-lipid emulsion therapy in organo-phosphorus poisoning – an exploratory study
15. Epidemiology of Emergency Department Visits – An International Multicentric Study
16. Evaluation and appraisal of Triage protocol of AIIMS in terms of mortality
17. Evaluation of diagnostic characteristic of Neutrophil-Lymphocyte ratio in comparison to commonly used score (APACHE II, CTSI and BISAP) in Acute pancreatitis
18. Incidence of hypoglycemia in hyperkalemic patients following treatment with insulin and dextrose
19. Integration of point-of-care ultrasound during rapid sequence intubation in trauma resuscitation: A multicentric randomized study
20. Nebulised vs intravenous tranexamic acid in patients with haemoptysis presenting to emergency department: A randomized controlled study
21. Outcome of patients receiving cardiopulmonary resuscitation in the Department of Emergency Medicine, AIIMS, New Delhi
22. Outcome of patients with upper gastrointestinal haemorrhage presenting to Emergency Department
23. Platelet-lymphocyte ratio as a predictor of infarct related artery patency in patients with ST-elevation myocardial infarction
24. Profile of Acute Poisoning in Emergency Department: A retrospective study
25. q-SOFA scores as a predictor of 7 & 30 days mortality in patients with suspected infection presenting to the Emergency Department
26. Reducing time to antibiotics and ensuring blood culture collection in patients with Sepsis in Emergency Department
27. Role of high dose NTG bolus for patients presenting with Sympathetic Crashing Acute Pulmonary Edema to the Emergency Department – A Prospective Observational Study
28. Role of Methylprednisolone in Corrosive Esophageal Injury: A randomised Controlled Open Label Study
29. To determine by ultrasound the optic nerve sheath diameter in paediatric patient with increased intracranial pressure compared with control group

30. To determine the improvement in outcome of management of acute exacerbation of COPD in ED by implementation of COPD care bundle
31. To study clinico-epidemiological profile of patients with sympathetic crashing acute pulmonary edema (SCAPE)
32. To study the diagnostic characteristics of point of care ultrasound in patients of blunt trauma of chest

### **Completed**

1. Comparison of three scoring systems (AIMS 65, pre-endoscopic Rockall, Glasgow Blatchford) to predict 1 week outcome in patients presenting to Emergency Department with acute upper gastrointestinal bleeding
2. Water-bath ultrasound technique in the evaluation of distal hand and foot injuries in the emergency department
3. To study the risk of major cardiac events in chest pain patient after 30 days of presentation to ED in patients with acute onset chest pain categorized as low risk group based on HEART pathway
4. To study the clinical profile and pattern of complications related to chronic kidney disease among patients visiting Emergency Department
5. Role of triple rule out dual energy CT in patient presenting with acute chest pain in an Emergency setting
6. Clinical profile of patients with rheumatic heart disease presenting to Emergency Department
7. CISNE vs. MASCC score: Identifying low-risk febrile neutropenic patients in emergency department
8. Serum lactate and shock index as clinical metrics in predicting adverse outcomes in patient with STEMI
9. To study the clinical profile of patients of CLD presenting to the emergency department

### **Collaborative Projects**

#### **Ongoing**

1. Global One Day in Emergency Study–Global Multicentric Period Prevalence Study University of Michigan, Ann Arbor, USA
2. Epidemiology of Emergency Department Visits–An International Multicentric Study University of Michigan, Ann Arbor, USA

#### **Completed**

1. Development of Self-assessment tool for resident doctor’s communication skills in India, Medicine
2. Utility of Metabolic Imaging in patients with obscure abdominal pain, Surgery
3. A Survey of Electronic Health Records in the Academic Emergency Departments across India. Twelve Academic Emergency Departments within India

### **PUBLICATIONS**

**Journals: 21**

**Chapters in Books: 3**

### **PATIENT CARE**

**Number of patients attended Emergency services**

<b>Total new patients</b>	<b>Total revisit patients</b>	<b>Total patients</b>
1,01,786	47,657	1,49,443

#### **Medico-legal cases**

<b>Wing of Emergency</b>	<b>Total e-MLCs</b>
New Emergency	782
Surgical Emergency	11892
Paediatric Emergency	554
Total	13,228

### Point of Care Testing Laboratory (POCT) data

Test type	Total test done	Grand total
Complete blood count	1,08,000	2,18,555
Quantitative Troponin I	10,672	
Blood gas analysis	93,569	
BNP and NT pro-BNP	2048	
D Dimer	729	
Urine Tox screen	420	
PT/INR	3042	
Procalcitonin	75	

### Procedures done in Emergency OT

Name of procedure	Total number
Tracheostomy	178
Other Procedures	17
Total minor procedures	195

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Praveen Aggarwal** continues to be the Chief Editor of the Journal of Emergencies, Trauma and Shock, an international journal indexed in PubMed. He also continues to be a member of Signal Review Panel of the Central Drugs Standard Control Organization and the Indian Pharmacopoeia Commission for the Pharmaco-vigilance Programme of India, Member of Scientific Body, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Government of India. He is the Vice-President of the Academic College of Emergency Experts in India and Joint Secretary of Organized Medicine Academic Guild of India which is a Guild of major medical associations and societies in India with the aim to formulate national policies in term of patient care, education and research. He chaired sessions on echocardiography & ultrasound for emergency physicians, heart failure registry and STEMI during Emergency Cardiology Conference (EMCARD).

**Professor Sanjeev Bhoi's** team is currently assessing the status of facility-based emergency and injury care system in secondary and tertiary care in India and providing technical advice to the Niti Aayog in building emergency care system. He served as a member secretary to the newly created specialist board of Emergency Medicine to make guidelines for academic emergency medicine in India. He has created one idea of thesis with multiple universities getting involved with same methodology to evolve a multi-centric work with optimum sample size for quality research output. He is serving as the head of WHO-collaborating centre for Emergency and Trauma in the region and has been working collaboratively with various states of India and member countries of SEARO as well as world academic council for emergency medicine in building systems of integrated emergency and trauma care in India and globally.

**Dr Nayer Jamshed** is the in-charge of MD teaching program which includes weekly Seminars, Journal Club, Tintinalli's textbook-based topical discussion, evidence-based medicine and clinical case discussions. He is the in-charge of simulation-based training program of the department. He has also started the Departmental panel discussion on various topics pertaining to Emergency department. He has published 11 papers in reputed journals, a chapter in books and also is the reviewer of three journals in one year. He has organized symposium and delivered lectures on various topics. He is also a member of Institute COVID task force and was instrumental in writing for AIIMS guidelines on COVID-19. He is also one of the nodal officers for infection control program of AIIMS and COVID. He is one of the nodal officers for curriculum revision program of AIIMS. He is one teaching faculty for SET Facility and has developed modules for them. He is also the teaching faculty for AIIMS ECG and Emergency Life Support courses run by the department. Dr Jamshed is a part of departmental quality improvement program to improve quality of patient care, and the in-charge of mortality and morbidity meeting of the department. He is one of the teaching faculty for the proposed Toxicology Fellowship Program.

**Dr Tej Prakash Sinha** has focused his area of work in emergency and trauma care system building. He is involved in assessing the status of facility-based emergency and injury care system in secondary and tertiary care in India and providing technical advice to NITI Aayog in building emergency care system. Presently, his major focus area is use of point of care ultrasound for emergency & trauma. He is conducting training programs on using point of care ultrasound in Medical education by

training undergraduate students for learning anatomy and physiology and training postgraduate students for using point of care ultrasound in acute/emergency care including its use in disaster scenarios. Presently, he is serving as Educational Subcommittee Co-Chair of global emergency medicine research network “Emergency Medicine Education & Research by Global Experts (EMERGE)” with a vision to transform lives globally through emergency care research. He is serving as an officer of WHO-collaborating centre for Emergency and Trauma in the region and has been working collaboratively with various states of India and member countries of SEARO for emergency medicine in building systems of integrated emergency and trauma care in India and SEAR region.

**Dr Meera Ekka** continued to be Reviewer of various international journals and is on editorial board of Annals of Clinical Case Studies. She is member of Asia Pacific Association of Medical Toxicology. She demonstrated as a course faculty of the skill module for skill learning on “Needle Decompression in pneumothorax” for interns in skill lab, SET facility, and is the in-charge of teaching and assessment of MBBS students. She is the Faculty In-charge, store and nodal officer for fire safety for the Department of Emergency Medicine. She is involved in initiation of Triage and Screening OPD in the department. She is part of quality improvement projects for pain free Emergency Department. She is one teaching faculty for SET Facility and has developed modules for them. She is also the teaching faculty for AIIMS Emergency ECG and comprehensive Emergency and trauma care training of medical/paramedical CAPFS course run by the department. She is chief guide of four Emergency Medicine postgraduate students and moderate post graduate students for various seminars and journal clubs in seminars conducted in the department. She is one of the teaching faculties for the proposed Toxicology Fellowship Program.

**Dr Akshay** has led several evidence-based discussions in the Department. He was involved in developing content and training of Faculty and Students at the SET Facility. He has conducted several critical care workshops for competency building among PG students and Interns. In December 2019, he was recognized by the Academic Section for his contribution to the SET Facility. He has conducted qualitative research in medical education through training workshops on acute and critical care. He has completed qualitative research in communication skill training and submitted for publication. One collaborative project on National Survey of Emergency Electronic Health Records has been completed and is being written for publication. He has led several Quality Improvement Programs to improve processes of patient care including door to antibiotic time, door to first medical contact time and improving the airway management in the Department.

**Dr Prakash Ranjan Mishra** who joined as a regular faculty in the department on 18 September 2019 continued his services towards creating a robust emergency medicine department. He continues to hold AIIMS Emergency ECG Course for postgraduates which trains them in interpreting ECGs in emergency settings. He was the Organizing secretary of HEMS-India (Helicopter based emergency medical services) which will be a milestone in improving emergency medical services in the country. He was active as a faculty and moderator during EM-India (the national Emergency Medicine conference) held at AIIMS. He has developed new e-skill module for skill learning on “Pelvic binders” for MBBS students in skill lab, SET facility, AIIMS. He is actively involved in training postgraduates in Trauma care, sonography in emergencies as well as skill development using cadavers. He was a moderator for postgraduate students for various sessions of seminars and journal clubs conducted in the department and had also participated in several panel discussions as a panellist. He is a part of departmental quality improvement program to improve patient care and develop communication skills among Emergency Medicine team. He was also involved in training doctors and paramedics during workshops, as, CAPFS Course and programme for GDMOs of Coal India limited, held at AIIMS. He continues his services during the COVID-19 pandemic; is a member of COVID task force ‘clinical managerial group’ at AIIMS and has contributed to creation of screening areas for influenza-like and severe acute respiratory illness in the department of Emergency medicine.

## 9.11. Endocrinology and Metabolism

### Professor and Head

Nikhil Tandon

### Professors

Nandita Gupta (till 31 December 2019)

Rajesh Khadgawat

Ravinder Goswami

Viveka P Jyotsna

### Associate Professor

Yashdeep Gupta

### Assistant Professor

Alpesh Goyal

### HIGHLIGHTS

The department is engaged in many academic activities such as Endocrine-Pathology Conference every alternate week, Endocrinology-Surgery-Nuclear Medicine (Wednesday) and Endocrinology-Radiodiagnosis (Friday) meet every week. There are Seminars (Wednesday), Journal Clubs (Friday) and Clinical classes (Thursday) every week. During these academic events, topics of clinical importance and recent high impact articles are discussed. The department runs daily outpatient facilities, has state of the art laboratory services for hormone assays, metabolic studies and bone density measurement.

### EDUCATION

#### Undergraduate, Postgraduate, Paramedical Training

The department was actively involved in teaching undergraduate medical students and nursing students. Postgraduate students (MD) from Internal Medicine and Geriatric Medicine come for one and two month postings to the department. In addition, postgraduate fellows enrolled in MCh Breast and Endocrine Surgery, DM Nuclear Medicine and MSc Reproductive Biology also rotated for a period of 2-4 weeks in the department.

#### Long and Short Term Training

- Six candidates joined the DM course (Five General, One Sponsored).
- Two candidates permitted for short term training.

#### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

**Nikhil Tandon: 18**

**Yashdeep Gupta: 3**

**Ravinder Goswami: 7**

**Alpesh Goyal: 9**

**Rajesh Khadgawat: 16**

#### Nikhil Tandon

1. Non-alcoholic fatty liver disease, Centre for cardiometabolic Risk Reduction in South-Asia (CARRS) Surveillance Study, 24 April 2019, Webinar, Webinar
2. Gestational diabetes—Window of opportunities, Diabetes Research, Madras Diabetes Research Foundation of Dr Mohan's International Diabetes Update 2019 Symposium on What have we learnt from newer trials, 28 July 2019, Guindy, Chennai
3. Second Padamshree Dr CP Thakur Oration, Teacher's Day, Indira Gandhi Institute of Medical Sciences (IGIMS), 5 September 2019, IGIMS, Patna
4. The mHealth technology applications scenarios: Implementation experiences use cases, Dept of Telecommunication, Govt of India & COAI, India Mobile Congress, 15 October 2019, Delhi
5. NEDSCON Oration, 24th Annual Conference of North Eastern Diabetes Society, NEDSCON, 2019, 2 November 2019, Guwahati
6. Global Vitamin D Deficiency- Reality or Overhyped, Annual Conference of the Delhi Orthopedic Association (DOACON), 10 November 2019, New Delhi

7. Co-existence of overweight and underweight – Syndemic challenges in India: GBD results, Addressing the Global Syndemic of Obesity, undernutrition and climate change in India, jointly organized by the World Obesity Foundation and HRIDAY, 11 November 2019, New Delhi
8. IMPACT India, Media Interaction on Project IMPACT India, 13 November 2019, Royal Danish Embassy, New Delhi
9. Management of Graves' disease in different age groups, Annual Meeting of the 'Society For Endocrine Health Care of Elderly, Adolescents and Children, 17 November 2019, India Habitat Centre, New Delhi
10. Youth onset diabetes in India, International Diabetes Federation (IDF) Congress 2019, 4 December 2019, Busan, Republic of Korea
11. Diabetes in Society and Culture, How to overcome cultural and social barriers to build capacity for diabetes care, International Diabetes Federation (IDF) Congress 2019, 4 December 2019, Busan, Republic of Korea
12. Kids and Diabetes in school (KiDS): implementing an IDF project, International Diabetes Federation (IDF) Congress 2019, 6 December 2019, Busan, Republic of Korea
13. Type 1 diabetes in children and adults, International Diabetes Federation (IDF) Congress 2019, 6 December 2019, Busan, Republic of Korea
14. CME on Management of Diabetes Mellitus, Asian Society of Continuing Medical Education (e-CMC Telemedicine), 20 January 2020, AIIMS, New Delhi
15. Gestational Diabetes Mellitus, ICMR-INSERM Workshop on Metabolic Diseases, 30 January 2020, ICMR, New Delhi
16. Type 2 diabetes in the young, 3rd Annual Conference - SPEEDCON 2020, 2 February 2020, Gurugram
17. Evaluation and Management of Osteoporosis in Indian Settings from Guidelines to Clinical Practice, T-ENDOCON-2020, 23 February 2020, Govt. Medical College, Trivandrum
18. Diabetes India Oration, 10th World Congress of Diabetes India, 29 February 2020, Bangalore

#### **Ravinder Goswami**

1. Vitamin D Deficiency and its functional significance: Myths and reality., Primer on tubular diseases, IPNA-AsPNA Junior Master Class and XI Training Course in Pediatric Nephrology, 6 April 2019, AIIMS, New Delhi
2. Vitamin D Deficiency and its functional significance: Myths and reality , Society of Young Scientists (SYS), 24 May 2019, AIIMS, New Delhi
3. Vitamin D Deficiency and its functional significance: Myths and reality. Medical Officers conference cum CME on Life style Diseases and Metabolic Disorder, 24 June 2019, Referral hospital ITBP,, Greater Noida
4. Idiopathic Hypoparathyroidism, Indian Research, at 3th Conference of Metabolism and Molecular Research Society, 29-30 June 2019, Jaipur
5. Hypoparathyroidism: What is new in management, Indian Society for Bone and Mineral Research (ISBMR) Annual Congress of ISBMR, 20 October 2019, Bengaluru
6. Hypoparathyroidis: Newer aspect in the management, Endocrine Society of India Annual Meeting 2009, 21–24 November 2019, Nagpur
7. Diabetes and Infection, Research Society for study of diabetes in India UP Chapter, 1-2 February 2020, Varanasi

#### **Rajesh Khadgawat**

1. Evaluation of short stature, Indian Academy of Pediatrics (IAP), Amritsar Branch, 22 June 2019, Amritsar
2. Hyperandrogenemia in PCOS: Assessment, CME on PCOD, 26 July 2019, AIIMS, Jodhpur
3. Faster acting insulin, 6th Annual Conference of Endocrine & Diabetes 2019 (ACE-D 2019), 10 and 11 August 2019, Udaipur
4. Growth Hormone therapy, 6th Annual Conference of Endocrine & Diabetes 2019 (ACE-D 2019), 10 and 11 August 2019, Udaipur
5. Neuroendocrine dysfunction in traumatic brain injury, Annual meeting of Neurotrauma Society of India, NEUROTRAUMACOM 2019, 24 August 2019, Agra
6. Recognition of short child and interpretation of growth chart, International Congress in Type 2 diabetes and Metabolic D, 21-11 September 2019, Bhopal
7. Hypothyroidism in pregnancy, Annual Conference of Association of Physicians of India, Rajasthan-Jodhpur chapter (RAJAPICON2019), 11-12 October 2019, Jaisalmer
8. Reducing Cardio-Renal risk in T2DM: Role of SGLT-2 inhibitors, Annual Conference of Association of Physicians of India, Haryana Chapter HAPICON-2019, 3 November 2019, PGIMS, Rohtak

9. Role of OHA in Type 1 Diabetes, 47th Annual Conference of the Research Society for the Study of Diabetes in India - RSSDI, 7–10 November 2019, Jaipur Convention centre, Jaipur
10. Childhood obesity: Challenges in management, 47th Annual Conference of the Research Society for the Study of Diabetes in India - RSSDI, 7–10 November 2019, Jaipur Convention centre, Jaipur
11. Pediatric Obesity - Challenges in management, Annual Conference of Endocrine Society of India (ESICON), 22 November 2019, Nagpur
12. Growth Velocity in Indian GH children, 6th Biennial Conference of the Indian Society of Pediatric & Adolescent Endocrinology (ISPAECON 2019), 29 November - 1 December 2019, Kolkata
13. Dyslipidemia in Childhood, 6th Biennial Conference of the Indian Society of Pediatric & Adolescent Endocrinology (ISPAECON 2019), 29 November - 1 December 2019, Kolkata
14. Endocrine Lab Test Interpretation, 3rd Diabetes, Thyroid Hormone and Endocrine Update DTH 2020, 18 and 19 January 2020, Udaipur
15. Vitamin-D the Sunshine Bless or Devil's thought, 3rd Diabetes, Thyroid Hormone and Endocrine Update DTH2020, 18 and 19 January 2020, Udaipur
16. Vitamin-D the Sunshine Bless or Devil's thought, Endocrine Enrichment Training Program for DM/DNB residents 2020, 8 and 9 February 2020, Kolkata

### **Yashdeep Gupta**

1. Comprehensive management of gestational diabetes: an update, International congress on interventions in type 2 diabetes and metabolic disorders, 22 September 2019, Bhopal
2. Gestational Diabetes Mellitus, ESICON 2019, 21 November 2019, Nagpur
3. GDM: Future implications for mother and baby, SPEEDCON 2020, 2 February 2020, Gurugram

### **Alpesh Goyal**

1. Prevention and management of Rickets, 3rd National Symposium on Growth, Pediatric and Adolescent Endocrinology, Growth Hormone Research Society, 10 June 2019, New Delhi
2. Gestational diabetes mellitus: an opportunity to beat diabetes, DTECON-2019, Diabetes Welfare Society, 15 September 2019, Jaipur
3. Pitfalls in interpretation of thyroid function tests, Mid-term CME, Department of Surgery, ESI-PGIMS Hospital, New Delhi, 9 November 2019, ESI-PGIMS Hospital, New Delhi
4. Early risk factors of Childhood Obesity: Interpretation of growth charts – when to suspect a specific aetiology? SCOPE School India, World Obesity Federation, 10 November 2019, New Delhi
5. Childhood Obesity Complications: diagnosis and management, SCOPE School India, World Obesity Federation, 10 November 2019, New Delhi
6. Approach to a patient with Hypercalcemia, DTH 2020, Diabetes Thyroid Hormone Care Research Sansthan, 19 January 2020, Udaipur
7. Approach to a patient with ambiguous genitalia, SPEEDCON 2020, Society for Promotion of Education in Endocrinology and Diabetes, 2 February 2020, Gurugram
8. Dynamic tests in Endocrinology and their interpretation, Mid-term ESICON 2020, Endocrine Society of India, 16 February 2020, Gurugram
9. Management of type 2 diabetes mellitus-an overview, CME organized by Department of Hospital Administration, AIIMS, New Delhi for physicians of Coal India Ltd. at behest of Indian Institute of Coal Management, Ranchi, 25 February 2020, AIIMS, New Delhi

### **Oral papers/posters presented**

1. Socioeconomic inequalities in the prevalence of diabetes and its associated risk factors in rural India (Abstract BU03113), International Diabetes Federation (IDF) Congress 2019, 2-6 December 2019, Busan, Republic of Korea
2. Comparison of HbA1c and FPG for the diagnosis of type 2 diabetes A population-based study from Delhi, India (Abstract BU03531), International Diabetes Federation (IDF) Congress 2019, 2-6 December 2019, Busan, Republic of Korea
3. Effect of a multicomponent intervention strategy on diabetes selfcare management in South Asia: CARRS Trial (Abstract BU03393), International Diabetes Federation (IDF) Congress 2019, 2-6 December 2019, Busan, Republic of Korea
4. Cost effectiveness of a multicomponent intervention in improving diabetes care in South Asia (Abstract BU03035),

International Diabetes Federation (IDF) Congress 2019, 2-6 December 2019, Busan, Republic of Korea

5. Factors affecting diabetes control in epidemiologically transitioning communities in India: Findings from a large study (BU03096), International Diabetes Federation (IDF) Congress 2019, 2-6 December 2019, Busan, Republic of Korea

## RESEARCH

### Funded projects

#### *Ongoing*

1. Registry of people with diabetes in India with young age at the onset phase II, Nikhil Tandon, ICMR, 8 years, 2012-2020, Rs 246.99 lakhs
2. Changing diabetes in children, Nikhil Tandon, Novo Nordisk India Pvt Ltd., 8 years, 2012-2020, Rs 21 lakhs
3. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus, Nikhil Tandon, ICMR, 5 years, 2015-2020, Rs 72.77 lakhs
4. Development of Phase II Clinical Trial for an Investigational New Drug, Nikhil Tandon, Torrent Pharma, 7 years, 2014-2021, Rs 84.53 lakhs
5. To develop a strategy for postpartum follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Nikhil Tandon, LUPIN, 3 years, 2018-2021, Rs 40.41 lakhs
6. Effect of intervention for lifestyle modification on improvement in sleep quality, depression score and optimal breastfeeding duration in women with history of GDM: Sub study of LIVING, Nikhil Tandon, USV, 3 years, 2018-2021, Rs 53.42 lakhs
7. Integrated Tracking Referral, and Algorithmic Management (I-TREC) System for Hypertension and Diabetes Institution, Nikhil Tandon, NIH, USA, 5 years, 2017-2022, US\$ 6.49 lakhs
8. Centre for Advanced Research and Excellence (CARE) in Young Diabetes, Nikhil Tandon, ICMR, 5 years, 2019-2024, Rs 104.95 lakhs
9. SOUL - Semaglutide cardiovascular outcomes trial in patients with type 2 diabetes, Nikhil Tandon, Novo Nordisk India Pvt Ltd., 5 years, 2019-2024, Rs 30 lakhs
10. Long - term effects of semaglutide on diabetic retinopathy in subjects with type 2 diabetes (FOCUS), Nikhil Tandon, Novo Nordisk India Pvt Ltd., 5 years, 2019-2024, Rs 27.50 lakhs
11. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Ravinder Goswami , DBT, 3 years, 2017-2020, Rs 45 lakhs
12. Vitamin D deficiency and bone microarchitecture in asymptomatic healthy Indians: Exploring the functional significance of low serum 25(OH)D and high PTH, Ravinder Goswami, DBT, 4 years, 2019-2023, Rs 76 lakhs
13. A Randomized Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug ‘AYUSH-D’ on Glycemic control in Pre-Diabetic Subjects”, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 3 years, 2017-2020, Rs 35 lakhs
14. A Randomized Placebo Controlled Phase 2 Clinical Study of an Ayurvedic Coded Drug ‘AYUSH D’ in the Management of Type 2 Diabetes Mellitus as add on Therapy to Metformin, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 3 years, 2017-2020, Rs 35 lakhs
15. Efficacy and safety of Liraglutide in combination with metformin versus metformin monotherapy on glycemic control in children and adolescents with type 2 diabetes: A 26 weeks double blind randomized, parallel group, placebo controlled multi-centre trial followed by a 26-week open label extension, Rajesh Khadgawat, Novo Nordisk, 5 years, 2014–2019, Rs 30 lakhs
16. A randomised, multinational, active-controlled,(open-labelled), dose finding, (double-blinded), parallel group trial investigating efficacy and safety of once-weekly NNC0195-0092 treatment compared to daily growth hormone treatment in growth hormone treatment naïve pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 3 years, 2017-2020, Rs 30 lakhs
17. Development of A Standardized Formulation of Trigonella foenum-graecum Seeds For Preventing or Delaying the Development of Type-2 Diabetes in Subjects with Pre-Diabetes, Rajesh Khadgawat, ICMR, 5 years, 2017–2021, Rs 35 lakhs
18. Effect and safety of semaglutide and 2.4 mg once-weekly in subject with overweight or obesity and type 2 diabetes., Rajesh Khadgawat, Novo Nordisk, 5 years, 2017–2021, Rs 30 lakhs
19. A phase 3, open-label, randomized, multicenter, 12 months, efficacy and safety study of weekly MOD-4023

compared to daily Genotropin- therapy in pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Opko Biologicals, 3 years, 2017-2020, Rs 25 lakhs

20. A Phase IIb, Open-label, Randomized, Comparative Study to Evaluate the Safety and Efficacy of USV CAP Formulation in Type 2 Diabetes Mellitus Subjects Uncontrolled with Metformin Hydrochloride Treatment, Rajesh Khadgawat, USV Ltd, 3 years, 2019-2021, Rs 10 lakhs
21. A trial comparing the effect and safety of once weekly dosing of somapacitan with daily Norditropin® in children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 5 years, 2018-2023, Rs 20 lakhs
22. A Randomized, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Evaluate the Effect of Efglenatide on Cardiovascular Outcomes in Type 2 Diabetes Patients at High Cardiovascular Risk, Rajesh Khadgawat, Sanofi Aventis, 5 years, 2018-2023, Rs 25 lakhs
23. A randomized, 24-week, controlled, open label, parallel arm, multicenter study comparing the efficacy and safety of the insulin glargine/lixisenatide fixed ratio combination to insulin glargine in type 2 diabetes patients, inadequately controlled on Basal Insulin with or without Metformin, Rajesh Khadgawat, Sanofi Aventis, 3 years, 2017-2020, Rs 5 lakhs
24. A Phase II trial to assess the efficacy and safety of Pasireotide.c. alone or in combination with cabergoline in patients with Cushing's disease, Viveka P Jyotsna, Novartis, 6 years, 2015-2021, Rs 10 lakhs
25. A Phase III, multi-center, double-blind, randomized withdrawal study of LCI699 following a 24 week, single-arm, open-label dose titration and treatment period to evaluate the safety and efficacy of LCI699 for the treatment of patients with Cushing's disease, Viveka P Jyotsna, Novartis, 5 years, 2016-2021, Rs 29.53 lakhs
26. An open-label, multi-center, roll-over study to assess long term safety in patients with endogenous Cushing's syndrome who have completed a prior Novartis-sponsored osilodrostat (LCI699) study and are judged by the investigator to benefit from continued treatment with osilodrostat, Viveka P Jyotsna, Novartis, 5 years, 2019-2024, Rs 20 lakhs
27. A multicentre open label parallel arm RCT evaluating whether yoga can prevent worsening of glycaemic control in patients with type 2 diabetes mellitus on oral anti-hyperglycemic drugs, Yashdeep Gupta, ICMR, 3 years, 2017-2020, Rs 75 lakhs
28. Effect of Yoga on psychological, cognitive and glycemic control in patients with T2DM and Depression: Two arm parallel Randomized controlled trial, Yashdeep Gupta, DST, 3 years, 2017-2020, Rs 36.54 lakhs
29. Assessment of Cognitive, Neuroanatomical and Neurofunctional abnormalities in adults with Type 1 Diabetes, Yashdeep Gupta, DST, 3 years, 2017-2020, Rs 34.81 lakhs
30. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within 2 years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial, Yashdeep Gupta, ICMR, 3 years, 2019-2022, Rs 47 lakhs

### ***Completed***

1. Integrated care for co-morbid diabetes and depression, Nikhil Tandon, National Institute of Mental Health, NIH, USA, 5 years, 2014 –2019, Rs 88.22 lakhs
2. CARRS Translation Trial: Implementing Quality Improvement Strategies in Diabetes, Nikhil Tandon, ICMR-Emory University, 5 years, 2014-2019, US\$ 17.55 lakhs
3. A 52 week multicentre, multinational, open-label, active - controlled, two armed, parallel group, randomized trial in subjects with type 2 diabetes, Nikhil Tandon, Novo Nordisk India Pvt Ltd., 1 year, 2019-2019, Rs 13.75 lakhs
4. Harmonization of existing registries of diabetes in youth: a US-India Collaborative Research Partnership, Nikhil Tandon, ICMR, 4 years, 2016-2020, Rs 84.13 lakhs
5. NN1218 - 4131, Efficacy and Safety of Faster - acting Insulin Aspart compared to NovoRapid both in combination with Insulin Degludec in Adults with Type 1 Diabetes, Nikhil Tandon, Nova Nordisk India Pvt. Ltd., 4 years, 2016-2020, Rs 9.02 lakhs
6. Prevalence of Non-Alcoholic Fatty Liver Disease (NAFLD) and its association with cardio-metabolic disease risk factors in North India, Nikhil Tandon, ICMR, 3 years, 2017-2020, Rs 172.53 lakhs
7. NN924-4221 Pioneer 6-Cardiovascular outcomes: A trial investigating the cardiovascular safety of oral Semaglutide in subjects with type 2 diabetes, Nikhil Tandon, Nova Nordisk India Pvt. Ltd., 3 years, 2017-2020, Rs 21.57 lakhs
8. Functional significance of calcium sensing receptor autoantibodies in patients with idiopathic hypoparathyroidism, Ravinder Goswami, DBT, 3 years, 2016-2019, Rs 44 lakhs
9. STEP -1 Effect and safety of semaglutide 2.4 mg once-weekly in subjects with overweight or obesity, Yashdeep Gupta, Novo Nordisk Pvt Ltd, 2 years, 2018-2020, Rs 23 lakhs
10. The impact of yoga on stress, metabolic parameters and cognition (Attention and Concentration) of Indian

adolescents , Yashdeep Gupta, ICMR, 3 years, 2017-2020, Rs 64.64 lakhs

11. Validation of indigenously developed glucose sensing devices, Yashdeep Gupta, ICMR , 1 year, 2018-2019, Rs 2.40 lakhs

## **Departmental projects**

### ***Ongoing***

1. Vitamin D status and its functional significance
2. Reversibility of Bony microarchitecture abnormalities in Hyperparathyroidism
3. Molecular aspects in the pathogenesis of Basal ganglia calcification in hypoparathyroidism
4. Characterization of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
5. Assessing Indian vegetarian diets with respect to their “potential protective impact” on cardio-metabolic health of urban adults in Delhi
6. To study the effect of personality on diet quality & academic performance among adolescents: a comparison between boys & girls
7. Determinants of bone mass in Asian Indian newborns - Nutritional perspective
8. Association of clinical, hormonal, radiological and immunohistochemical characteristics with surgical outcome among Acromegaly patients
9. To generate normative data using continuous glucose monitoring system for glycemia in pregnancy at early (< 15 weeks) and late (24 to 28 weeks) periods of gestation in women defined as normal by IADPSG criteria

### ***Completed***

1. A study on distribution of glucose tolerance among women with history of gestational diabetes mellitus by IADPSG criteria/overt diabetes in pregnancy and their spouses
2. Vitamin D status of outdoor workers
3. TREC and KREC as marker of Thymic and bone-marrow T and B cell emigrant in idiopathic hypoparathyroidism
4. To study the prevalence of vitamin D deficiency in pregnant women at first and third trimester during the routine care
5. Correlation between first trimester glucose screening & serum insulin levels with development of gestational diabetes mellitus in pregnancy
6. Prevalence of thyroid peroxidase antibody positivity in pregnant Asian-Indian subjects
7. To assess the prevalence of vitamin D deficiency in patients with non-traumatic fracture of hip
8. To study the clinical, biochemical and radiological features of primary hyperparathyroidism: impact of vitamin D nutrition and histopathology
9. To Study Carotid Intima Media Thickness (CIMT) As A Marker Of Atherosclerosis And Its Correlation To Insulin Resistance In Children With Obesity In The Age Group Of 4-18 Years
10. To study the correlation of serum vitamin D level with insulin resistance and beta cell function in subjects with obesity in the age group of 6-18 years
11. Assessment of arterial stiffness in obese children and adolescents in the age group of 6-18 years
12. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
13. To study determinants of insulin resistance in children and adolescents with obesity
14. Study of mitochondrial defects and VDR polymorphisms in Type 2 Diabetes
15. A Randomized Double Blind Controlled Trial to Investigate the Effects of Vitamin D supplementation on Insulin Resistance and Beta cell function in obese Asian-Indian Subjects, aged 11-17 years.
16. To study the variability in content strength of commercially available cholecalciferol preparations in India
17. To study determinants of insulin resistance in children and adolescents with obesity
18. Phenotype and radiological correlation in children with growth hormone deficiency
19. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
20. To study pituitary morphometry across different age groups
21. To study the determinants of insulin resistance in Asian Indian children with obesity aged 11-17 years
22. Effect of Vitamin D supplementation on pancreatic  $\beta$  cell functions in obese Indian subjects: A randomized

controlled trial.

23. To compare the efficacy of 90,000 and 1,80,000 IU oral single dose vitamin D for treatment of rickets in 6 month to 5 years of age
24. To study the effect of parental origin of X chromosome on clinical features and biochemical profile in patients with Turner syndrome
25. To study the prevalence of primary aldosteronism in subjects with hypertension
26. Evaluation of eating disorders and dietary patterns and their association with metabolic parameters and glycemic control in adult patients with diabetes mellitus type 2
27. Pre and Post-operative Dysglycemia in cases of Pheochromocytoma/ Paraganglioma - a tertiary care centre study in Northern India
28. To evaluate the prevalence of non-alcoholic fatty liver (NAFLD) in patients with and without previous history of gestational diabetes mellitus :A cross- sectional study [chief guide]

## Collaborative projects

### Ongoing

1. Pathogenesis of primary parathyroid adenoma, Pathology, Forensic Medicine and Anatomy
2. In vivo assessment of somatostatin receptor expression with Ga DOTANOC PET/CT in patients with autoimmune and immune related orbitopathy, Nuclear Medicine
3. Evaluation of chromatin remodeling, mTOR Pathway and SSTR expression in pancreatic neuroendocrine neoplasm, Pathology
4. A Randomised control trial to compare the safety and outcome of trans-oral vestibular and axillo breast approach for endoscopic hemithyroidectomy in patients with benign thyroid swellings, Surgical Disciplines

### Completed

1. To study relation between components of Renin angiotensin aldosterone system & vascular functions following Angiotensin converting enzyme inhibition in type 2 diabetes patients with newly diagnosed hypertension., Physiology
2. Outcome implications of ADA/ACC guidelines based insulin protocol in the management of hyperglycemia in hospitalized patients at AIIMS, Medicine
3. Assesment of nutritional status/parameters in acute leukemia patients undergoing induction chemotherapy, Haematology

## PUBLICATIONS

**Journals: 77**

**Chapters in books: 2**

## PATIENT CARE

### OPD attendance from 1 April, 2019 to 31 March, 2020

Month	New Patient	Old Patient	PAEC Clinic	DOY Clinic	Total
April 2019	1053	3657	200	152	5062
May 2019	1020	3514	125	121	4780
June 2019	838	2787	65	259	3949
July 2019	1157	3772	205	170	5304
August 2019	935	3125	107	158	4325
September 2019	1037	3502	153	170	4862
October 2019	984	3007	102	138	4231
November 2019	1000	3165	137	182	4484
December 2019	955	3265	141	482	4843
January 2020	1057	3318	161	128	4664

February 2020	932	3296	109	162	4499
March 2020	633	1998	74	83	2788
<b>Total</b>	<b>11601</b>	<b>38406</b>	<b>1579</b>	<b>2205</b>	<b>53791</b>

### **Laboratory Services**

#### **Hormones investigations**

No	Hormone	Tube assays done	No	Hormone	Tube assays done
1	T4	11580	14	INSULIN	4213
2	TSH	18505	15	C PEPTIDE	655
3	TPO	1604	16	GH	1334
4	LH	1746	17	GAD	7
5	FSH	1739	18	F T4	5638
6	PRL	2384	19	T3	1420
7	CORTISOL	4548	20	F T3	2442
8	TESTOTERONE	1857	21	IGF 1	1496
9	DHEA	431	22	E2	615
10	17 OHP	2	23	ALDOSTERONE	519
11	ACTH	1611	24	RENIN	409
12	PTH	3639	25	FGF 23	172
13	VITAMIN D	6683	<b>GRAND TOTAL</b>		<b>75249</b>

The HPLC- Tandem Mass Spectrophotometer system for measuring Steroid hormones in patients samples was installed and is working satisfactorily in the RIA laboratory of the Department of Endocrinology & Metabolism.

Several validated reagent method protocols for quantitation of steroid hormones (including 25 (OH) Vitamin D) have been applied, tested & finally selected and standardized on this system by early 2019.

Currently, we are in the process of doing trial measurements of steroid hormones in patient's samples using both methods, namely HPLC-MS/MS using our validated reagent method protocols and conventional RIA for comparison of results.

#### **Biochemical investigations**

No	INVESTIGATION	NUMBER OF SAMPLES
1	Blood glucose	14819
2	Glycated hemoglobin (HbA1c)	14612
3	Urine pH	324
4	Osmolality (urine and serum)	1040
5	Lipid Profile	5285
<b>Total tests</b>		<b>36080</b>

#### **Specialty Clinics:**

- Diabetes of Young (DOY) Clinic on Saturdays
- Paediatric and Adolescent Endocrine Clinic (PAEC) on Monday afternoons.
- Gestational Diabetes Mellitus (GDM) Clinic on Friday mornings
- Community services/camps.

The department regularly hold camps especially awareness and screening programs on obesity, PCOS, diabetes, and thyroid disorders.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Nikhil Tandon** was nominated by Director-General, WHO to serve on 13th General programme of Work (GPW 13) Measurement and Impact Framework Committee, Geneva, Switzerland; Member, Medical Council of India's Board of Governors, New Delhi; Member of the Global Health Trials Committee of The Wellcome Trust; Chairman, Scientific Advisory Committee of NIN, Hyderabad; Associate Editor for the scientific journal Global Health, Epidemiology and Genomics; Member of the KDIGO Management of Diabetes & CKD Guideline: Work Group; Nominated as Global Panel Member of the FOCUS study; Member, Governing Body, Institute of Medical Sciences, Banaras Hindu University, Varanasi; Nominated by Ministry of Earth Sciences, Government of India as Member, National Coordination Committee for Polar Science Programme (NCP), Antarctica; Member, Governing Body, National Institute of Health and Family Welfare (NIHFW), Ministry of Health and Family Welfare, Munirka, New Delhi; Chairman, Selection Committee for the selection of Medical Officers for the 38-Indian Scientific Expedition to Antarctica (ISEA), Goa; Vice President, National Board of Examination (NBE), New Delhi; Member, Institute Body (IB), Governing Body (GB), Standing Finance Committee (SFC) and Standing Selection Committee (SSC) of AIIMS, Jodhpur, Rajasthan; FOCUS (Diabetic Retinopathy Outcome study) - Investigator Meeting as Principal Investigator and Member, Global Expert Panel held on January 25, 2020 at Mumbai; District Launch of research project entitled, "Integrated Tracking, Referral, Electronic Decision Support and Care Coordination (I-TREC)", along with Mission Director, National Health Mission, (Punjab), Program Officer, National Programme for Prevention and Control of Cancer, Diabetes, CVD and Stroke (Punjab) and District Health officials at District Hospital, Shaheed Bhagat Singh Nagar, Punjab; Co-Supervisor of PhD student, University of Delhi; Public Health Foundation of India (PHFI) as a National Expert in Certificate Course in Evidence Based Diabetes Management (CCEBDM), Cycle-VI. The PHFI has undertaken to launch the above program developed and implemented by PHFI and Dr. Mohan's Diabetes Education Academy (DMDEA) from May 2019 as a joint certification programme; Chair, Scientific and Program Advisory Committee, Centre for Health Research and Development, Society for Applied Studies, New Delhi; Invited to South East Asia NCD Regional Technical Advisory Group (NCD-RTAG) by WHO-SEARO; External Examiner, DM (Endocrinology) Practical Examination, PGIMER, Chandigarh; Member, Council of the Indian Academy of Science (IASc); *Member, International Expert Committee to review applications for* Medical Research Council (MRC), London, UK; Conducted a Panel Discussion in the 8th International Chef's Conference on "Freedom from Transfat"; Faculty in the Osteoporosis Essential Course, 2019, organized by ICMR at Mumbai, 18 and 19 May, 2019; Member, ICMR delegation to National Institutes of Health (NIH), Bethesda, USA and Member, Indo-US Diabetes Research Joint Steering Committee; Queen Elizabeth Diamond Jubilee Trust's Pilot project on prevention of avoidable blindness due to Diabetic Retinopathy and Retinopathy of Prematurity in India Dissemination Summit; Expert Member, Fellowship Scrutiny Committee meeting, NASI, Prayagraj (Allahabad).

**Professor Ravinder Goswami** was Expert for the Standing Selection Committee of the AIIMS, Jodhpur for the Department of Endocrinology and Metabolism (2 May 2019); External examiner for conducting PhD Viva at, PhD Role of beta-cell released alarmin molecules in the activation of plasmacytoid dendritic cells and monocytes in type-1 diabetes mellitus PGI Chandigarh, (September 2019); Examiner for the DM exit practical examination in Endocrinology, Department of Endocrinology, SGPGIMS, Lucknow 226014. (9 and 10 December 2019); Expert in the panel of Standing Selection Committee constituted for recruitment of Faculty positions in the Department of Endocrinology & Metabolism at AIIMS, Bhopal (19 December 2019); Expert for selection of faculties in the Department of Endocrinology, AIIMS, Rishikesh (14 and 15 July 2019 and 4 March 2020); External Examiner for conducting PhD viva at Punjab University, Chandigarh for PhD "Evaluation of Gut microbiota and genetic predisposition to type 2 diabetes in Indian Population (6 March 2020); *Member, TEC 'Human Genetics and Genome Analysis programme'* DBT; Expert for Faculty Standing Selection Committee meeting of AIIMS, Jodhpur & AIIMS Gorakhpur; Member Project Review Committee for Medical Projects, CSIR since 2015 till date; Member Fellowship selection committee Indian Academy of Science, Bangalore (2018-2020); Member Core Committee of the Central Core Research Facility (CCRF); Member Dean's Research Committee (DRC) AIIMS, New Delhi; Expert for selection of faculties in the Department of Endocrinology, Indira Gandhi Institute of Medical Sciences, Patna; Member Scientific Advisory Committee of ICMR for Institutes functioning under ICMR

**Professor Rajesh Khadgawat** received ECTS East-Meets-West Award 2019 in Recognition of outstanding work which has been accepted for presentation at the 46th Annual Congress of the ECTS held from 11-14 May 2019, Budapest, Hungary; Participated in medical camp - Leh, 29 September-6 October 2019, Ladakh; Subject Expert for faculty selection - Rajasthan Public Service Commission, UPSC, Institute of Liver & Biliary Sciences (ILBS), PGI, Rohtak, AIIMS-Jodhpur, Bhubaneswar, Raipur; Member, Scientific Council of Zandu foundation of Health Research, Kolkata; Expert, National Anti Doping Agency (NADA), Ministry of Youth Affairs and Sports, Govt of India; Endocrinology External expert, Japan Anti-Doping Agency (JADA); "Board of Members (BOM), Rajasthan University of Health Sciences (RUHS), Jaipur" for a period of 3 years; Member, SAE-Death committee, DCGI; Member, Subject Expert Committee (Endocrinology), DCGI New Delhi; Subject expert, Medical Council of India; DM examiner for NRS Medical college, Kolkata, Srimanata Sanakaradeva University of health sciences, Guwahati, West Bengal University of health sciences, Sher-i-Kashmir institute of Medical Sciences, Srinagar, J & K

**Professor Viveka P Jyotsna** was Speaker in GH updates Pediatric Endocrine conference Delhi, April, 2019; Best platform paper presentation award second prize: ESICON 2019 22 November on DM thesis work of Candidate Presenter Dr Saurav Kathiwada; Conducted a Health Camp for MPs at Parliament, 22 and 29 November 2019; DM Endocrine external examiner for Guahati Medical College, 9 December 2019; Invited speaker for RSSDI, UPCON 2 February 2020

**Dr Alpesh Goyal** was awarded the Sh. Mohan Lal Wig Medal-2018 for Clinical Research on Institute Day Celebration (25 September 2019)

#### **VISITING SCIENTIST**

1. Dr Ravinder Singh, Mayo Clinic Rochester, USA visited the Department on 15 November 2019 (Friday) and delivered a Lecture.

## 9.12. Forensic Medicine and Toxicology

### Professor and Head

Sudhir Gupta

### Professors

OP Murthy

Millo Tabin

DN Bhardwaj  
Sanjeev Lalwani (Trauma Centre)

Adarsh Kumar (Trauma Centre)

### Additional Professor

Chittaranjan Behera

### Associate Professors

Kulbhushan Prasad

Abhishek Yadav

### Scientist-1

Nidhi Sharma

### Chemist

AK Jaiswal

### HIGHLIGHTS

The department is the apex referral centre for complicated medico-legal problems in India. The department is providing expert opinions in referred cases from CBI, NIA, NHRC, Courts and Crime branch of different states. It is involved in medico-legal autopsy, embalming of MLC deaths, clinical forensic medicine services, teaching, training, research, expert opinion in referred medico-legal cases & court related works. The department is running three laboratory services-Toxicology, DNA Fingerprinting and Histopathology and three support services in form of Forensic Radiology, Forensic Anthropology and Forensic Biochemistry. The department conducted 2490 medicolegal autopsies and attended 532 summons from courts.

The department has facilitated the organization of cadaveric workshops and training programmes for many clinical departments. A state-of-the-art odorless mortuary, a first-of-its-kind in the country, has been established. The department has received a grant for the development of "Centre of Advanced research and excellence in Virtual Autopsy" from ICMR and work is going on for development of this facility. An ICMR funded Task Force project entitled "Development of DNA database and Identification portal for unidentified dead bodies autopsied at AIIMS, New Delhi", by using bioinformatics tools and techniques is being implemented. A total of nine departmental research projects are continuing and four have been completed. One collaborative project was completed and seven are continuing.

### EDUCATION

There are 10 postgraduate (MD) students and one PhD student enrolled in the department. The department is also imparting training in DNA-Fingerprinting and Medical Toxicology to BSc, MSc and MD students of other universities from all over India. Five students from different universities were trained for long- and short-term training. The department organized training program for NIA Officers on "Understanding Medicolegal component of Forensic Science".

### CMEs/Workshop/Symposium/Conferences

AIIMS-Ogilvy Symposium on the Role of Forensic DNA in Justice of Survivors of Rape and Sexual Assault, 17 July 2019

#### Lectures delivered

DN Bhardwaj: 1

Adarsh Kumar: 11

Chittaranjan Behera: 2

Abhishek Yadav: 3

AK Jaiswal: 1

#### DN Bhardwaj

1. Violence in Health Care Setting: Legal aspects, ICPN-2020, 25 and 26 February 2020, Jodhpur

#### Adarsh Kumar

1. Forensic Toxicology-Issues related to poisoning, National Symposium on Poisoning as a public health problem, 26 April 2019, New Delhi

2. Organization of Forensic medicine and Custodial death investigation system in India, 52nd Kresk Conference of Forensic Medicine with international participation on the occasion of the hundred-years anniversary, 29 May-1 Jun 2019, Bratislava, Slovakia
3. Human Rights Violation in Medical Negligence Cases—NHRC experience. BAFMCON-IV 2019, 4th Annual State Conference of West Bengal, 27 and 28 June 2019, Kolkata
4. Medicolegal Issues in Child Abuse, International Conference of Forensic Odontology and Child Abuse, 31 July–3 August 2019, Lucknow
5. Forensic Anthropologists perspective, DVI Procedures and Interpol Guide with Hands on Workshop, 2 August 2019, Lucknow
6. Forensic Human Identification in India, ICRC Asia Pacific Meeting, 20-22 August 2019, Colombo, Sri Lanka
7. Crime Against Woman in Indian perspective - Journey from womb to tomb, International Conference on Police Science ICPS-2019, 6 and 7 September 2019, Gandhinagar
8. Legal aspects to be dealt by Medical Officers, CME for CHS Medical Officers, 19 October 2019, New Delhi
9. Custodial Death Investigation-NHRC Experience, 13th International Conference of Indo-Pacific Association of Law, Medicine and science (INPALMS), 9-11 Dec 2019, Dhaka, Bangladesh
10. Digital Autopsy (Virtopsy) services at AIIMS, New Delhi—a concept of Humanitarian Forensics, 41st Annual National Conference of Indian Academy of Forensic Medicine, FORENSIC MEDICON-2020, 30 January-1 February 2020, Hyderabad
11. Forensic Anthropology- An overview w.r.t Identification, All India Forensic Science Meet–2020, 22 and 23 February 2020, New Delhi

#### **Chittaranjan Behera**

1. Medico legal autopsy of Unidentified/Unclaimed bodies: Experience at AIIMS, New Delhi, 37th Annual conference of state medic legal society of Odisha (MELESOCN-2019), 1 and 2 June 2019, Bhubaneswar
2. MOHFW guidelines on medico-legal response especially sexually assaulted victims and Role of medical personnel and also on Child abuse and POCSO ACT, Training programme on Gender-based violence and Human Rights for promoting women health under NHM, 3 February 2020, New Delhi

#### **Abhishek Yadav**

1. Understanding Medicolegal component of Forensic Science, Induction training of NIA Officers, 30 August 2019, New Delhi
2. Nuanced Challenges in Bodily Injuries for determination of Cause of Death, Training Program for CBI Officers at CBI Academy, 16 May 2019, Ghaziabad
3. Understanding Medicolegal component of Forensic Science, Induction training of NIA Officers, 12 March 2020, New Delhi

#### **AK Jaiswal**

1. Quality assurance aspects of evidence handling and reporting of the cases of forensic chemistry with respect to fire, narcotics, explosives, toxicology, liquor, petroleum and trap, Workshop on emerging challenges in forensic chemistry, 18 November 2019, New Delhi

#### **Oral papers/posters presented**

1. Kaushik R, Gaur S, Satapathy S, Behera C. A study of e-suicide note at a tertiary care hospital, New Delhi, India. Sneha Suicide Update-2019, 12-14 April 2019, Chennai (**2nd Best paper Award**)
2. Anuragi RP, Behera C, Lakshmy R, Bhardwaj DN. Association of lipid profile in completed suicides: a hospital-based case-control study, Suicide Research Summit 2019 (IASR/AFSP), 27-30 October 2019, Miami, USA
3. Kaushik R, Nayak B, Yadav A, Patra BN, Gupta SK, Sharma N, et al. Genetic association of cytokines with suicidal behavior in Indian population: Preliminary findings, Suicide Research Summit 2019 (IASR/AFSP), 27-30 October 2019, Miami, USA
4. Aravindan V, Behera C, Dey A, Varughese BT. A rare cause of acute abdomen– surgeon’s dilemma, 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
5. Tyagi S, Zahid Ali Z, Behera C. Sudden death in revision augmentation mammoplasty: A rare case report. 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
6. Abdul Raouf MP, Behera C. Dyadic death due to stab wound: An unusual presentation of case report. 41st Annual

- Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
7. Balaji D, Behera C. A fatal case of Toxic Epidermal Necrolysis in post craniotomy phenytoin therapy, 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  8. Varughese BT. Disintegrate, but not destroyed: Autopsy in a case of strangulation with decomposition changes, 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  9. DebBarma A. A rare case of suicide by Atracurium besylate in a healthcare professional: A case report. 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  10. Gajmer P. Sex offences and offenders (Stranger Vs Non-Stranger)-A statistical analysis of victim-offender relationship in cases of sexual offences brought for examination to department of Forensic Medicine. 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  11. Vanika, Bhardwaj DN. Study of screening of alcohol and drugs of abuse in fatal cases of RTA, 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  12. Kanwar HK. Shocking death! 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 Jan-1st Feb. 2020, Hyderabad
  13. Kumari R, Murty OP. Study on ligature material fibers detection, collection, identification and comparison in asphyxial deaths. 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January-1 February 2020, Hyderabad
  14. Jaiswal AK, Chand K, Priya A, Choudhary P. Simultaneous analysis of zinc, cadmium, lead and copper in biological materials such as urine and blood using voltammetry technique. International research conference (IRC 2019), 27 June 2019, London, UK (**Best paper Award**)
  15. Yadav A, Kumar A, Kumar R, Sarin RK, Jaiswal AK. Determination of aluminum and zinc to opine cases of alleged phosphide poisoning using inductively coupled plasma-atomic emission spectrophotometry (ICP-AES), 57th Annual meeting of the International Association of Forensic Toxicologists, 2-6 Sept. 2019, Birmingham, UK
  16. Jaiswal AK, Giri NG, Tabin M, Gupta SK. Voltammetric approach of arsenic determination in serum using sc Trace gold electrode. 13th INPALMS congress 2019. 11 December 2019 Dhaka, Bangladesh
  17. Yadav A. Fatality due to femoral vein rupture in a drug user, 10th International IAMLE Conference, 12-15 September 2019, Kathmandu, Nepal (**Best Faculty Oral Presentation Award**)
  18. Yadav A. Virtual Autopsy/Post Mortem CT– Practical Applicability in Indian Scenario 41st Annual Conference of the Indian Academy of Forensic Medicine (FORENSIC MEDICON 2020), 30 January- 1 February 2020, Hyderabad (**Best Faculty Oral Presentation Award**)
  19. Sharma N, Millo T, Kumar A, Gupta SK. Human Mitochondrial DNA and its Forensic Applications, 10th International IAMLE Conference, 12-15 September 2019, Kathmandu, Nepal

## RESEARCH

### Funded projects

#### *Ongoing*

1. Centre of Advanced research and excellence in virtual autopsy, Sudhir K Gupta, ICMR, 5 years, 2019-2024, Rs 5 crores
2. TASK FORCE Project—Development of DNA database and Identification portal for unidentified dead bodies autopsied at AIIMS, New Delhi, by using bioinformatics tools and techniques, Chittaranjan Behera, ICMR, 3 years, 2018-2021, Rs 1.36 crores
3. To study the significance of Mitochondrial DNA testing for maternal lineage. Nidhi Sharma, AIIMS, 1 year, 2019-2020, Rs 5 lakhs.

#### *Completed*

1. Bioinformatics identification and invitro evaluation of single nucleotide polymorphisms associated with completed suicide in Indian population, Chittaranjan Behera, ICMR, 3 years, 2017-2020, Rs 69.11 lakhs

## Departmental projects

### *Ongoing*

1. Genetic association of cytokine gene polymorphisms with suicidal behavior in Indian population
2. Content and linguistic analysis of suicide notes collected during medico legal autopsy at AIIMS, New Delhi
3. Gross, Histological and Electron-microscopic Study of Antemortem and Postmortem Electrocution burn mark
4. Quantification and quality assessment of human DNA by RT PCR.
5. Radiological study of internal neck injuries in cases of death due to fatal pressure on the neck
6. To establish sexual dimorphism and estimate age from Hyoid Bone using Anthropological and Radiological Techniques
7. CT Scan and Digital X-ray Based Virtual Autopsy Vis A Vis Traditional Autopsy including Histopathological Examination Findings in Cases of Death due to Fatal Pressure on Neck.
8. A Comparative Study of CT Scan and Digital X-ray based on Virtual Autopsy and Traditional Autopsy Including Histopathological Examination in Various Causes of Death
9. Virtual Autopsy Findings Vis A Vis Traditional Autopsy Findings in Sudden Deaths with Cardiac Origin.

### *Completed*

1. Study of Cardiac Markers, gross findings and Histopathological Changes in Heart in cases of suspected Cardiac Deaths
2. Age Estimation Between age 1-18 years by radiological study of Epiphyseal Union around Elbow and Wrist joints
3. Screening of alcohol and drug of abuse in road traffic accident cases reported at mortuary AIIMS New Delhi
4. Ligature and compressing material fiber detection, collection, identification and comparison in asphyxia deaths

## Collaborative projects

### *Ongoing*

1. Development of rotary ultrasonic bone drilling machine prototype. IIT-Delhi and Pathology
2. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Department of Forensic Medicine & Toxicology, KMC, Manipal
3. Morphometric and Morphoscopic Study of Ear and Nose in Brahmin and Rajput population of Mandi, Himachal Pradesh- A Forensic Anthropological Investigation, Department of Anthropology, Punjab University, Chandigarh
4. The role of neuroinflammation and glial activation in the suicidal deaths: A study in human postmortem brain, Anatomy
5. Morphological and genetic evaluation of sudden cardiac death, Pathology
6. Study of Biomechanical stability of spine fixation surgical procedures in cadaveric vertebrae, Biomedical Engineering
7. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Pathology

### *Completed*

1. Fibrillin 1 gene mutation and the role of TGF beta in thoracic aortic aneurysms with mucoid extracellular matrix accumulation (MEMA), Pathology

## PUBLICATIONS

**Journals: 32**

## PATIENT CARE

### A. **Casualty services:**

The department is providing round-the-clock medico-legal services like in cases of injury, sexual offences, poisoning etc. to the South and South-east district of Delhi.

### B. **Mortuary Services**

A total of **2490 (1623+867-JPNATC)** medico legal autopsies were conducted at mortuary.

**C. Clinical Forensic Medicine**

Total **513** cases of potency and other medico-legal examination brought by investigating officer and referred from court were dealt by the department. A total of **37** cases from CBI were dealt by medical board of the department. A subsequent opinion in complicated cases including reference from casualty etc. was offered in total **374** cases.

**D. Summons**

Doctors of the department attended court of law in **532** cases from Delhi and other states

**E. Medical Toxicology**

Total **436** tests for **136** samples were performed for various poisons referred from the clinical department of AIIMS, medicolegal cases and in academic cases.

**F. Forensic Histopathology**

The department is providing histopathology services for the samples of medico-legal autopsy cases from South and South-east district and also research purpose. Total **218** cases and **955** samples were done during this period.

**G. Embalming facility**

The department is providing embalming facility for MLC cases (Postmortem cases). Total **226** cases of embalming were done during this period.

**H. Organ Retrieval for Therapeutic Transplantation**

Total **100** corneas were retrieved at mortuary for transplantation by National Eye bank.

**I. Forensic Radiology Services**

Forensic Radiology services were provided to **247** cases for various medico legal and academic purposes. (Both autopsy and live cases)

**J. Forensic Anthropology Services**

Age estimation for **47** cases referred from Courts as well as Sports authorities

**K. DNA Fingerprinting Laboratory**

The laboratory provides service for disputed Parentage test by using Genetic Analyser for STR profiling of DNA (05 cases and 17 samples). DNA –Profiling of unidentified bodies sample(s) processed: DNA Isolation, Quantitation of DNA and sample RUNS (136 cases). Research Samples processed for DNA Isolation and Quantitation of DNA (961-samples, Real time PCR: 84 reaction, PCR: 1740 reaction)

**L. Forensic Biochemistry**

Total 36 samples were analyzed in nine academic cases.

**M. Community services**

The department continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Adarsh Kumar** was awarded the Medal of International Cooperation by the Government of Ukraine. He was awarded Fellowship of Indian Academy of Forensic Medicine at Apollo Medical College Hyderabad in Jan 2020. He was elected as Governing Council Member of Indo-pacific Association of Law Medicine & Science (INPALMS) for 2019-2021 at Dhaka, Bangladesh. He was nominated as the Assistant Ambassador of International Academy of Legal medicine for 2018-2021. He became a Member of Asia Pacific Medicolegal Association (APMLA) for another term of two years 2018-2020 at Japan. He is a Medicolegal Expert to National Human Rights Commission and Central Bureau of Investigation. He has also been nominated as a Member of the Expert Advisory Committee JALMA-ICMR, as an assessor by the Medical Council of India (MCI) and the National Assessment and Accreditation Council (NAAC). He is the Editor of Indian Journal of Forensic Medicine & Toxicology. He is an International Editorial Board Member for HSOA Journal of Forensic, Legal & Investigative Sciences (USA), Egyptian Journal of Forensic Sciences- Egypt, Adli Tip Bulletin- Turkey and The Egyptian Journal of Forensic Sciences & Applied Toxicology. He is the Associate Editor for Medicolegal Update and the web Editor for International Journal of Health Research & Medicolegal Practice. He is a member of Editorial Board of Journal of Indian Society of Toxicology, Journal of Karnataka Medicolegal Society, Indian Journal of Community & Family Medicine, Journal of Forensic Chemistry & Toxicology and Journal of Indian Academy of Forensic Medicine.

**Dr Chittaranjan Behera** has completed Psychological Autopsy certification training conducted by American Association of Suicidology at Baton Rouge, USA. He has received a letter of appreciation from CMET, AIIMS for Institute Day Exhibition. He is a reviewer for Pub Med Indexed Journal: Journal of Interpersonal Violence, Journal of Aggression and violent Behavior Journal of Forensic and Legal Medicine. He is the Assistant editor of International Journal of Medical Toxicology & Legal Medicine, ARC Journal of Forensic Sciences, Annals of Forensic Research and Analysis, Sci Fed Journal of Forensic and Journal of Forensic Medicine.

**Dr Abhishek Yadav** received a Certificate of Appreciation for outstanding contribution as Faculty In charge Mortuary to National Eye Bank- By Dr. RP Centre, AIIMS, on 34<sup>th</sup> National Eye Donation Fortnight-2018, 3<sup>rd</sup> September 2019. He participated in a talk show on the topic of “DNA technology in Forensic Science” which was telecasted on DD Science/ India Science, Department of Science and Technology. He participated in the **Interactive Academic Knowledge Exchange Programme in Bangkok**.

**Dr AK Jaiswal** obtained Fellow membership of International Scientific Research and technology (ISROSET).

## 9.13. Gastroenterology and Human Nutrition

	<b>Professor and Head</b> Anoop Saraya	
Pramod Garg	<b>Professors</b> Vineet Ahuja	Govind K Makharia
Shalimar	<b>Additional Professors</b>	Baibaswata Nayak
Saurabh Kedia	<b>Assistant Professors</b>	Deepak Gunjan

### HIGHLIGHTS

The department organized eight CME programs and numerous national conferences and patient education activities. Awarded two Centers of Advanced Research Excellence in pancreatic disease and Intestinal diseases by Indian Council of Medical Research; published 57 scientific papers.

The department initiated Advanced Fellowship Program in the field of Gastrointestinal Endoscopy, Pancreatic Diseases, Liver Diseases and Inflammatory Bowel Diseases. The faculty, residents and PhD students of the department received many awards including BEST paper awards in national and international conferences. The faculty of the department initiated and coordinated making of national guidelines on various GI diseases.

### EDUCATION

The department continued the training program for courses on DM in Gastroenterology, and PhD in Gastroenterology and Human Nutrition. The department also participated in the training of undergraduate and postgraduate students. The department initiated Advanced Fellowship Training program

**Long term training:** Twenty five DM students; six PhD students; four Fellows in Advanced Endoscopy, Hepatology, Pancreatology and IBD

**Short-term training:** 6

### CMEs/Workshops/Symposia/National & International Conferences:

1. Public Lecture on World Hepatitis Day on 28 July 2019 at AIIMS, New Delhi.
2. 64th ECCO (European Crohn's and Colitis Organization) Educational Workshop and Mid-Term meeting of CCFI, 10 and 11 August 2019 at Hotel Pullman, Aerocity, New Delhi.
3. Current Perspective in Liver Diseases (CPLD-2019); 5 and 6 October 2019 at the AIIMS, New Delhi.
4. Eleventh Consecutive Young Clinician Program (on behalf of Indian Society of Gastroenterology) from 11-13 October 2019 in Chennai
5. FIRST "Train the Trainers program" for young faculty from all around of the country (on behalf of Indian Society of Gastroenterology), from 7-10 November 2019 at Manesar, Haryana
6. Gastroenterology Young Masters (GYM-2020); 18-20 January 2020; at AIIMS, New Delhi,
7. SPARC Grant-AIIMS-UCL Symposium; 29 January 2020 at AIIMS, New Delhi.
8. Celiac Disease Awareness Day on 15 February 2020, at AIIMS, New Delhi

### Lectures delivered

**Anoop Saraya: 8**

**Pramod Garg: 5**

**Vineet Ahuja: 17**

**Shalimar: 12**

**B Nayak: 5**

**Saurabh Kedia: 4**

**Deepak Gunjan: 2**

### Anoop Saraya

1. Nutrition in Acute Pancreatitis, Annual conference, 5 April 2019, Delhi

2. Approach to A Patient of Jaundice, Mid-term conference of innovative physicians forum (IPF), 7 July 2019, Jaipur,
3. Decision on futility in intensive care for cirrhotic, on 3rd National Conference on Critical Care and Infections in Liver Diseases, 18 April 2019, Delhi
4. Antivirals in HBV: Safety in Pregnancy & Lactation, Viral Hepatitis in Pregnancy (National workshop for physicians), 27 July 2019, Delhi
5. Pathogenesis of alcoholic liver disease, Clinics in Hepato-biliary Diseases: 2019, 6 September 2019, Delhi
6. Nutrition for the critically ill, PGI-GI EMERGENCY 2019, 20 September 2019, Chandigarh
7. Nonoperative treatment is modality of choice for managing, pain in chronic pancreatitis, Asian Pacific Digestive Week (APDW) 2019, 13 December 2019, Kolkata
8. Trends & targets in management of pancreatic cancer, UPIGCON 2020, 8 February 2020, Allahabad

#### **Pramod Garg**

1. Current Management of Acute Pancreatitis, 1st International Forum of Mini-invasive Pancreatic-Biliary Surgery & the 9th multidisciplinary Diagnosis and Treatment Forum of Biliary and Pancreatic Disease, 15 and 16 June 2019, Wuhan, China
2. How will they impact my practice: Pancreatic diseases, American Gastroenterological Association (AGA) Master Class, 6 and 7 July 2019, Abu Dhabi
3. Pancreatitis Working Groups and Activities in India, Pancreas Fest 2019, 25 and 26 July 2019, Pittsburgh, USA
4. Investigating recurrent acute pancreatitis, International Association of Pancreatology (IAP) biennial congress, 16-20 August 2019, Cape Town, South Africa
5. Management of Infected Pancreatic Collections, Chinese Surgical Week (CSW)-2019, 20 October 2019, Chengdu, China.

#### **Vineet Ahuja**

1. Biologicals in IBD, Case Based discussion on medical Management of IBD, 6 April 2019, Kolkatta
2. TDM in IBD: How effective? Therapeutic Drug Monitoring In Inflammatory Bowel Disease, 2 June 2019, Mumbai
3. Manipulating the Microbiome, can we prevent?, International Digestive Disease Forum (IDDF-2019), 8 and 9 June 2019, Hong Kong
4. Microbiota for IBD: What is the useless part? Asia America Assembly of Inflammatory Bowel Disease (AAA IBD), 28 June 2019, Shanghai, China.
5. Ten common errors in IBD, Asia Pacific IBD forum guidelines group meeting, 16 and 17 August 2019, Kuala Lumpur, Malaysia
6. Translational Immunology, AIIMS THSTI workshop, 24 June 2019, THSTI Faridabad
7. What does the gastroenterologist want to know from the radiologist, 3rd Annual conference of Indian Society of Gastrointestinal and Abdominal Imaging, 27 September 2019, Kochi
8. Frequent questions from patients on IBD: Possible answers, ISG Kerala Chapter, 28 and 29 September 2019, Kollam, Kerala
9. Managing IBD in LMICs, 16th Scientific Meeting of CAPGAN-2019, 1-3 October 2019, Toronto, Canada
10. Role of gut microbiome in Haematology, National Conference of Indian Society of Haemoncology 29 and 30 November 2019, New Delhi
11. Developing Dietary guidelines for IBD, Colitis and Crohn's India midterm meeting, 16 November 2019, Ludhiana
12. Fistulizing Crohn's Disease, ENTEROCON-2019, 10 November 2019, Visakhapatnam
13. Differentiating TB from CD, Asia Pacific Digestive Week (APDW), 14 December 2019, Kolkatta
14. Microbiome for the Internist, Medicon International-2019, 21 December 2019, Kolkatta
15. Microbiome: Hope or Hype, Indian Society of Gastroenterology-AP chapter, 4 January 2020, Kurnool
16. Case based discussions for DM/DNB exams, Gastroenterology Young Master's meeting, Indian Society of Gastroenterology, 3-5 January 2020, Chennai.
17. Extrapulmonary TB: More questions than answers. India EMBO symposium Mycobacterial Heterogeneity and Host Tissue Tropism. National Institute of Immunology, 11-15 February 2020, Delhi

#### **Shalimar**

1. SLED/CRRT, Plasma exchange, and MARS in critically ill cirrhotics. Single Theme Mid-Term INASL Conference 2019, 26-28 April 2019, Jodhpur, Rajasthan

2. Nutrition in Liver Diseases., India National Association for study of the liver 2019: Nutrition in Liver Diseases., 20 and 21 July 2019, Chandigarh, Panjab
3. Management of Acute Liver Failure, INASL Task Force on Acute Liver Failure, 6 and 7 July 2019, Bhubaneswar, Orissa
4. Hepatitis E: The masquerader par excellence, 7th Annual Conference of the South Asian Association for Study of the Liver (SAASL), 9 and 10 August 2019, Guwahati & Assam
5. Acute HVOTO & PVT, and Making the best of 3-year training period: Research, 3rd PGI-GI Emergency Update, 21 and 22 September 2019, PGIMER, Chandigarh
6. EF-CLIF Meeting, 1 EF-CLIF Venice Meeting, 18 and 19 October 2019, Isola di San Giogrio, Venice, Italy
7. Nonalcoholic Fatty Liver Disease: An Indian Perspective, Current Trends in Therapeutics and Diagnostics of Non-Alcoholic Fatty Liver Disease, 10 December 2019, THSTI, Delhi
8. Debate on role of liver transplantation in early severe alcoholic hepatitis, Asian Pacific Digestive Week (APDW-2019), 13–15 December 2019, Biswa Bangla Convention Centre, Kolkata
9. Utility of Ammonia in clinical management of AD/ACLF, AIIMS-UCL Symposium on Liver Disease 2020, 29 January 2020, AIIMS, New Delhi
10. NASH Current concepts in management and evolving therapies, UPISGCON 2020, 8 and 9 February 2020, Department of Gastroenterology, Allahabad
11. Approach to Diagnosis and Management of Autoimmune Hepatitis, Annual DRA Update 2020, 16 February 2020, Lady Hardinge Medical College, New Delhi.
12. How to write a theory paper, Young Masters Program (GYM), 17-19 January 2020, AIIMS, New Delhi

### **B Nayak**

1. Oncomir in virus-associated hepatocellular carcinoma and microRNA targeting, Virocon 2020, Indian Society of Virology, 18-20 February 2020, Delhi
2. Clinical implications of microRNA in Cancer: HCC model, International Conference on Advances in Biosciences and Biotechnology (ICABB-2020), 31 January 2020, Delhi
3. IBSC policies and/or IBSC mechanisms to be followed at Research Institutions, TERI School of Advanced Studies, 24 December 2019, Delhi
4. Animal Ethics: Sensitization of Researcher on experimentation and understanding Rules/Regulation, AIIMS Seminar, 14 December 2019, Delhi
5. Assessment of circulatory microRNA and AFP for predicting early response to locoregional therapy in virus associated hepatocellular carcinoma (HCC), ISO-ISMPOCON 2019, Indian Society of Oncology, 1-3 November 2019, Indore

### **Saurabh Kedia**

1. Current use and limitations of 5-ASA, thiopurines and biologics in India, Therapeutic drug monitoring in IBD, June 2019, Mumbai, India
2. Fecal microbiota transplantation, Probiotics in IBS and IBD, 29 July 2019, Hyderabad, India
3. Post-operative recurrence of Crohn's disease, ECCO educational workshop, 11 August 2019, New Delhi, India
4. Recent advances in luminal Gastroenterology, Gastroenterology Young Masters, 19 January 2020, New Delhi, India

### **Deepak Gunjan**

1. Recent advances in pancreas (Speaker), Gastroenterology Young Masters (GYM), 17-19 January 2020, AIIMS, New Delhi
2. Panel discussion: GI bleed, 29th IASGCON, 9-13 October 2019, AIIMS, New Delhi

### **Oral Papers/Posters presented**

1. Rout G, Nayak B, Gunjan D, Shalimar, Development and validation of a novel model for outcome in patients with cirrhosis and acute variceal bleeding, The International Liver Congress, 2019, 10-14 April 2019, Vienna, Austria
2. Shalimar, Sharma S, Kumar R, Gamanagatti S, Dabigatran as an oral anticoagulant in patients with budd-chiari syndrome post-percutaneous endovascular intervention, American Association for the Study of Liver Diseases (AASLD) 2019, 8–12 November 2019, Boston, Massachusetts, USA
3. Shalimar, Nayak B, Kumar R, Gunjan D, Acharya SK, Acute Liver Failure of Indeterminate Etiology Profile,

- Prognosis, And Predictors of outcome, American Association for the Study of Liver Diseases (AASLD) 2019, 8–12 November 2019, Boston, Massachusetts, USA
4. Shalimar, Nayak B, Kumar R, Acharya SK, Gunjan D, Acute on Chronic Liver Failure in Budd-Chiari Syndrome-Profile And Predictors of outcome, American Association for the Study of Liver Diseases (AASLD) 2019, 8–12 November 2019, Boston, Massachusetts, USA
  5. Singh AD, Kumar R, Shalimar, impact of Baseline Resistance-Associated Substitutions (RAS) on the efficacy of Glecaprevir /Pibrentasvir (Mavyret©) among patients with Chronic Hepatitis C Virus (HCV) infection: A Systematic Review and Meta-Analysis, American Association for the Study of Liver Diseases (AASLD) 2019, 8–12 November 2019, Boston, Massachusetts, USA
  6. Shalimar, Acharya SK, Nayak B, Saraya A, Gunjan D, Cryptogenic or Non-A Non-E Acute Liver Failure is Associated with poor outcome in Indian patients., The Asian Pacific Digestive Week (APDW) 2019, 13-15 December 2019, Kolkata
  7. Mohanty S, Arora V, Banerjee A, Das J, Gupta S, Nayak B, Alleviation of liver fibrosis using mesenchymal stem cells derived exosomes: A cell free therapeutic approach, ISSCR 2019 (International Society for stem cell research, 26-29 June 2019, Los Angeles, USA
  8. Gupta S, Mann Z, Sharma H, Nayak B, Mohanty S, Association of Hif-1 $\alpha$  and Alix in enhanced biogenesis and secretion of exosomes from human mesenchymal stem cells under hypoxia, ISSCR 2019 (International Society for stem cell research, 26-29 June 2019, Los Angeles, USA
  9. Nadda N, Paul S, Saraya A, Gammanagatti S, Shalimar, Nayak B, Assessment of circulatory microRNA and AFP ratio for predicting early response to locoregional therapy in virus associated hepatocellular carcinoma., Indian Society of Oncology, ISO-ISMPO 2019, 1-3 November 2019, Indore
  10. Kumar S, Nadda N, Paul S, Saraya A, Gammanagatti S, Shalimar et al., Real-time PCR based evaluation of Alu, LINE1 and beta-actin gene integrity of cell free DNA in hepatocellular carcinoma, Indian Society of Oncology, ISO-ISMPO 2019, 1-3 November 2019, Indore
  11. Neeti N, Shashi P, Sonu K, Sreenivas V, Gammanagatt S, Saraya A, et al., Assessment of microRNA and alpha-fetoprotein changes for prediction of response to locoregional therapy in Hepatocellular Carcinoma of viral etiology, Biozest 19, South Asian University, 7 November 2019, New Delhi
  12. Kumar S, Paul S, Nadda N, Saraya A, Shalimar, Nayak B, Cell free DNA integrity in hepatocellular carcinoma patients of viral and non-viral etiology, Biozest 19, South Asian University, 7 November 2019, New Delhi
  13. Nayak B, Clinical implications of microRNA in Cancer: HCC model, ICABB 2020, International Conference on Advances in biosciences and biotechnology, 2020, 30 Jan-1 Feb 2020, IIIT, NOIDA
  14. Kumar S, Yadav R, Kumar H, Ashraf A, Shalimar, Nayak B, Hepatitis E virus full length genome sequencing and correlation of HEV RNA with IgM titer in acute liver failure and acute-on chronic liver failure patients, Virocon 2020, Indian Society of Virology, 18-20 February 2020, New Delhi
  15. Nadda N, Kumar S, Saraya A, Shalimar, Nayak B, Oncomir in virus associated hepatocellular carcinoma and microRNA targeting, Virocon 2020, Indian Society of Virology, 18-20 February 2020, New Delhi
  16. Ashraf A, Kumar S, Jha JK, Prasad C, Saraya A, Shalimar, Nayak B, Line probe assay (LiPA) for determination of Hepatitis C virus genotypes and subtypes, Virocon 2020, Indian Society of Virology, 18-20 February 2020, New Delhi, India
  17. Rani D, Kumar S, Shalimar, Nayak B, Srivastava S, Bacterial expression of Hepatitis E virus truncated ORF2 proteins and evaluation of gold nanoparticle conjugated ORF-2 protein immune response in mice, Virocon 2020, Indian Society of Virology, 18-20 February 2020, New Delhi, India
  18. Kedia S, Das B, Ghosh TS, Jain S, et al, Gut microbiome diversity in acute severe colitis is different from mild to moderate colitis, DDW 2019, 21 May 2019, San Diego USA
  19. Kedia S, Mouli VP, Ahuja V, et al, Risk of Tuberculosis in Patients With Inflammatory Bowel Disease on Infliximab or Adalimumab Is Dependent on the Local Disease Burden of Tuberculosis: A Systematic Review and Meta-Analysis, DDW 2019, 19 May 2019, San Diego USA
  20. Saurabh, Gupta A, Mouli VP, Mohta S, Kedia S, et al, Anti-tubercular therapy given to differentiate Crohn's disease from intestinal tuberculosis predisposes to stricture formation, APDW 2019, Kolkata, 16 December 2019, Kolkata
  21. Sharma S, Singh N, Kedia S et al, Exclusive enteral nutrition is effective in adults with Crohn's disease: experience from a tertiary care hospital in India, AOCC 2019, Seoul, 14 June 2019, Seoul, South Korea
  22. Sahu P, Vuyyuru SK, Kante B, et al, Relapse rate following withdrawal of anti TNF therapy in patients with inflammatory bowel disease: A real life cohort from North India, APDW 2019, 16 December 2019, Kolkata
  23. Vuyyuru SK, Desai D, Kedia S, et al, Long Term Outcomes of anti TNF therapy and surgery in non-perianal fistulizing Crohn's Disease, AOCC 2019, 14 June 2019, Seoul, South Korea

24. Grover I, Gunjan D, Singh N, Ramakrishnan L, Saraya A. Effect of Calcium and Vitamin D Supplementation on Bone Density in Patients with Cirrhosis- a Double-Blind Randomized Controlled Trial, Digestive Disease Week (DDW) 2019, 18-21 May 2019, San Diego, USA
25. Gunjan D, Agarwal A, Mahapatra SJ. Retroversion of the esophagoscope to find bronchoesophageal fistula inside an esophageal diverticulum in a patient with achalasia., The Asian Pacific Digestive Week (APDW) 2019, 13-15 December 2019, Kolkata
26. Agarwal S, Sharma S, Gunjan D, Singh N, Kaushal K, Poudel S, et al. Natural course of chronic pancreatitis and predictors of its progression: A two-decade experience from a tertiary care centre in India, The Asian Pacific Digestive Week (APDW) 2019, 13-15 December 2019, Kolkata

## RESEARCH

### Funded projects

#### Ongoing

1. Sarcopenia in chronic pancreatitis: epidemiology, diagnosis and evaluation of etiological factors and molecular mechanisms responsible for sarcopenia, Anoop Saraya, ICMR, 3 years, 2019-22, Rs 78 lakhs
2. Role of gene-regulating and immunological markers in pathogenesis of pancreatic adenocarcinoma, Anoop Saraya, ICMR, 3 years, 2018-21, Rs 41 lakhs
3. Home based blenderized formulations in acute pancreatitis: A Pilot randomised control trial (5/9/1178/2018-Nut), Anoop Saraya, ICMR, 3 years, 2018-21, Rs 39 lakhs
4. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Anoop Saraya, DST, 3 years, 2018-21, Rs 59 lakhs
5. Centre for Advanced Research and Excellence in Pancreatic Diseases, Pramod Garg, ICMR, 5 years, 2019-24, Rs 500 lakhs
6. Joint Centre on 'Reducing Cancer Mortality', Pramod Garg, Indo US Science and Technology Forum, 3 years, 2018-20, Rs 38 lakhs
7. Epigenetic reprogramming of intestinal epithelial stem cells via gut microbiota derived metabolites in ulcerative colitis. Vineet Ahuja, DST-SERB, 3 years, 2020-23, Rs 56 lakhs
8. Gut Microbiome-Regulators of the Intestinal Stem cell niche in Health and Inflammatory Bowel Disease, Vineet Ahuja, MHRD-Scheme for Promotion of Academic and Research Collaboration (SPARC), 2 years, 2019- 21, Rs 46 lakhs
9. Centre of Excellence for Intestinal Diseases, Vineet Ahuja, ICMR, 5 years, 2019-24, Rs 500 lakhs
10. Crohn's Disease in India: A multi-centric study from a country where intestinal tuberculosis as well as Johne's Disease is endemic, Vineet Ahuja, ICMR, 3 years, 2016-19, Rs 42 lakhs
11. Combined Phase 3, Double Blind , Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the induction and maintenance of Remission in Subjects with Moderately to Severely Active Crohn's Disease., Vineet Ahuja, Gilead Sciences, 3 years, 2018-21, Rs 16 lakhs
12. Combined Phase 2b/3, Double-Blind, Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the Induction and maintenance of Remission in Subjects with Moderately to Severely Active Ulcerative Colitis, Vineet Ahuja, Gilead Sciences, 3 years, 2018-21, Rs 6 lakhs
13. Entyvio (Vidolizumab IV) Extended Access Program in Ulcerative colitis and Crohn's Disease, Vineet Ahuja, Pharmaceutical product Development, 3 years, 2016-19, Rs 5 lakhs
14. Lypolytic Helicobacteri pylori enzymes and their potential role(s) in pathogenesis. Vineet Ahuja, ICMR, 3 years, 2017-20, Rs 56 lakhs
15. To study the innate inflammatory ability of macrophages in Crohn's Disease and ITB. Vineet Ahuja, DST-SERB, 3 years, 2017-20, Rs 27 lakhs
16. An open label, single arm, investigator initiated phase I/II study to assess the safety and efficacy of local administration of Stempeucel® (*Adult human Bone marrow derived, cultured, pooled, Allogeneic Mesenchymal Stromal Cells*) in patients with perianal fistulizing Crohn's disease, Vineet Ahuja, Stemtheapeutics, 1 year, 2019-20, Rs 8 lakhs
17. Department of Biotechnology-Consortium on celiac disease, Govind K Makharia, DBT, 3 years, 2017-20, Rs 359 lakhs
18. Whole gut and intestinal metagenome in patients with irritable bowel syndrome and non-celiac gluten sensitivity

- and effect of gluten free diet, Govind K Makharia, DST, 3 years, 2018-21, Rs 61.7 lakhs
19. Indo-US Joint Network Centre for Excellence in Celiac Disease, Govind K Makharia, Indo US Science & Technology Forum, 3 years, 2017-20, Rs 43 lakhs
  20. Exploration for development of wheat with low immunogenic gluten, Govind K Makharia, ICAR, 5 years, 2015-20, Rs 46 lakhs
  21. Human Microbiome Initiative of select endogamous populations of India, Govind K Makharia, DBT, 2 years, 2020-22, Rs 106 lakhs
  22. To study the Resistance Associated Variants (RAVs) in Chronic Hepatitis C patients treated with Sofosbuvir-based therapy, Shalimar, DHR, 3 years, 2017-20, Rs 44 lakhs
  23. Development of a low-cost diagnostics platform for the identification of viral DNA using CRISPR/Cas13a system, Shalimar, DBT, 3 years, 2018-21, Rs 24 lakhs
  24. Genetic basis of Budd Chiari Syndrome/hepatic venous outflow tract obstruction in Indian patients, Shalimar, ICMR, 3 years, 2019-22, Rs 72 lakhs
  25. A multicentre clinical study evaluating the novel biomarkers: dimethylarginines and ischemia-modified albumin in patients with acute-on-chronic liver failure, Shalimar, SPARC, 2 years, 2019-21, Rs 74 lakhs
  26. To identify unique differential signatures for the diagnosis of stage-specific Non-alcoholic fatty liver disease using the multi-omics approach: A pilot study, Shalimar, AIIMS-THSTI, 2 years, 2019-21, Rs 10 lakhs
  27. Liquid Biopsy for Early Prediction of Hepatocarcinogenesis in Chronic Liver Disease Patients, B.Nayak, ICMR, 3 years, 2019-22, Rs 49.5 lakhs
  28. Development of reverse genetic based recombinant Newcastle disease virus model for understanding immune response in patients infected with Hepatitis C virus, B. Nayak, DBT-NER, 3 years, 2017-20, Rs 28 lakhs
  29. CD14 gene variations in Alcohol-Induced Liver Disease (ALD) and Alcoholic Pancreatitis (ALP) in Co-morbid Condition and Relationship between Associated Polymorphisms and MD2 molecule binding to the CD14-LPBS-TLR4 Complex, B Nayak, DST, 3 years, 2017-20, Rs 27 lakhs
  30. Prevalence of antibiotic resistant genes in the healthy gut flora of individuals residing in rural community setting, Saurabh Kedia, AIIMS, 2 years, 2020-22, Rs 10 lakhs
  31. Correlation between Kv1.3 potassium channel expression in intestinal biopsy and disease severity in patients with Ulcerative Colitis, Saurabh Kedia, AIIMS, 1 year, 2019-2020, Rs 2 lakhs
  32. Role of microRNA in identifying benign versus malignant variety of cystic neoplasm of pancreas, Deepak Gunjan, AIIMS, 2 years, 2019-2021, Rs 10 lakhs

### ***Completed***

1. To study the gut mucosal injury in severe acute pancreatitis and their correlation with organ failure and mortality, Anoop Saraya, DBT, 3.5 years, 2015-19, Rs 56 lakhs
2. MicroRNAs as biomarkers in chronic pancreatitis patients who are at risk of developing pancreatic cancer, Anoop Saraya, DBT, 3.5 years, 2016-19, Rs 91 lakhs
3. Estimation of gluten content in unlabelled and labelled gluten-free food, products and commonly used food items used by celiac disease patients, Govind K Makharia, ICMR, 2 years, 2018-20, Rs 22.8 lakhs
4. Effect of H. pylori eradication therapy in patients with NAFLD having H. pylori co-infection: A pilot open label randomized controlled clinical study, Shalimar, AIIMS, 2 years, 2017-19, Rs 10 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A randomized control trial of exclusive enteral nutrition with corticosteroids vs corticosteroids alone in patients with acute severe ulcerative colitis
2. A randomized controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis
3. Assessment of prevalence and etiology of non-responsive celiac diseases in patients on gluten free diet for one year or more
4. Comparative analysis of cost and nutritional composition of gluten-free food with their gluten containing counterparts.
5. Defining intestinal failure in patients with Celiac disease
6. Development and validation of a tool for assessment of gluten free diet in Indian celiac disease patients
7. Early use of non-invasive positive pressure ventilation in acute hypoxemic respiratory failure in acute pancreatitis:

A randomised controlled trial

8. Early versus delayed percutaneous drainage for infected acute fluid collections in acute pancreatitis: A randomised controlled trial.
9. Effect of supplementation of branched chain amino acids on parameters of sarcopenia in patients with liver cirrhosis: A double blinded randomized controlled trial
10. Efficacy and tolerability of hyperbaric oxygen therapy in small bowel stricturing and fistulizing Crohn' sisease: A stratified RCT
11. Extra small intestinal GI manifestations of celiac disease
12. Intravascular fluid guided therapy versus standard fluid therapy in predicted severe acute pancreatitis: A randomized controlled study.
13. Mesenchymal stem cell therapy in patients with acute on chronic liver failure: A double blind, randomized placebo controlled trial
14. Pooled prevalence of celiac disease in patients with chronic liver disease: Systematic reviews and meta-analysis
15. Pooled prevalence of celiac disease in patients with short stature: Systematic review and Meta-analysis
16. Predictors of response and adverse events to biologics in patients with Inflammatory bowel disease
17. Prevalence of Celiac Disease in patients of Inflammatory Bowel Disease
18. Role of immune pathways in the pathogenesis of chronic pancreatitis.
19. Role of liquid biopsy biomarkers in hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis
20. Sarcopenia in chronic pancreatitis: Prevalence, diagnosis and prognostic value
21. Spectrum of dental manifestation of celiac disease in treatment naïve and those on gluten-free diet patients with celiac disease
22. Spectrum of dermatological manifestations of celiac disease
23. Treat to target strategy in active ulcerative colitis patients: A randomized control trial

### ***Completed***

1. A multiparameter model to differentiate intestinal tuberculosis from Crohn'Disease in ulcero-constrictive disease of the intestine
2. Elafin in patients with celiac disease
3. Extra small intestinal GI manifestations of celiac disease
4. Intestinal permeability in patients with acute pancreatitis- role of tight junction proteins and effect of enternal nutrition
5. Modulation of Human Immune and Inflammatory Responses by Vitamin A in Inflammatory Bowel Disease (Ulcerative Colitis, Crohn's Disease)
6. Prevalence of elevated alanine aminotransferase levels in asymptomatic healthy individuals: A community-based study from North India
7. Prevalence of sarcopenia in cirrhosis and its correlation with serum myostatin and myostatin gene expression in muscle biopsy
8. Prognostic role of autophagy in patients with pancreaticadenocarcinoma
9. Role of microRNA as biomarker and its modulation in HCC targeting mTOR pathway
10. Role of miRNA mediated modulation of signal transduction in pancreatic cancer
11. To study the prevalence of cerebral edema and neuropathological changes in acute on chronic liver failure patients

### **Collaborative projects**

#### ***Ongoing***

1. A randomized trial of endoscopic versus laparoscopic drainage of pancreatic pseudocysts, Surgical Disciplines.
2. Biopsy in Adult celiac disease (Bio.A.CeD)- the ESsCD Consensus: Multinational study, Partimento di Medicina e Chirurgia, Scuola Medica Salernitana, Università di Salerno, Italy
3. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten free diet, Pathology
4. Correlation of hepatic fat content and angiographic coronary artery stenosis. Department of Cardiology, VMMC

and Safdarjang Hospital

5. Development of a low-cost diagnostic platform for the identification of viral DNA using CRISPR/Cas13a system, South Asian University, New Delhi
6. Effect of anti-inflammatory drugs on duct ligation and Na-Taurocholate model of experimental acute pancreatitis in rats, GI Surgery and Anatomy
7. Effect of urbanization on gut microbiome, mycobiome and virome in patients with inflammatory bowel disease from northern India, Department of Microbiology, Maharshi Dayanand University, Rohtak, Haryana
8. Fecal microbiome in patients with gallbladder cancer, Surgical Disciplines
9. Genetic association of cytokine with suicidality in Indian population, Forensic Medicine
10. Hepatic regenerative potential of exosomes derived from human mesenchymal stem cells in liver fibrosis model, Stem Cell facility
11. Intestinal stem cells in celiac disease, Pathology
12. miRNA as disease modifier in HLA-DQ2/ DQ8 matched first degree relatives of patients with celiac disease, Pathology
13. Nanotechnology based vaccine against hepatitis E virus, Dept. of Biotechnology, Jaypee Institute of Information Technology, NOIDA, UP
14. Prevalence of acute gastrointestinal injury in critically ill children, Paediatrics
15. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, National Institute of Immunology (NII), New Delhi

### **Completed**

1. Liver involvement in patients with celiac disease: Proof of causality using IgA/ anti-tTG co-localization Techniques, Pathology
2. Seroprevalence of celiac disease in high altitude area in India, Gastroenterology, IGMC Shimla, Himachal Pradesh
3. Association of inflammatory cytokines with suicidal deaths: a hospital based comparative cross-sectional study, Forensic Medicine
4. To assess the prognostic value of various cytokines in Acute on Chronic liver failure (ACLF) patients, Infectious disease
5. Nanoparticles based amperometric biosensor for detection of thyroid dysfunctioning, Biotechnology, Jaypee Institute of Information Technology, NOIDA, UP

### **PUBLICATIONS**

**Journals: 44**

**Abstracts: 48**

**Chapters in Books: 3**

### **PATIENT CARE**

#### **Routine Gastroenterology Clinic (Monday to Friday)**

New cases: 27593

Old cases: 53048

#### **Special clinics**

<b>Name of the clinic</b>	<b>New cases</b>	<b>Old cases</b>
Liver Clinic	867	13350
Pancreas clinic	805	3951
IBD & ITB Clinic	884	8698
Interventional Clinic	391	795
Celiac Clinic	102	864

#### **Endoscopy services**

##### **Procedures**

Diagnostic and therapeutic endoscopies:	17214
Diagnostic and therapeutic colonoscopies:	3337
Diagnostic sigmoidoscopies:	1817

Side viewing endoscopies:	670
Endoscopic retrograde cholangiopancreatography (ERCP):	2150
Endoscopic ultrasound (Diagnostic and therapeutic):	500
Fibroscan:	8954

#### GI Motility

• High resolution esophageal manometry:	376
• High resolution anorectal manometry:	197
• Biofeedback:	350
• 24 hours ambulatory pH monitoring:	7

#### Tests done in the department

S.No.	Name of the test	Nos.
	NucleicAcid isolation for testing	4154
	HBV quantitation by Real time PCR	2054
	HCV quantitation by real time PCR	1134
	HCV genotyping by Real time PCR	93
	HCV genotyping by Line probe Assay (LIPA)	102
	HEV detection quantitative	339
	HBsAg by ELISA	1482
	HBeAg by ELISA	561
	Anti Hbe by ELISA	197
	Anti HBc Total by ELISA	393
	HBc IgM by Vidas	6
	HAV IgM by ELISA	544
	HEV IgM by ELISA	578
	Anti HCV by ELISA	1142
	Arterial Ammonia	645
	IgG 4 by Nephelometry	14
	D-Xylose by colorimetry	297
	Fecal Fat by ether extraction	195
	Fecal elastase by ELISA	603
	Hydrogen breath test	111
	Urea breath test	213
	Ttg IgA by ELISA	3127
	Ceruloplasmin by turbidometry	1615
	Serum Copper by colorimetry	837
	24 hr Urinary copper	663
	Lipid peroxidation (MDA) by spectrophotometry	120
	Free radical Antioxidant potential (FRAP)	40
	Lactose	90
	Mannitol	90
	Insulin	113
	Glucose	113

S.No.	Name of the test	Nos.
	hsCRP by ELISA	113
	Apo-A1	113
	Apo-B	113
	Fecal Calprotectin	96
	Total Oxidant Stress (TOS)	80
	Total Antioxidant Stress (TAS)	80

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Pramod Garg** was awarded Fellow of Indian National Science Academy, India; nominated member, Scientific Advisory Board, Indian Council of Medical Research, New Delhi; Member, Scientific Advisory Group for the Division of Non-Communicable Diseases, Indian Council of Medical Research, New Delhi.

**Professor Govind Makharia** was nominated as the Co-chair of Clinical Research Committee, World Gastroenterology Organization (2019-21); Co-chairman, Global guidelines on “Diet and Gut” by World Gastroenterology Organization; Board Member, International Association for the Studies on Celiac Disease (2015-2019); Council Member, Asian Pacific Association of Gastroenterology (2019-2022); Secretary general of Indian Society of Gastroenterology (2016-2022); Editorial Advisory Board Member, Clinical and Translational Gastroenterology (American College of Gastroenterology); Member, Scientific Advisory Board, National Agro-Food Biotechnology Institute, Mohali; Member of Biosafety Committee, School of Life Sciences, JNU; Member, Academic Committee, National Institute of Immunology, New Delhi; Coordinator of the Department of Biotechnology Consortium on Celiac Disease; Group leader, Asian Pacific Working Group on Celiac disease; Governing Council Member, Indian Motility and Functional Diseases Association; Coordinator of Indian Society of Gastroenterology Task Force on Inflammatory Bowel Disease; Coordinator of Young Clinician Program, Indian Society of Gastroenterology; Developed Indian Society of Gastroenterology and Association of Physicians of India Joint Guidelines on Gastro-esophageal reflux disease

**Dr Baibaswata Nayak** awarded Best Oral Paper and Cash prize at Indian Society of Oncology, ISO-ISMPO 2019 (Sonu Kumar/ Dr Nayak, Supervisor), Second position on oral talk at Virocon 2020, Indian Society of Virology (Sonu Kumar/ Dr.Nayak, Supervisor), National Postdoctoral Fellowship, SERB (Dr Geetanjali/ Dr Nayak Mentor), nominated as reviewer of 24 national and international journals including; Review and expert committee member for Innovation & Translation Research, ICMR; Reviewer for ICMR RA and SRF, and ICMR Project review committee member for (for diarrhoeal diseases); Reviewer to extramural funding of DST SERB, AYUSH/CCRH, ICMR STS expert group; ICMR ITR (innovation translation research) group and DBT nominee for Institute Biosafety committee (IBSC).

**Dr Saurabh Kedia** awarded the Japanese society of Gastroenterology fellowship at Tokyo Medical and Dental University, Tokyo, Japan from 1st September 2019 to 30th November 2019

**Dr Deepak Gunjan** conducted Hands-on Session on POEM in Asian Pacific Digestive Week (APDW) 2019, Kolkata, Hands-on Session on POEM in Synergy 2020; an EUS-ERCPTBD convergence 2020, Mumbai, nominated Co-organizing Secretary; CPLD 2019, AIIMS, New Delhi

#### VISITING SCIENTISTS

1. Dr Kanwarpal Singh, Group Leader, Max Planck Institute for the Science of Light, Erlangen, Germany on 4 June 2019.
2. Dr Undurti N. Das, Chief Medical Officer & Chairman, Scientific Advisory Board, Asha Nutrition, California, USA on 14 January 2020.
3. Dr Anjan Dhar from UK on 26 February 2020.

## 9.14. Gastrointestinal Surgery and Liver Transplantation

### Professor and Head

Peush Sahni

### Professors

Sujoy Pal

Nihar Ranjan Dash

### Assistant Professors

Rajesh Panwar

Anand Narayan Singh

Saurabh Galodha

### HIGHLIGHTS

The department organized the 29th national conference of the Indian Association of Surgical Gastroenterology (IASGCON 2019) from 9 to 13 October 2019. This 5-day conference included a bursary program, six workshops, a CME program and 2 days of main conference.

### EDUCATION

The department is actively involved in the teaching of undergraduate students. The following topics were taught to sixth & eighth semester students through didactic lectures and integrated seminars:

Benign and malignant esophageal disorders	Portal hypertension
Upper gastrointestinal bleeding	Lower gastrointestinal bleeding
Acute intestinal obstruction	Intestinal tuberculosis
Inflammatory lesions of small and large bowel	Gall stone disease and complications
Amoebic lesions of the bowel and liver	Gall bladder cancer
Cancer of the stomach	Diseases of the Pancreas
Biliary strictures	Chronic pancreatitis
Obstructive Jaundice	Acute pancreatitis
Nutrition in surgical patients	

The department offers 3-year training leading to award of MCh in Gastrointestinal Surgery. There are 14 MCh students in the department. The department also offers short-term observership for a period of 1–3 months. The weekly academic activities include a weekly audit, presentations of abstracts of recently published papers, a seminar, journal club, and discussion on research and dissertation projects. Besides these, a combined round with Gastroenterology and a GI Radiology conference are held once in a week, and a GE-GI Surgery histopathology conference once in two weeks.

### CMEs/Workshops/Symposia/National and International Conferences organized by the department

1. Twenty-ninth National Conference of the Indian Association of Surgical Gastroenterology (IASGCON 2019), AIIMS, New Delhi, 9 to 13 October 2019
2. Cadaveric Workshop on Multiple Organ Harvesting Techniques, AIIMS, New Delhi, 10 October 2019
3. Surgical skills workshop on Bowel anastomosis, AIIMS, New Delhi, 10 October 2019
4. Surgical skills workshop on vascular anastomosis, AIIMS, New Delhi, 10 October 2019
5. Endoscopy workshop: Basic and advanced, AIIMS, New Delhi, 10 October 2019
6. Workshop: Doing Research: The methods & the statistics, AIIMS, New Delhi, 10 October 2019
7. Operative (Video) Workshop, AIIMS, New Delhi, 10 October 2019

### Lectures delivered

Peush Sahni: 75

Sujoy Pal: 17

Nihar Ranjan Dash: 4

Rajesh Panwar: 6

Anand Narayan Singh: 1

Saurabh Galodha: 3

### Peush Sahni

1. Panel Discussion, 23rd Instructional Course of ACRSICON, 3 April 2019, Gangaram Hospital, New Delhi
2. Communication in science: Thesis, Papers, ICMJE recommendations, PG Research Methodology Workshop, AIIMS, 12 April 2019, New Delhi

3. Introduction, PG Research Methodology Workshop, AIIMS, 12 April 2019, New Delhi
4. Discussion, PG Research Methodology Workshop, AIIMS, 12 April 2019, New Delhi
5. References, PG Research Methodology Workshop, AIIMS, 12 April 2019, New Delhi
6. All you need to know about publication ethics, Conference Workshop, Association of Cutaneous Surgeons of India, ACSICON 2019, 18-21 April 2019, Delhi
7. IMRAD Format, Workshop on Writing a Research Paper, 25-26 April 2019, KL CMETi, AIIMS, New Delhi
8. Introduction, Workshop on Writing a Research Paper, 25-26 April 2019, KL CMETi, AIIMS, New Delhi
9. Editorial Process, Workshop on Writing a Research Paper, 25-26 April 2019, KL CMETi, AIIMS, New Delhi
10. Choosing a journal, Workshop on Writing a Research Paper, 25-26 April 2019, KL CMETi, AIIMS, New Delhi
11. Scientific misconduct/Predatory journals, Workshop on Writing a Research Paper, 25-26 April 2019, KL CMETi, AIIMS, New Delhi
12. Scientific writing skills and Hands on session, Workshop on Research Methodology and Paper Writing Techniques, ICMR Regional Medical Research Centre-Northeast, Dibrugarh, Assam, 25-26 May 2019
13. Results, including Tables and figures, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
14. Discussion, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
15. Editorial process and peer review, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
16. Choosing a journal and pseudo-journals, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
17. Responding to reviewers' comments, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
18. Scientific misconduct and trial registration, Faculty workshop on 'Research, Writing & Publishing in Medicine', National Academy of Medical Sciences, Bir Hospital, 13-15 July 2019, Kathmandu, Nepal
19. Preoperative biliary drainage in hilar cholangiocarcinoma, Cholangiocarcinoma, Liver transplantation and portal hypertension HPB Course JIPMER, 8 August 2019, Puducherry.
20. Portal biliopathy, Cholangiocarcinoma, Liver transplantation and portal hypertension HPB Course JIPMER, 8 August 2019, Puducherry.
21. Case scenario discussion on Non cirrhotic portal hypertension, Cholangiocarcinoma, Liver transplantation and portal hypertension HPB Course, JIPMER, 8 August 2019, Puducherry.
22. Case 7: Surgical Case, Moderator: Peush Sahni, 64th ECCO Educational Workshop and mid-term CCFI meet, 10 August 2019, New Delhi
23. Surgery for Chronic Pancreatitis, Dr B. Shanmukeshwara Rao memorial oration, APASICON 2019, 23 August 2019, Vijaywada, Andhra Pradesh
24. Management of splenic vein injury during PSRS/DSRS, SGE Week 2019, 24-25 August 2019, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh
25. Pancreatic surgery in portal hypertensive patients (Resectional surgery as well drainage procedures), SGE Week 2019, 24-25 August 2019, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh
26. How to seek research grant and Layout of a Good Research proposal, Workshop on Research Methodology and Research Paper Writing Techniques for Multi-Disciplinary Research Units and Model Rural Health Research Units, Department of Health Research– ICMR–National Institute of Pathology and Dr Rajendra Prasad Government Medical College, Tanda, 5-6 September 2019, Dharamshala, Himachal Pradesh
27. Scientific Writing Skills and structure of a scientific manuscript, Workshop on Research Methodology and Research Paper Writing Techniques for Multi-Disciplinary Research Units and Model Rural Health Research Units, Department of Health Research– ICMR–National Institute of Pathology and Dr Rajendra Prasad Government Medical College, Tanda, 5-6 September 2019, Dharamshala, Himachal Pradesh
28. Group Work: 'Hands On' activity Scientific paper Writing, Workshop on Research Methodology and Research Paper Writing Techniques for Multi-Disciplinary Research Units and Model Rural Health Research Units, Department of Health Research– ICMR–National Institute of Pathology and Dr Rajendra Prasad Government Medical College, Tanda, 5-6 September 2019, Dharamshala, Himachal Pradesh
29. Roles of an editor, Workshop on Initial Steps of an editorship, Conference of Indian Association of Medical Journal Editors IMPACT 2019, 13-15 September 2019, AFMC, Pune
30. Bias in reporting, Workshop on Ethics in Medical Publications, Conference of Indian Association of Medical

Journal Editors IMPACT 2019, 13-15 September 2019, AFMC, Pune

31. SoPs for misconduct committees, Workshop on Ethics in Medical Publications, Conference of Indian Association of Medical Journal Editors IMPACT 2019, 13-15 September 2019, AFMC, Pune
32. Going beyond numbers, Workshop on Biostatistics, Conference of Indian Association of Medical Journal Editors IMPACT 2019, 13-15 September 2019, AFMC, Pune
33. Panel Discussion, Challenges of predatory journals, Conference of Indian Association of Medical Journal Editors IMPACT 2019, 13-15 September 2019, AFMC, Pune
34. IMRAD format, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
35. Introduction, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
36. Language and style, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
37. Results / Table / Figures, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
38. Discussion, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
39. Scientific misconduct, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
40. Editorial process, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
41. Responding to reviewers' comments, Training of Trainers (ToT) on Writing a Research Paper (WriReP), Srimanta Sankaradeva University of Health Sciences, 22 October 2019, Guwahati, Assam
42. ICMJE Recommendations, PG Research Methodology Workshop, AIIMS, 25 October 2019, New Delhi
43. Presentation skills and seminars, PG Research Methodology Workshop, AIIMS, 25 October 2019, New Delhi
44. IMRAD format and Introduction, PG Research Methodology Workshop, AIIMS, 25 October 2019, New Delhi
45. Discussion, PG Research Methodology Workshop, AIIMS, 25 October 2019, New Delhi
46. Scientific misconduct, PG Research Methodology Workshop, AIIMS, 25 October 2019, New Delhi
47. Writing an abstract, Indian Society of Gastroenterology, Train our trainers program, 9 November 2019, Manesar, Haryana
48. Global guidelines for authorship, Practice of Journal Publishing and Research Ethics, 2019 KOFST Journal Workshop Program, Yeoksam POSCO Tower, Seoul Korea, 29 November 2019
49. Predatory journals Practice of Journal Publishing and Research Ethics, 2019 KOFST Journal Workshop Program, Yeoksam POSCO Tower, Seoul Korea, 29 November 2019
50. Societal /Patient Perspective, National Consultation on Do Not Attempt Resuscitation (DNAR) organized by ICMR Bioethics Unit, NCDIR, Bengaluru, 2 December 2019, ICMR, New Delhi
51. Surgical management of portal biliopathy: When, which patients and how? HPB Surgery Post Graduate Certificate Course, IHPBA Indian Chapter, 5-6 December 2019, New Delhi
52. Manuscript preparation: Introduction and methods, Young Clinical Investigator Programme, 11 December 2018, Kolkata
53. Abstract, title, keywords, and references, Young Clinical Investigator Programme, 11 December 2018, Kolkata
54. Surgery for Portal HT: Is it becoming extinct?, APDW 2019 Scientific Programme (Surgery), 14 December 2019, Kolkata
55. How to approach a patient with thick walled GB and gall stones on USG, Nurturing the Surgical Techniques for Better Health Care, 79th Annual Conference of Association of Surgeons of India, ASICON 2019, 18-21 December 2019, Bhubaneswar
56. Debates in Surgery, Asian Pacific Digestive Week, Scientific Programme (Surgery), 13 December 2019, Kolkata
57. Portal biliopathy, Panel Discussion, IHPBA India Chapter Annual Conference 2020, 25-26 January 2020, Bhubaneswar, Odisha
58. Case Capsule: Lump right, Hepatobiliary and pancreatic surgery, PG Master Classes under the AEGIS of UPASI 2020, 31 January 2020, BHU IMS, Varanasi
59. Case Capsule: Pseudopancreatic cyst, Hepatobiliary and pancreatic surgery, PG Master Classes 2020 under the AEGIS of UPASI, 31 January 2020, BHU IMS, Varanasi

60. Ward Round: Acute pancreatitis, Hepatobiliary and pancreatic surgery, PG Master Classes 2020 under the AEGIS of UPASI, 31 January 2020, BHU IMS, Varanasi
61. Transhiatal Esophagectomy, 8th Asia Pacific Gastroesophageal Cancer Congress & ESOINDIA 2020, 6-8 February 2020, Chennai
62. Tables and figures, Writing Workshop, IPHA CON 2020, 28 February 2020, AIIMS, New Delhi
63. References, Writing Workshop, IPHA CON 2020, 28 February 2020, AIIMS, New Delhi
64. Responding to reviewers' comments, Writing Workshop, IPHA CON 2020, 28 February 2020, AIIMS, New Delhi
65. Pseudo-journals, Writing Workshop, IPHA CON 2020, 28 February 2020, AIIMS, New Delhi
66. Writing an abstract: Practical exercise, Writing Workshop, IPHA CON 2020, 28 February 2020, AIIMS, New Delhi
67. Introduction-IMRAD, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
68. Title of the study, Keywords, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
69. Formulation of Research Question, hypothesis, objectives, CME cum Workshop on an Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
70. Types of study designs, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
71. Materials and Methods, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
72. Results, tables and figures, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
73. Discussion/Summary, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
74. Review of literature and literature search, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh
75. Materials and Methods, CME cum Workshop on An Approach to Research and How to write and publish scientific papers, Assam Medical College, 13-14 March 2020, Dibrugarh

### **Sujoy Pal**

1. Surgery for ulcerative colitis, 23rd Association of Colorectal surgeons of India Course, SGRH, New Delhi, 6 April 2019
2. Stapled cervical–esophagogastric anastomoses, How I Do It CME Series IV, Apollo Hospital, New Delhi, 2 August 2019
3. Current scenario of surgery for acute pancreatitis, Bi-annual Meeting of Asia Pacific Hepato-Pancreato-biliary Association, Seoul, South Korea, 6 Sept 2019
4. Surgery for chronic pancreatitis, MAMC Surgery Update 2019, MAMC, New Delhi, 26 September 2019
5. Live video demonstration of multiorgan recovery from a cadaver, 16th Congress of the Asian Society of Transplantation, AIIMS SET Facility, New Delhi, 29 September 2019
6. Surgical considerations in Liver transplantation, 16th Congress of the Asian Society of Transplantation and ISOT combined meeting, India Exposition Mart, Greater NOIDA, 2 October 2019
7. Role of Multidisciplinary meeting in surgical practice, 29th National Conference of the Indian Association of Surgical Gastroenterology, AIIMS, New Delhi, 13 October 2019
8. Transplant Oncology—An upcoming specialty, 2nd National Conference of Liver Transplantation Society of India, Kochi, Kerala, 17 November 2019
9. Surgery for non-cirrhotic portal hypertension experience over four decades from an Indian center, 15th International Surgical Congress and SAARC Surgical Care Society Meeting 2019, Dhaka, Bangladesh, 6-8 December 2019
10. Training assessment systems in GI Surgery AIIMS, 15th International Surgical Congress and SAARC Surgical Care Society Meeting 2019, Dhaka, Bangladesh, 6-8 December 2019
11. Surgery for chronic pancreatitis: experience over three decades, 15th International Surgical Congress and SAARC Surgical Care Society Meeting 2019, Dhaka, Bangladesh, 6-8 December 2019
12. Metastatic GEPNETS: How to manage, Asia Pacific Digestive Week 2019, Kolkata, West Bengal, 13-15 December 2019
13. Proximal splenorenal shunt: Video Lecture, 17th Annual conference of the Indian chapter of IHPBA, Bhubaneswar,

26-28 January 2020

14. Surgery for Chronic pancreatitis: techniques and outcomes with video, Annual Meeting of the Indian society of Gastroenterology (West Bengal chapter), Raichak, West Bengal, 6-8 February 2020
15. Responding to a Donor call (liver retrieval team perspective), Transplantcon 2020, AIIMS, Rishikesh, 21-22 February 2020
16. Liver retrieval demonstration on cadaver, Transplantcon 2020, AIIMS, Rishikesh, 21-22 February 2020
17. Setting up and sustaining a liver transplant programme in public sector, Transplantcon 2020, AIIMS, Rishikesh, 21-22 February 2020

#### **Nihar Ranjan Dash**

1. Role of MIS in acute pancreatitis, UPASICON 2019, LLRM, Meerut, 10 November 2019
2. Lecture, ASICON 2019, Bhubaneswar, 18-21 December 2019
3. Moderator: Session on Pancreas, IHPBA India 2020, Bhubaneswar, 24-26 January 2020
4. Nutritional management in enterocutaneous fistula, IAPEN Clinical Nutrition Congress (ICNC-2020) and 7th Annual International Conference of IAPEN, JIPMER, Puducherry, 7-9 February 2020

#### **Rajesh Panwar**

1. Cadaveric open hands on colorectal surgery workshop, 23rd ACRSI Instructional Course, SGRH & JPNATC, AIIMS, New Delhi, 2-5 April 2019
2. Hands on workshop on cadaver, First AIIMS Cadaveric multiorgan & Tissue Retrieval Workshop, ORBO, AIIMS, New Delhi, 30 August 2019
3. Hands on workshop on cadaver, Cadaveric multiorgan & Tissue Retrieval Workshop, ORBO, AIIMS, New Delhi & NOTTO, 29 September 2019
4. Surgical skills workshop on Bowel anastomosis, IASGCON 2019, AIIMS, New Delhi, 9-13 October 2019
5. Surgical skills workshop on vascular anastomosis, IASGCON 2019, AIIMS, New Delhi, 9-13 October 2019
6. Moderator: Session on Liver & Biliary surgery, IHPBA India 2020, Bhubaneswar, 24-26 January 2020

#### **Anand Narayan Singh**

1. Cadaveric open hands on colorectal surgery workshop, 23rd ACRSI Instructional Course, SGRH & JPNATC, AIIMS, New Delhi, 2-5 April 2019

#### **Saurabh Galodha**

1. Complications of Esophagectomy, North Chapter ASICON 2019, PGIMER, Chandigarh, 16 November 2019
2. Moderator: Session on Pancreas, IHPBA India 2020, Bhubaneswar, 24-26 January 2020
3. Nutrition in a surgical patient, KGMU Surgical Week 2020, Lucknow, 12 February 2020

#### **Oral papers/posters presented**

1. Agarwal L, Panwar R, Singh AN, Dash NR, Pal S, Sahni P. Predictors of cervical esophageal anastomotic leak: A retrospective analysis of predictive factors. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
2. Jeyakumar P, Dash, NR, Pal S, Panwar R, Singh AN, Sahni P. Impact of proton pump inhibitor on the development of anastomotic complications after gastric pull up and cervical oesophago-gastric anastomosis: A randomized controlled trial. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
3. Shrivastava A, Dash NR, Pal S, Sahni P. Safety and feasibility of Hyperthermic Intra-Peritoneal Chemotherapy in the management of gastric cancer. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
4. Moond V, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Biliary surgery in portal biliopathy: Short and longterm outcomes., 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
5. Pathak B, Dash NR, Pal S, Sahni P. Choledochal cysts in adults: Our experience of 15 years at a tertiary care centre, 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
6. Dutta T, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Portal vein resection in Whipple's procedure: Experience from a tertiary care centre in India. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
7. Kumar P, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. PNET: 10 year experience at a tertiary care centre. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
8. Sahota GS, Pal S, Dash NR, Sahni P. Posterior (SMA-first) approach vs. standard pancreatoduodenectomy in patients with periampullary tumours and pancreatic cancer with special focus on circumferential resection margins

and long-term survival outcome: A randomized controlled trial. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.

9. Jayapal R, Madhusudhan KS, Singh AN, Panwar R, Dash NR, Pal S, et al. Management and outcomes of pseudoaneurysms complicating pancreatic surgery. A tertiary care single centre experience. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
10. Jayapal R, Sahota GS, Singh AN, Panwar R, Dash NR, Pal S, et al. Outcomes of patients in duct to mucosa pancreatico-jejunostomy with duct size of 2mm or less following pancreaticoduodenectomy. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
11. Uppal M, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Surgical management of chronic pancreatitis – experience over 34 years from a tertiary care centre in North India. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
12. Moond V, Dash NR, Singh AN, Panwar R, Pal S, Sahni P. Intrapancreatic Choledochoplasty as a treatment modality in Chronic Pancreatitis induced distal CBD stricture. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
13. Balakrishna S, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Results of Segment 4A sparing Extended Right Hepatectomy in Locally advanced Carcinoma Gall bladder – a case series. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
14. Bhatia S, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Role of Cysto-pericystectomy and Partial cystectomy/ Deroofing in the management of Hydatid disease of the liver., 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
15. Dangi SK, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Surgical management of hepatolithiasis: A two decade experience at a tertiary care centre. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
16. Singh BN, Singh AN, Panwar R, Dash NR, Pal S, Sahni P, et al. Emergency Proximal Lienorenal Shunt (LRS) for Variceal Bleeding in patients with Extrahepatic Portal Vein Obstruction. A single centre experience over four decades. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
17. Singh BN, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Role of intraoperative enteroscopy in management of obscure lower gastrointestinal bleeding (LGIB): 30 year experience at a tertiary care hospital in India. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
18. Shrivastava A, Dash NR, Sujoy Pal, Sahni P. Lower gastrointestinal bleeding (LGIB): Our experience of 3 decades. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
19. Balakrishna S, Singh AN, Panwar R, Dash NR, Pal S, Sahni P. Surgery for Crohn's Disease: Indications and Outcomes. A 15-year experience at a tertiary care. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.
20. Imbaraj B, Panwar R, Singh AN, Dash NR, Pal S, Sahni P. Incidence of Deep Vein Thrombosis (DVT) following major gastrointestinal surgeries from a tertiary hospital in North India: A prospective study. 29th Annual conference of IASG, 9-13 October 2019, New Delhi.

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Developing and implementing a Gall Bladder Cancer Registry to collect clinico-pathological data (demography, treatment patterns, therapeutic outcomes) and collect bile/tissue samples from registered patients for a biorepository for molecular profiling/microbial analysis focusing on identifying an association between GBC and microbial infection, Sujoy Pal, AIIMS THSTI collaborative, 3 years, 2019-22, Rs 10 lakhs
2. Esophageal resection vs. no resection for corrosive esophageal strictures: A RCT, N R Dash, AIIMS, 2013-2020, Rs 5 lakhs
3. Isolation and molecular characterisation of colorectal cancer stem cells, Sujoy Pal, AIIMS, 2015-2020, Rs 25 lakhs
4. Safety and effectivity of HIPEC in Gall Bladder Cancer. Nihar Ranjan Dash, AIIMS, 3 years, 2016–19, Rs 5 lakhs

#### ***Completed.***

1. Posterior (SMA-first) approach vs. standard pancreatoduodenectomy in patients with pancreatic cancer with special focus on circumferential resection margins and medium term survival outcome: a prospective randomized controlled trial, Sujoy Pal, AIIMS, 5 years, 2013–18, Rs 5 lakhs

2. A preliminary study to document the genetic and molecular profile of resected colorectal cancers in India, Sujoy Pal, AIIMS, 3 years, 2016-19, Rs 5 lakhs
3. Development of an indigenous affordable no-frill enteral feeding pump, Peush Sahni, DST, 3 years, 2015–18, Rs 23.85 lakhs
4. Randomized controlled trial on skin preparation with chlorhexidine alcohol prep vs. savlon/betadine prep in elective gastrointestinal surgery, Peush Sahni, AIIMS, 5 years, 2012–18, Rs 1.50 lakhs

## **Departmental projects**

### ***Ongoing***

1. A randomized trial of peri-operative low dose vs standard dose steroid regimen in patients of ulcerative colitis
2. Impact of proton pump inhibitor on the development of anastomotic stricture and reflux symptoms after gastric pull up and cervical oesophagogastric anastomosis – a randomized trial
3. A prospective study to evaluate sarcopenia in adult chronic liver disease (CLD) patients waiting for liver transplantation.
4. Experimental model of acute pancreatitis with organ dysfunction
5. A study of the effect of targeted therapy on organ dysfunction in an experimental model of severe acute pancreatitis
6. External drainage of pancreaticobiliary limb vs no drainage in patients undergoing pancreaticoduodenectomy – A pilot study
7. Comparing feeding jejunostomy with nasojejunal tube placement in patients undergoing esophagectomy – A pilot study

### ***Completed***

1. Safety and efficacy of hyperthermic intra peritoneal chemotherapy in the management of gastric cancer
2. Patient reported outcome measures in ulcerative colitis – a cross-sectional observational study in a tertiary care center in India

## **Collaborative projects**

### ***Ongoing***

1. Isolation and molecular characterisation of colorectal cancer stem cells, Biochemistry
2. Development of singleplex PCR based test for detecting multiple hepatitis viruses simultaneously, Laboratory medicine
3. Isolation, identification and characterization of cancer stem cells from different histopathological grades of colorectal carcinoma, Biochemistry
4. Elucidating the role of differentially expressed gene(s) in colorectal cancer stem cells, Biochemistry
5. Genomics in Gall bladder cancer in Indian Population, Radiation Oncology

### ***Completed***

1. Assessment of frailty in geriatric patients undergoing GI surgery, Geriatric Medicine

## **PUBLICATIONS**

**Journals: 15**

**Abstracts: 20**

**Books: 1**

## **PATIENT CARE**

### **OPD**

Total number of new patients seen: 3400

Total number of old patients seen: 7406

### **Specialty clinics**

Department is running a daily clinic for stoma patients.

### Special laboratory facilities

Anal manometry, Oesophageal manometry, 24-hour ambulatory oesophageal pH monitoring, Endotraining laboratory.

### Inpatients

Total Surgical procedures: 627                      Elective: 467                      Emergencies: 160

### Special interest areas

Biliary obstruction:	90	Portal hypertension:	35
Oesophageal cancer:	19	Carcinoma gall bladder:	27
Ulcerative colitis:	45	Upper GI haemorrhage:	5
Lower GI haemorrhage:	10	Acute pancreatitis:	21
Chronic pancreatitis:	21	Biliary strictures:	15
Pancreato-duodenectomy:	56	Liver resections:	46

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Peush Sahni** was Past President and Chair, Education Committee, Indian Association of Surgical Gastroenterology; President, Indian Association of Medical Journal Editors; Chair, Membership Committee, World Association of Medical Editors; Member, Editorial Board, Journal of Gastrointestinal Surgery (official Journal of Society for Surgery of the Alimentary Tract) and International Representative, Member Services Committee, Society for Surgery of the Alimentary Tract, USA; Member, International Committee of Medical Journal Editors; Member, Ethics Committee, Medical Council of India; Member, Board of Studies, AIIMS, Bhubaneswar; was Co-organiser of the Annual National Conference of Indian Association of Surgical Gastroenterology at New Delhi, 9-13 October 2019 at AIIMS, New Delhi; delivered the Dr B. Shanmukeswara Rao memorial oration of the Andhra Pradesh State Chapter of the Association of Surgeons of India for the year 2019.

**Professor Sujoy Pal** participated in a Community health Camp at Dharamshala, Himachal Pradesh organized under the auspices of the Hon'ble Dalai Lama from 20 June to 24 June 2019; Co-organiser of the Annual National Conference of Indian Association of Surgical Gastroenterology at New Delhi, 9-13 October 2019 at AIIMS, New Delhi; Best Paper award for the biliary free paper session (Moond V, Panwar R, Singh AN, Dash NR, Pal S, Sahni P). Biliary surgery in portal biliopathy: Short and longterm outcomes in 29th Annual conference of IASG, 9-13 October 2019, New Delhi.

**Professor Nihar Ranjan Dash** continued as President, Indian Ostomy Society and organized the Annual meeting of the Indian Ostomy Society. He was reviewer for European Radiology, BMC Surgery, BMC Case reports & Tropical Gastroenterology. He was appointed Expert for Union Public Service Commission in Surgery with specialization in GI Surgery, interviews of Lecturer Surgical Gastroenterology in Health & Medical Education Department, Jammu and Kashmir, Central Drugs Standard Control Organisation (CDSCO), Prashna India, ICMR Gall bladder task force, and selection of Faculty in the Department of Surgical Gastroenterology, AIIMS, Bhubaneswar and Jodhpur; was co-organiser of the Annual National Conference of Indian Association of Surgical Gastroenterology at New Delhi, 9-13 October 2019 at AIIMS, New Delhi.

## 9.15. Geriatric Medicine

### Professor and Head

AB Dey

### Associate Professor

Prasun Chatterjee

Avinash Chakrawarty

### Assistant Professor

Vijay Kumar

### HIGHLIGHTS

*Her Majesty Queen Silvia of Sweden* visited the Memory and Dementia service of the department on 3 December 2019 to familiarize herself with the care provided in India as a part of her interest in dementia care. The department organized a real time demonstration of care provided by various departments of AIIMS to older patients.

HONOURABLE SHRI M. Venkaiah Naidu, Vice President of India released the book “Health and Wellbeing in Late Life: Perspectives and Narratives from India” authored by Dr Prasun Chatterjee on 21 December 2019 at his official residence.

The Department organized a live demonstration of Integrated Care of the Older Person (ICOPE) for participants from 10 South-East Asia Regional Countries of World Health Organization on 19 September 2019.

The Department was a co-organizer of 19th Biennial Conference of Association of Gerontology (India) Conference at All India Institute of Medical Sciences on 17-18 August 2019 in collaboration with the Department of Biophysics.

Dr AB Dey was appointed as member of the South-East Asia Regional Expert Advisory Panel on Healthy Ageing for three years with effect from 10 July 2019.

### EDUCATION

The department is the largest postgraduate department of Geriatric Medicine in India. In addition to active participation in institutional academic activities the department placed major focus on postgraduate training with five sessions of teaching every week. Col Sumit Bhaskar of Army Medical Corps joined the department as a long-term trainee for 2 years from 1 July 2019. The department provided observership to MD student of the Department of Medicine from AIIMS, Rishikesh for establishing a Geriatric Service.

### CMEs/Workshops/Symposia/National and International Conferences Organized by the department

1. 19th Biennial Conference of Association of Gerontology (India), 17-18th August 2019, New Delhi
2. WHO SEARO- demonstration of ICOPE, 19 September 2019, New Delhi

### Lectures delivered

AB Dey: 12

Prasun Chatterjee: 5

### AB Dey

1. The making of LASI DAD—NIH Study, 19th Biennial Conference of Association of Gerontology India, 17 August 2019, AIIMS, New Delhi
2. Global and regional situations of elderly and elderly care, Consultation of Stakeholders for development of National Strategy on Ageing, Bhutan, 23 August 2019, Paro, Bhutan
3. Evidence on Healthy Ageing: India Report WHO Consortium on Metrics and Evidence for Healthy Ageing, 10 October 2019, WHO Head Quarter, Geneva, Switzerland
4. Global and regional situations of elderly and elderly care, Stakeholders Consultation on National Strategy for Healthy Ageing, Bhutan, 14 October 2019, Bajo, Wangduephodrang, Bhutan
5. 29th Prem Chand Dandiya Oration: Cognitive impairment, sarcopenia and frailty: Manifestations of Extreme Ageing, National Symposium on “Graceful Ageing: Medical, Psychological and Social Aspects”, 16 November 2019, Jaipur National University, Jaipur, Rajasthan
6. ICOPE Pilots in India, WHO Clinical Consortium on Health Ageing, 21 November 2019, WHO Head Quarter, Geneva, Switzerland

7. Jodhpur Oration- Integrated Care of the Older People (ICOPE): Old wine in a new bottle?. GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
8. Integrated Care of Older People WHO SEARO ICOPE Based Training for Primary Care Physicians 16 December 2019, Yashwantrao Chavan Academy of Development Administration, Pune, Maharashtra
9. Mental Health in old age WHO SEARO ICOPE Based Training for Primary Care Physicians, 17 December 2019, Yashwantrao Chavan Academy of Development Administration, Pune, Maharashtra
10. Health of older adults and Geriatric Syndrome, WHO India State level Training of Trainers on Healthcare of Elderly for CHC Medical Officers, 25 February 2020, Hyderabad, Telangana
11. Integrated care for older people (ICOPE), WHO India State level Training of Trainers on Healthcare of Elderly for CHC Medical Officers, 25 February 2020, Hyderabad, Telangana
12. Integration of Ayurveda in Geriatric Health in Tertiary Health Care, National Seminar on Ayurveda and Integrative Medicine: its contemporary relevance 12 January 2020, Jammu, UT of Jammu & Kashmir

#### **Prasun Chatterjee**

1. Mental capacity assessment in Indian older adults, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
2. Geriatric Assessment for the Rheumatologist, IRACON 2019- 35th Annual Conference of the Indian Rheumatology Association, 8 December 2019, Jawaharlal Institute of Postgraduate Medical Education and Research, *Puducherry*
3. Functional assessment in older adults, WHO SEARO ICOPE Based Training for Primary Care Physicians, 16 December 2019, Yashwantrao Chavan Academy of Development Administration, Pune, Maharashtra
4. Assessment of Intrinsic Capacity of Older Adults, **75th Platinum Jubilee of Annual Conference of the Association of Physicians of India (APICON)** 6 January 2020, **The Kunjamal N Convention Centre**, Agra, Uttar Pradesh
5. Quick assessment of Intrinsic Capacity (IC), WHO India State level Training of Trainers on Healthcare of Elderly for CHC Medical Officers, 25 February 2020, Hyderabad, Telangana

#### **Oral papers/posters presented**

1. Singh A, Association of sarcopenia and low calf circumference in Indian elderly patients, 19th Biennial Conference of Association of Gerontology India, 18 August 2019, AIIMS, New Delhi
2. Bajpai S, Development of a comprehensive cognitive evaluation protocol for older adults in Memory Clinic, 19th Biennial Conference of Association of Gerontology India, 17 August 2019, AIIMS, New Delhi
3. Agarwal RM, Posturo-graphic evaluation of faller and non-faller elders, 19th Biennial Conference of Association of Gerontology India, 17 August 2019, AIIMS, New Delhi
4. Saravanan MS, Frailty in health-seeking older population: Findings from an Indian registry, 15th International Congress of European Geriatric Medicine Society (EuGMS), 26 September 2019, ICE Krakow Congress Centre, Krakow, Poland
5. Banerjee J, Validation of a newly developed tool (SCOPE-C, Version1) for streamlining care and decision making in older adults with cancer in India, 19th Conference of the International Society of Geriatric Oncology, 15 November 2019, International Conference Center Geneva, Geneva, Switzerland
6. Saravanan MS, Correlates of falls among health-seeking older Indian population, 1st World Congress on Falls and Postural Stability, 5 December 2019, *Kuala Lumpur*, Convention Center, *Kuala Lumpur*, Malaysia
7. Rao AR, Clinical profile of Mild Behavioural Impairment in patients attending Memory Clinic, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
8. Aryal A, One carbon metabolism and cognitive impairment in older Indians, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
9. Waris M, Establishment of a clinical construct of intrinsic capacity in older adults., GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
10. Rao A, Effect of Multimodal Intervention in comparison to health awareness among older adults with Subjective Cognitive Impairment Delhi and NCR– A RCT Study design and progress, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
11. De K, Development of a new Frailty assessment tool in older Indians., GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
12. Rajan SP, Biomarkers and Diagnostic Tools of sarcopenia, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu

13. Singh A, Estimation of Novel Proteins among Older subjects as Biomarkers for Cognitive Impairment, GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
14. Ajmera Y, Incidence and prevalence of delirium and its socio-demographic and clinical correlates in geriatric population: A prospective observational study , GERICON 2019- 17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
15. Kumari B, Caregiver stress and burden among carers of cognitively impaired individuals, GERICON 2019-17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
16. Anwar M, Physical activity modulates stress inducible protein Sestrin 2 to enhance muscle stem cell proliferative potential in sarcopenia featuring murine model, GERICON 2019-17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
17. Jaiswal A, Quantitative assessment of cardiopulmonary fitness in the older Indian adults attending Geriatric medicine OPD AIIMS, GERICON 2019-17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu
18. Painkra B, Predictor of survival following hospitalization for illness of recent onset among the oldest old (>85 year), GERICON 2019-17th Annual Conference of Indian Academy of Geriatrics, 7 December 2019, Christian Medical College, Vellore, Tamil Nadu

## RESEARCH

### Funded projects

#### *Ongoing*

1. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India (LASI): Genomic Study, AB Dey, NIH (USA), 5 years, 2019-2024, Rs 2201.96 lakhs
2. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India (LASI), AB Dey, NIH (USA), 5 years, 2015-2020, Rs 528.66 lakhs
3. Longitudinal Aging Study of India (LASI), AB Dey, MoHFW, 4 years, 2015-2019, Rs 100 lakhs
4. www.oldagesolutions.org—A web portal for older people and their care givers, AB Dey, DST, 3 years, 2019-2022, Rs 47.38 lakhs
5. Study of Sarcopenia: Establishment of norms for diagnosis, prevalence and risk factors in ageing North Indian population and development of preventive strategies, AB Dey, ICMR, 3 years, 2019-2022, Rs 88.25 lakhs
6. Validation and Implementation of Integrated Care for Older People (ICOPE) as cornerstone for community-based care of older persons in India: A pilot study, AB Dey, WHO, 1 year, 2019-2020, Rs 10.05 lakhs
7. Multimodal intervention (diet, exercise and computer based cognitive training) amongst elderly subject with Subjective cognitive impairment (SCI) attending Geriatric clinic of AIIMS, Prasun Chatterjee, DST, 3 years, 2017-2020, Rs 38.52 lakhs
8. Effect of Smart Nordic Walking Training on Mobility Independence in Community Elderly- A pilot Study, Prasun Chatterjee, ICMR, 2 years, 2019-2021, Rs 38.15 lakhs
9. Characteristics of Indian Super Agers—A pilot prospective cohort study with a potential future predictive model, Prasun Chatterjee, ICMR, 3 years, 2019-2022, Rs 61.36 lakhs
10. National Study of Knowledge, Attitude, Perception & Medical Awareness towards a Model of Intergenerational Engagement & Science, for Sanitation, Hygiene & Health, Prasun Chatterjee, DST, 1 year, 2019-2020, Rs 21.16 lakhs

### Departmental projects

#### *Ongoing*

1. Impact of Nordic Walking training on functional status in the very old: A randomized control trial
2. Geriatric Assessment of patients with hematological malignancies (Multiple Myeloma) by a newly developed scale for older persons with malignancy for their initial assessment, prognostication and care
3. Transcriptome profiling (mRNA/miRNA) of specialized skeletal muscle cells (satellite cells) for identification of factors involved in age related myopathies

4. Validation of newly developed scale (SCOPE-C, Version 1) for geriatric patients with lung cancer for their initial assessment, prognostication and care and explore the potential of tumor suppressors as biomarkers in lung cancer in older population
5. Clinical frailty scale as a predictor of mortality in older adults with SARI – A prospective observation study
6. Observations on sarcopenia in residents of old age home
7. Predictor of survival following hospitalization for illness of recent onset amongst the oldest old
8. Biological ageing indicators and its correlates in older Indians
9. Caregiver stress and burden among careers of cognitively impaired individuals
10. Incidence and prevalence of delirium and its socio-demographic, clinical and biochemical correlate in geriatric population
11. Study of biomarkers in subjects with subjective cognitive decline
12. Validation of ICT-BRIEF tool as Mortality predictor at 6 month and 1 year in older adults
13. Gait and balance profile of users of Smart Nordic Walker and Smart Shoes
14. Item reduction of SCOPE C Version 1 and validation of same in elderly with malignancy
15. Effect of intergenerational learning on cognitive reserve in elderly
16. Study of the gut micro biota in sarcopenic and non-sarcopenic in older adults
17. Gait analysis in persons aged 75 years and above

### **Completed**

1. Study of skeletal muscle regeneration in old age
2. Development of Healthcare Policies and Programmes Awareness Questionnaire (HPPAQ) to study the awareness about the national
3. Healthcare policies and programmes for senior citizens among geriatric patients and medical/paramedical professionals
4. Predicting Frailty in Indian Hospital Setting: Comparison of Three Indicators
5. Randomized placebo control trial to assess clinical and immunological efficacy of pneumococcal vaccine in Indian older adults
6. Quantitative assessment of the cardiopulmonary fitness in Indian older adults attending the Geriatric OPD
7. Assessment of autonomic function across frailty status in Indian elderly
8. Estimation of novel proteins among older subjects as biomarkers for cognitive impairment
9. One carbon metabolism and cognitive impairment in older Indians
10. Development of new frailty scale in older Indians
11. Establishment of clinical construct of intrinsic capacity in older adults
12. Biomarkers and diagnostic tools of sarcopenia in Indian older population

### **PUBLICATIONS**

**Journals: 12**

**Abstracts: 1**

**Chapters in Books: 2**

**Books: 1**

### **PATIENT CARE**

The Department provided daily OPD service and once-a-week afternoon Memory Clinic. During the year 51511 (new and revisit) consultations were provided to patients in OPD and 312 (225 new and 87 revisit) patients were seen in the Memory Clinic. Rehabilitation service from the Day Care Service of the department was provided to 14969 patients. 1623 patients were admitted under Geriatric Medicine during the year.

### **Community Service**

The faculty and residents of the Department participated in health camps for senior citizens organized by non-governmental organization Healthy Aging India in old age homes in Delhi NCR region.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Prasun Chatterjee and Dr Vijay Kumar** participated in several health education programmes of Door Darshan and delivered talk on old age issues.

**Dr Joyita Banerjee** was appointed as the National Representative for India by International Society of Geriatric Oncology (SIOG), Geneva, Switzerland.

**Professor AB Dey** participated in: Expert Group Consultation to review manual for training primary care physicians in care for older people at held in WHO Regional Office for South-East Asia, New Delhi, India from 20 to 21 August 2019; Consultation of Stakeholders for development of National Strategy on Ageing, Bhutan from 23 to 25 August 2019 at Paro, Bhutan; WHO Regional meeting on Integrated Care for Older People (ICOPE) in South-East Asia Region 18-20 September 2019, New Delhi, India; WHO Consortium on Metrics and Evidence for Healthy Ageing on 10 and 11 October 2019 at Geneva, Switzerland; Stakeholders Consultation on National Strategy for Healthy Ageing, Bhutan from 14 to 16 October 2019 at Wangdue, Bhutan; WHO Clinical Consortium on Healthy Ageing on 21 and 22 November 2019 at Geneva, Switzerland; WHO SEARO Training programme on ICOPE for Primary Care Physicians by from 16 December to 18th December 2019 at Pune, Maharashtra; WHO India State level Training of Trainers on Healthcare of Elderly for CHC Medical Officers at Hyderabad, *Telangana*.

**Dr Prasun Chatterjee** was appointed as a Consultant in WHO-SEARO in March 2020. He participated in: Expert Group Consultation to review manual for training primary care physicians in care for older people at held in WHO Regional Office for South-East Asia, New Delhi, India from 20 to 21 August 2019; WHO Regional meeting on Integrated Care for Older People (ICOPE) in South-East Asia Region 18-20 September 2019, New Delhi, India; WHO Clinical Consortium on Healthy Ageing on 21 and 22 November 2019 at Geneva, Switzerland; WHO SEARO Training programme on ICOPE for Primary Care Physicians by from 16 December to 18 December 2019 at Pune, Maharashtra; Conducted the WHO India State level Training of Trainers on Healthcare of Elderly for CHC Medical Officers at Hyderabad, *Telangana as the lead trainer; Participated and contributed substantially in* National Consultation meeting on Do Not Attempt Resuscitation (DNAR), ICMR Head Quarters on 2 December 2019.



## 9.16. Haematology

### Professor and Head

M Mahapatra

### Professors

S Tyagi

Tulika Seth

### Assistant Professors

Rishi Dhawan  
Ganesh Kumar V

Jasmita Dass

Mukul Agarwal  
Pradeep Kumar

### Scientist-II

Suman Lata

### Scientist-I

Ravi Ranjan

Ravi Kumar

### HIGHLIGHTS

- The ISHTM-AIIMS external quality assessment programme for hemogram, conducted by Department of Hematology, AIIMS was accredited for further two years as PT provider by NABL.
- Department of Hematology continued to be Regional training Centre by International Society of Hemostasis and Thrombosis in collaboration with the Institute of Experimental Hematology and Transfusion Medicine, University Clinic Bonn.

### EDUCATION

- The department conducts DM (Clinical Haematology), DM (Haematopathology) and PhD program in the field of Haematology. The academic programme includes regular seminars, symposia, micro-teaching and case discussions.
- The faculty is involved in theory and practical classes for undergraduate students in the subjects of Pathology, Hematology and Internal medicine. Clinical case studies are taught in the department of Pediatrics. Students of MD (Pathology) are trained in Haematology.
- The department provides short term training for visiting doctors, healthcare professionals and M.Sc. students interested in the field of Haematology.
- The department has provided training in the field of clinical and laboratory hematology to one doctor from other institution for two weeks each. Also 06 M.Sc. students also undertook short-term training hematology for two months each, during this year.

### CMEs/Workshops/Symposia/National and International Conferences

- The department organized 60th Annual Conference of Indian Society of Hematology and Blood Transfusion (HAEMATOCAN 2019) 7-10 November 2019. More than 1500 delegates participated in the conference.
- It also organized three workshops on 7 November 2019. These workshops were on:
  - Flowcytometry in Benign Hematology
  - Thrombophilia
  - Haemophilia- Musculo-Skeletal

### Lectures delivered

**M Mahapatra: 9**

**Seema Tyagi: 1**

**Tulika Seth: 20**

**Rishi Dhawan: 6**

**Mukul Agrawal: 12**

**Jasmita Dass: 7**

**Ganesh Kumar V: 4**

### M Mahapatra

1. Aplastic Anemia: Indian challenge, HOPE ASIA 2019, 23-25 August 2019, Kolkata
2. Inherited Bone marrow Failure Syndromes: Old & New Tools for Diagnosis, 11th Annual conference of Odisha

Haematology, 7-8 September 2019, Bhubaneswar

3. Approach to Pancytopenia, NESHCON 2019, 20-22 September 2019, Kaziranga
4. Management of Aplastic Anemia: Issue in Management, 30th Annual Meeting of DSH, 24-25 September 2019, New Delhi
5. Aplastic Anemia in India, 2nd King's College London Bone Marrow Failure/Aplastic Anemia Meeting, 10-11 October 2019, London, UK
6. Approach to a patient who is bleeding, 30th Annual conference API Delhi state chapter, 15-16 December 2019, New Delhi
7. Perioperative management of anti-platelet and anticoagulant: When and how to stop?, 75th Annual Conference of API, 6-9 January 2020, Agra
8. Immunosuppressive therapy in Aplastic anemia, 1st International meeting on Bone marrow failure, 3-4 February 2020, Vellore
9. Ph-Negative Myeloproliferative Disorders, 4th ISHBT-EHA tutorial, 28-29 February 2019, Chandigarh

### **Seema Tyagi**

1. Optimal utilization of thrombophilia testing, Workshop on Thrombophilia, 7 November 2019, New Delhi

### **Tulika Seth**

1. Supportive care advances for BMT, Indus BMT/TCT, 5 April 2019, Chennai
2. Emicizumab panel case-based discussion for inhibitor patients, Delhi haemophilia expert forum, 27 April 2019, Delhi
3. Emicizumab panel case-based discussion for non-inhibitor patients, Hemophilia care update, 5 May 2019, Mumbai
4. Prophylaxis in haemophilia, Initiative on Hemophilia Care-V, 22 June 2019, Delhi
5. The burden of Sickle Cell Disease in India, Economist Intelligence Unit (EIU), 11 July 2019, Delhi
6. MERGE registry data, ACE 2019, 12-14 July 2019, Delhi
7. Newer therapies for Hemophilia, PHOCON, annual meeting of PHO chapter of IAP, 6-8 September 2019, Varanasi, UP
8. Thalassemia transplantation in India, Shenzhen Pediatric HSCT Symposium, 20-22 September 2019, Shenzhen, China
9. Difficult anemias: A case-based discussion, annual CME of the Dr. Athavale Foundation and Pediatric Alumni, LTMMC (DAFPAL), 29 September 2019, Mumbai, Maharashtra
10. Update on pediatric ITP therapy, Workshop benign hematology, PCNI, 27 September 2019, UCMS, Delhi
11. Changing paradigms in ITP, 3rd annual precision oncology conference, 11 October 2019, Jaipur, Rajasthan
12. Changing paradigms in ITP management-tried and tested vs new and unsubstantiated, ISO-ISMPO, 1 November 2020, Indore, MP
13. Update on FEIBA, inhibitor management in hemophilia, Haematocon 2019, Annual meeting of ISHTM, 9 November 2019, New Delhi
14. Moderated Panel discussion on patient safety over the counter medications, Workshop Patient Safety and Rights, 17 November 2019, Dehradun, UK
15. Genetic counselling foundation course, First Foundation Course on Genetic Counselling for Hematology diseases, 24 November 2019, Dehradun, UK
16. Thrombocytosis and leucocytosis: Approach, XIII Annual hematology meeting, 15 December 2019, Vadodara, Gujarat
17. Long term Complications in thalassemias, PEDICON, annual meeting of IAP, 10 January 2020, Indore, MP
18. Inhibitors in haemophilia, Update ASH at 3rd Myeloma Congress, 12 January 2020, Hyderabad, Telangana
19. AML patients above 60 years: Transplantation or not? (for transplant), 19th Annual RGCON, 8 February 2020, Delhi
20. Immune thrombocytopenia, Army Hospital (R&R) Hematology meeting, 15 Feb 2020, New Delhi

### **Rishi Dhawan**

1. Myelofibrosis: To transplant or not to transplant, Academy of Clinical Experts 2019, 14 July 2019, Delhi
2. Advances in transplant for acquired severe aplastic anemia, BMT Masterclass 2019, 8 September 2019, Mumbai
3. Management of steroid refractory chronic ITP in India, 4th Young Haematologists Orientation Program (YHOP),

22 September 2019, Lucknow

4. Indian Myeloma Quiz, 3<sup>rd</sup> Indian Myeloma Congress, 11 January 2020, Hyderabad
5. Adult ALL: Transplant or Not to Transplant, 19th International Conference RGCON 2020, 8 February 2020, Delhi
6. Self-Assessment Case Ph-Negative Myeloproliferative Neoplasms, 4th ISHBT-EHA Tutorial 2020, 28 February 2020, Chandigarh

#### **Mukul Agrawal**

1. Management of Non-transfusion dependent thalassemia, Manipur Hematology Update (I), 4 April 2019, Delhi
2. Multiple Myeloma (panelist), 6 July 2019, Mumbai
3. Myelofibrosis (panelist), Academy of Clinical Experts, 11-13 July 2019, Lucknow
4. ITP (Panelist), Emerging hematology, 20 July 2019, Hyderabad
5. Management of Non-Transfusion Dependent Thalassemia, Inclusive hematology, 28 July 2019, Delhi
6. Clinical Vignettes- Anemia, IAP- Benign hematology workshop, 27 September 2019, Chandigarh
7. Donor lymphocyte and granulocyte infusions in the management of infections - Do they work?, 5th Conference on Transplant Infectious Diseases, 29 September 2019,
8. Bumper quiz, Hematocon 2019, 8-10 November 2019, New Delhi
9. Selecting a BMT donor, RGCON 2020, 7-9 February 2020, New Delhi
10. Case presentation, Towards Disability- free Haemophilia, 29 February 2020, New Delhi
11. MRD, Nelarabine and relapsed ALL (Panelist), CME on Pediatric Leukemia and Lymphoma, 9 February 2020, New Delhi
12. Scientific based testing vs ABP Program, Regional Anti-Doping Symposium in Asia, 22-23 October 2019, New Delhi

#### **Jasmita Dass**

1. FCM in PID/infections, Pre-conference workshop during HAEMATOCON 2019, 7 November 2019, New Delhi
2. Myeloma Quiz, Indian Myeloma Congress 2020, 10 January 2020, Hyderabad
3. Approach to Acute Leukemia Diagnosis: Case Based Approach, 19th Annual International Conference, RGCON-2020, 7 February 2020, New Delhi
4. Hematopathology Quiz, 19th Annual International Conference, RGCON – 2020, 7 February 2020, New Delhi
5. Panel discussion on ALL as Panelist, Pediatric Leukemia and Lymphoma CME, 9 February 2020, New Delhi
6. Flow cytometry in CLPD, 5th Molecular Oncology Society Conference, 22 February 2020, Patna
7. Flow cytometry MRD in ALL, 5th Molecular Oncology Society Conference, 22 February 2020, Patna

#### **Ganesh Kumar V**

1. Application of Flowcytometry in pediatric hematology, Pre-conference workshop during Haematocon 2019, 7 Nov 2020, New Delhi
2. Acute Myeloid Leukemia, Army Hospital (R&R) Hematology meeting, 18 January 2020, New Delhi
3. Platelet function testing, Army Hospital (R&R) Hematology meeting, 15 February 2020, New Delhi
4. CML: Diagnosis, Monitoring and Therapy; Panel discussion, EHA-ISHBT Haematology tutorials, 28-29 February 2020, Chandigarh

#### **Oral papers/posters presented**

1. Arora R, Gupta G, Mahapatra M, Pati H, Tyagi S, Seth T, et al. What do costly tests add to baseline profile? Diagnostic work up of Myeloma in resource constraint setting. Clinical Lymphoma Myeloma and Leukemia, Indian myeloma congress 2019, 11-12 May 2019, Mumbai
2. Gupta G, Arora R, Mahapatra M, Seth T, Aggarwal M, Dhawan R, et al. Clinical Profile and Outcomes of Waldenström's Macroglobulinemia From a Tertiary Care Center in India. Clinical Lymphoma Myeloma and Leukemia, Indian myeloma congress 2019, 11-12 May 2019, Mumbai
3. Gupta G, Arora R, Mahapatra M, Seth T, Dhawan R, Aggarwal M, et al. Baseline Characteristics and Outcomes of Patients with Multiple Myeloma: Indian Perspective. Clinical Lymphoma Myeloma and Leukemia, Indian myeloma congress 2019, 1-12 May 2019, Mumbai
4. Nityanand S, Gupta A, Yadav S, Kumar P, Garg A, Gupta R, et al. Improved treatment outcome of transplant ineligible multiple Myeloma in the Era of Novel Agents: Experience from Tertiary Care Centre in North India,

Indian myeloma congress 2019, 11-12 May 2019, Mumbai

5. Gupta N, Kumar R, Seth T, Garg B, Sharma A. Targeting of versican, a proteoglycan in bone marrow microenvironment by microRNAs inhibit multiple myeloma progression, The Japanese Society of Medical Oncology Annual Meeting, 18-20 July 2019, Kyoto, Japan
6. Gupta N, Kumar R, Seth T, Garg B, Sharma A. Targeting of stromal versican by miR-144/199 inhibits multiple myeloma by downregulating FAK/STAT3 signaling. RNA Biology, The Japanese Society of Medical Oncology Annual Meeting, 18-20 July 2019, Kyoto, Japan
7. Gupta G, Seth T, Mahapatra M, Aggarwal M, Dhawan R. Clinical profile of Posterior reversible encephalopathy syndrome in haematology patients at a tertiary care center, European Hematology Association, Annual Conference, 2019, 13-16 June 2019, Amsterdam, Netherlands
8. Mirgh S, Mahapatra M, Seth T, Dhawan R, Aggarwal M, Saxena R, et al. Impact of cytogenetics abnormalities on response in a cohort of Indian Multiple Myeloma patients: Is 13 q deletion the new 17p in disguise?, European Hematology Association, Annual Conference, 2019, 13-16 June 2019, Amsterdam, Netherlands
9. Mirgh S, Mahapatra M, Seth T, Dhawan R, Aggarwal M, Saxena R, et al. Comparison of Allopurinol and Febuxostat for prevention of Hyperuricemia and tumor lysis syndrome in acute leukemia, European Hematology Association, Annual Conference, 2019, 13-16 June 2019, Amsterdam, Netherlands
10. Halder R, Seth T, Mahapatra M, Chaturvedi P, Pati H, Saxena R. Utility of Inflammatory markers in distinguishing various infective etiologies of fever in febrile neutropenic patients, European Hematology Association, Annual Conference, 2019, 13-16 June, 2019, Amsterdam, Netherlands
11. Jain A, Dhingra N, Seth T, Mahapatra M. CNS involvement at presentation in AML: A retrospective case series, European Hematology Association, Annual Conference, 2019, 13-16 June 2019, Amsterdam, Netherlands
12. Mishra P, Tyagi S, Pati HP, Mahapatra M, Leukemia stem cells: A novel independent marker of prognostication in acute myeloid leukemia, Haematocon 2019, 7-10 November 2019, New Delhi
13. Bansal S, Mahapatra M, Naranje P, Mahapatra S, Xess I, Abdominal Infections in immunocompromised host: A clinical, radiological and microbiological correlation, Haematocon 2019, 7-10 November 2019, New Delhi
14. Kishore K, Sharma A, Ranjan R, Kumar R, Pandey H, Mahapatra M, et al. Influence of TFPI Gene Polymorphisms (33T/C and 536C/T) on DVT in Young Indians, Haematocon 2019, 7-10 November 2019, New Delhi
15. Juneja R, Pati HP, Tyagi S, Mahapatra M, Gupta A, Saxena R. Role of IHC on bone marrow biopsies in enhancing diagnosis of suspected case of MDS, Haematocon 2019, 7-10 November 2019, New Delhi
16. Obrei G, Tyagi S, Mahapatra M, Pati HP, Chronic Lymphocytic leukemia and Multiple Myeloma: Two swords in one scabbard, Haematocon 2019, 7-10 November 2019, New Delhi
17. Pandey H, Ranjan R, Singh K, Sharma A, Kishore K, Mahapatra M, et al. Frequency of Alpha gene number and HMOX1 polymorphism in Indian sickle cell disease patients, Haematocon 2019, 7-10 November 2019, New Delhi
18. Patel GR, Mahapatra M, Pati HP, Seth T, Saxena R, Evaluation of Association Between Hematologic Variables and Deep Vein Thrombosis, Haematocon 2019, 7-10 November 2019, New Delhi
19. Patel GR, Saxena R, Mishra P, Jana M, Mahapatra M, Evaluation of Bone mineral density in Hemophilia patients: A single instate observational study, Haematocon 2019, 7-10 November 2019, New Delhi
20. Ranjan R, Pandey H, Sharma A, Lata S, Kishore K, Tyagi S, et al. Evaluation of a rapid and cost effective POCD for screening sickle cell disease in Indian population, Haematocon 2019, 7-10 November 2019, New Delhi
21. Ranjan R, Sharma A, Kishore K, Bhashan B, Sazawal S Mahapatra M, et al. Prognostic value of P2X7 1513 (A-C) and BAXG(-248)A gene polymorphisms in CLL patients, Haematocon 2019, 7-10 November 2019, New Delhi
22. Thomas SA, Mahapatra M, Jyotsna VP, Lakshmy R. Assessment of Nutritional Status in Patients of acute lymphoblastic leukemia, Haematocon 2019, 7-10 November 2019, New Delhi
23. Lata S, Sazawal S, Ranjan R, Mahapatra M, Tyagi S, Saxena R. Evaluation of JAK2V617F Mutation in Indian Patients with BCR ABL Negative CMPN, Haematocon 2019, 7-10 November 2019, New Delhi
24. Vaid T, Agarwal M, Mahapatra M, Oculomotor Palsy: An unusual manifestation of Multiple Myeloma, Haematocon 2019, 7-10 November 2019, New Delhi
25. Ganju N, Agarwal M, Mahapatra M, Dhawan R, Unweaving the tangle of AML in Pregnancy, Haematocon 2019, 7-10 November 2019, New Delhi
26. Gupta G, Mahapatra M, Seth T, Agarwal M, Dhawan R, Pati HP, et al. Baseline characteristics and therapeutic outcomes of patients with Myeloma, Haematocon 2019, 7-10 November 2019, New Delhi
27. Gupta G, Seth T, Mahapatra M, Datta SK, Saxena R, Efficacy of Low Dose Rasburicase in Management of TLS in Leukaemia and Lymphoma Patients, Haematocon 2019, 7-10 November 2019, New Delhi
28. Harankhedkar S, Chauhan R, Mahapatra M, Saxena R, Platelet Aggregation studies in myeloproliferative neoplasms

with bleeding diathesis, Haematocon 2019, 7-10 November 2019, New Delhi

29. Jain A, Mahapatra M, Seth T, Irom A, Sazawal S. Treatment of CML-CP patients with Nilotinib followed by Imatinib compared to upfront Imatinib, Haematocon 2019, 7-10 November 2019, New Delhi
30. Pragna SG, Agarwal M, Sahtya DSK, Mahapatra M, Dhawan R, Seth T. Molecular profile in Denovo/elapsed acute myeloid leukemia using targeted gene sequencing, Haematocon 2019, 7-10 November 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. Mitigation of clinical phenotype by activated platelets in severe hemophilia, M Mahapatra, DBT, 3 years, 2019-2022, Rs 8 lakhs
2. NN7415-4311explorer 7, NN7415-4311, Concizumab label trial for Hemophilia B with Inhibitors, Tulika Seth, Novo Nordisk, 3 years, 2019-2021, Rs 3.5 lakhs
3. Explorer 8 NN7415-4311/4307, Tulika Seth, Novo Nordisk, 3 years, 2019-2021, Rs 3.5 lakhs
4. India 13 Multicenter project for capacity building with national training centres, Tulika Seth, NNHF, 1 year, 2019-2020, Rs 14 lakhs

#### *Completed*

1. Socio-Ecological Impact & Tribal Health: A Study on Epidemiological Diversity of Thalassemia Mutations among Tribes in India and Impact of Socio-Ecological Influences, Renu Saxena, DST, 3 years, 2017-2020, Rs 4.38 lakhs per year
2. Safety of turoctocogalfa for prophylaxis and treatment of bleeding episodes in previously treated patients with moderate or severe Haemophilia A in India, Tulika Seth, Novo Nordisk India Private Ltd, 1 year, 2018-2019
3. Clinical outcomes of CLL and MCL patients treated with Ibrutinib: An observational retrospective medical chart review from India, Tulika Seth, SiroClinPharma Pvt Ltd, 1 year, 2018-2019

### Departmental projects

#### *Ongoing*

1. Impact of molecular genetics on the phenotype of Indian sickle cell syndrome patients
2. Identification and in-silico characterization of molecular defects underlying inherited deficiencies of FVII and FX in India
3. To study the combined role the BCR-ABL1 Kinase Domain and Elsewhere mutation in Chronic Myeloid Leukemia patients with resistance to Tyrosine Kinase Inhibitors (TKIs)
4. Molecular profiling of Myelodysplastic Syndromes subgroups – MDS with single lineage dysplasia and MDS with multi-lineage dysplasia for assessment of prognosis and treatment response
5. Mitigation of clinical phenotype by activated platelets in severe hemophilia
6. Role of hMICL in BCR-abl 1 negative MPNs by FCM
7. Immunophenotyping and MRD analysis in Multiple myeloma by flow cytometry
8. Flow cytometric ploidy analysis in B-cell acute lymphoblastic leukemia
9. Minimal residual disease analysis in acute myeloid leukemia by flow cytometry using a limited antibody panel
10. Flow cytometry assessment of CD 26+ leukemia stem cells in chronic myeloid leukemia
11. Study of the role of thromboelastography in predicting risk of hemorrhage in patients with acute leukemia
12. Compare HbCZE and HPLC in diagnosis of hemoglobinopathies
13. To compare the diagnostic performance of Whole Body Low dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a Tertiary Care Centre
14. Effect of tyrosine kinase inhibitor on sperm parameters and pituitary gonadal axis in male patients with Chronic myeloid leukemia
15. Imatinib dose escalation in CML: indication, responses and outcomes

16. Assessment of eligibility for treatment free remission in patients of chronic phase of CML attending OPD of a tertiary care center
17. Evaluation of transient elastography, hepatic iron concentration by MRI t2\* liver, serum liver fibrosis indexes versus liver biopsy in thalassemia major patients who are candidates for hematopoietic stem cell transplant, a comparative pilot study
18. Evaluation of response to immunosuppressive therapy and eltrombopag in aplastic anemia
19. Correlation of endogenous thrombopoietin levels with response to thrombopoietin receptor agonists and assessment of serum LDH profile in adults with primary ITP
20. To compare the side effect profile, minimal residual disease and early event free survival in patients of CD 20 positive precursor B acute lymphoblastic leukemia who receive rituximab versus those who do not receive rituximab with induction therapy

### ***Completed***

1. Evaluate the Role of Tissue Factor and Tissue Factor Pathway Inhibitor Gene Polymorphisms in the Pathogenesis of Deep Vein Thrombosis in India
2. Study of expression of cereblon protein by immunohistochemistry in newly diagnosed and treated multiple myeloma patient
3. Assessment of Nutritional status/Parameters in acute leukemia patients undergoing induction chemotherapy
4. Efficacy of low dose rasburicase in management of tumor lysis syndrome in leukaemia and lymphoma patients
5. Abdominal infections in immunocompromised hosts: A clinical, microbiological and radiological correlation
6. Nilotinib versus Imatinib deep molecular response in CML
7. Clinical and laboratory profile of patients with hypereosinophilia presenting to a tertiary care center on north India
8. Correlation of serum iron profile and Hcpidin level in patient with microcytic hypochromic anemia.
9. Role of IHC with CD 61 and p53 on bone marrow biopsies in enhancing diagnosis in suspected MDS cases- retrospective and prospective study
10. Study of bone marrow lymphocyte subset in acute myeloid leukemia

### **Collaborative projects**

#### ***Ongoing***

1. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion in an Indian setting, Transfusion Medicine
2. Autoimmune haemolytic anaemia: Clinical and Serological correlation, Transfusion Medicine
3. Randomized control trial to evaluate safety and efficacy of intra vitreal injection of autologous bone marrow derived stem cells in acute cases of ischaemic central retinal vein occlusion, RP Centre
4. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective. Erasmus Medical Center, Rotterdam, Netherlands
5. Ocular GVHD in post Allogeneic HSCT patients, Transplant Immunology & Immunogenetics
6. Immune reconstitution in Haplo identical HSCT, Transplant Immunology & Immunogenetics
7. Role of platelet activation in the development of systemic inflammations in patients with type-2 diabetes, Endocrinology, AIIMS and Regional Centre for Biotechnology (RCB)
8. Outcome predictors of patients with secondary Hemophagocytic lymphohistiocytosis Medicine
9. Ras homolog gene family (RHOA) and Isocitrate dehydrogenase 2 (IDH2) mutation in Angioimmunoblastic T cell Lymphoma (AITL), Pathology
10. Identifying association of gene polymorphism and Prakriti in responders & non responders to dual antiplatelet therapy in coronary artery disease patients. Cardiology
11. To evaluate the role of serum d-dimer, neutrophil:lymphocyte ratio, platelet: lymphocyte ratio and CA125 in assessment of ovarian masses, Obstetrics and Gynaecology
12. Efficacy of intravenous iron therapy compared to oral iron treatment in iron deficient adult cyanotic, congenital heart disease patients for improvement in clinical outcome at 3 months, Cardiology

### ***Completed***

1. The effect of negative pressures used during ultrafiltration on erythrocyte, CTVS

2. Study of efficacy of topical rituximab encapsulated in nanoparticle in oral pemphigus vulgaris – a randomized double blinded placebo-controlled trial, Dermatology
3. Standardization of Voriconazole/posaconazole levels for pediatric hematology patients, Microbiology

## PUBLICATIONS

**Journals: 23**

**Abstracts: 29**

**Chapters in Books: 2**

## PATIENT CARE

### A. Clinical Services

#### Hematology Day Care Center Census 2019-20

Month	Admissions	BT	Chemo	PRP	Cryo	FFP	SDP	BMBx	TT	Phlebotomy	Hickman removal	Male	Female	Combined
April	1090	373	379	192	-	19	6	146	55	32	2	461	178	460
May	1260	383	499	214	-	15	12	186	34	21	6	520	234	501
June	1245	375	538	202	1	21	1	172	34	33	3	581	298	538
July	1338	407	602	205	3	18	1	179	60	41	3	515	205	274
August	1209	365	550	180	2	17	2	144	38	27	2	432	216	554
September	1338	349	628	172	-	23	5	142	53	34	4	468	304	524
Oct	1139	354	496	128	-	19	1	138	48	30	1	381	290	445
Nov	1132	324	544	137	1	15	1	118	53	32	1	413	277	442
Dec	1152	345	471	147	-	16	3	156	55	48	2	432	281	422
January	1160	362	504	147	1	15	3	145	58	32	3	462	290	417
Feb	1164	353	507	173	1	17	5	149	55	34	3	438	307	406
March	884	281	366	127	-	15	3	57	30	12	-	379	185	309
Total	14111	4271	6084	2024	9	210	43	1732	573	376	30	5482	3065	5292

### Community services

The department has been active in the area of thalassemia and hemophilia awareness at both community sensitization programmes, and public forums at AIIMS and with the thalassemia and Hemophilia society. The department has collaborated with GAP health and given inputs for patient safety programmes and for designing curriculum for genetic counseling for blood disorders.

Carried forward the Hemophilia patient/parent self-infusion program for anti-hemophilic factors by conducting a workshop at SET facility, AIIMS. Organized and participated in community awareness program in association with Uttarakhand state government, and NGO GAP health foundation, to organize the first patient safety conference.

### B. Laboratory Services

The Department of hematology has state-of-the-art facilities of following:

- Bone marrow aspirate, bone marrow biopsies and peripheral smears
- Immunohistochemistry
- Molecular genetics
- Hemolytic anemia workup
- Flow cytometry
- Capillary electrophoresis for hemoglobinopathies
- Coagulation workup for inherited and acquired bleeding disorders
- Platelet aggregometry

- Thrombophilia workup
- Prenatal diagnosis of Hemophilia and hemoglobinopathies

### Census of Various Laboratories (2019-20)

<b>• Bone Marrow Biopsy laboratory</b>	
• Immunohistochemistry:	449
• Reticulin slides:	815
• Massan Trichome:	10
• LAP Score:	90
• Cytochemistry:	940
<b>Total Biopsies:</b>	<b>1849</b>
<b>• Coagulation laboratory</b>	
• Coagulation test:	10846
• Thrombosis:	2126
<b>Total</b>	<b>12972</b>
<b>• Hemolytic Lab</b>	
• HPLC:	2227
• Serum Ferritin:	1106
• G6PD:	707
• DCT:	237
• OFT:	203
• PNH:	92
• Urine Hemosittrin:	34
• Cryoglobulin:	12
• Sickling test:	30
<b>Total:</b>	<b>4648</b>
<b>• Hemogram laboratory</b>	
• OPD and ward patients:	52170
• Hematology OPD patients:	41530
• Bone marrow staining:	8081
• Retic Count:	40240
<b>• Molecular diagnostic laboratory</b>	
• RTPCR/RQPCR:	<b>2340</b>
<b>• Flowcytometry</b>	
- Acute leukemia:	406
• Chronic lymphoproliferative disorders:	183
• Paroxysmal Nocturnal hemoglobinuria:	772
• Minimal Residual disease:	64
• CD34 enumeration:	41
• Platelet disorders:	20
<b>Total:</b>	<b>1486</b>

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor M Mahapatra** is Vice-President of Indian Society of Hematology and Blood Transfusion (ISHBT); Elected as Editor in Chief of Indian Journal Hematology and Blood Transfusion (IJHBT); Represented as an Indian leader to speak on “Aplastic Anemia in India” during 2nd Kings College Bone Marrow Failure/Aplastic Anemia Meeting held at Kings

College, London, UK in October 2019; Represented as an Indian leader by ISHBT to discuss with European/American leaders in hematological education and research collaborations with India.

**Professor Tulika Seth** is Member of ethics committees- AIIMS-PG, Member of ethics committees- Delhi University, Member subcommittee of IEC AIIMS for reporting of adverse events in clinical trials, Nominated member of NBE for Hematology, National coordinator India 13 project for training of trainers at National training centers for Hemophilia care, Member Secretary of ethics committee, Can support

**Dr Mukul Agarwal** is Working as Hematology expert for Athlete biological passport management unit (ABPU) with National Anti-doping agency (NADA), India and with Anti-Doping Laboratory, Tokyo

**Dr Rishi Dhawan** was selected for one-year certificate course—Global Clinical Scholars Research Training (GCSRT) 2021 Program by Harvard Medical School, United States with 25% tuition fee waiver scholarship.

#### **VISITING SCIENTIST**

1. Dr Sanjeet Dadwal, Pofessor, Transplant Infectious Diseases, City of Hope, Duarte, United States, 30 May 2019
2. Dr Nathan Punwani Associate Professor BMT and Hematology, Cedars Sinai Medical center USA, 29 February 2020
3. Dr Nandita Khara, Associate Professor, Hematology, Mayo Clinic Arizona, United States, 5 March 2020



## 9.17. Hospital Administration

### Professor and Head

Sidhartha Satpathy

### Medical Superintendent, Dr RP Centre

Shakti Kumar Gupta

### Medical Superintendent, Main Hospital

DK Sharma

### Professors

IB Singh

Sanjay Arya

Aarti Vij

### Additional Professors

Nirupam Madaan

Amit Lathwal

Anoop Daga

Mahesh R

### Associate Professors

Angel Rajan Singh

Vijaydeep Siddharth

Parmeshwar Kumar

### Assistant Professors

Jitender Sodhi

Sheetal Singh

Abdul Hakim

Vikas H

Laxmi Tej Wundavalli

### EDUCATION

The Department is running a postgraduate degree program for medical graduates, viz. MD (HA), earlier known as MHA (Masters in Hospital Administration). This course was started in February 1966, for the first time in India and has since been recognized as a distinct postgraduate discipline. In January 2016, this course had been converted to MD (Hospital Administration) in accordance with decision of Academic Committee (AC-113/10) duly ratified by GB (GB-152/7) during its meeting held on 13 April 2015. The Residency Program in Hospital Administration focuses on 'hands-on' training, where Resident Administrators are posted in the 'Administrative Control Room' of the main hospital, Jay Prakash Narayan Apex Trauma Center, and the National Cancer Institute, Jhajjar, round-the-clock as 'Duty Officers', and coordinate all the hospital activities after duty hours. The Administrative Control Room is the nerve center of the Hospital/centers. The Department also has Senior Residents, who are posted at the Main Hospital and various centers for assisting Faculty members in administrative tasks. They are also involved in the execution of new projects at AIIMS.

Faculty members also conducted several training programmes for the doctors working in various organizations including Central, State Governments, Paramilitary Forces and in various PSUs such as IICM, Ranchi and also other management institutes.

### LONG AND SHORT TERM TRAINING

1. One PG Student of MD (HA) from BP Koirala Institute of Health Sciences, Dharan, Nepal
2. Two MD (HA) students from Sher-i-Kashmir Institute of Medical Sciences, Srinagar, J&K
3. Four ITBP Medical Officers
4. One Armed Forces Medical Institute, Dy. Commandant, Bangladesh
5. Six MBA – Hospital Management students of Jamia Hamdard University
6. One student of MBA-HA from Chaudhary Charan Singh University, Meerut

### CONTINUING MEDICAL EDUCATION

1. Organized SASH (Safe & Sustainable Health)-2020 Conference, 21-23 February 2020, AIIMS, New Delhi in collaboration with Academy of Hospital Administration, Noida
2. 17th Healthcare Executive Management Development Programme, 1-7 March 2020, Goa

## Lectures delivered

**Sidhartha Satpathy: 25**

**Sanjay Arya: 6**

**Amit Lathwal: 2**

**Vijaydeep Siddharth: 8**

**Sheetal Singh: 3**

**Shakti Kumar Gupta: 4**

**Nirupam Madaan: 13**

**Mahesh R: 14**

**Abdul Hakim: 9**

**DK Sharma: 2**

**Anoop Daga: 5**

**Angel Rajan Singh: 2**

**Jitender Sodhi: 9**

## Sidhartha Satpathy

1. Pre-hospital care and Hospital Emergency Incident Command System for Disaster management, Training program on Disaster Management for senior Hospital Administrators from various states, 25 April 2019, National Institute of Health & Family Welfare, New Delhi
2. Mock drills in Disaster Management, Training of Trainers (TOT) for CDMOs. 19 June 2019, National Institute of Health & FW, New Delhi
3. CPA, TU & IDA in hospitals, Workshop on Healthcare Laws, Ethics and Regulations, 26 July 2019, SCOPE complex, New Delhi
4. Mock drills and Co-ordination with other agencies in Disaster Management Training Program for Senior Hospital Administrators, 23 September 2019, NIHFW, New Delhi
5. Outsourcing, Hospital Executive Management Development Program for Medical College Senior Faculty (HNB Univ), 26-27 September 2019, Center for Training & Research in Financial Administration, Dehradun
6. Patient safety, Hospital Executive Management Development Program for Medical College Senior Faculty (HNB Univ), 26-27 September 2019, Center for Training & Research in Financial Administration, Dehradun
7. Quality and accreditation, Hospital Executive Management Development Program for Medical College Senior Faculty (HNB Univ), 26-27 September 2019, Center for Training & Research in Financial Administration, Dehradun
8. Supply chain management, Hospital Executive Management Development Program for Medical College Senior Faculty (HNB Univ), 26-27 September 2019, Center for Training & Research in Financial Administration, Dehradun
9. Lecture discussion on AB-PMJAY- An overview, Multi-disciplinary Seminar at UAB, 25 October 2019, School of Health Sciences, UAB, Birmingham, USA
10. Contract management, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ), 27-28 November 2019, Center for Training & Research in Financial Administration, Dehradun
11. Patient safety, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ), 27-28 November 2019, Center for Training & Research in Financial Administration, Dehradun
12. Hospital Accreditation, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ), 27-28 November 2019, Center for Training & Research in Financial Administration, Dehradun
13. Public procurement, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ), 27-28 November 2019, Center for Training & Research in Financial Administration, Dehradun
14. RTI Act, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ), 27-28 November 2019, Center for Training & Research in Financial Administration, Dehradun
15. Organisation related chapters NABH standards, Quality Management & Accreditation of Health care Organization (QMAHO) course, 29 November 2019, AHA House, NOIDA, UP
16. Lecture & Panel Discussion on 'BMW management & IC in climate resilient health care systems' WHO Discussion Paper during ISHWCON-2019, 30 November – 1 December 2019, Mahatma Gandhi Medical University for Science & Technology, Jaipur
17. Contract management, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ.), 18-19 December 2019, Dehradun
18. Patient safety, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ.), 18-19 December 2019, Dehradun
19. Hospital Accreditation, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ.), 18-19 December 2019, Dehradun
20. Public procurement, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ.), 18-19 December 2019, Dehradun
21. RTI Act, Hospital Executive Management Development Program for Senior District level Officers (HNB Univ.), 18-19 December 2019, Dehradun
22. Organizational Behavior Lab & Hospital Management, Training Program on Hospital Management and Administration for MS and GDMOs of Coal India hospitals, 26-29 January 2020, Indian Institute of Coal Management, Ranchi, Jharkhand

23. Medico-legal systems, 17th Hospital Executive Management Development Program (HxMDP), 1-3 March 2020, Goa
24. Consumer Protection Act in Hospitals, 17th Hospital Executive Management Development Program (HxMDP), 1-3 March 2020, Goa
25. OB lab, 17th Hospital Executive Management Development Program (HxMDP), 1-3 March 2020, Goa

#### **Shakti Kumar Gupta**

1. Three lectures, 17th Healthcare Executive Management Development Programme (HxMDP) organized by Department of Hospital Administration, 1-7 March 2020, Goa
2. Challenges in Hospital Administration, 68th Armed Forces Medical Conference 2020, 5-7 February 2020, AFMC, Pune
3. Two lectures, Patient Safety Conclave, 17 July 2019, MTI Steel Authority of India Limited (SAIL), Shyamali, Ranchi
4. Healthcare Improvement at Tertiary Care Ophthalmology Centre in India, 26th Annual Conference of the International Association for Applied Management, 11-13th July 2019, London, UK

#### **DK Sharma**

1. RTI Act & Its Implication in Health Care Sector: Case Studies Valedictory Function, 28 September 2019, HNBU Medical Education University Dehradun, Uttarakhand
2. Case Studies in Hospital Operations: AIIMS Experience Healthcare Management Development Programme (HxMDP), 6 March 2020, Goa

#### **Sanjay Arya**

1. Six lectures on Special Programme on Hospital Management and Administration for Medical Superintendents, GDMO's of Coal India Ltd., 9-13 February 2020, Indian Institute of Coal Management, Ranchi, Jharkhand

#### **Nirupam Madaan**

1. Patient Safety: Who's baby is it anyway? CME on Patient Safety, 26 July 2019, SKIMS, Srinagar, Jammu & Kashmir
2. The e-waste conundrum! ISHWMCN-2019, 30 November 2019, MGIMS, Jaipur
3. Five lectures, Program on nursing service administration and quality management, 22 October 2019, AHA, Noida
4. Five lectures, IICM training program for Medical Superintendents, 27-29 January 2019, IICM, Ranchi
5. Quality for care in Public Healthcare Facilities, First Quality and Patient Safety Conference, 1 March 2020, Bilaspur Chapter of Critical Care Society, Chhattisgarh

#### **Anoop Daga**

1. Lectures on various topics of 'Quality in Hospital Support Services' Contact Programme of PGQM & AHO for various healthcare professionals. 18-23 April 2019, Academy of Hospital Administration NOIDA, UP
2. Moderator in Panel Discussion on 'Ayushman Bharat for Healthy India', National Symposium on 'Ayushman Bharat for Healthy India: The Path to Universal Health Coverage'. 22 June 2019, Academy of Hospital Administration NOIDA, UP
3. Lectures on various topics of Hospital Administration (eight lectures) Health Care MDP for Uttarakhand Govt. Medical Officers & Faculty, 11-12 January 2020, 26 February 2020, HNB Uttarakhand Medical Education University, Dehradun
4. Hospital Support Services (six lectures) Management Development Programme on Hospital Administration for Medical Officers, 30 January-1 February 2020, Indian Institute of Coal Management, Ranchi, Jharkhand
5. Moderator in Panel Discussion on 'CSR in Healthcare- Road Ahead for India', 'National Conference on Safe & Sustainable Hospitals' (SASH 2020), 23 February 2020, AIIMS, New Delhi

#### **Amit Lathwal**

1. Handling of internal disasters in hospital, Coal India Medical Conference (CIMECON 2020), 9 February 2020, IICM, Ranchi, Jharkhand
2. Five lectures, IICM training program for Medical Superintendents, 27-29 January 2019, IICM, Ranchi, Jharkhand

**Mahesh R**

1. Research Methodology and project writing, Quality Management & Accreditation of Health Care Organization (QM&AHO) programme, 18-23 April 2019, Academy of Hospital Administration, NOIDA, Uttar Pradesh
2. Planning and Quality needs in OPD, Quality Management & Accreditation of Health Care Organization (QM&AHO) programme, 18-23 April 2019, Academy of Hospital Administration, NOIDA, Uttar Pradesh
3. Accident and Emergency Services, Quality Management & Accreditation of Health Care Organization (QM&AHO) programme, 18-23 April 2019, Academy of Hospital Administration, NOIDA, Uttar Pradesh
4. IPD & Human resource management, Quality Management & Accreditation of Health Care Organization (QM&AHO) programme, 18-23 April 2019, Academy of Hospital Administration, NOIDA, Uttar Pradesh
5. Management of Dietary Services, 94th Training Course on Hospital Administrator for Senior Hospital Administrators, 17 October 2019, National Institute of Health and Family Welfare, New Delhi
6. Lectures of Hospital Administration (eight lectures) Health Care Executive Management Development Programme for Uttarakhand Govt. Medical Officers & Faculty, 26-27 September 2019, 27-28 November 2019, 16-21 December 2019, HNB Uttarakhand Medical Education University, Dehradun
7. International Patient Safety Goals: Ensure Safe Environment for Healthcare Workers Workshop on Patient Safety Goals, 17 September 2019, RP Centre, AIIMS, New Delhi

**Angel Rajan Singh**

1. Health Risk Assessment & Management for Environmental Pollution Training programme for 'Environmental Pollution and Its Health impacts', Haryana Institute of Public Administration, 15 May 2019, Gurgaon, Haryana
2. Healthcare Procurement Case Studies, 'Healthcare Executive Management Development Programme' organized by Department of Hospital Administration, 2 March 2020, AIIMS, New Delhi

**Vijaydeep Siddharth**

1. Five lectures, Training Programme on Hospital Management and Administration for Medical Superintendents GDMOs, Non-Specialist of Coal India Ltd., 13-15 February 2020, Indian Institute of Coal Management, Ranchi
2. Planning and Management Issues in Hospital CSSD, Linen and Laundry Services Training Course on Hospital Management for Senior Medical Officers of Border Security Force, 16 October 2019, NIHFWS, New Delhi
3. International Patient Safety Goal 4: Ensure Safe Surgery Workshop on Patient Safety Goals, 17 September 2019, RP Centre, AIIMS, New Delhi
4. Surgical Safety Checklist, NURSICON 2019, 10-11 December 2019, AIIMS, New Delhi

**Abdul Hakim**

1. Fire Safety Challenges in Existing Health Care Facilities, 'Design of Fire Protection Measures for Vital Installations and Buildings', Organized by CBRI, Roorkee, 11-13 November 2019, New Delhi
2. Challenges in the supply chain management, Strengthening of PM-JAY Services in Medical Colleges, 4 March 2020, New Delhi
3. Patient Safety (Overview), Patient Safety workshop, 10-11 December 2019, AIIMS, New Delhi
4. Six lectures: Training Programme on Hospital Management and Administration for Medical Superintendents GDMOs, Non-Specialists of Coal India Ltd. at IICM, Ranchi, 13-15 February 2020, Indian Institute of Coal Management, Ranchi

**Jitender Sodhi**

1. Six lectures, Training Programme on Hospital Management and Administration for Medical Superintendents GDMOs, Non-specialist of Coal India Ltd., 10-12 February 2020, Indian Institute of Coal Management, Ranchi
2. Importance of infection control in healthcare facilities CME on Quality and Patient Safety in Healthcare facilities, 24 April 2019, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
3. International Patient Safety Goal 6: Reduce the Risk of Patient Harm Resulting from Falls Workshop on Patient Safety Goals, 17 September 2019, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
4. Lectures on Support Services, Training Program on Hospital Administration and Management, 26 March 2019, IIHMR, New Delhi

**Sheetal Singh**

1. Three lectures, Contact Programme QM & AHO, 23 November 2019, Academy of Hospital Administration, NOIDA, U.P.

## **Oral papers/posters presented**

1. Choudhary AH, Vijaydeep S, Khalid, Parkash. Effective Implementation of Ayushman Bharat Scheme- A way to Universal Health Coverage, Arogya Manthan, 30 December 2019, Vigyan Bhawan, New Delhi

## **RESEARCH**

### **Departmental projects**

#### ***Ongoing***

1. A comparative analysis of APAR vs ACR systems in AIIMS
2. A satisfaction survey of battery operated buses under CSR initiative being used for intramural transportation at AIIMS
3. A study of gender sensitive behaviors in the workplace with the aim of designing gender sensitivity training modules for AIIMS, New Delhi
4. A study of process handling of the medico legal cases at the emergency deptt. of AIIMS, New Delhi from the respective of systemic improvement
5. A study of the effectiveness of a Mascot in spreading awareness about sanitation & safe disposal of hospital waste among healthcare workers at AIIMS, New Delhi
6. A study of the inventory management practices at Blood Bank of Main hospital
7. A study on prevalence of fire cracker injury and outcomes with demographic profile of patients visiting the emergency department of a tertiary care centre of North India during the festive season of Diwali
8. A study to assess the knowledge, attitude & practices towards COVID-19 among non-medical health workers/patients/attendants at a tertiary care hospital in New Delhi
9. A study to develop a hospital infrastructure project implementation model
10. A study to identify the various patients assistance and welfare schemes available in AIIMS hospital and its centres and the methods to provide financial assistance to poor patients
11. Application of queuing theory as decision making tool for OPD services in hospital
12. Fire control manual AIIMS, New Delhi
13. Gap Analysis for LAQSHAY Accreditation of Labour Room & Maternity OT Complex at main hospital
14. ICMR taskforce centre on rational use of Medicine
15. Implementation of an institutional antifungal stewardship program (AFSP) and its impact on antifungal usage and outcomes in patients with invasive fungal infections
16. Need Analysis of CSR in AIIMS
17. Study on radiotherapy services and utilization of specific radiotherapy equipment across different centers of AIIMS, New Delhi
18. Study to assess the impact of educational intervention on incidence of CLABSI line associated blood stream at ICU of JPNATC
19. To study the awareness about eye donation among patients and their attendants visiting AIIMS
20. To study the impact of mechanized laundering of floor mops on mop disinfection and sanitation services at AIIMS, New Delhi

#### ***Completed***

1. Study of leadership profile of Department Heads and its impact on work performance and well-being of fellow doctors
2. Comparative study of the emergency department of select hospitals in Delhi, with 100 and above beds, against standard guidelines
3. A study of the effectiveness of the “never use” list of abbreviations in medical prescriptions at AIIMS.
4. A study of association between the sexual assault and the socio-economic status of sexual assault survivors coming to AIIMS
5. Assessment of drug dispensing practices at free drug pharmacy at AIIMS
6. An interventional study on impact of use of mechanized laundered floor mops on mop cleaning and disinfection

## **Collaborative projects**

### ***Ongoing***

1. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open labeled parallel design non-inferiority randomized controlled trial, Surgical Disciplines
2. Costing of Standardized laparoscopic mesh repair of midline abdominal wall hernia, Surgical Disciplines

### ***Completed***

1. Evaluation of the impact of training amongst the food handlers in dietary services on knowledge, practices and beliefs of food safety behavior, Dietetics

## **PUBLICATIONS**

**Journals: 15**

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

AIIMS New Delhi bagged the prestigious “Kaya Kalp” award for the third year in succession in October 2019 under the category of Hospitals with a prize money of INR 3 crores. All the key- result areas showed improvement under the leadership of Faculty members of the Department, ably supported by Residents, Nursing Administrators, Hospital Officers, Infection Control Committee members, Engineering department, and others.

**Professor Sidhartha Satpathy** was awarded the International ICMR Fellowship 2019-20 for Senior Bio-Medical Scientist at University of Alabama at Birmingham, USA for 3 weeks in October-November 2019. The National Conference on Safe and Sustainable Hospitals (SASH-2020) was organized by Department of Hospital Administration in collaboration with Academy of Hospital Administration, Noida on 21-23 February 2020, at JL Auditorium, AIIMS, New Delhi; Nominated as Member of National Accreditation Board for Hospital & Healthcare providers (NABH) as AIIMS representative by Director AIIMS; Contributed to development of AIIMS Bhubaneswar as Mentor, and subject expert to assist Selection Committee for non-Faculty Administrative posts at AIIMS Bhubaneswar on 21 September 2019; Participated as Subject Expert for selection of Professor and Assistant Professor, Dept of Hospital Administration, AIIMS, Rishikesh and Mangalagiri, and Super-Specialty Cancer Hospital (SSCH), Lucknow. Expert Member of Committee for development of Bhopal Memorial Hospital & Research Center (BMHRC) by Dept of Health Research, GoI; Member of Building Committee of National Brain Research Institute, providing oversight for development of Auditorium, Academic Block and Laboratories; Also contributed as Expert Member of Academic Audit Committee of IIHMR University, for improvement of academics as mandated by UGC; Member of Committee for rationalization of recruitment rules for posts at upcoming CAPFIMS under the aegis of Ministry of Home Affairs, Govt. of India; Contributed as Editorial Committee member of JAHA and IJRFHHA, and Reviewer for National Medical Journal of India.

**Dr Shakti Kumar Gupta** was an expert member for the development of the Standard Operating Procedure for the prevention of Corona Virus Disease (COVID-19) for homes, organized by Department of Hospital Administration, AIIMS, New Delhi; Program Director for Master Class on “Essentials of Continual Quality Improvement (CQI)” organized by Research Foundation of Hospital & Healthcare Administration (RFHHA) held on 9 February 2020 at IIC, New Delhi; Program Director for 17th Healthcare Executive Management Development Programme (HxMDP) from 1 to 7 March 2020 at Pride Sun Village Resort, Goa, India organized by Department of Hospital Administration, AIIMS, New Delhi; Elected Executive member of Board of Directors of the International Association of Applied Management and Executive Vice President of the Association and Chair of the Healthcare Administration track for International Association for Applied Management Conference held in London, England, 2019; External expert member for the interview for Superspecialty Direct quota posts of Medical faculty in Chandigarh, India on 22 September 2019; Visited Bhutan as member of the expert committee for establishing 350 bedded Multidisciplinary Superspecialty hospital at Thimpu, Bhutan from 7 to 9 August 2019. The report has been submitted to MoHFW, GOI and Joint Secretary (North), Ministry of External Affairs, GOI on 12 September 2019. Appointed as External examiner for MD (Medical Administration) Examination by University of Colombo, Sri Lanka for which exams were held from 29 July to 5 August 2019 at Colombo, Sri Lanka; Appointed External Expert Member for the selection of Professor in School of Health System Studies at Tata Institute of Social Sciences, Mumbai on 28 August 2019; Attended Board Meeting along with Quality Conclave on Ayushman Bharat and its implementation from 8 to 10 August 2019 organized by Consumer Online Foundation at Banaras Hindu University, Varanasi; Attended the CME meeting on Cornea, Cataract, Refractive Surgery & Hospital Administration held at Biratnagar, Nepal on 27 July 2019; Expert Member for faculty selection in the subject of Hospital Administration at KGMU, Lucknow on 24 July 2019; Member of Expert Committee for finalization of Master plan for AIIMS, Jammu and AIIMS, Awantipora, Srinagar on 18-19 July 2019; External Expert Member of the panel discussion for the “Challenges in Hospital Administration and Way Ahead” organized by Steel Authority of India, Management Training Institute, Ranchi, Jharkhand for Learning from Each

Other Workshop on Hospital Administration – Systems and Practice, held from 16 July to 18 July 2019; Expert member to chair the scientific session at the 26th Annual Conference of the International Association for Applied Management at Holiday Inn, London, England on 12 July 2019; External examiner to conduct 2<sup>nd</sup> year practical examination for Masters in Hospital Administration held on 28 June 2019 at SGPGMIS, Lucknow; Expert member to finalize the Master plan for the establishment of AIIMS, Kashmir on 7 June 2019 at AIIMS, Rishikesh; Attended the meeting to finalize the Master plan for AIIMS, Kashmir, Jammu and Awantipora; Member of the National Executive Committee of Haemovigilance Programme of India constituted by National Institute of Biologicals, Ministry of Health & Family Welfare, Government of India; Delivered keynote address at the CME on Cornea, Cataract, Refractive Surgery & Hospital Administration at Biratnagar, Nepal.

**Dr DK Sharma** visited Nizam’s Institute of Medical Sciences, Hyderabad to act as an External Examiner to conduct Final Examination of MD (Hospital Administration); Visited Soura Srinagar (J&K) as an External Examiner for conducting the practical part of MD Hospital Administration Annual Examination (Batch-2016) for Sher-i-Kashmir Institute of Medical Sciences (Deemed University); Visited AIIMS Jodhpur to attend the Standing Selection Committee Meeting as an External Expert for selection of Faculty of Deptt. of Hosp. Admn., Visited Jaipur on behalf of MCI to inspection of assigned Medical College in either Gujarat, Dadra and Nagar Haveli, Daman and Diu, Maharashtra, Rajasthan for a critical time bound assessment of starting of new course U/s. 10(A) of the IMC Act, 1956 for MD – Hospital Administration Course; Visited Puducherry on behalf of MCI to inspection of assigned Medical College in either Gujarat, Dadra and Nagar Haveli, Daman and Diu, Maharashtra, Rajasthan for a critical time bound assessment of starting of new course U/s. 10(A) of the IMC Act, 1956 for MD – Hospital Administration Course; Attended the selection committee meeting as an Expert for Faculty Selection (Hospital Administration) at Superspecialty Cancer Institute & Hospital (SSCI&H), Lucknow; Visited Darbhanga as a part of Central Team constituted by MoHFW, GoI for setting up second AIIMS in the state of Bihar; Attended the Apical Selection Committee meeting as an Expert for the selection of Faculty (Hospital Administration) at Sher-i-Kashmir Institute of Medical Sciences (SKIMS), Jammu; Attended the selection committee meeting as a Subject Expert for selection of Faculties in the Deptt. of Hosp. Admn., AIIMS, Bhubaneswar; Visited IGNOU, New Delhi as a Member of Expert Committee Meeting for Revision of PGDHHM Programme of SOHS; Attended meeting of the committee constituted by MoHFW to finalise the master plan for establishing new AIIMS in Kashmir to be held in the office of Director AIIMS Rishikesh; Visited ESIC Medical College at Alwar, Rajasthan – Proposed plan for site visit and request for required coordination and providing a detailed report about existing infrastructure & facilities.

**Professor IB Singh** was appointed Internal Examiner for the Board of Examiners for the MD in Hospital Administration Final Examination and Evaluator for Dissertations for PG degree examination in Hospital Administration (MD) in Medical Colleges under Dr. NTR University of Health Sciences, AP; Appointed Chairman of the Board of Examiners for MD Hospital Administration examination at The Nizam Institute of Medical Sciences, Hyderabad; Appointed External Expert for recruitment of Faculty position (Hospital Administration) at AIIMS, Bhopal; Appointed external examiner for the Final Examination for the Master in Hospital Administration Course of Post Graduate Institute of Medical Education and Research, Chandigarh; Nominated as expert committee member and participated (i) 32<sup>nd</sup> Meeting of Technical Evaluation Committee (TEC) for evaluation of Detailed Project Reports Under Phase III of Centrally sponsored Scheme for ‘Establishment of New Medical Colleges attached with existing District/Referral Hospitals’- in GDHS, Nirman Bhawan and (ii) 33<sup>rd</sup> Meeting of Technical Evaluation Committee (TEC) for up-gradation of existing Medical colleges to increase MBBS seats in the country and strengthening and up-gradation of State Government Medical Colleges for starting New PG disciplines and increasing PG seats; Chaired the Scientific session: papers presented by Faculties, Professionals and students, from various institutions—open session in SASH-2020-National Conference on ‘Safe and Sustainable Hospitals’.

**Dr Nirupam Madaan** was a member of the Editorial Board, International Journal of Research Foundation of Hospital & Healthcare Administration (IJRFHHA). She was also nominated as a member of Health Informatics, MHD-17, from AIIMS, New Delhi.

**Dr Anoop Daga** was an Associate Editor, Journal of Academy of Hospital Administration (JAHA) and a member of the Editorial Board, International Journal of Research Foundation of Hospital & Healthcare Administration (IJRFHHA). He is also member of the Technical Textile Committee (incl. Medical & Surgical Textile), Bureau of India Standards (BIS). Member, Service Sector Division Council, BIS. He is also the Project in-charge of the **Mother & Child Block** (425 Beds) project. He was also the organizing Secretary for the “**National conference on Safe & Sustainable Hospitals**” (SASH 2020).

**Dr Amit Lathwal** was a resource faculty at NIHF in the training course on “District Preparedness for Public Health Emergencies Management” for District Health Officers, and at AHA for NQAS Certificate course and training course on nursing service administration & quality management. He visited Japan in August 2019 as part of Human resource development exchange programme for trauma care for studying the Japanese trauma care system.

**Dr Mahesh R** was a member of the Committee to examine the pros and cons of Central Legislation against the assault on Doctors on duty and Clinical Establishments. He is the Member Secretary, Fire Audit Team. He is also the Chairman of the sub-committee for assessment of cases for eligibility for Compassionate appointment at AIIMS, New Delhi. He is a Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Dept. of Finance Services. He chaired a Session in International Conference on Operations Research and Decision Sciences (ICORDS-2019) at IIM, Vishakapatnam. He continues to Contribute as Principal Member of Medical Equipment & Hospital Planning Division Council (MHDC), Bureau of Indian Standards.

**Dr Angel Rajan Singh** was the moderator for Project Management in Healthcare in times of Digital Disruption - The Intersection of Strategy, People, Technology and Process. “SASH 2020: Connecting The Dots...for Better Management of Hospitals” organized by Department of Hospital Administration, AIIMS, New Delhi.

**Dr Jitender Sodhi** was contributed as a reviewer for the manuscript “Patient awareness of costs of treatment at a Govt-Sponsored hospital” for Indian Journal of Pediatrics; Contributed as a Member Secretary in an inquiry committee in the institute; Contributed as convener of the registration committee of the department’s conference: **National conference on Safe & Sustainable Hospitals (SASH 2020)** held at AIIMS, New Delhi.

**Dr Abdul Hakim** was a member of the Committee of Working Group-5 ‘Strengthening of Public Hospitals through AB PM-JAY’.

**Dr Sheetal Singh** attended the Conclave & Refresher Course on 5th edition of NABH Hospital Standards as an NABH Assessor held on 15 February 2020 in New Delhi.

## 9.18. Laboratory Medicine

### Professor and Head

M Irshad (up to 30 June 2019) Renu Saxena (1 July 2019 till 31 December 2019)  
Subrata Sinha (from 1 January 2020)

### Professor

Sarman Singh (on deputation)

### Associate Professors

Sudip Kumar Datta

Shyam Prakash

### Assistant Professors

Suneeta Meena (from 17 October 2019)

Tushar Sehgal (from 4 November 2019)

Priyam Batra  
(Contract)

Shiba Ansari  
(Contract, from 19 October 2019)

Aparna Ningombam  
(Contract, from 25 November 2019)

### HIGHLIGHTS

The Department successfully developed an integrated automated robotic laboratory designated as SMART Lab in the New RAK OPD block. This lab is equipped with state-of-the-art automated analyzers, which are integrated with a pre-analytical system to minimize the human interface and a post-analytical archival system for systematic sample storage and retrieval.

Platelet Function Analyzer (Helena Platelet Aggregometer) has been successfully installed, in the Hematology section of the department for platelet function studies.

The Department has started Clinical Pathology and Molecular diagnostic services. The department has also started diagnostic services for the following parameters: HbA1c by HPLC, serum Chromogranin, Vitamin A/E and vitamin D.

The Central Collection Facility extended the blood collection timings from 7.45 AM to 11.30 AM followed by collection of post-prandial samples up to 1.30 PM. The 2nd shift extends from 1:30 PM to 3 PM. Since February 2020, sample collection facility in the New OPD block has been started.

Phlebotomy Training programs for Lab Technologists working in various laboratories in AIIMS, New Delhi, have been started.

The Journal of Laboratory Physicians, an open access journal of which Prof Sarman Singh is the Editor and Prof Arulselvi S, Prof Purva Mathur and Dr Sudip Kr Datta are Associate Editors, has been indexed in PubMed and is being currently published by Thieme Publishers.

### EDUCATION

The Department is running a 3-year MD (Laboratory Medicine) course and a thriving PhD program. There are regular teaching sessions including seminars, journal club presentations, monthly case presentations, interactive slide morphology sessions through multi-header microscope, interactive reporting sessions with discussions on Quality Control and EQAS program with regular internal assessment.

**Interdepartmental collaboration:** The Department has restarted the Integrated Seminars with Dept. of Pathology. Besides, the department facilitates teaching and training of MD Residents from Pathology, Biochemistry and Pediatrics departments through structured programs.

Departmental faculty are also involved in taking lectures for MBBS, Nursing students, and M. Biotechnology students.

### CMEs/Workshops/Symposia/Conferences Organized

Workshop on "Diagnostic Techniques in Parasitology" was organized on 7 June 2019, by the Clinical Microbiology Section in collaboration with Indian Association of Medical Microbiologists - Delhi Chapter.

### Lectures delivered

**Sudip Kumar Datta: 9**

**Shyam Prakash: 5**

**Suneeta Meena: 1**

### Sudip Kumar Datta

1. Vitamin D receptors (VDR) polymorphism: Importance in diagnostics, Advanced molecular techniques in Medical Diagnostics, 22 and 23 April 2019, Department of Biochemistry, GIMS, Greater Noida, UP
2. Role of renal transplantation on clearance of accumulated organochlorine pesticides in chronic kidney disease patients (CKD-5D): Prospective study. 23rd IFCC-EFLM European Congress of Clinical Chemistry & Laboratory

Medicine National congress of the Spanish Society of Lab. Medicine, 19-23 May 2019, Barcelona, Spain

3. Vitamin D receptor (VDR) polymorphisms: Role in personalized medicine., Symposia on Molecular Diagnostic and Therapeutics, 21 and 22 June 2019, College of Medicine & JNMH, Kalyani, India
4. Ethics in Laboratory Medicine, National Medical Laboratory Professional Week, 18-20 July 2019, AIIMS, New Delhi
5. Preanalytical errors in the era of automation, Haematocon 2019, 7 November 2019, Delhi
6. Ethics in Laboratory Medicine, International Conference on Bioethics in Health Sciences, 8-10 November 2019, SRM Medical College & Research Center, Chennai
7. Vit-D receptor polymorphisms & its implications on diagnostics, therapeutics and toxicology, Association of Medical Biochemists of India (AMBICON 2019), 13-15 December 2019, Ludhiana
8. Association of Organochlorine Pesticides with CKD & Its Implications, 5th Annual Academic Sessions 2020 of College of Chemical Pathologists of Sri Lanka, 14 and 15 February 2020, Colombo, Sri Lanka
9. PCR & RFLP: Role of the Laboratory, 5th Annual Academic Sessions 2020 of College of Chemical Pathologists of Sri Lanka, 14 and 15 February 2020, Colombo, Sri Lanka

### **Shyam Prakash**

1. An Insight of Health Scenario of Free Radicals Intoxication in Lifestyle Diseases, **International Industrial and Environmental Toxicology Congress**, 26-29 October 2019, Antalya, Turkey
2. Role of Prokineticins, growth differentiation factor-15 and nitric oxide expressions in metabolic syndrome and NAFLD, International Conference on Diabetes and Endocrinology, 26 and 27 November 2019, Jakarta, Indonesia
3. Molecular coordination of prokineticins and hepatic zinc transporter signatures in non-alcoholic fatty liver disease 9th Annual International Conference of IABSCON 2020, 27-29 February 2020, Department of Biochemistry, DY Patil Medical College, Kolhapur
4. Chemokines in liver diseases: New insight in iron trafficking proteins and Prokineticins in metabolic syndrome and non-alcoholic fatty liver disease (NAFLD), 15th Asia Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, Rajasthan
5. Prokineticins in Liver Diseases- New Insights of Iron Trafficking Proteins and Dysregulation of Nitric Oxide Behavior in Patients with Non-alcoholic Fatty Liver Disease, American Society for Cell Biology (ASCB), 7-11 December 2019, Washington DC, USA

### **Suneeta Meena**

1. Clinico-microbiological aspects and outcome of fungal keratitis at a tertiary care hospital in Uttarakhand, 13th National Conference of Society of Indian Human and Animal Mycologists, 13 February 2020, Jodhpur, Rajasthan

### **Oral papers/posters presented**

1. Abrol A, Gupta S, Singhal S, Balooni V, Ahmed S, Batra P, et al. Seroprevalence of TORCH Infections in symptomatic children under 5 years in tertiary care center like AIIMS, 2018-2019, IAMM-DC 1st Chapter Meet, 20 July 2019, New Delhi
2. Acharya S, Kumar K, Sarkar A, Ningombam A, Brijwal M, Choudhary A, et al. Dengue and high fluorescence lymphocyte count percentage in blood: A fascinating association (oral paper), 60th Annual Conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 8 November 2019, New Delhi
3. Acharya S, Ningombam A, Batra P, Saxena R. A suspected case of Plasmodium vivax and Plasmodium falciparum mixed infection: Diagnostic perplexity due to sample transport delay, 11th Annual Conference of Indian Association of Medical Microbiologists Delhi Chapter, 2 November 2019, New Delhi
4. Acharya S, Ningombam A, Sarkar A, Antony VM, Kumar K. A case report: Acute myeloid leukemia with maxillo-orbito-temporal myeloid sarcoma in a child, 1st Annual meeting Hematology Cancer Consortium, 16 August 2019, Kochi, India
5. Datta SK, 15th Asia-Pacific Ethics in Laboratory Medicine: Indian scenario, Asia Pacific Federation for Clinical Biochemistry and Laboratory Medicine Congress (APFCB), 17-20 November 2019, Jaipur, India
6. Datta SK, Jinger P. Serial nutritional assessment of Breast milk in mothers of very preterm (<32 weeks) Neonates, Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine Congress (APFCB), 17-20 November 2019, Jaipur, India
7. Gupta S, Kumar A, Kumar R, Pushpan P, Batra P, Behavior of uropathogens towards commonly used antibiotics in samples from outdoor patients: A tertiary care center experience, IAMM-DC 1st Chapter Meet, 20 July 2019, New Delhi

8. Gupta S, Vijayeta V, Batra P, Sofosbuvir a directly-acting antiviral drug failing response to treatment in patients with Chronic hepatitis C infection, 11th Annual IAMM-DC Conference, 31 October–2 November 2019, New Delhi
9. Komarraju VS, Gorai B, De Mattos LC, Prakash S. Novel function –spacer-lipid (FSL) trypanosomam Cruzi constructs as sensitive and specific FSL Kodecytes assay, 15th Asia-Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
10. Kumar A, Datta SK, Himani, Thakkar H, Mahajan S, Singh A. Role of renal transplantation on clearance of accumulated organochlorine pesticides in chronic kidney disease patients (CKD-5D): Prospective study. 23rd IFCC-EFLM European Congress of Clinical Chemistry & Laboratory Medicine National Congress of the Spanish Society of Lab. Medicine, 19-23 May 2019, Barcelona, Spain
11. Kumar A, Gupta S, Iqbal A, Pushpan P, Kumar R, Batra P et al. Susceptibility pattern of oral antimicrobials in uncomplicated UTI: Does Fosfomycin still stand effective? FEMS 2019, 8th Congress of European microbiologists, 7-11 July 2019, Glasgow, Scotland
12. Kumar K, Ningombam A, Acharya S, Sarkar A, Antony VM, Tiwari R, Peripheral erythrophagocytosis in a case of autoimmune haemolytic anaemia, 60th Annual Conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 10 November 2019, New Delhi
13. Ningombam A, Sarkar A, Acharya S, Antony V, Tiwari R, Saxena R. Scatterplot patterns of acute myeloid leukemia with cup shaped blast in sysmex XN-series analyser, 60th Annual conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 9 November 2019, New Delhi
14. Prakash S, Kumar K, Saraya A, Shalimar. Role of platelets in patients with Acute on Chronic failure (ACLF), 15th Asia-Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
15. Prakash S, Priyatma, Shalimar, Selvi SA, Vikram NK. Chemokines in liver diseases: New insight in iron trafficking proteins and prokineticin in metabolic syndrome and non- alcoholic fatty liver disease, 15th Asia-Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
16. Prakash S, Tiwari U, Priyatma, Ahuja V. Monitoring of thiopurine metabolite levels based on biochemical and haematological indices in inflammatory bowel disease (IBD), 15th Asia Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
17. Priyatma, Makharia GK, Ranjit KS, Prakash S. Does Chromogranin A an indicative biomarker of Gastric cancer? 15th Asia-Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
18. Ranjan R, Ningombam A, Senapati J, Sarkar A, Singh U, Arulselvi S. A curious case of leukopenia: Not always a disease, 60th Annual conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 10 November 2019, New Delhi
19. Sarkar A, Ningombam A, Acharya S. Scatter plots from sysmex XN- series analyser as tool for screening acute promyelocytic leukaemia, 60th Annual conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 9 November 2019, New Delhi
20. Saroj M, Priyatma, Vikram NK, Prakash S. Correlation of the steady state biomarker indices for glycosylated haemoglobin, lipids and anthropometry in diabetes and metabolic Syndrome, 15th Asia-Pacific Federation of Clinical Chemistry and Laboratory Medicine Congress, 17-20 November 2019, Jaipur, India
21. Singh U, Acharya S, Ningombam A, Sarkar A, Ranjan R, Saxena R. Bilirubin crystals in the neutrophils of patient with sepsis, 60th Annual conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 10 November 2019, New Delhi
22. Tiwari R, Ningombam A, Antony VM, Utility of haematology analyser in identification of microclots and apoptotic bodies, 60th Annual conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 10 November 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: a pilot study, Sudip Kumar Datta, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
2. Development of Opto-electronic sensor for point-of-care diagnostics of micro-albumin in urine sample, Sudip Kumar Datta, AIIMS – IIT Delhi Collaborative Research Project, 2 years, 2019-21, Rs 10 lakhs

3. Molecular expression and interaction between growth differentiation factor-15 and iron trafficking proteins in Nonalcoholic fatty liver disease, Shyam Prakash, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
4. Rapid diagnostic evaluation of micro PCR for hepatitis B virus DNA (HBV DNA) and HCV RNA quantitation, Shyam Prakash, BigTec Bangalore, 4 years, 2016-2020, Rs 30 lakhs
5. Clinical validation of two versions of salivary glucose and urea analyzers for developing of rapid non-invasive prototypes, Shyam Prakash, AIIMS-IIT Delhi collaborative research Funds, 2 years, 2019-2021, Rs 10 lakhs
6. Molecular expression and interaction between growth differentiation factor-15 and nitric oxide regulatory genes in diabetes and metabolic syndrome, Shyam Prakash, ICMR (SRF fellowship), 3 years, 2018-2021, Rs 13.7 lakhs
7. CAP-53194, a novel predictive tumor inhibitor of Polo Like Kinase-1, Shyam Prakash, DST (for WOS-A), 3 years, 2019-2022, Rs 14.73 lakhs
8. Development and validation of standalone meter for non-invasive salivary glucose quantification, Shyam Prakash, BIRAC, 2020-2021, Rs 7.91 lakhs

## **Departmental projects**

### ***Ongoing***

1. To study qualitative and quantitative abnormalities in hematological parameters in COVID-19 patients
2. A study on carbapenem and colistin resistance in urine isolates in a tertiary care center
3. Abnormality of platelet functions and effect of ammonia levels in Acute liver failure and acute on chronic liver failure.
4. Assessment of Fok 1 polymorphism of vitamin D receptor gene (VDR), Vitamin D and parathyroid hormone levels in stage 4-5 chronic kidney disease patients
5. CAP-53194, a novel predictive tumor inhibitor of polo-like kinase-1
6. Development of a multiplex real time PCR (qPCR) for simultaneous detection of Hepatitis viruses (A-G) in serum
7. Dysregulation of asymmetric dimethyl arginine and molecular expression of tight junctions (claudins) & programmed cell death ligand-1 in gastric cancer
8. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation
9. Evaluation of myelin loss and oligodendrocyte pathology in severe traumatic brain injury
10. Free radical markers: SOD, FRAP, MDA, Nutritional markers: Soluble transferrin, HsCRP, Hepacidin, Folic acid in obesity and metabolic syndrome
11. Molecular expression and interaction between growth differentiation factor-15 (GDF-15), and nitric oxide regulatory genes in Diabetes & Metabolic syndrome
12. Molecular expression and interaction between growth differentiation factor-15 (GDF-15), iron trafficking proteins, micronutrient antioxidants in diabetes and metabolic syndrome
13. Molecular expression of GDF-15, prokineticins, NOS 2, NOS 3, PDL-1 gene, ZIP-8, ZIP-14, Claudins in nafld and metabolic syndrome
14. Molecular interaction of reactive oxygen species in mitochondrial dysfunction and Nrf-2 gene expressions in polycystic ovary syndrome (PCOS).
15. Monitoring of thiopurine drug metabolites and hematological indices in inflammatory bowel disease: An assessment of efficacy & outcome
16. Randomized controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia
17. Study of mild traumatic brain injury induced novel circulating brain protein SNTF as a rapid diagnostic and prognostic biomarker for brain dysfunction
18. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate TBI induced cognitive impairment
19. To establish in house method of the micro PCR for HIV quantification and compare with HIV Real time PCR
20. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment.
- 21.

### ***Completed***

1. Cloning expression and purification of the novel recombinant protein from Toxoplasma gondii and its evaluation for the diagnosis of human toxoplasmosis
2. Flowcytometric Assessment of CD4+T and CD8+T cell subset populations in active pulmonary tuberculosis with

and without type 2 diabetes mellitus

3. To study suitability of citrated plasma stored in a conventional refrigerator over a 2-day period for use as internal quality control material
4. To study stability of citrated plasma stored in a conventional refrigerator over 36 hours for use as Internal Quality Control in resource finite settings.

### **Collaborative projects**

#### ***Ongoing***

1. Urine albumin creatinine ratio as a marker for predicting acute kidney injury and patient outcome in critically ill sepsis patients—A prospective observational study, Anesthesiology, Pain & Critical Care
2. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & monitoring of therapy, Laboratory Oncology
3. Application of Integrated Care Tool- BRIEF (ICT-BRIEF) in detection of Intrinsic Capacity and Geriatric Syndromes of older Indians, Geriatric Medicine
4. To evaluate the role of commercially available kit-based loop mediated isothermal amplification (TB LAMP Assay) in diagnosis of extra pulmonary TB, Medicine
5. Role of CSF Lactate and chloride in identifying the etiology of meningitis, Medicine
6. Prevalence of parasitic infections in patients with eosinophilia in a partially care hospitals in north India, Medicine, Microbiology
7. Utility of serum ferritin in Dengue fever, Medicine, Microbiology
8. Validation of an empiric tool to predict neurological outcomes in critically ill children- A prospective observational study, Pediatrics
9. The prevalence and risk factors of cystic fibrosis related diabetes in children with cystic fibrosis: cross-sectional study, Pediatrics
10. Role of Serum Matrix Metalloproteinase 7 Levels in Diagnosis and Prognostication of Infants with Extra-Hepatic Biliary Atresia, Pediatric Surgery
11. Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis, Nephrology
12. Comparative evaluation of endocrine disrupter chemicals (organochlorine, organophosphate, Biphenyl A, Phthalate) in polycystic ovary syndrome, type-2 diabetes mellitus and healthy reproductive age Indian women, and their correlation with dietary habits (vegetarian Vs non-vegetarian) and genetic variability, Multi-centric project
13. Role of T- Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Nephrology
14. Evaluation of prevalence, regional phenotypic variation, co morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A Multicenter study across India, Multi-centric project
15. To examine myelination and changes in oligodendrocytes in white matter pathology post severe traumatic brain injury (sTBI) among humans, Forensic Pathology and Molecular DNA, JPNATC
16. Randomized Controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia, Medicine
17. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of metabolism patients, Genetics, Pediatrics
18. Effect of parental presence on stress biomarkers, melatonin level and anxiety scores during induction of anesthesia in children undergoing ophthalmic procedures. A randomized controlled trial, RP Centre (Anaesthesia)

#### ***Completed***

1. Macronutrient composition of very preterm (<32wk) breast milk –A prospective observational study, Paediatrics
2. Effect of low dose Rasburicase in management of tumor lysis syndrome, Hematology
3. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury, Anaesthesia and Critical Care
4. Psychosocial stress and lipid profile as predictors of adverse pregnancy outcomes, Obstetrics and Gynaecology

### **PUBLICATIONS**

**Journals: 19**

**Abstracts: 15**

## PATIENT CARE

### CENTRALIZED BLOOD COLLECTION FACILITY:

Phlebotomy procedure done at CCF for Clinical Chemistry (1,58,000), Hematology (1,10,000), ESR (40,000), Coagulation profile (9500), Clin Path & Molecular Lab (5930), Clin Microbiology (6500), Human Nutrition (210), Endocrinology (50), Blood Bank (4100). Under the clinical Pathology and Molecular Immunology the tests done for routine services such as HbA1c (4645) and Serum Chromogranin (290)

### EMERGENCY LABORATORY SERVICES (Round the clock)

Hematology Services	No. of tests
Complete Hemogram without DLC	105954
Peripheral smear Examination	10800
<b>Coagulation Services</b>	
Prothrombin time and INR	103516
APTT	60200
<b>CSF and Body Fluids</b>	
Urine ketones/sugar	1457
Blood culture /CSF plating	9430
Body fluids including CSF microscopy for TLC, DLC	12714
<b>Sub Total</b>	<b>3,04,071</b>
<b>Clinical Biochemistry Services</b>	
Plasma Glucose	4765
S. Urea	268851
S. Creatinine	269045
S. Bilirubin	212721
S. Amylase	9757
Serum Electrolytes (Na, K, Cl)	188121
Ionic Ca	188121
SGOT	1314
SGPT	1314
ALP	1314
CSF-Glu.	5081
CSF-Prot.	5081
Arterial Blood Gas analysis	7836
<b>Sub Total</b>	<b>11,63,321</b>
<b>TOTAL</b>	<b>14,67,392</b>

### ROUTINE LABORATORY SERVICES

#### Clinical Biochemistry

Test	Blood	Urine	Body Fluids
Sugar	386190	--	3537
Urea	311999	1714	--

Creatinine	316600	14452	--
Calcium	327267	5802	--
Phosphate	329779	4876	--
Uric acid	329087	1947	--
Electrolytes (Na, K)	320078	6527	--
SGOT	331406	--	--
SGPT	331406	--	--
ALK. Phosphate	333376	--	--
Bilirubin			
5. Total	333180	--	--
6. Conj.	168021		
T. Protein	326831	14490	3537
Albumin	326831	--	3537
Cholesterol	10919	--	--
Amylase	3955	--	2533
<b>Total</b>	<b>44,86,925</b>	<b>49,808</b>	<b>13,144</b>
<b>Grand Total</b>	<b>45,49,877</b>		

#### Haematology Services

TEST	No. of Tests
Complete Hemogram including DLC	274057
Reticulocyte count	1064
Peripheral smear	41627
ESR	18481
PT/ INR	11543
APTT	2416
Platelet Function Tests	10
<b>Total</b>	<b>3,49,198</b>

#### Clinical Microbiology Services

##### A. Routine Investigations

Name of the Tests	OPD	WARD	TOTAL
<b>1. Urine</b>			
Medical board	932	0	932
Routine	55223	59798	115021
Microscopy	29163	29899	59062
pH, Specific gravity, Acetone, Bile pigment/salt, Urobilinogen, Blood			
Bence Jones Protein	43	19	62
Chyluria	42	24	66
Urine Cultures	22112	0	22112

Strain identifications tests	18527	0	18527
Antibiotic Sensitivity	3380	0	3380
<b>Sub Total</b>	<b>129422</b>	<b>89740</b>	<b>219162</b>
<b>2. Stool Investigations</b>			
Wet mount saline	6998	4020	11018
Wet Iodine stain	6998	4020	11018
Occult blood in stool	396	2156	2552
Fat globules	140	48	188
Special stains for stool Z-N stain, Modif	60	16	76
<b>Subtotal</b>	<b>14592</b>	<b>10260</b>	<b>24852</b>
<b>3. Semen analysis</b>			
Routine	4497	0	4497
No. of Reactions	4497	0	4497
Motility	4497	0	4497
Count	3212	0	3212
Fructose	1772	0	1772
<b>Subtotal</b>	<b>18475</b>	<b>0</b>	<b>18475</b>
<b>4. Sputum Analysis</b>			
Total Number of samples received	1610	125	1735
ZN staining (Microscopy)	3220	250	3470
MTB Culture	509	11	520
<b>Subtotal</b>	<b>5339</b>	<b>386</b>	<b>5725</b>
<b>5. Urine AFB Analysis</b>			
Total Number of samples received	708	14	722
ZN staining (Microscopy)	1416	28	1444
<b>Subtotal</b>	<b>2124</b>	<b>42</b>	<b>2166</b>

## **B. Specialized Investigations**

### **Immuno-Serological & Molecular Diagnosis TORCH**

<b>TORCH</b>	<b>Number</b>		
Toxoplasma gondii IgG	1744	Toxoplasma gondii IgM	1815
Rubella IgG	2056	Rubella IgM	2085
Cytomegalovirus IgG	2015	Cytomegalovirus IgM	1952
Herpes Simplex virus IgG	504	Herpes Simplex virus 2 IgG	504
Rubella IgG avidity	10		
<b>Subtotal</b>			<b>12685</b>
<b>6. Viral Markers &amp; HIV</b>			
HAV IgM	2086	Anti HCV antibody	52587
HBsAg	54967	HEV IgM	231
HBc IgM	173	HIV	41570

HBeAg	2919	HBV DNA	867
Anti HBe	10	HCV RNA	547
Anti HBs	1258		
<b>Subtotal</b>		<b>157215</b>	
<b>7. Others</b>			
Measles IgG	108	Mumps IgG	108
Varicella IgG	96		
<b>Subtotal</b>		<b>312</b>	
<b>8. Molecular Tests</b>			
CMV (RT PCR)			1427
<b>Subtotal</b>		<b>1427</b>	
<b>9. Leishmania Serology</b>			
Lab Strain Maintenance in Hamster			810
<b>Subtotal</b>			<b>810</b>
<b>10. BD Influx Cell Sorter (Flow Cytometer)</b>			
<b>11. TB Laboratory</b>			
ZN staining	494	LJ medium inoculated	749
BACTEC MGIT 960 inoculated	250	GeneXpert MTB/RIF	311
RK 39	40		
<b>Subtotal</b>		<b>2,091</b>	
<b>Grand Total</b>			<b>444920</b>

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Sudip Kumar Datta** is Corresponding Member from India for International Federation of Clinical Chemistry (IFCC) Task Force on Ethics (2018-till date); Secretary, American Association of Clinical Chemistry (AACC)- India Section (2018-till date); Executive member, Association of Medical Biochemists of INDIA (AMBI), Delhi chapter (2019-till date); awarded Six-Sigma green belt from Indian statistical institute, New Delhi on successful completion of training and project; reviewer of several Journals: Renal Failure, Toxicology Research, Int J of Diabetes in Developing Countries, Ind J of Clinical Biochemistry, Ind J of Biochemistry and Biophysics, Molecular Cell Biology, Practical Laboratory Medicine.

**Dr Shyam Prakash**, Associate Editor of Manipal J of Medical Sciences; Member of project review Committee of the SERC division of DST; Member of project review Committee of the Nutrition Division of ICMR; Reviewer of research paper in Journal of Indian J of Clinical Biochemistry; Reviewer of research paper in Journal of Clinical Nutrition ESPEN; Reviewer of research paper in Journal of Diabetes and Metabolic Syndrome: Clinical Research & Reviews; Reviewer of Molecular Biology Reports.



## 9.19. Medicine

### Professor and Head

Naveet Wig

### Professors

Rita Sood  
Sanjeev Sinha

Ashutosh Biswas  
Naval K Vikram

### Additional Professors

Manish Soneja

Piyush Ranjan

### Associate Professors

Neeraj Nischal  
Arvind Kumar

Pankaj Jorwal  
Ranveer Singh Jadon

### Assistant Professors

Animesh Ray  
Prayas Sethi

Upendra Baitha  
Ved Prakash Meena

## HIGHLIGHTS

The Department of Medicine is a vibrant department providing holistic patient care services, innovating in medical education, and conducting translational and clinical research. The department has a strong presence in the fields of infectious diseases, metabolic disorders, chest medicine and sleep disorders and a large number of medical problems requiring multi-disciplinary care. The patient-care services at the Infectious diseases, Travel Health and Adult Immunization Clinic were augmented to keep up with increasing demands. Existing facilities were strengthened, and new investigations were introduced at the point-of-care test laboratory, which functions round-the-clock and helps in taking important decisions in the management of critically ill patients. The department received re-designation as a WHO Collaborating Centre for Training and Research in Tuberculosis. The department faculty and residents are at the forefront of contributing in various national level activities like the response to COVID-19, guideline formulation in various infectious diseases like tuberculosis, HIV, dengue, chikungunya, influenza and COVID-19. This year we also started using the digital platform and launched an antibiotic application, which is the highest downloaded free antibiotic application on android platforms, worldwide. A YouTube channel that was created has also been widely appreciated. We hosted world-renowned specialists of Internal Medicine who interacted with our students, thus, helping them develop an international perspective.

## EDUCATION

The department runs comprehensive undergraduate and postgraduate teaching program which includes integrated lectures, seminars, journal club and bedside clinical case discussions. Currently, 58 MD students, 39 DM Infectious Diseases and 15 Senior Residents are being trained in the department. We are striving to improve the clinical training of undergraduates and postgraduates with better alignment between the expected outcomes, learning opportunities and assessments. There is increasing focus on regular formative assessment and feedback to students.

## CMEs/Workshops/Symposia/National and International Conferences Organized by the department/departmental faculty

- Public Lecture and panel discussion on Dengue Fever on occasion of National Dengue Day on 16 May 2019 in New Delhi
- Meeting of National Technical working group on TB-Comorbidities, 21 May 2019, New Delhi
- Symposium on “Mechanical Ventilation” on 30 May 2019 in New Delhi
- Symposium on “Quality Improvement” held on 4 June 2019 in New Delhi
- Symposium on “GI Tuberculosis” on 12 June 2019 in New Delhi
- Symposium on “Stroke” held on 4 July 2019 in New Delhi
- Symposium on “Myocardial Infarction” held on 11 July 2019 in New Delhi
- Symposium on “Autoimmune Neurology” held on 20 July 2019 in New Delhi
- Symposium on “Lymph Node TB” on 10 August 2019 in New Delhi

- ‘Expert Group meeting for Extra-Pulmonary TB Training Module Development’ from 11 to 13 September 2019 in New Delhi
- Workshop on “Antibiotic Stewardship Program” on 18 September 2019 in New Delhi
- AIIMS Medicine National Medical Quiz on 20 October 2019 in New Delhi
- ‘Expert Group meeting for Extra-Pulmonary TB Training Module Development’ from 21 to 23 October 2019 in New Delhi
- Symposium on “Lung Transplantation” on 28 November 2019 in New Delhi
- Symposium on “Insulin Therapy” held on 21 December 2019 in New Delhi

#### **Lectures delivered**

**Naveet Wig: 1**

**Naval K Vikram: 3**

**Arvind Kumar: 3**

**Prayas Sethi: 1**

**Ashutosh Biswas: 2**

**Manish Soneja: 4**

**Animesh Ray: 6**

**Sanjeev Sinha: 3**

**Neeraj Nischal: 1**

**Upendra Baitha: 1**

#### **Naveet Wig**

1. Implementation of AMS program: Practical issues & our experience AIIMS AMS Workshop, 18 September 2019, New Delhi

#### **Ashutosh Biswas**

1. Clinical management of dengue National Dengue Day, organized by Dept. of Medicine & NVBDCP, MoH & FW Govt., 16 May 2019, New Delhi
2. Nipah Virus Infection WHO South-East Asia Region, 15-16 October 2019, New Delhi

#### **Sanjeev Sinha**

1. Travel medicine AIIMS Jodhpur and Knowledge Forum, 22 September 2019, Jodhpur
2. Hazards of passive smoking, Campaign for tobacco free India, 15 October 2019, New Delhi
3. COPD, NAPCON, 12 November 2019, Kochi

#### **Naval K Vikram**

1. ‘Hypoglycemia-Definition to prevention’ 4th Annual Scientific Program, Bengal Diabetes Conference (BDCON 2019), 7 April 2019, Durgapur
2. Dietary strategies to increase lean mass. Ahuja Bajaj Symposium-V, 22 September 2019, New Delhi
3. NAFLD and Cardiometabolic Risk. 30th Annual Conference of Association of Physicians of India (Rajasthan Chapter) RAJAPICON 2019, 11-12 October 2019, Jaisalmer

#### **Manish Soneja**

1. Antibiotic policy and AIIMS antimicrobial application AIIMS AMS Workshop, 18 September 2019, New Delhi
2. Institutional AMSP, AIIMS perspective ASPICON 2019, 12 November 2019, Bhopal
3. Antibiotic Policy InDEA 2019, 17 November 2019, Bengaluru
4. Making Antibiotic Policy for a Tertiary Care Hospital APICON 2020, 6 January 2020, Agra

#### **Neeraj Nischal**

1. Hospital antibiotic policy: Applying guidelines to general practice Certificate Course in Healthcare quality; Public Health Foundation of India, 24 May 2019, Delhi

#### **Arvind Kumar**

1. Travel medicine AIIMS Jodhpur and Knowledge Forum, 8 September 2019, Jodhpur
2. Hazards of passive smoking Campaign for tobacco free India, 1 October 2019, New Delhi
3. DMARDS and latent TB ultrasonography in bedside clinical medicine, APICON 2020, 7 January 2020, Agra

#### **Animesh Ray**

1. Is pre-operative screening for OSA necessary for patients undergoing bariatric surgery? SLEEPCON 2019, 2 April 2019, New Delhi

2. Pulmonary renal syndrome – Diagnostic approach, SJH PCS: A case-based discussion, 14-15 September 2019, New Delhi
3. Semi-quantitative assessment of cardiac function Lung ultrasound in shock and fluid resuscitation, “Falls Protocol BIPCON 2019 pulmonary conference organized by Indira Gandhi Institute of Medical Sciences, 19-20 October 2019, Patna
4. Pulmonary function test, APICON 2020, 6 January 2020, Agra
5. Nebulised amphotericin B vs oral itraconazole in pulmonary aspergilloma: A parallel group RCT 7th International Workshop on Lung health 2020, 16-18 January 2020, Prague, Czech
6. Sleep Study and NIV. 23rd AGM and International Scientific Conference ‘RESPICON-2020’, 25-26 February 2020, Dhaka, Bangladesh

#### **Upendra Baitha**

1. CPR in special situation EMINDIA 2019, 3 August 2019, New Delhi

#### **Prayas Sethi**

1. PG Case discussion: Cardiovascular system MAMC Medicine update, 29 February 2020, New Delhi

#### **Oral papers/posters presented**

1. Soneja M, Bhatt M, Farooqui FA, Vikram NK, Biswas A, Roy A, et al. Myocarditis in Dengue: A Prospective Observational Study, XI National Conference of Association of Cough specialists, 12 April 2019, Washington, USA
2. Sinha S. Effect of mobile phone on sleep American Thoracic Society 2019, 17-22 May 2019, Dallas, USA
3. Vikram NK, Khatiwada S, Mohta S, Ranjan P, Madhusudhan KS, Lakshmy R, et al. Development of Predictive Equations for Ectopic Fat Deposits in Asian Indians. The Obesity Week 2019, 3-7 November 2019, Las Vegas, USA

## **RESEARCH**

### ***Ongoing***

1. Initiating antimicrobial stewardship activities in hospitals in India. Naveet Wig, ICMR, 1 year, 2019-20, Rs 10 lakhs
2. Functional analysis of human CD8 T-cell, Naveet Wig, DBT, 3 years, 2019-22, Rs 25.18 lakhs
3. National Guidelines for the management Opportunistic infections in HIV patients, Naveet Wig, NACO, 3 years, 2019-20, Rs 54 lakhs
4. New Bio-therapeutic Approaches to the Treatment of Tuberculosis, Sanjeev Sinha, Dept. of Pharmaceuticals, Govt. of India, 4 years, 2015-19, Rs 45 lakhs
5. Prevention of Relapse in Category I Treated Pulmonary Tuberculosis Patients with & Without Vitamin D3 Supplementation: A Randomized Double Blind Control Clinical Trial, Sanjeev Sinha, DHR, ICMR, 5 years, 2015-20, Rs 40 lakhs
6. Mechanism of rapid propagation of dengue virus during infection, NK Vikram, DBT, 3 years, 2018-21, Rs 20 lakhs
7. A randomized controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity. NK Vikram, DST, 3 years, 2019-21, Rs 96.39 lakhs
8. Randomized controlled trial to compare the impact of exercise and nutritional interventions on muscle functional improvement and changes in skeletal mass in obese patients with sarcopenia. NK Vikram, ICMR, 3 years, 2019-21, Rs 83.01 lakhs
9. Role of biomarkers and its utility in algorithm for early diagnosis of invasive fungal infections. Manish Soneja, AIIMS, 2 years, 2018-20, Rs 10 lakhs
10. Open labelled RCT of IV fluid therapy in Dengue fever with warning signs. Manish Soneja, ICMR, 3 years, 2019-22, Rs 57 lakhs
11. A study to evaluate the safety and efficacy of saroglitazar 4 mg versus placebo in the treatment of HIV associated lipodystrophy, Neeraj Nischal, Zydus Cadila, 3 years, 2016-19, Rs 30 lakhs
12. To evaluate the role of Kit-based Loop Mediated Isothermal Amplification (TB-LAMP) in the diagnosis of Extra-pulmonary Tuberculosis. Neeraj Nischal, AIIMS, 1 year, 2018-19, Rs 3 lakhs
13. Paradoxical reaction in lymph node tuberculosis among non-HIV subjects – Clinical implications and Outcome. Pankaj Jorwal, RNTCP, 1 year, 2019-20, Rs 1.9 lakhs

14. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Randomized controlled trial. Arvind Kumar, ICMR, 3 years, 2019-22, Rs 50 lakhs
15. Clinical and cytokine profile of acute febrile illness patients with multi-organ dysfunction presenting with and without shock: a prospective observational study, Ranveer Singh Jadon, AIIMS, 1 year, 2019-20, Rs 2 lakhs
16. A study comparing nebulised amphotericin b with oral itraconazole for treatment of chronic cavitary pulmonary aspergillosis patients. Animesh Ray, AIIMS, 2 years, 2018-20, Rs 4.6 lakhs
17. Effect of probiotics on gut microbiome and clinical course in patients with critical care illnesses—A pilot study. Animesh Ray, ICMR, 2 years, 2019-21, Rs 35.33 lakhs
18. A study on the effects of simulation on resident doctors and nurse's knowledge and skills about basic & advanced life support. Upendra Baitha, AIIMS, 2 years, 2019-21, Rs 5 lakhs

### **Completed**

1. Consumption pattern of food and food products/items high in fat, salt and sugar among selected cities/towns and rural population of India, NK Vikram, ICMR, 15 months, 2018-19, Rs 62.59 lakhs
2. Seroprevalence of Dengue Infection, Ashutosh Biswas, NVBDCP, MoHFW, 3 years, 2016-19, Rs 30 lakhs
3. Study of leptospira & scrub typhus in patients admitted with acute undifferentiated febrile illnesses. Ranveer Singh Jadon, AIIMS, 2 years, 2017-19, Rs 4.25 lakhs
4. To study the effect of mobile phones on well-being, sleep and cognitive function, Sanjeev Sinha, DST, 4 years, 2015-19, Rs 78 lakhs
5. Effect of electromagnetic radiations due to mobile phone use on sleep and neurocognitive functions: A molecular approach, Manish Soneja, DST, 4 years, 2015-19, Rs 65 lakhs
6. The pattern of invasive fungal infections in high risk patients in medical ICU at AIIMS, New Delhi, Pankaj Jorwal, AIIMS, 2 years, 2016-18, Rs 5 lakhs

### **Departmental projects**

#### **Ongoing**

1. A prospective observational study on clinical profile and outcome of patients to standard care of chronic pulmonary aspergillosis attending tertiary hospital
2. A prospective observational study to determine cause of death in adults using minimally invasive tissue sampling
3. A study to compare the clinico-radiological and pulmonary function test profile of post tubercular and smoking related COPD patients
4. Active surveillance and targeted intervention in an ICU and HIC practices and its impact on ventilator associated pneumonia
5. Anti-tubercular therapy induced liver injury in patients with type 2 diabetes mellitus: prospective cohort study
6. Assessment of body composition and metabolic profile of young health care providers
7. Assessment of sarcopenia in HIV population
8. Burden of cardiometabolic disorders in PLHIV on second line ART
9. Characteristics and clinical outcomes of patients with spinal tuberculosis presenting to a tertiary care hospital in India
10. Clinical and etiological profile of patients with eosinophilia
11. Clinical and serological characterization of autoimmune hemolytic anemia
12. Clinical and Socio-demographic Correlates of the Patients presenting with Medically Unexplained Physical Symptoms in Medicine Outpatient Clinic
13. Clinical, radiological and functional correlation in treated pulmonary tuberculosis sequele patients
14. Clinico-etiological profile and outcome of patient of fever of unknown origin at a tertiary care center
15. Clinico-microbiological profile and outcome of patients with uro-sepsis –A prospective study in a tertiary care hospital in north India
16. Evaluating adherence to and outcome of evidence based practices in the care of the mechanically ventilated patient: A quasi-interventional study
17. Evaluation of commonly used bedside clinical Early warning scores in patients with suspected sepsis for prediction of outcome
18. Evaluation of TB LAMP assay in diagnosis of tubercular meningitis
19. Factors affecting treatment outcome in Advanced HIV disease

20. Impact of Active Continuous Surveillance in an Intensive Care Unit on Ventilator Associated Pneumonia and Association of Exogenous flora with Ventilator Associated Pneumonia
21. Incidence of respiratory syncytial virus infection in adults in the first year following hematopoietic stem cell transplant
22. Incidence, outcome and predictors of paradoxical reaction in HIV negative lymph node tuberculosis
23. Invasive Fungal Infections and role of Biomarkers and molecular approaches in early diagnosis
24. Outcome predictors in secondary HLH
25. Paradoxical reactions in HIV negative EPTB Patients—incidence, outcome and predictive factors
26. Prevalence of immunologic failure among adult HIV/AIDS patients on Anti-Retroviral Therapy (ART)
27. Psychiatric morbidities in TB-HIV Co-infection
28. Role of FDG PET in patients of spinal TB
29. Role of Impulse oscillometry in evaluation and follow-up of newly diagnosed cases of Interstitial lung diseases
30. Role of PD1 on T cells and PDL1 on monocytes in mortality associated with hospital acquired infections in septic patients
31. Role of serum ca-125 level in diagnosis and monitoring of treatment response in pulmonary and extra-pulmonary tuberculosis
32. Secondary Hemophagocytic Lymphohistiocytosis (HLH) in patients with sepsis
33. Spectrum of systemic fungal infections in medical wards at AIIMS
34. Sterile pyuria in patients admitted to medical wards: Incidence of Chlamydia trachomatis, Ureaplasma urealyticum, Mycoplasma hominis and Mycoplasma genitalium
35. Study of brain volume and cognitive assessment in patients with NAFLD
36. Synthesis, quality control and biodistribution studies of <sup>99m</sup>Tc labelled antibiotics for infection imaging
37. To evaluate the role of ‘Kit-based commercial Loop-Mediated Isothermal Amplification (TB-LAMP)’ assay in the diagnosis of Tubercular Lymphadenitis
38. Utility of PET Scan in HIV encephalopathy

### **Completed**

1. Analysis of clinical and environmental fungal isolates in medical ward and Intensive care unit—A tool for hospital infection surveillance
2. Association of lean mass, muscle strength and physical performance with diabetes and metabolic parameters
3. Burden of Dengue Among Adult Population in DELHI/NCR AIIMS, New Delhi
4. Clinical, etiological and laboratory profile of patients with pericardial effusion
5. Comparison between Obese and Non-obese Individuals with Non-alcoholic Fatty Liver Disease
6. Diagnostic utility of Bronchoalveolar lavage and Computerised tomography in diagnosis of recurrence among treated sputum scarce and sputum negative pulmonary tuberculosis suspects
7. Effectiveness of Isoniazid Preventive Therapy for tuberculosis among retro positive individuals
8. Impact of surveillance and preventive interventions on device associated infections in Medical ICU
9. Knowledge attitude practice among Medicine Health care workers of AIIMS, New Delhi
10. Quality improvement of invasive procedures in Medicine wards
11. Role of serum procalcitonin levels in the management of sepsis
12. Spectrum of systemic fungal infection in medicine ward at AIIMS, New Delhi
13. To Evaluate the incidence and Risk Factors of Mortality in Dengue Infection

### **Collaborative projects**

#### **Ongoing**

1. Effect and safety of semaglutide 2.4 mg once-weekly in subjects with overweight or obesity and type 2 diabetes, Endocrinology and Metabolism
2. A Randomized Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug ‘AYUSH-D’ on Glycemic control in Pre-Diabetic Subjects, Endocrinology and Metabolism
3. A Randomized Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug ‘AYUSH-D’ on Glycaemic control in T2DM with metformin as add on therapy Subjects, Endocrinology and Metabolism

4. A randomized double-blind placebo controlled parallel group multicentered study to evaluate the effect of EFPEGLENATIDE on cardiovascular outcomes in T2DM patients at high cardiovascular risk, Endocrinology and Metabolism
5. A randomized 24-week controlled open label parallel arm multicentered study comparing the efficacy and safety of the insulin glargine/lixisenatide fixed ratio combination to insulin glargine in T2DM patients, inadequately controlled on basal insulin with or without metformin, Endocrinology and Metabolism
6. A 26-week randomized open label parallel group comparison of SAR 341402 mix 70/30 to NovoMix® 30 in adult patients with diabetes mellitus using pre-mix insulin analogs, Endocrinology and Metabolism
7. A randomized double-blind placebo control parallel group multicentered study to demonstrate the effects of Sotagliflozin on cardiovascular risk and renal events in patients with T2DM cardiovascular risk factor and moderately impaired renal function, Endocrinology and Metabolism

## PUBLICATIONS

**Journals: 69**

**Abstracts: 3**

**Chapters in books: 1**

## PATIENT CARE

Medicine OPD is a direct non-referral clinic running 6 days in a week. The Department runs speciality clinics including Infectious Diseases, Travel Health and Adult Immunization Clinic (Monday 2 PM), Sleep Disorders Clinic (Monday 2 PM), Obesity and Metabolic Disorders Clinic (Wednesday 2 PM) and Chest Clinic (Friday 2 PM). The Department also runs ART centre under national programs. Point-of-care test lab in CII ward provides investigations for critically ill patients including arterial blood gas analysis, biomarkers for sepsis, cardiac biomarkers, etc. The Department has a Pulmonary Function Tests lab wherein, there is no waiting period and the investigations are done and reports given on the same day. Bronchoscopy lab is situated in DII ward and equipped with state-of-the-art Endobronchial Ultrasound system. Sleep lab located in CII ward is equipped with polysomnography machines, ambulatory blood pressure monitoring system, and equipment for non-invasive assessment of endothelial dysfunction. The Department of Medicine provides diagnostic facilities for tuberculosis to patients coming to the AIIMS hospital as well as those referred from five zones of Delhi (Chest Clinics) under the RNTCP (Revised National Tuberculosis Control Programme). The Department has state-of-the-art biosafety level 3 (BSL-3) lab. Following is the data of patients in various clinics and laboratory investigations run by the department:

### OPD & Clinics

**Medical OPD:** Total cases **157590**

**Infectious Diseases, Travel Health and Adult Immunization Clinic:** Total Cases **3809**

**Sleep Clinic:** Total Cases **767**

**Chest Clinic:** Total cases **5151**

**Obesity and Metabolic Disorders Clinic:** Total cases **1405**

**Antiretroviral (ART) Centre:** Pre-ART **870** ART visits **61360**

### Laboratories:

#### **Sleep lab:**

Sleep studies	<b>330</b>	Ambulatory monitoring of blood pressure	<b>12</b>
Endothelial dysfunction studies	<b>10</b>		

#### **PFT Lab:**

Pulmonary Function Test	<b>6688</b>	6 Minute walk test	<b>398</b>
FOT	<b>446</b>		

#### **Bronchoscopy lab:**

Fibre-optic bronchoscopy	<b>424</b>	EBUS	<b>62</b>
Tracheostomy	<b>9</b>		

#### **Biochemistry Lab:**

ACE tests	<b>508</b>
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#### **Intermediate Reference Laboratory (IRL) services (number of samples):**

Sputum smear:	<b>12,000</b>	Solid culture:	<b>600</b>
Liquid culture:	<b>18,739</b>	Solid Drug Susceptibility test:	<b>92</b>
Liquid DST (1st line):	<b>205</b>	Liquid DST (2nd line):	<b>559</b>
Line Probe Assay (1st line LPA):	<b>5,448</b>	Line Probe Assay (2nd LPA):	<b>848</b>
Gene/Xpert:	<b>12,407</b>		

**Point-of-care Lab**

Procalcitonin:	5115	Trop I:	2654
Pro BNP:	2600		
Arterial blood gas analysis:	26,672		
Blood Culture (From 27.10.19)	1350		

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Naveet Wig** was member of National Task Force on COVID-19, Clinical Research Group (ICMR) on COVID-19, Nodal Officer, WHO Collaborating Centre for Training and Research in Tuberculosis; Chairman, National Technical Working Group on TB – comorbidities; Chairman Expert Committee, DHR – ICMR for funded workshop on clinical training and translational research; Co-chair, Standing Treatment Guidelines (Medicine), ICMR; Member, Governing Body of All India Institute of Ayurveda; Member of Scientific Body of Indian Pharmacopoeia Commission; Member of ICMR Technical Resource Group on HIV/AIDS and member of HIV/AIDS Project Review Committee (PRC) of ICMR.

**Professor Ashutosh Biswas** was nominated as Expert for Training of Rapid Response Teams on Public Health Preparedness and Response to Ebola Virus Disease at Delhi, Kolkata, Pune, Bengaluru; WHO Expert Consultant on “Nipah Virus Infection” in WHO South-East Asia Region, Expert member for a 2nd Central Team to Ernakulam to assist Govt. of Kerala for Control and containment of Nipah Virus disease and UPSC Expert for Personality Test (PT) Board for the Combined Medical Services Examination.

**Professor Sanjeev Sinha** was member of Association of Physician of India, Indiaclen, National Academy of Medical Sciences (MNAMS), Indian Chest Society, Indian Thyroid Society, American Thoracic Society, International AIDS Society, National Academy of Sciences India (NASI). He was also member of Medical Board Antarctica Expedition, Govt. of India, Goa, Scientific Committee, NACO, Ministry of Health & FW, Govt. of India, Health wellness programme, Ministry of Tourism, Govt. of India, FDC, DCGI, India. Membership of Editorial boards of indexed international journals/Review committees of National bodies and Institutions: Member of Editorial board of “Cases Journal”, Review Committee of Journal of Physical Education and Sport Management. Published from South Africa, Review Committee of Journal IJMR and Review Committee of Journal of Current HIV Research, Review Committee of projects funded by DHR, ICMR, Government of India, Fellowship of National Academy of Sciences India (NASI) and National Academy of Sciences India (NASI). He is also Member Secretary of AIIMS Ethics Committee of PGR.

**Professor NK Vikram** was awarded Fellowship of Indian College of Physicians in January 2020.

**Dr Manish Soneja** was awarded Fellowship of Indian College of Physicians in January 2020. He was Chairman Sub-Committee of Management of Influenza Guidelines, NCDC; Member Expert Group of National Guidelines on Dengue and Influenza, Member Expert Group of ICMR Antibiotic Policy, and Sub-Committee of Standing National Committee on Medicines (SNCM) on Hygiene and other health care products.

**VISITING SCIENTIST**

1. Dr Sanjeet Singh Dadwal, Clinical Professor, Division of Infectious Diseases, City of Hope National Medical Centre, California, USA (28 May 2019).



## 9.20. Microbiology

### Professor and Head

Rama Chaudhry

### Professors

Lalit Dar

Immaculata Xess

Bimal K Das

Benu Dhawan

Urvashi B Singh

Arti Kapil  
Bijay Ranjan Mirdha  
Seema Sood

### Associate Professors

Aashish Choudhary

Gagandeep Singh

Nishant Verma

Sarita Mohapatra  
Hitender Gautam

### Assistant Professors

Kiran Bala

Megha Brijwal

### HIGHLIGHTS

The department has always been dedicated towards patient care, teaching, research and CME programmes. It has been actively involved in teaching undergraduate and postgraduate students enrolled in MBBS, MD, PhD and BSc (Nursing) courses. The DM (Infectious Diseases) course (3- and 6-year programmes) have continued with the Department of Medicine.

The Department of Microbiology, which is an essential component of health care services, contributed significantly towards patient care. During this year it carried out a total of **2,51,925 diagnostic tests** and also played a prime role in Hospital infection control. The department played a major role in the institute's response in the management of COVID-19 related issues such as testing of samples received from patients (confirmed/suspect/contacts), training of all categories of staff at AIIMS (including various centers) in relation to the infection control practices, developing several protocols to meet the challenges posed by this pandemic and monitoring and ensuring the implementation of the infection control protocols.

It was a really proud achievement for us that we became the first Department at AIIMS, New Delhi to become **NABL accredited**. This again highlights the expertise, dedication and sincere hard work of our entire Microbiology team. This also is a reflection of best practices and quality protocols being rigorously followed in the department to ensure reliable and timely reporting for effective patient management. The external inspection committee for Kaya Kalp made several visits to laboratories and other areas of the Department and were extremely satisfied with the level of cleanliness and Bio-Medical waste management standards being followed.

The Department made a significant contribution in terms of research with **57 publications** in indexed national and international journals. Several funded research projects were started or continued during the period, many of which were in collaboration with other departments or institutes. Many award winning oral and poster presentations were made at national and international conferences.



**National Accreditation Board for  
Testing and Calibration Laboratories**  
(A Constituent Board of Quality Council of India)



**CERTIFICATE OF ACCREDITATION**

**DEPARTMENT OF MICROBIOLOGY, ALL INDIA  
INSTITUTE OF MEDICAL SCIENCES (AIIMS)**

has been assessed and accredited in accordance with the standard

**ISO 15189:2012**

**"Medical laboratories - Requirements for quality and  
competence"**

for its facilities at

DEPT. OF MICROBIOLOGY, SECOND FLOOR, TEACHING BLOCK, NEW DELHI, DELHI, INDIA

in the field of

**Medical Testing**

Certificate Number: MC-3267

Issue Date: 15/11/2019

Valid Until: 14/11/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer







## EDUCATION

### Undergraduate Teaching

MBBS for Medical Microbiology BSc (Nursing) – Medical Microbiology

### Postgraduate Teaching

#### *PhD (Microbiology)*

Lecture: Once/week

Journal Club: Once/week

#### *MD (Microbiology)*

Lecture/Seminar: Once/week

Journal Club: Once/week

Tutorial: Twice/month

Practical Exercise presentation: Twice/month

Laboratory postings in different sections of the department

#### *DM (Infectious Diseases)*

Seminar: Once/week

Laboratory postings in different sections of the department

### Short-Term Training

1. The 2nd Regional Advocacy Workshop Virus Research and Diagnostic Laboratory (VRDL) Network, 5 November 2019 at AIIMS, Delhi

2. Workshop/training Organized for State Reference Laboratory ( SRLs)
3. EQAS panel distribution Workshop and training on NACO PRAYOGSHALA Online tool for laboratory data reporting to NACO, 20th January 2020. (Participants: Three State Reference Laboratories participated i.e PGIMER, Chandigarh; Govt Medical College, Patiala; Govt Medical College, Amritsar and staff of HIV Laboratory, AIIMS.)
4. Sysmex CD4 Cyflow counter (CD4 testing machine by flowcytometry) training for HIV laboratory staff in September 2019.

Department provided short-term training to 25 candidates from various parts of the country.

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Lectures delivered**

**Rama Chaudhry: 8**

**BR Mirdha: 1**

**Seema Sood: 1**

**Gagandeep Singh: 7**

**Arti Kapil: 9**

**Immaculata Xess: 1**

**Sarita Mohapatra: 7**

**Hitender Gautam: 8**

**Lalit Dar: 1**

**Benu Dhawan: 1**

**Aashish Choudhary: 1**

**Nishant Verma: 2**

##### **Rama Chaudhry**

1. National plan to detect, prevent & control antimicrobial resistance, 2nd National workshop on antimicrobial resistance practices and monitoring for patient care, 4 April 2019, Puducherry
2. Critical analysis of Immunofluorescence assay (IFA) and molecular diagnostic tests for confirmation of Scrub typhus International health research convention 2019 – Stakeholders meeting on Scrub typhus, 20 July 2019, Puducherry
3. Gut Phageome as a biomarker of health and disease National workshop on clinical and translational research on bacteriophages as promising antimicrobial alternative and for therapeutics, prophylaxis and food safety, 29-31 July 2019, Hisar
4. Clinical spectrum and Lab diagnosis of Mycoplasma “Human Mycoplasma Infections: An update” Pre-conference workshop, 11 September 2019, Nepal
5. Time to take Bartonellosis seriously in India, 9th International Conference on Bartonella as Emerging Pathogens 18-20 September 2019, Paris, France
6. Current scenario of Atypical Pneumonia in India with special reference to Mycoplasma pneumonia, XIth National Symposium of Indian Association of Mycoplasmologists and International Conference on Human, Animal and Plant Mycoplasmas, 3-4 December 2019, Pune
7. Emerging bacterial diseases: Time to explore, Workshop on Anaerobic Culture Techniques, 26 February 2020, Bhopal
8. One health: Strategy to combat Antimicrobial resistance, 5th International Conference on environmental pollution and health management EPHM 28-29 February 2020, Bhopal

##### **Arti Kapil**

1. “SUPERBUGS: The End of Antibiotics” National Science Center exhibition on “The threat of Anti-Microbial Resistance and Possible Solutions”, 5 October 2019, New Delhi
2. Current scenario of AMR in Typhoid AMR Seminar at ICMR-NICED, Kolkata, 16-17 September 2019, Kolkata
3. Oration on “Hospital Infection Control and AMR”, The XVI-HISICON-2019, 13-15 September 2019, Kolkata
4. CME on “Early diagnosis and ASP”, The XVI-HISICON-2019, 13-15 September 2019, Kolkata
5. “Disinfection in hospital”, The XVI-HISICON-2019, 13-15 September 2019, Kolkata
6. Laboratories and AMR Surveillance Strategic Action Plan to Combat Antimicrobial Resistance in Delhi (SAP-CARD) by NCDC, Delhi, 26-27 August 2019, New Delhi
7. Antibigram need, construction and interpretation AMSP Workshop, AIIMS, 9 August 2019, New Delhi
8. Biosafety in Laboratory CME on “National Medical Laboratory Professionals Week 2019”, 17-18 July 2019, New Delhi
9. Diagnostic consideration in congenital and perinatal bacterial infections, Indian Association of Medical Microbiologists, Delhi Chapter, 6 April 2019, New Delhi

##### **Lalit Dar**

1. Viral diagnostics as a tool for antimicrobial stewardship, Annual Conference of the Indian Association of Medical Microbiologists (Delhi Chapter) CME, 1 November 2019, New Delhi

**BR Mirdha**

1. MTI scheme and clinical training of Microbiology, MTI scheme and clinical training of Microbiology, 12 December 2019, New Delhi

**Immaculata Xess**

1. Chronic Pulmonary Aspergillosis, SIHAM, 13-15 February 2020, Jodhpur

**Benu Dhawan**

1. Genital Mycoplasmas and co-infections among men who have sex with men: emerging patterns and new challenges, XIth National Symposium of Indian Association of Mycoplasmologists International Conference on Human, Animal and Plant Mycoplasmas, NCMR, 2-4 December 2019, Pune

**Seema Sood**

1. Prevention of Infections Among Health Personnel and Laboratory Staff, Indian Society for Assisted Reproduction (ISAR) Unique Master class on Infection & ART, 15 September 2019, New Delhi

**Sarita Mohapatra**

1. Controlling Hospital Acquired Infection: Focus on the role of environment Infection central and prevention strategies on peri-operative Neuro nursing, 25 June 19, New Delhi
2. Role of Infection control in Infection prevention, Infection prevention and control In Quality care and patient safety 25 June 2019, New Delhi
3. Gram-negative bacterial resistance with special reference to carbapenem, IAMM-Odisha Chapter, 29 September 2019, Odisha
4. Infection of the CNS (Panel discussion), Neuroanaesthesia and neurocritical care Update 20 October 2019, New Delhi
5. Clinical & Molecular Microbiology, Brainstorming meeting to identify and prioritize research questions and methodology for projects under the proposed multi-site, multi-disciplinary neonatal sepsis study consortium 30 October to 1 November 2019, New Delhi
6. Enigmatic Obstetric Challenges Simplified, CME on Tackling Obstetric Dilemmas, 16 November 2019, New Delhi
7. Best Practices in HIC, Nursicon 2019, 10 & 11 December 2019, New Delhi

**Aashish Choudhary**

1. Needlestick injury and blood-borne viruses (HBV, HCV and HIV) prevention protocols, Workshop on Good Clinical Laboratory Practices (GCLP) for VRDL network Laboratories, ICMR/DHR, 10 January 2020, New Delhi

**Gagandeep Singh**

2. Surveillance of device associated infections-Practical aspects CME on 'Hospital Infection control Practices challenges and solutions', 23 July 2019, Greater Noida
3. Therapeutic Drug Monitoring CME: Fungal infections: Recent Perspectives, 31 August 2019, New Delhi
4. Prevention of Healthcare associated infections CME: Healthcare Safety, 27 September 2019, New Delhi
5. Safety in Laboratories CME for technologists, 7 November 2019, New Delhi
6. Challenges in dermatophytosis in India SIHAM, 13 to 15 February 2020, Jodhpur
7. Sterilization and disinfection Residents Induction training and Nurses training programme on infection control Regular intervals, New Delhi
8. Standard precautions Residents Induction training and Nurses training programme on infection control Regular intervals, New Delhi

**Hitender Gautam**

1. Antibiotic Policy & swab Culture, State Level LaQshya mentoring Workshop. UNICEF & Government of Patna, Bihar. 13 June 2019, Patna
2. Practice of BMWM at Health Facilities, State Level LaQshya mentoring, Workshop. UNICEF & Government of Patna, Bihar, 13 June 2019, Patna
3. Prevention of HAI State Level LaQshya mentoring, Workshop, UNICEF & Government of Patna, Bihar, 14 June 2019, Patna
4. Disinfection & Sterilization of Labour Room/OT, State Level LaQshya mentoring Workshop. UNICEF &

Government of Patna, Bihar, 14 June 2019, Patna

5. Infection Control Practices for Technicians, Capacity building initiative for Hospital ECG and Electrophysiology Technical Staff, 17 September 2019, New Delhi
6. Panel Expert: Personalization in Febrile Neutropenia Onco-Emergency Summit, Conducted by Department of Medical Oncology, Dr. BRAIRCH, AIIMS, New Delhi, 9 November 2019, New Delhi
7. Panel Expert: Pulmonary complications in acute leukemia Onco-Emergency Summit, Conducted by Department of Medical Oncology, Dr BRAIRCH, AIIMS, New Delhi, 9 November 2019, New Delhi
8. Infection Control, Standard Precautions and General practices for Electrophysiology Technicians Electrophysiology Technicians Hospital Infection Control and Prevention Training Program, 4 December 2019, New Delhi

#### **Nishant Verma**

1. Microsporidiosis in India, RAJTROPACON 2019 (3rd Rajasthan chapter of IATP conference), 5-6 April 2019, Jodhpur
2. Interesting clinical cases in parasitology, TROPACON 2019, 6-8 September 2019, Manipal

#### **Oral Papers/Posters Presented**

1. Ahuja J, Soneja M, Wig N, Xess I, Biswas A, Singh G, et al. Cryptococcal Antigenemia in Advanced HIV Infection IDWeek 2019, 1-7 October 2019, Washington DC, USA
2. Bala K, Xess A, Singh UB. Impact of time to positivity of liquid culture (MGIT 960) for diagnosis & treatment of tuberculosis, 9th Annual conference of clinical infectious disease society, 23-25 August 2019, Kochi
3. Bamola VD, Dubey D, Samanta P, Ahuja V, Chaudhry RA. Double-Blind, Placebo-Controlled Study in Indian Population to Assess the Effects of Probiotic strain *Bacillus coagulans* Unique IS2 in Inflammatory Bowel Disease, 10th India Probiotic Symposium, "Cutting Edge Science and Applications – Intestinal Microbiota and Probiotics" 29 February and 1 March 2020, New Delhi, Young Investigator Award
4. Biswal D, Bir R, Gautam H, Mohapatra S, Sood S, Dhawan B, et al. Microbiologic spectrum and resistance pattern of isolates from peritoneal fluid in a North Indian tertiary care hospital MICRO-D-CON 2019, 11th Annual Conference of IAMM Delhi Chapter, 2 November 2019, New Delhi
5. Biswal D, Brijwal M, Choudhary A, Kakkar A, Pramanik R, Thakkar A, et al. Detection of Epstein-Barr virus DNA in nasopharyngeal carcinoma cases at a north Indian tertiary care hospital VIROCON 2020 - International conference of virology on the theme "Evolution of viruses and viral diseases", 19 February 2020, New Delhi
6. Biswal D, Khullar S, Rawre J, Yadav D, Khanna N, Dhawan B Genital mycoplasmas and *Chlamydia trachomatis* coinfection in a HIV-positive MSM: Case report and review of literature XIth National Symposium of Indian Association of Mycoplasmologists International Conference on Human, Animal and Plant Mycoplasmas, 2-4 December 2019, Pune
7. Biswal D, Verma N, Surve A, Kumar V, Mirdha BR. Intra-ocular hydatid cyst in a child: a rare case presentation. Tropacon 2019, 6-8 September 2019, Manipal, Awarded 2nd prize
8. Chaudhry R, Agrawal SK, Das P, Shalimar, Gupta S Multifocal hepatic abscesses in immunocompetent patient due to *Bartonella henselae*, 9th International Conference on Bartonella as Emerging Pathogens, 18-20 September 2019, Paris, France
9. Chaudhry R, Khullar S, Agrawal SK, Bahadur T, Sagar T, Kabra SK, et al. Time to take Bartonellosis seriously in India. 9th International Conference on Bartonella as Emerging Pathogens, 18-20 September 2019, Paris, France
10. Chaudhry R, Sreenath, Khullar S, Agrawal S, Arif N, Sagar T, et al. *Mycoplasma pneumoniae* prevalence: a tertiary healthcare centre experience over 14 years XIth National Symposium of Indian Association of Mycoplasmologists and International Conference on Human, Animal and Plant Mycoplasmas, 3-4 December 2019, Pune
11. Dabral J, Varghese B, Mohapatra S, George S, Suri A, Pandia MP, et al. Management of post-neurosurgical MDR and XDR *Acinetobacter baumannii* meningitis HISICON, 2019 13 October 2019, Kolkata
12. Dar L, Choudhary A, Brijwal M, Sahu M, Sachdev J. Dengue outbreaks and Predominant Dengue Serotypes and genotypes over more than two decades in an hyper-endemic region. Infectious Diseases Society of America (IDSA) ID Week, 4 October 2019, Washington DC, USA
13. Dar L, Krishnan A, Jain S, Ramesh K, Dhakad S, Choudekar A, et al. Nasal Shedding of Vaccine Viruses After Immunization with a Russian Backbone Live Attenuated Influenza Vaccine in India. OPTIONS X for control of Influenza. International RSV Society (IRSVS), 28 August 2019, Singapore
14. Gautam H, Choudhary AH, Agnes A, Priyanka, Das V, Kapil A, Etiology and Susceptibility of Central line-associated bloodstream infections (CLABSI) in Cancer patients: Regular Pointwise audit of Central Line Insertion Practices (CLIP) 8th Australasian College for Infection Prevention and Control Conference (ACIPC), 17- 20

November 2019, Perth, Australia

15. Gautam H, Choudhary AH, Kumar S, Dhawan B, Das BK, Kapil A, Surgical site infections in malignancy cases in a tertiary care hospital in North India HISICON 2019, 14 September 2019, Kolkata
16. George S, Mohapatra S, Varghese B, Dabral J, Suri A, Pandia MP, et al. Impact of continuous teaching and training on hand hygiene and catheter hub care in reduction of Central Line Associated Blood Stream Infection in neuro-intensive care unit, Neuroanaesthesia and neurocritical care Update, 30 October 2019, New Delhi, Best poster award
17. Iram A, Xess I, Singh G, Soneja M, Mani P. Epidemiology of candidemia from tertiary care hospital SIHAM, 13-15 February 2020, Jodhpur
18. Iram A, Xess I, Singh G, Soneja M, Mani P. Epidemiology of Invasive Candidiasis from Tertiary Care Hospital MICROCON, 29 November -1 December 2019, Mumbai
19. Jethani J, Dar L, Joshi V, Angel B, Samad S, Choudhary A, et al. Viral respiratory infections in adults following hematopoietic stem cell transplant (HSCT) at a tertiary care hospital in India. OPTIONS X for control of Influenza, International RSV Society (IRSVS), 28 August 2019, Singapore
20. Kapil A, Sharma P, Kaur P, Kumar M, Dahiya S, Sood S, et al. Discovery of novel DNA gyrase inhibitors against salmonella Typhi using structure based drug deliver approach, 64th Annual Meeting of Biophysical Society, 15-19 February 2019, San Diego, C.A., USA
21. Khullar S, Chaudhry R, Agrawal S, Kumar L, Gupta N, Wig N, et al. Spectrum of Clostridioides difficile associated infections at a tertiary care centre in India, Man Microbes Machine: Finding Solutions Together, 1st International Microbiology Conference, 11-13 September 2019, Nepal
22. Khullar S, Sreenath, Sagar T, Samanta P, Chattopadhyay P, Gupta A, et al., Mycoplasma Contamination - cell culture nightmare. XIth National Symposium of Indian Association of Mycoplasmologists and International Conference on Human, Animal and Plant Mycoplasmas, 3-4 December 2019, Pune
23. Kumar R, Choudekar A, Dhakad S, Choudhary A, Potdar P, Hinge D, et al., Setting up network of laboratories to estimate the burden of real time polymerase chain reaction (RT-PCR) confirmed influenza among older adults in the community in a low resource setting. OPTIONS X for control of Influenza, International RSV Society (IRSVS), 28 August 2019, Singapore
24. Kumari S, Rawre J, Trikha A, Sreenivas V, Sood S, Kapil A, et al. Linezolid-resistant Staphylococcus haemolyticus: Emergence of G2447U & C2534U mutations at the domain V of 23S ribosomal RNA gene in a tertiary care hospital 6th International Conference on Healthcare associated Infections, 26-30 March 2020, Atlanta, USA
25. Pandey M, Agarwal R, Singh G, Kumar R, Jyotsna VP, Iram A, et al. PCR based methods for diagnosis of mucormycosis, AAAM 2020, 27-29 February 2020, Lugano, Switzerland
26. Parul, Mohapatra S, Kapil A, Narang R, Sahoo M, Hasija S, et al. Incidence of Central line associated blood stream infection (CLABSI) Among the post-operative patients of cardiovascular surgeries. HISICON, 2019, 13 October 2019, Kolkata
27. Perumalla S, Mirdha BR, Verma N Parasitic profile in the patients of inflammatory bowel disease. 9th annual conference of Clinical Infectious Diseases Society (CIDSCON 2019), 23-25 August 2019, Kochi
28. Rakesh K, Amarchand R, Prabhakaran A, Ramesh K, Choudhary A, Giridara G, et al., Incidence of influenza and respiratory syncytial virus associated acute respiratory infection among older adults in a multi-site community cohort in India OPTIONS X for control of Influenza. International RSV Society (IRSVS), 28 August 2019, Singapore
29. Rathor N, Bahadur T, Thakur CK, Bamola VD, Das BK, Chaudhry R. Bacteriophages as effective antimicrobial agent: One step towards to combat Multi Drug Resistance (MDR) Acinetobacter baumannii, International conference on Bacteriophage Research and Antimicrobial Resistance, 12-13 December 2019, Vellore
30. Rathor N, Bahadur T, Thakur CK, Bamola VD, Das BK, Chaudhry R. Bacteriophage Against Multi Drug Resistant Acinetobacter baumannii: Old Remedy in New Time, ASM/ESCMID Joint Conference on Drug Development to Meet the Challenge of Antimicrobial Resistance, 3-6 September 2019, Boston, USA
31. Rawre J, Khullar S, Khanna N, Dhawan B. Prevalence of Mycoplasma genitalium and other sexually transmitted pathogens in patients attending a Sexually Transmitted Disease Clinic in New Delhi XIth National Symposium of Indian Association of Mycoplasmologists International Conference on Human, Animal and Plant Mycoplasmas, 2-4 December 2019, Pune
32. Sahu M, Soneja M, Singh G, Xess I, Wig N. Invasive aspergillosis at rare sites: Series of three cases. Liver Infectious Diseases 2019, 25 August 2019, New Delhi
33. Sahu M, Xess I, Soneja M, Wig N, Singh G. Outbreak of Candida auris in a Medical ICU in a Tertiary Care Hospital and its Containment. SIHAM, 13-15 February 2020, Jodhpur

34. Samad SA, Dar L, Kumar L, Choudhary A, Brijwal M, Ray A, et al. Incidence of Respiratory Syncytial Virus infection among adults undergoing hematopoietic stem cell transplantation: A prospective study from India, Infectious Diseases Society of America (IDSA) ID Week, 4 October 2019, Washington DC, USA
35. Samanta P, Bamola VD, Malhotra P, Chaudhry R Proteomic analysis of surface associated proteins of indigenous intestinal Lactobacilli and evaluation of their immune-modulatory properties 10th India Probiotic symposium. 'Cutting Edge Science and Applications- Intestinal Microbiota and Probiotics' 29 February and 1 March 2020, New Delhi
36. Shamsiya, Mohapatra S, Kapil A, Narang R, Sahoo M, Hasija S, et al. Trend of catheter associated urinary tract Infection (CAUTI) among the post-operative patients of cardiovascular surgeries HISICON, 2019, 13 October 2019, Kolkata
37. Sharma N, Gautam H, Tyagi S, Maheshwari B, Mourya SP, Mohapatra S, et al. Early diagnosis of acute bacterial meningitis by Multiplex-PCR in paediatric and adult cases. 1st chapter meeting of IAMM, Delhi Chapter at Max Super Speciality Hospital, Saket, New Delhi. 6 April 2019, New Delhi
38. Sharma N, Kabra SK, Lodha R, Sharma U, Gautam H, Singh UB. Serum metabolomic biomarkers in the diagnosis of childhood intra-thoracic tuberculosis 19th International Congress on Infectious Diseases, 20-23 February 2020, Kuala-Lumpur, Malaysia
39. Sharma P, Kumar M, Kaur P, Kapil A Identification and In Vitro Activity Testing of Potential Lead Compounds against DNA Gyrase of Salmonella enterica Serovar Typhi, ASM Microbe 2019, 20-24 June 2019, San Francisco, CA, USA
40. Singh G, Xess I, Mani P, Iram A, Soneja M, Mohan A, et al. Clinical spectrum and antifungal susceptibility profile of Aspergillus terreus species complex: A single centre study from India AAAM 2020, 27-29 February 2020, Lugano, Switzerland
41. Singh G, Xess I, Nishchal N, Mani P, Ahuja J, Sachdev J, et al. Histoplasmosis among HIV positive Indian population: A study from a tertiary care institute. SEAIEA 2019, 19-21 September 2019, Colombo, Sri Lanka
42. Sreenath K, Chaudhry R, Chandolia A, Kabra SK, Dey AB, Guleria R Molecular detection of novel Mycoplasma pneumoniae CARDS toxin in pneumonia and pulmonary disease severity, XIth National Symposium of IAM and International Conference on Human, Animal and Plant Mycoplasmas, 3-4 December 2019, Pune, Snehlata Memorial award in recognition of best oral presentation
43. Sreenath K, Chaudhry R, Valavane A, Sagar T, Choudhary M, Varma-Basil M. et al. Detection and identification of Mycoplasma pneumoniae and Legionella pneumophila in patients with Community-Acquired Pneumonia in New Delhi, India: A Multi-centric Study, XIth National Symposium of IAM and International Conference on Human, Animal and Plant Mycoplasmas, 3-4 December 2019, Pune, Dr. Ramakant Memorial Award in recognition of best poster presentation
44. Sreenath K, Chaudhry R. Detection and identification of virulence genes in environmental Legionella pneumophila from water systems of a health care facility in India Man Microbes Machine: Finding Solutions Together, 1st International Microbiology Conference, 11-13 September 2019, Nepal
45. Varghese B, Mohapatra S, George S, Dabral J, Suri A, Pandia MP, et al. Challenges in the prevention of Catheter Associated Urinary Tract Infections (CAUTI) in neurocritical patients Neuroanaesthesia and neurocritical care Update, 30 October 2019, New Delhi
46. Xess A, Bir R, Singh G, Xess I. Aspergillus terreus Infection in a Patient with Cardiac Implantable Electronic Device AAAM 2020, 27-29 February 2020, Lugano, Switzerland
47. Xess I, Mahapatra M, Mani P, Singh G, Mohan A, Kumar R, et al. Relationship between clinical and environmental Aspergillus isolates from the high-risk areas of a tertiary care hospital AAAM 2020, 27-29 February 2020, Lugano Switzerland

## RESEARCH

### Funded projects

#### Ongoing

1. Seroepidemiological study of Rickettsia and Scrub typhus among patients with acute febrile illness and molecular detection by Real time PCR. Rama Chaudhry, DBT, 3 years, 2019, Rs 2269.8 lakhs
2. A detail study to understand the non-putrefying property of river Ganga in both water and sediment, Rama Chaudhry, Ministry of Water Resources, Govt of India. 2 years, 2017-19, Rs 68 lakhs
3. A study to assess the effect of a probiotic strains (Bacillus clausii) on gut microbiota and mucosal immunity in Inflammatory Bowel Disease (Ulcerative Colitis/Crohn's disease), Rama Chaudhry, Unique Biotech, 4 years, 2016-20, Rs 60 lakhs

4. Characterization of bacteriocins produced by *Lactobacillus* and assessment of Antimicrobial Profile, Rama Chaudhry, AIIMS, 2 years, 2017-19, Rs 10 lakhs
5. Community and hospital burden of antibiotic resistance in the Indian pediatric population; impact of probiotics and geography (Multicentric study), Rama Chaudhry, ICMR, 3 years, 2016-18, Rs 50 lakhs
6. Nodal Center for National surveillance of Antimicrobial resistance, 2018-2023, ICMR, New Delhi. Arti Kapil, ICMR, 5 years, 2018-23, Rs 60 lakhs for first year
7. National Surveillance System for Enteric Fever in India (NSSEFI)-Tier 3, Arti Kapil, ICMR, 1 year and 6 months, 2018-20, Rs 40 lakhs
8. Halophilic/haloalkaliphilic actinomycetes and bacteria and hypersaline habitat as potential source of antibacterial molecules for drug resistant microbes, Arti Kapil, IIT, Delhi, 2 years, 2018-19, Rs 10 lakhs
9. Regional Virus Research and Diagnostic Laboratory (RL-VRDL), Lalit Dar, DHR, 2019 onwards, Rs 500 lakhs approximately
10. National Viral Hepatitis Control Program Surveillance laboratory, Lalit Dar, MoHFW, 2019 onwards, Rs 95 lakhs approximately
11. NACO Regional Reference Laboratory for HIV viral load (VL) and early infant diagnosis (EID), Lalit Dar, National AIDS Control Organization (NACO), 2012 onwards, Rs 11 lakh per annum + reagent support
12. National Vector Borne Disease Control Programme Apex Laboratory for Dengue and Chikungunya, Lalit Dar, National Vector-borne Disease Control Programme (NVBDCP), 2012 onwards, Rs 3 lakhs per annum + reagent support
13. A multi-centric observational study to examine replicative fitness and pathogenic properties of the emerging new viral strains of HIV-1 in India, Bimal K Das, DBT, 1 year, 2018-19, Rs 21 lakhs
14. External Quality Assurance Scheme, Bimal K Das, National AIDS Control Organisation, 1 years, 2018-19, Rs 9.9 lakhs
15. CD4 Testing, Bimal K Das, National AIDS Control Organisation, 1 years, 2018-19, Rs 0.25 lakhs
16. Multicentric prospective hospital based sentinel surveillance to determine the etiology of acute bacterial in children with conventional and molecular methods, Bimal K Das, Central Research Laboratory, KIMS Medical College, Bangalore, 1 years, 2018-19, Rs 1.45 lakhs
17. Biomarker for bacteremia, anti-microbial resistance and hospital acquired infection by NMR and mass spectrometry among febrile neutropenic patients, Bimal K Das, BIRAC- DBT, 1 year, 2018-19, Rs 10.95 lakhs
18. Active surface modification strategies to inhibit biofilm formation and bacterial infections, Bimal K Das, IITD-AIIMS Multi-Institutional Faculty Interdisciplinary Research Project, 2 years, 2019-21, Rs 25 lakhs
19. Study of immunopathogenesis and disease dynamics of *Pneumocystis jirovecii* pneumonia (*Pneumocystis pneumonia*), BR Mirdha, SERB, DST, 3 years, 2018-21, Rs 44 lakhs
20. A study of the ecology, evolution and resistance mechanisms of *Candida auris*, Immaculata Xess, DST, 3 years, 2019-22, Rs 32.22 lakhs
21. Early detection of *Hemophilus ducreyi*, *Treponema pallidum*, Herpes Simplex Virus type 1 and 2 from patients with genital ulcer disease by Multiplex PCR in a tertiary care hospital, Benu Dhawan, ICMR, 3 years, 2017-20, Rs 37.63 lakhs
22. Effectiveness of bundled intervention in surgical site infections among patients undergoing clean orthopedic surgeries with hardware implants: A randomized controlled trial, Benu Dhawan, ICMR, 3 years, 2019-22, Rs 43.01 lakhs
23. Nano-enabled Biosensor for detection of *N. gonorrhoeae*, Seema Sood, DBT, 3 years, 2016-19, Rs 50 lakhs
24. Development of an aptamer based detection system for *N. gonorrhoeae*, Seema Sood, DHR, 3 years, 2016-19, Rs 46.5 lakhs
25. Studies on halophilic/haloalkaliphilic actinomycetes and bacteria from hyper saline habitat as potential source of antibacterial molecules for drug resistant microbes, Arti Kapil and Seema Sood, AIIMS-IIT Delhi Collaborative Research Grant, 2 years, 2019-21, Rs 10 lakhs
26. Crohn's Disease in India: A multicenter study from a country where intestinal tuberculosis as well as Johne's disease is endemic, Urvashi B Singh, DHR, 3 years, 2016-20, Rs 500 lakhs
27. Utility of Moxifloxacin as a treatment option in Pre-XDR-TB, Urvashi B Singh, Delhi State OR Task Force, RNTCP, 1 year, 2017-20, Rs 2 lakhs
28. Prognostic value of serum markers in Category II tuberculosis patients, Urvashi B Singh, Delhi State OR Task Force, RNTCP, 1 year, 2017-20, Rs 2 lakhs
29. Diagnosis of Pulmonary And Extra Pulmonary Tuberculosis Patients Using Differentially Expressed Proteins As

- Potential Biomarkers: An Approach Towards Development Of Point Of Care Test, Urvashi B Singh, ICMR, 3 years, 2018-21, Rs 60 lakhs
30. Rapid Molecular Drug Resistance Detection For MDR And XDR-TB And Molecular Typing Of Mycobacterium tuberculosis From Ziehl-Neelsen's Stained Microscopic Slides From Delhi State, Urvashi B Singh, ICMR, 3 years, 2018-21, Rs 60 lakhs
  31. Mapping hotspots of MDR-TB in Sikkim, Assam and Tripura using Genomics approaches , Urvashi B Singh, DBT-NER, 3 years, 2018-21, Rs 400 lakhs
  32. Early Bactericidal activity (EBA) of Rifampicin and Faropenem in Tuberculosis (Rifampicin Susceptible), Urvashi B Singh, ICMR, 2 years, 2019-21, Rs 70 lakhs
  33. Early Bactericidal activity (EBA) and Pk/Pd study of Rifampicin, Faropenem, Cefdinir with Clavulanate vs Standard of Care in Newly Diagnosed Smear Positive Rifampicin Susceptible TB, Urvashi B Singh, ICMR, 2 years, 2019-21, Rs 70 lakhs
  34. Design and Validation of point of Care Disposable Sensor Strip for Diagnosis of Tuberculosis from Urine samples, Urvashi B Singh, DBT, 3 years, 2018-21, Rs 60 lakhs
  35. Emerging drug resistance in community acquired urinary tract infection and molecular insights into dynamics of resistant traits in Indian isolates- A pan-India multi-centric cross-sectional study, Sarita Mohapatra, ICMR, 3 years, 2019-22, Rs 65 lakhs
  36. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-21, Rs 20 lakhs
  37. Development of super hydrophobic catheters to inhibit bacterial and yeast growth, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-21, Rs 20 lakhs
  38. Active surface modification strategies to inhibit biofilm formation and bacterial infections, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-21, Rs 20 lakhs
  39. A multicentric, prospective, community-based cohort study to estimate the incidence of dengue infection in India (INDEN study), Aashish Choudhary, ICMR, 2 years, 2020-22, Rs 38 lakhs
  40. Human cytomegalovirus disease in pediatric hematological malignancies, Aashish Choudhary, AIIMS, 2 years, 2019-21, Rs 5 lakhs
  41. Comparison of conventional and molecular tests for the diagnosis of herpes zoster, Aashish Choudhary, AIIMS, 1 year, 2020-21, Rs 2 lakhs
  42. Correlation of circulating dengue types with primary and secondary dengue infection in children and adults, Aashish Choudhary, AIIMS, 1 year, 2020-21, Rs 2 lakhs
  43. Prevalence of Histoplasmosis in HIV positive patients, Gagandeep Singh, AIIMS, 2 years, 2017-19, Rs 6 lakhs
  44. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients, Hitender Gautam, BIRAC-DBT, 18 months, 2019-20, Rs 36.46 lakhs
  45. Study of cytokine profile and immune cells in acute and chronic meningitis, Hitender Gautam, AIIMS, 1 year, 2019-20, Rs 4.95 lakhs
  46. Magnitude of asymptomatic malaria infections in pregnant women in a community hospital, Nishant Verma, AIIMS, 1 year, 2018-19, Rs 4.98 lakhs
  47. A prospective study of viral infections in hematopoietic stem cell transplant recipients at a tertiary care hospital in India, Megha Brijwal, ICMR, 3 years, 2019-22, Rs 45 lakhs
  48. Detection and genotyping of BK polyomavirus in renal transplant recipients, Megha Brijwal, AIIMS, 2 years, 2018-20, Rs 9 lakhs

### ***Completed***

1. Defining ECOFF value for Azythromycin susceptibility in Salmonella enteric serovar Typhi and Paratyphi A, Arti Kapil, ICMR, 2 years, 2015-17, Rs 22 lakhs
2. Enhancing bio-risk mitigation awareness in public health community and creating lab. networks for surveillance and outbreaks of high-risk group viral pathogens causing VHF and respiratory infections, Lalit Dar, Centre for Disease Control (CDC), Atlanta (through NIV, Pune), 3 years, 2015-18, Rs 4.5 lakhs (per annum)
3. Invasive Fungal Infections: Epidemiology, Drug Resistance and Molecular characterization of the clinical and environmental isolates from the hospital, Immaculata Xess, ICMR, 3 years, 2017-20, Rs 52 lakhs
4. Validation of Novel Bio-signature for Diagnosis of Active Pulmonary Tuberculosis in Children, Urvashi B Singh, DBT, 3 years, 2018-21, Rs 38 lakhs
5. Validation of indigenously developed technologies for diagnosis of Pediatric Pulmonary tuberculosis: Multicentric, Urvashi B Singh, ICMR, 1 year, 2018-19, Rs 125 lakhs

6. Validation of indigenously developed technologies for diagnosis of Extra-Pulmonary tuberculosis: Multicentric, Urvashi B Singh, ICMR, 1 years, 2018-19, Rs 125 lakhs
7. To Study Current Practice in the Management of Bacterial Urinary tract infection In Patients at AIIMS, New Delhi with focus on current antibiotic usage and clinical outcome, Sarita Mohapatra, AIIMS, 1 year, 2018-19, Rs 1 lakhs
8. Clinical evaluation of viability assays for assessing treatment response in pulmonary tuberculosis, Kiran Bala, AIIMS, 1 year, 2018-19, Rs 4.94 lakhs
9. Investigation of Colistin sensitivity by different methods and rapid detection of Colistin resistance in Enterobacteriaceae, Hitender Gautam, AIIMS, 1 year, 2018-19, Rs 4.94 lakhs

## **Departmental projects**

### ***Ongoing***

1. Audit for antifungal treatment usage in adults with invasive fungal infections
2. Azithromycin for poorly controlled Asthma in Children: A randomized controlled trial
3. BK and JC polyomavirus detection in patients with allogenic hematopoietic stem cell transplant
4. Characterization of lactobacillus strains and assessment of their immunomodulatory effects
5. Clinico-Microbiological Profile and Outcome of Urosepsis – A Prospective Study in a Tertiary Care Hospital in North India
6. Comparison of conventional and molecular techniques for the diagnosis of herpes zoster (shingles)
7. Comparison of diagnostic accuracy of Real time PCR versus Nugent's scoring in Indian women with and without Bacterial Vaginosis (BV)
8. Determination of acute bacterial meningitis aetiology in children by multiplex PCR and virulence markers of *S. pneumoniae*
9. Etiological Agents in Ventilator Associated pneumonia with special emphasis on Atypical organisms
10. Identification and antimicrobial susceptibility pattern of hypervirulent *Klebsiella pneumoniae*
11. Identification and characterization of cryptic species of *Aspergillus* isolated from clinical samples
12. In vitro susceptibility of Eravacycline v/s Tigecycline in clinical isolates of XDR *Acinetobacter baumannii* and study of resistance mechanisms
13. Magnitude of Prosthetic Joint Infections and role of amplification based DNA analysis for identifying microbial profile of prosthetic joint infection in a tertiary care hospital
14. Metabolomic profile in childhood intra-thoracic tuberculosis
15. Microbiological follow up and genotypic investigation of close contacts of MDR-TB patients
16. Molecular detection and characterization of Rickettsiaceae among patients with acute febrile illness
17. Molecular detection and characterization of tick-borne Lyme Borreliosis, Human Monocytic Ehrlichiosis and Human Granulocytic Anaplasmosis
18. Molecular detection of *Legionella pneumophila* by real time PCR and characterization of isolates by sequence-based typing
19. Multiplex PCR assay for diagnosis of malaria and molecular detection of chloroquine resistance in *P. vivax*
20. Occurrence of *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma hominis* and *Mycoplasma genitalium* in patients with sterile pyuria
21. Prevalence of parasitic infections in patients with eosinophilia in a tertiary care hospital in North India
22. Role of aptamer technology in detection of Bacterial Vaginosis (BV) associated bacteria
23. Serum Homocysteine (HCY) as a Non-invasive diagnostic marker of spontaneous bacterial peritonitis
24. *Staphylococcus aureus* colonization in HIV infected patients: incidence, risk factors and subsequent skin and soft tissue infections
25. Stratified Antibiogram & role of educational intervention in empirical antibiotic choices & antibiotic choices
26. Study of bacterial infections in a cohort of patients clinically diagnosed of *Pneumocystis jirovecii* pneumonia (PjP)/*Pneumocystis pneumonia* (PCP) and its impact on outcome of the disease
27. Study of *Pneumocystis jirovecii* as an etiology of bronchiectasis and its effect on disease progression
28. Utility of 99m-Tc Ubiqicidin in differentiation of infective and non infective lesions

### ***Completed***

1. PCR for EBV DNA PCR in patients with suspected nasopharyngeal carcinoma

2. Real time PCR for diagnosis of invasive fungal infections
3. Screening for Candida Colonization, with Special Reference to Candida auris Among Patients Admitted In Medicine ICU
4. Prevalence of moulds and nocardial infections in patient admitted to pulmonary ward and ICU
5. Detection of *N. gonorrhoeae* in genital and extra genital sites in men who have sex with men (MSM)
6. Prevalence of intestinal colonization and blood-stream infection due to Carbapenem resistant Enterobacteriaceae in haematological malignancy patients
7. Role of HCMV reactivation in causing pneumonia in immunocompetent, mechanically-ventilated patients

## **Collaborative projects**

### ***Ongoing***

1. Effect of probiotic supplementation on cognition and motor symptom in patients with fluctuating Parkinson's disease, Physiology
2. Identification, antimicrobial susceptibility pattern and clinical correlation of the rare pathogens detected by MALDI-TOF MS in North India, Microbiology
3. AMR-Diag: A novel diagnostic tool for sequence-based prediction of antimicrobial resistance, Biophysics
4. CDC-AIIMS Cooperative Agreement projects on Influenza and other respiratory viruses, Centre for Disease Control (CDC), Atlanta (USA) and Centre for Community Medicine
5. Evaluation of various clinical and immunological parameters in predicting the outcome of sino-nasal and skull base invasive fungal diseases: A descriptive study, Otorhinolaryngology
6. A Prospective Observational study on Clinical profile and treatment outcome of patients with Chronic Pulmonary Aspergillosis attending tertiary care Hospital, Medicine
7. Invasive Fungal Infections and role of Biomarkers and molecular approaches in early diagnosis, Medicine
8. The effect of candida and antifungal therapy on pro-inflammatory cytokines in oralleukoplakia- A pilot study, Oral Medicine & Radiology
9. Candida auris: infection, colonization and risk of transmission in healthcare setting, Medicine
10. A Phase-IV, double blind, comparative, prospective, multicentric study to assess safety and efficacy of fixed dose combination of Clindamycin 100 mg & Clotrimazole 100 mg vs Clotrimazole 100 mg vaginal suppositories in patients with mixed vaginal infection, Obstetrics & Gynaecology
11. Analysis of the diagnostic/or predictive potential of metabolomics in BV, its treatment failure, relapse and susceptibilities to other STIs, Dermatology
12. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Dermatology
13. Exploration of alternate salivary diagnostic strategies for ovarian cancer, Biophysics
14. A phase IIB Open Label Randomized trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8-week study, Pulmonary Medicine and Sleep Disorders
15. Phase III, Randomized, Double-blind, Placebo controlled Trial to Evaluate the Efficacy and Safety of VPM1002, Immunovac Vaccines in Preventing of Tuberculosis Disease in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB (PTB) Patients, Pulmonary Medicine and Sleep Disorders
16. Role of Tuberculosis and genital Chlamydia trachomatis infection in women with "unexplained infertility", Obstetrics & Gynaecology
17. Effect of Glycemic status on initial presentation and treatment response in newly diagnosed sputum positive pulmonary tuberculosis patients: a prospective study, Community Medicine
18. Evaluation of Newer Molecular methods and antigen based diagnostic modalities against NTEP recommended methods in Early Diagnosis of Female Genital Tuberculosis, Obstetrics & Gynaecology
19. Clinical efficacy of using MALDI-TOF MS over Conventional processing in Blood Stream Infections patients combined with Prescription pattern monitoring: A pre-post quasi experimental study, Medicine
20. The clinicopathological evaluation of cholesteatoma aggressiveness, ENT
21. Efficacy of two different Chlorhexidine gluconate preparation for skin antiseptics in neonates: A noninferiority randomized trial, Paediatrics
22. Abdominal infections in immunocompromised hosts: A radiological, microbiological and clinical correlation, Hematology

23. NeoAMR Global Observational Study: A prospective cohort study of sepsis in hospitalised neonates, Paediatrics
24. Does the fetal immune response in case of neonatal early onset sepsis begin in utero? Paediatrics
25. Investigation of Colistin sensitivity by different methods and rapid detection of Colistin resistance in Enterobacteriaceae, Microbiology
26. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomized controlled trial, Medicine
27. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, Paediatrics
28. Effectiveness of a Cranberry extract mouth rinse Vs a Sodium Fluoride mouth rinse on microbial counts in caries active children-A double blind randomised controlled trial, Center of Dental Research and Education
29. In-vitro susceptibility of Eravacycline V/S tigecycline in clinical isolates of XDR Acinetobacter baumannii and study of resistance mechanisms, Microbiology
30. Isolation and Identification of Bacteriophages against MDR Bacterial strains, Microbiology
31. Multi-centric prospective hospital based sentinel surveillance to determine the aetiology of acute bacterial meningitis in children, Central Research Laboratory, K.I.M.S. Hospital & Research Centre, Kempegowda Institute of Medical Sciences, Bangalore
32. Utility of Radiolabeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nuclear Medicine
33. Etiological profile of infants, children and adolescents presenting with acute, subacute and chronic encephalitis/encephalopathy in a tertiary care centre in North India, Paediatrics
34. Detection of V. Cholerae in stool samples by loop mediated isothermal amplification method, Biomedical Engineering
35. Molecular Detection of Colistin Resistance in Multidrug Resistance Gram Negative bacilli from various Clinical Samples, Texila American University
36. Comprehensive National Nutrition Survey, UNICEF
37. Multiplexed Point-of-Care test for acute febrile illness (mPOCT), Paediatrics
38. Efficacy of enriched fecal microbiota transplantation in patients with treatment naïve ulcerative colitis: A randomized control trial, Gastroenterology
39. Association of therapeutic drug levels and worm infestation with treatment response in patients with TB lymphadenitis, Medicine
40. Evaluation of risk factors for severity in Plasmodium vivax infection - A prospective study, Medicine

### **Completed**

1. A Clinical study on the investigation of carries risk in children with Cleft lip and or palate (CL/P) and non-cleft control, Orthodontics, CDER
2. Assessment of Microflora of Dental carries in Indian Children using anaerobic culture and molecular techniques, Pedodontics, CDER
3. Study of intestinal microbiota in Juvenile Idiopathic Arthritis-A Cross- Sectional Observational Study, Lady Hardinge Medical College and Associated Hospitals, New Delhi
4. Cryptococcal antigenemia in people living with HIV and AIDS, Medicine & Microbiology
5. To study the dynamic relationship of airway colonization and Endotracheal Tube Biofilm with Ventilator Associated Pneumonia, Pulmonary Medicine
6. To Study Diagnostic Performance of Presepsin in Sepsis: A Pilot Study, Medicine
7. Elucidating Role of microRNA in the pathogenesis of active generalized vitiligo and in pigment regulation, Dermatology
8. To determine if colonization of gut with carbapenemase resistant enterobacteriaceae in surveillance cultures affect the outcome of the high risk febrile neutropenic patients, Hematology
9. A proof-of-concept study of 3 days intravenous Ceftriaxone followed by switch to oral Cefexime with Nephrotic syndrome, Pediatrics
10. Randomized Controlled Trial to compare efficacy of Decongestive Compression Therapy and injection Benzathine Penicillin G vs Decongestive Compression Therapy, injection Benzathine Penicillin - G and Placement of Hydrophobic Silicone tube in upper limb Lymphedema following ALND in breast cancer, Surgery
11. Abdominal infections in immunocompromised hosts: A radiological, microbiological and clinical correlation, Pediatrics

**PUBLICATIONS**

**Journals: 45**

**Abstracts: 7**

**Chapters in Books: 2**

**Books: 1**

**PATIENT CARE**

The Department of Microbiology carried out a total of **2,51,925 tests** during the year 2019-20.

Name of assay/test/investigation	No. of tests performed	Name of assay/test/investigation	No. of tests performed
<b>BACTERIOLOGY LAB</b>		<b>PARASITOLOGY LAB</b>	
Pus samples culture and identification	13,589	<b>Intestinal parasitosis</b>	
Urine samples culture and identification	31,874	Stool examination- Ova/Parasites (wet mount/concentration)	2,289
Blood samples culture and identification	24,832	Coccidian parasites - Mod. Acid-fast/ special staining	2,289
Sputum/Throat swab/Tracheal swab samples culture and identification	13,611	In-vitro culture	30
CSF/sterile samples culture and identification	6,558	PCR assay for Microsporidia	2,289
Stool samples culture and identification	1,422	<b>Malaria</b>	
Antimicrobial susceptibility testing		Giemsa staining	4,676
Pus/Exudates/Tissue -Antimicrobial susceptibility testing	2,902	Acridine orange (AO) fluorescent staining	4,676
Urine - Antimicrobial susceptibility testing	2,425	Quantitative buffy coat (QBC)	4,676
Blood - Antimicrobial susceptibility testing	2,229	Malaria Antigen detection assay	4,676
Respiratory samples - Antimicrobial susceptibility testing	2,192	<b>Leishmaniasis (Kala azar)</b>	
CSF/sterile samples - Antimicrobial susceptibility testing	589	Giemsa staining	89
Stool samples - Antimicrobial susceptibility testing	7	Acridine orange (AO) fluorescent staining	89
Latex Agglutination (Antigen detection) from CSF Samples for Bacterial Meningitis	10	Kala-azar serology (rk-39)	663
<b>Total</b>	<b>1,02,240</b>	<b>Filariasis</b>	
<b>HOSPITAL INFECTION CONTROL (HIC) LAB</b>		Direct examination & concentration of blood	739
Surveillance cultures	26,522	Thin Smear	739
CSSD/Sterilization Monitoring	2,755	Thick Smear	739
Water samples	1,603	Acridine orange (AO) fluorescent staining	739
<b>Total</b>	<b>30,880</b>	Filaria antigen detection	739

		Quantitative buffy coat (QBC)	739
<b>ANAEROBIC, SPECIAL PATHOGENS &amp; MYCOPLASMA LABS</b>		<b>Other investigations</b>	
Anaerobic culture (Blood, Bile, BAL, CSF, Tissue)	756	Investigation for detection of <i>Pneumocystis jirovecii</i> infection (PCP) by staining & PCR assay	1262
<i>C. difficile</i> stool culture	575	Cerebrospinal fluid examination for Free Living Amoebae (FLA)	59
Stool samples for <i>C. difficile</i> ELISA	575	Worm specimens	1
Susceptibility testing for anaerobes	57	Arthropod specimens	2
PCR for <i>C. difficile</i> ( <i>tox A</i> gene)	88	Parasitic serology	
PCR for <i>C. difficile</i> ( <i>tox B</i> gene)	88	Amoebic Serology for anti-amoebic IgG antibodies by ELISA	113
<i>Bartonella</i> culture	12	Hydatid disease serology (ELISA/IHA)	135
<i>Bartonella</i> IFA	13	Toxoplasmosis serology for IgG antibodies by ELISA	57
<i>Bartonella</i> PCR (citrate synthase gene)	10	<b>Miscellaneous</b>	
<i>Bartonella</i> PCR ( <i>rib C</i> gene)	6	Examination of aspirates (Sputum, Pus etc.)	101
<i>Leptospira</i> IgM ELISA	639	<b>Total</b>	<b>32,606</b>
<i>Leptospira</i> -Urine dark ground microscopy	636		
<i>Leptospira</i> -Plasma dark ground microscopy	634	<b>VIROLOGY LAB</b>	
<i>Leptospira</i> culture (urine and plasma)	130	Molecular tests (PCR, RT-PCR)	
<i>Leptospira</i> PCR	6	SARS-CoV-2 novel coronavirus real time RT-PCR (E gene)	1,818
<i>Legionella pneumophila</i> IgM ELISA	226	SARS-CoV-2 novel coronavirus real time RT-PCR (ORF 1b gene)	152
<i>Legionella pneumophila</i> Urine Antigen (ICT)	159	SARS-CoV-2 novel coronavirus real time RT-PCR (RdRp 2 gene)	152
<i>Legionella</i> spp. culture	174	Influenza real time multiplex RT-PCR	711
<i>Legionella pneumophila</i> Real time PCR ( <i>mip</i> gene)	211	Respiratory virus panel (other than influenza) multiplex PCR	73
<i>Legionella pneumophila</i> serogroup 1 real-time PCR ( <i>wzm</i> gene)	55	HSV 1&2 DNA PCR (CSF, GUD, Ocular etc.)	82
<i>Legionella</i> PCR for MLST (44 environmental isolates, 7 genes each)	308	HCMV DNA PCR (Urine, Colonic biopsy, CSF etc.)	127
Scrub typhus IgM ELISA	623	HIV-1 RT-PCR for Early Infant Diagnosis (on DBS samples)	4,087

Scrub typhus IgM IFA	326	HIV-1 RNA RT-PCR (Viral load)	2,048
Scrub typhus IgM ICT	88	Dengue, Chikungunya & Zika virus real time RT-PCR	21
Scrub typhus nested PCR (56 kDa gene)	136	Polyomavirus (BK/JC) real time RT-PCR	295
Scrub typhus Real time PCR (47 htra gene)	24	Enterovirus (Nested, real time) RT-PCR	5
Rickettsia Spotted fever group IgM ELISA	458	Fever with rash Viral Panel (Measles, Enterovirus, Parvovirus B19, HHV-6 & HHV-7)	2
Rickettsia Typhus group IgM ELISA	458	Viral Meningitis/encephalitis PCR panel (HSV, Enteroviruses, Parechoviruses, VZV, Mumps)	54
Rickettsia Screen IgM IFA	180	Viral Gastroenteritis panel (Rotavirus, Norovirus, Adenovirus 40/41, )	5
Rickettsia nested PCR glt gene	164	Epstein-Barr virus (EBV) DNA PCR (Conventional, real time)	16
<i>Mycoplasma pneumoniae</i> IgM ELISA	226	Parvovirus B19 real time PCR	21
<i>Mycoplasma pneumoniae</i> culture	172	Cell culture (Influenza A/B, Dengue, HSV 1&2, Adenovirus, etc.)	271
<i>Mycoplasma pneumoniae</i> Real time PCR (CARDS toxin gene)	164	<b>Antigen detection</b>	
<i>Chlamydia pneumoniae</i> IgM ELISA	226	Dengue NS1 antigen (ELISA)	984
<i>Borrelia burgdorferi</i> IgM ELISA	106	Rotavirus antigen (ICT)	5
<i>Borrelia burgdorferi</i> IgG ELISA	106	Antibody detection	
<i>Borrelia burgdorferi</i> IgM immunoblot	20	Anti-Dengue IgM (ELISA)	1351
<i>Borrelia burgdorferi</i> IgG immunoblot	20	Anti-Chikungunya IgM (ELISA)	57
<i>Borrelia burgdorferi</i> Realtime PCR (CSF-target OspA)	60	Anti-Japanese Encephalitis IgM (ELISA)	20
<i>Anaplasma phagocytophilum</i> IgG IFA	140	Anti-Measles antibody- Complement fixation test (CFT)- for SSPE diagnosis (CSF/Serum)	44
<i>Ehrlichia chaffeensis</i> IgG IFA	140	Anti-Measles IgG/ total IgG (ELISA) (CSF/Serum)	32
		<b>Direct Microscopy</b>	
<i>Mycoplasma hominis</i> culture	442	Tzanck smear (for HSV 1&2, VZV)	12
<i>Mycoplasma hominis</i> PCR	508	PS for Downey cells/atypical lymphocytes (EBV-related Infectious mononucleosis)	4
<i>Ureaplasma urealyticum</i> culture	442	<b>Total</b>	<b>12,449</b>

<i>Ureaplasma urealyticum</i> PCR	508		
<i>Chlamydia trachomatis</i> PCR	530	<b>MYCOLOGY AND ICP LAB</b>	
<i>Mycoplasma genitalium</i> PCR	478	<b>Direct Microscopy/Culture</b>	
<b>Total</b>	<b>12,103</b>	Blood culture/Bone marrow/Blood BACTEC	1238
<b>SEXUALLY TRANSMITTED DISEASES (STD) LAB</b>		Respiratory (BAL, Sputum, Tracheal aspirate)	5035
		Urine	1142
High vaginal swabs (HVS)	384	C.S.F.	1465
Semen	1019	Tissue/Biopsy	861
Expressed prostatic secretions (EPS)	28	Skin scrapping/Nail/Hair	142
Urethral discharge	66	Fluid (Peritoneal, Pericardial and Ascitic fluid)	776
Cervical discharge	133	Pus	567
Vaginal discharge	3	Miscellaneous (Plates, Swabs, Catheter tips)	1092
Pharyngeal swabs	30	Fungal Serology/Antifungal /TDM/PCR	
Rectal swabs	30	Cryptococcal antigen	1016
Urethral swabs	7	Galatomannan antigen	2023
Vaginal swabs for BV (Microscopy alone)	486	Urinary Histoplasma antigen	29
Urethral discharge-PCR for <i>Neisseria gonorrhoea</i>	66	$\beta$ D Glucan assay	153
Vaginal discharge-PCR for <i>Neisseria gonorrhoea</i>	3	Histoplasma antibody	20
Cervical discharge-PCR for <i>Neisseria gonorrhoea</i>	133	Aspergillus antibody	86
Rectal swabs-PCR for <i>Neisseria gonorrhoea</i>	30	TDM(Voriconazole)	168
Pharyngeal swabs-PCR for <i>Neisseria gonorrhoea</i>	30	Antifungal Susceptibility	463
<b>Antimicrobial susceptibility testing</b>		PCR (Panfungal 11, Histoplasma 3, Cryptococcus 1, Aspergillus 2)	68
High vaginal swabs (HVS)	101	<b>Total</b>	<b>16,344</b>
Semen	96	TUBERCULOSIS LAB	

Expressed prostatic secretions (EPS)	9	Samples processed for ZN Smear	6,588
Urethral discharge	05	Culture on LJ medium	139
Cervical discharge	-	Rapid Culture on MGIT 960	3,689
Vaginal discharge	-	MGIT DST	218
Pharyngeal swabs	-	PCR for <i>Mycobacterium tuberculosis</i>	4,618
Rectal swabs	-	Genxpert MTB/RIF	615
<b>Total</b>	<b>2,659</b>	<b>Total</b>	<b>15,867</b>
<b>HIV IMMUNOLOGY LAB</b>		<b>SEROLOGY LAB</b>	
HIV testing	2,920	VDRL	8689
CD4 counts	9,930	Widal	4336
Western blot for HIV indeterminate samples (Received from linked State Reference Laboratories)	4	TPHA	361
<b>Total</b>	<b>12,854</b>	ASO	100
		Standard Agglutination Test (SAT) for Brucella antibody	9
<b>MOLECULAR BIOLOGY LAB</b>		<b>Total</b>	<b>13,495</b>
Multiplex PCR for Acute Bacterial Meningitis (ABM)	428		
<b>Total</b>	<b>428</b>		

#### Virology laboratory

- The laboratory performed training on the molecular diagnosis of SARS-CoV-2 novel coronavirus by real time RT-PCR for institutes in Delhi NCR (Army Hospital R&R, Lady Harding Medical College (LHMC), Maulana Azad Medical College (MAMC), National IMR, and ILBS)
- The laboratory performed SARS-CoV-2 novel coronavirus testing for evacuees held at the Army camp at Manesar, and the ITBP camp at Chhawla, and various states (Punjab, Haryana, J&K, Himachal Pradesh etc.)

#### HIV Immunology laboratory

- NABL accredited laboratory - NABL Accreditation
  - Successful NABL desktop assessment of National HIV Reference Laboratory and NACO Regional Referral Laboratory for HIV Viral Load and Early Infant Diagnosis in June.
  - Successful NABL re-verification visit post fire incident (August 2019) in December 2019.

Validity: July 2018 to July 2020. NABL Scope including:

- HIV Diagnostic serology using Rapid tests

- CD4 count/CD4 percentage estimation
- HIV qualitative real time PCR for early infant diagnosis (EID)
- HIV quantitative real time PCR for viral load (VL)
- Quality Control Program (External Quality Control Activities)
  - EQAS activity with Apex lab National AIDS Research Institute, Pune
- July 2019 & January 2020: Performance: 100%
  - EQAS Panel Distributed to 4 State reference laboratories (SRLs)
- August-2019 cancelled due to fire & January 2020- 100% Participation
  - International EQAS activity with National Serology Reference Laboratory (NSRL) Australia
- June 2019 & September 2019. Performance: 100%
- ICTC activity
  - Pre-test Counseling: 2920 Patients
  - Post-test counseling: 2901 Patients

#### **Parasitology laboratory:**

- Quality Control Program (External Quality Control Activities)
  - Accorded Grade A by Indian Academy of Tropical Parasitology for its routine diagnostic services

#### **Serology Laboratory:**

- External Quality Assessment Scheme (EQAS): Participated in IAMM-EQAS, New Delhi, with concordant result.

**HICC-COVID response: The department of Microbiology is an integral part of HICC at AIIMS hospital. The faculty was a part of the following COVID-19 response related activities:**

- Preparation of various documents:
  - Infection prevention and Control Guidelines
  - Disinfection and Sterilization protocols (including Terminal Disinfection)
  - Ready reckoner for HIC related activities
  - Checklists for Donning/Doffing
  - Checklist for Disinfection/Cleaning
  - Sample collection and transport of samples
  - Appropriate usage of PPE
  - Reuse of Face shields and goggles
  - Extended use and Limited re-use of N95 protocol
  - Disinfection and reuse of PPE
  - Dead body disposal protocol
- Teaching & Training of healthcare workers
  - Videos for training
  - Posters for display
  - Live Demonstration of PPE Donning & Doffing
- Preparation of areas for donning and doffing
- Day to day resolution of HIC related issues
- Biomedical Waste Management for COVID-19
- Contribution to developing a facility for disinfection and reuse of PPE – coverall suits and N-95 masks

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

- Third Prize for Best Poster Presentation for Department at 64th Institute Day, AIIMS, New Delhi. 24- 27 September 2019.
- Snehlata Memorial award in recognition of best oral presentation: Sreenath K, Chaudhry R, Chandolia A, Kabra SK, Dey AB, Guleria R for “Molecular detection of novel *Mycoplasma pneumoniae* CARDS toxin in pneumonia and pulmonary disease severity” during XI-th National Symposium of IAM, 2019, 3-4 December 2019, Pune, India.
- Dr. Ramakant Memorial Award in recognition of best poster presentation: Sreenath K, Chaudhry R, Valavane A, Sagar T, Choudhary M, Varma-Basil M. et al. for “Detection and identification of *Mycoplasma pneumoniae* and

Legionella pneumophila in patients with Community-Acquired Pneumonia in New Delhi, India: A Multi-centric Study” by during XI-th National Symposium of IAM, 2019, 3-4 December 2019 Pune, India.

- “Young Investigator Award” to V Deepak Bamola to present paper “A Double-Blind, Placebo-Controlled Study in Indian Population to Assess the Effects of Probiotic strain Bacillus coagulans Unique IS2 in Inflammatory Bowel Disease” by Bamola VD, Dubey D, Samanta P, Ahuja V, Chaudhry R given by Gut Microbiota and Probiotic Science Foundation (India); in 10th India Probiotic Symposium, “Cutting Edge Science and Applications – Intestinal Microbiota and Probiotics” 29 February and 1 March 2020 in New Delhi.
- The Virology Laboratory was designated a Regional level Virus Research and Diagnosis Laboratory (RL-VRDL) under ICMR-DHR this year.
- Second best poster award: Biswal D, Verma N, Surve A, Kumar V, Mirdha BR. Intra-ocular hydatid cyst in a child: a rare case presentation. TROPACON 2019. KMC, Manipal, 6-8 September 2019.
- Best Poster Award: Singh G, Xess I, Mani P, Iram A, Soneja M, Mohan A, Xess A, Sachdev J. Clinical spectrum and antifungal susceptibility profile of Aspergillus terreus species complex: A single centre study from India. AAAM2020. Lugano, Switzerland, 27-29 February 2020.
- Best Poster Award: **Sahu M**, Soneja M, Singh G, Xess I, Wig N. Invasive aspergillosis at rare sites: Series of three cases. LID. ILBS, New Delhi, August 2019.

**Professor Rama Chaudhry** received prestigious ‘Atal Swasthya Bhushan Samman 2019’ by Honourable Lok Sabha Speaker, Parliament of India; Organised workshop on best practice of scientific writing and publishing, 22 August at SGT University, Gurgaon; Organised “Human Mycoplasma Infections: an update” Pre-conference workshop at Nepal Medical College Teaching Hospital on 11 September, 2019; Organised workshop on Mycoplasma cultivation and detection, XI National Symposium of IAM and International Conference on Human, Animal and Plant Mycoplasmas, 2 December 2019, Pune; Organised workshop on Anaerobic Culture Techniques at the All India Institute of Medical Sciences, Bhopal, 26 and 27 February 2020; Reelected as ASM ambassador to India- 2019 to 2021; Member of ASM Ambassadors leaders Council, Only Nine members selected world over; Member of Project Review committee of AMR, ICMR; Chairman of Project Review committee for Zoonoses of ICMR; Special invitee to joint Monitoring group of Ministry of Health for COVID-19; Member of Expert meeting on acceptance criteria of quality test performance on qualitative and quantitative in-vitro diagnostic kits used for COVID-19 by Drug controller of India.

**Professor Lalit Dar** was member of the ICMR High Level Task Force for the SARS-CoV-2/COVID-19; Designated by DHR ICMR as a Chair of the Viral Research and Diagnostic Laboratory (VRDL) national network comprised of 105 virology laboratories across the country; The virology laboratory achieved NABL accreditation for virological tests, including both serological and molecular diagnostic tests for infections like HIV, influenza, dengue and chikungunya; Member of the National Technical Advisory Group on Immunization (NTAGI), the apex body for advising the Government of India on its immunization policies; The virology laboratory, is a Regional Viral Research and Diagnostic Laboratory (RL-VRDL) of the Department of Health Research (DHR) since 2019. It was also designated a National Viral Hepatitis Surveillance Programme Laboratory in 2019. It is already NACO Regional Reference Laboratory for HIV Viral Load and Early Infant Diagnosis and an Apex Laboratory of the National Vector Borne Disease Control Programme (NVBDCP) for Dengue and Chikungunya; actively contributes to various agencies outside of AIIMS: Member, Core Accreditation Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Adjunct Faculty, Public Health Foundation of India; Member, Technical Resource Group, National Viral Hepatitis Control Programme (NVHCP); Member, ICMR Virology Project Review Committee for Virology; Member, ICMR Fellowship Committee; Member, NACO Technical Resource Group (Laboratory Services)

**Professor Seema Sood** filed for Patent: Malhotra S and Sood S. Aptamers for Neisseria gonorrhoeae. Application Number: 201911021888; Executive member- IUSTI Asia Pacific Region; Faculty- National Board of Examination (NBE); Member- Project Review Committee (ICMR) for Adhoc & Fellowship proposals; Member- Student Research Advisory Committee (SRAC) Jamia Millia Islamia; Member- Institution Human Ethical Committee (IHEC), ACBR (Dr. B.R. Ambedkar Centre for Biomedical Research); Subject Expert- Recruitment of Faculty, NITTTR, Chandigarh; Reviewer: Nature Reviews, Expert Review of Molecular Diagnostics

**Professor Urvashi B Singh** was Chairperson: Session: Symposium on Tuberculosis at Pulmocrit 2020 on 8 March 2019 organized at AIIMS, New Delhi; Advisor and Invited as an expert; Awarded Fellowship of National Academy of Medical Sciences, October 2019; Expert member in DBT appointed committee on ‘Artificial Intelligence Applications for Affordable and Accessible Healthcare-Big Data and Genomics’, August 2019; Appointed Expert Member by DCGI to the Committee for approval of Clinical Trials, New Drugs including cellular biology based drug products / stem cell derived products and new Medical Devices etc., January 2020; Appointed member of ICMR Steering Committee for National Tuberculosis Prevalence Survey, January 2020; Co-Chairperson, National Technical Expert Group on Diagnosis of Tuberculosis under RNTCP, since 2018; Member, National Technical Working Group on LTBI Management in India, since 2018; Member,

National Technical Expert Group on Treatment of Tuberculosis under RNTCP, since 2018; Member, National Technical Expert Group on Treatment of Pediatric Tuberculosis under RNTCP, since 2018; Member, National Technical Working Group on TB Co-morbidities under RNTCP, since 2018; Member, Technical Specifications Committee for RNTCP, since 2018; Member 'STOP TB New Diagnostics Working group', WHO since 2009; Expert in 'Expert Committee for finalizing validation protocols for Indian Indigenous Technologies', ICMR since 2014; India TB Research Consortium, ICMR, Member on Diagnostic, Therapeutic, Vaccine and Implementation Research Groups; Member, State TB Task Force and OR Committee; Expert member on International SAG committee of India TB Research Consortium, ICMR since 2016; Reviewer: Emerging Infectious Diseases, Medical Microbiology, Microbes and Infection, Epidemiology and Infection, PLOS One, Journal of Biosciences, Indian J Med research, Indian J Tuberculosis.

**Dr Sarita Mohapatra** conducted workshop under Swachhata Action Plan: "Antibiotic Awareness Week" from 18 November 19 to 24 November 19 at Neurosciences Center, and Cardiothoracic Center, AIIMS, New Delhi; Best poster award: Neuroanaesthesia and Neurocritical Care Update, 2019; 1st prize poster competition: IAMM Delhi Chapter, 2019

**Dr Aashish Choudhary** was awarded the degree of Fellow of the Canadian College of Microbiologists (FCCM) on 28 May 2019; Member- Institute Biosafety committee (IBSE), AIIMS Delhi; Member- BSL-3 facility, Central Core Research Facility (CCRF), AIIMS Delhi

**Dr Hitender Gautam** was nominated faculty from Department of Microbiology for 64th Institute Day, AIIMS, New Delhi, 24-27 September 2019. Third Prize for Best Poster Presentation for Department; Part of AIIMS KAYA KALP Team and Responsible for Department KAYA KALP Activities & Inspection: KAYA KALP 2019: First Prize for AIIMS, New Delhi; Committee member for Developing National Protocols for Infection Prevention and control in Maternal and child Health Care under National LaQshya Program, National Health Mission, MOHFW, GOI; Invited Expert in Ministry of Health, GOI for Infection prevention and lab strengthening guidelines, 9 July 2019; Technical Committee Member for Technical Evaluation of CSSD for Upcoming New AIIMS, under Pradhan Mantri Swasthya Suraksha Yojana, PMSSY 6 November 2019, at HITES Office, Noida; Committee member for Pre-bid meeting of Department of Microbiology related Equipment for Upcoming AIIMS under Pradhan Mantri Swasthya Suraksha Yojana. 24 July 2019, at HITES Office, Noida; External Expert JIPMER, Puducherry for purchase of MALDI-TOF, 3 April 2019; Committee member for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi w.e.f. 22 November 2019; Department NABL Core Committee Member & Deputy Quality Manager for Dept. of Microbiology, AIIMS, New Delhi: Department has been NABL Accredited w.e.f. 15 November 2019; Co-Guide for PhD in Medicine by Research Medical Microbiology program at Texila American University; Member Secretary: Infection Control Committee in Dr. BRA IRCH, AIIMS, New Delhi; Core Group Member: Hospital Infection Control Committee (HICC), AIIMS, New Delhi; Series of Lectures on daily basis for Health Care Staff of Dr. B.R.A.IRCH & Main AIIMS on "Prevention & Control of COVID-19 in Health Care Setting" AND "Donning & Doffing of PPE", 13 March to 31 March 2020, AIIMS, New Delhi; Chairperson in 60th Annual conference of Indian Society of Hematology and Blood Transfusion (HAEMATOCON 2019) "Pre-analytical errors in the era of automation". 7 November 2019, New Delhi.

**Dr Nishant Verma** was NABL accreditation of Parasitology lab; Member departmental Store purchase committee; Departmental DM ID teaching committee member; External examiner (Theory, oral and practical) for MBBS II (Supple.) examination-Microbiology, at MAMC, LHMC, and UCMS, New Delhi; External examiner for MBBS 2nd professional (Microbiology) examination at Maharishi Markandeshwar medical college & hospital, Solan, Himachal Pradesh; Training sessions for COVID-19 as HICC core committee member; Participated as an expert in a committee constituted by Central Drugs Standard Control Organisation, DGHS, Ministry of Health & Family Welfare (Medical Device & Diagnostic Division) in relation to clinical performance evaluation of new In Vitro Diagnostics medical devices at FDA Bhawan, Kotla Road, New Delhi-110002; Judge for posters (award category) at TROPACON 2019 held at KMC, Manipal (6-8 September 2019); Executive committee member: Indian Association of Tropical Parasitology; Member-Hospital Infection Society- India; Member-IAMM- Delhi Chapter; Core group member for HIC committee at AIIMS, New Delhi; Member Secretary: Infection Control Committee at CDER, AIIMS, New Delhi; Reviewer: Journal of Hospital Infection, Tropical Parasitology and PLoS neglected tropical diseases.

**Dr Kiran Bala** was Member - Indian Association of Medical Microbiologists (Life Membership 3301/19), The Union International union against tuberculosis and lung disease (Membership CU 0783207); Expert member BSL-3, BSL-2 Subcommittee of CCRF core committee at AIIMS, New Delhi 2018; Reviewer: Indian J of Urology, International J of Medicine and public health, Medical mycology, Indian J Med research, Indian J Tuberculosis, Mycopathologia; Participated in the workshop 'Basic statistical methods & hands on data analysis using stata statistical software' at Department Of Biostatistics, AIIMS, New Delhi from 9 to 12 December 2019.

## 9.21. Nephrology

**Professor and Head**  
Sanjay Kumar Agarwal

**Professor**  
Dipankar Madhusudhan Bhowmik Sandeep Mahajan

**Associate Professor**  
Soumita Kamal Kumar Bagchi Raj Kumar Yadav

**Assistant Professor**  
Arun Kumar Subbiah

### HIGHLIGHTS

Department is regularly doing state-of-the-art nephrology care including renal transplantation at affordable cost. ABO-incompatible renal transplant in the institute during this period is regularly being done. Department is continuing immunosuppressive drug monitoring and monitoring of infection in renal transplant free of charge for all renal transplant patients. The department is providing hemodialysis to nearly 80 patients per week at very low cost and free for patients below poverty line. Department is also providing bed side dialysis in many departments across institute and supporting dialysis in Trauma Centre. Department is running a bio-repository of samples for potential research in renal sciences for patients of primary glomerular disease and chronic kidney disease. Department faculty is in almost all government policy-making bodies related to chronic kidney disease, dialysis and renal transplantation. Dr. SK Agarwal is technical advisor to National Organ and Tissue Transplant Organization (NOTTO) and officer-in-charge of National Organ and Tissue Transplant Registry (NOTTR). Department has also started interventional nephrology program for vascular access for hemodialysis and peritoneal access for peritoneal dialysis within own department.

### EDUCATION

#### Long-term training

The department runs DM Nephrology, a three-year degree course for post MD (Medicine and Pediatric) candidates, selected by AIIMS on the basis of merit through all India entrance examination. Along with AIIMS Delhi, department is conducting examination for other AIIMS like institution as per need. Three candidates were admitted to DM nephrology course at AIIMS, New Delhi during this period. Residents from department of pediatrics and pathology regularly come for the training courses in Nephropathology. At present the department has three non-academic junior residents for 6 months each.

#### Short-term training

The department is providing short-term training for following:

1. Postgraduates from the department of Internal Medicine, Geriatric Medicine, Emergency Medicine, Urology, Anesthesia, Infectious disease, Critical Care Medicine and Transfusion Medicine are posted on rotational basis for a variable period of few weeks to few months.

#### CME/Workshops/Symposia/National & International Conference Organized by Department

1. World Kidney Day-2019, Public Awareness on 12 March 2020 regarding kidney diseases was organized in collaboration with RML Hospital, at AIIMS and RML Hospital, New Delhi on 11 and 12 March 2019.

#### Lectures delivered

**SK Agarwal: 9**      **Dipankar Bhowmik: 9**      **Sandeep Mahajan: 9**  
**Soumita Bagchi: 4**      **RK Yadav: 3**      **Arunkumar S: 3**

#### SK Agarwal

1. Approach to Rapidly Progressive GNIPNA-AsPNA, Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 6–7 April 2019, New Delhi
2. Public Health Initiative Directed Towards Community Screening of Hypertension and CKD, 28th Annual Conference of Hypertension Society of India, 20–22 September 2019, Mumbai
3. Hepatitis C and CKD, 14th Annual Conference of Indian Academy of Nephrology, 18–20 October 2019, Patna
4. Clinic-pathological conference, Association of Physician of India (Delhi-State Chapter) Annual Conference, 14–15

December 2019, New Delhi

5. Barriers in Deceased Donor Transplantation, Transplant Colloquium, 15 January 2020, IIT Mumbai
6. Barriers of Deceased Donor Transplantation, East Zone Nephrology Annual Conference, 18–19 January 2020, Kolkata
7. Diabetic kidney disease: Under recognized phenotypes, Annual Delhi Nephrology Society update, 2 February 2020, New Delhi
8. Compartmentalized CMV in RT, Annual Conference of North Zone Indian Society of Nephrology, 28 February – 1 March 2020, Lucknow
9. IL2R Blocker as Induction in Renal Transplantation, Annual Conference of North Zone Indian Society of Nephrology, 28 February to 1 March 2020, Lucknow

#### **Dipankar Bhowmik**

1. Community acute kidney Injury–Reasons to focus, AKI and CRRT Update, 7 April 2019, Jaipur
2. New potassium binding agents on the horizon, 25th Annual Conference Ind Soc Nephrology – North Zone, 26-28 April 2019, Shimla
3. Acute Kidney Injury, Update-AIIMS Rishikesh, 21 May 2019, Rishikesh
4. Pregnancy and kidney, Annual Conference Ind Soc Nephrology East Zone, 14 September 2019, Shillong
5. Monoclonal gammopathy of renal significance, Indian Academy Nephrology: Annual Conference, 18 October 2019, Patna
6. Renal Replacement Therapy: Overview, Update-AIIMS Patna, 19 November 2019, Patna
7. Herbs and Kidney, 50th Annual Conference Ind Soc Nephrology, 21 November 2019, Chandigarh
8. Mechanism of catabolism in CKD, 6th Advanced Course in Renal Nutrition and Metabolism, 18 January 2020, Lucknow
9. BP Guidelines: Take on for the nephrologist, Annual Conference of Indian Society of Nephrology-Northern Zone, 28 February 2020, Lucknow

#### **Sandeep Mahajan**

1. Hypertension Management, Advance Course in Renal Nutrition and Metabolism, 21 April 2019, Lucknow
2. Immune checkpoint inhibitors for the nephrologist, Annual Conference of North Zone of Indian Society of Nephrology, 26 April 2019, Kandaghat (HP)
3. New concepts in pathogenesis of lupus nephritis, World Lupus Day, 10 May 2019, Delhi
4. PNLT Act for the Nephrologist, AVATAR 2019, 20 July 2019, Delhi
5. AKI in snake bite, High Level Meeting and workshop on snake bite in Nepal: The challenges and Needs, 2 August 2019, Kathmandu, Nepal
6. Improving PD outcomes (panel discussion), ISBP-PDSICON 2019, 2 September 2019, Hyderabad
7. Overcoming Immunological Risk (panel discussion), CAST 2019, 30 September 2019, Greater Noida (UP)
8. Dengue in renal Transplant, CAST 2019, 30 September 2019, Greater Noida (UP)
9. Cases: How do I deal with it (panel discussion), ISNCON 2019, 23 November 2019, Zirakpur (Punjab)

#### **Soumita Bagchi**

1. Antimicrobial dose adjustment in acute kidney injury, Critical Care Nephrology Conference 2020, 15 March 2020, Indore
2. Novel Biomarkers of AKI beyond creatinine: what and when should be used? ISN-NZ 2020, 1 March 2020, Lucknow
3. Infectious complications after renal transplantation, CAST 2019, 29 September 2019, Delhi
4. Mechanisms of AKI and therapeutic interventions, AKI and CRRT update, 8 April 2019, Jaipur

#### **RK Yadav**

1. Tacrolimus: Role of therapeutic drug monitoring and polymorphism, ISOT Mid-term meeting 2019, 12 May 2019, Ahmedabad
2. Challenges of local manufacturing of PD fluids, 22nd Annual Conference of the Peritoneal Dialysis Society of India 2019, 21 September 2019, Hyderabad
3. Hope and innovation in Nephrology, Exploring new dimensions: Updated care and practices in nursing, 15 November 2019, Delhi

## **Arunkumar S**

1. Overall Immune profile and Guidelines for Vaccination in patients with CKD, Exploring New Dimensions: Updated care and practices in Nursing, 16 November 2019, New Delhi
2. Challenging cases in Kidney Transplantation, Fifth Update on Kidney Transplant—A Practical approach, 22 December 2019, New Delhi
3. Acanthamoeba encephalitis in renal transplant recipient, North Zone ISNCON 2020, 1 March 2020, Lucknow

## **Oral paper/poster presented**

1. Anitha S, Arunkumar S, Yadav RK, Bagchi S, Mahajan S, Bhowmik D, et al. Cryptococcal Infection in Renal Transplant Recipients - A Single Center Study, North Zone ISNCON 2020, 29 February 2020, Lucknow
2. Bhowmik D, Cognitive function in renal transplantation, World Conference of Nephrology, 11–15 April 2019, Melbourne, Australia
3. Bhowmik D, Aslam M, Mahajan S, Kaur G. Nutritional status and exercise tolerance of hemodialysis patients in a tertiary care centre in India, National Kidney Foundation – Spring Clinical Meetings 2019, 7–12 May 2019, Boston, USA
4. Dhiraj S, Arunkumar S, Yadav RK, Bagchi S, Mahajan S, Bhowmik D, et al. Pneumocystis Carinii Pneumonia in Renal Transplant recipients: Our Experience at a Tertiary Care Center, North Zone ISNCON 2020, 29 February 2020, Lucknow
5. George K, Bagchi S, Agarwal SK. Acid-base disturbances in renal transplant patients- prospective observational study, Annual conference of North Zone Indian Society of Nephrology, 28 February-1 March 2020, Lucknow
6. Kumari K, Philips NM, Dinda AK, Bardwad A, Bagchi S, Agarwal SK, et al. FSGS: Ultrastructural evaluation and clinic-pathological correlation, International CME and 14th Annual conference of Indian Society of Renal and Transplant Pathologists, 11–13 October 2019, Lucknow
7. Mahajan S, Raj Kanna, Roy A, Kumar A. Intact FGF-23, Intact PTH & Other CKD-MBD Markers After Successful Living Renal Transplantation: A Longitudinal Study ASN Kidney week, 8 November 2019, Washington
8. Priyadarshini S, Sinha K, Singh G, Bardwad A, Dinda AK, Agarwal SK, et al. Recurrent proliferative glomerulonephritis with IgG3-Lambda Deposit post Renal Transplant-A case report, International CME and 14th Annual Conference of Indian Society of Renal and Transplant Pathologists, 11–13 October 2019, Lucknow
9. Raj R, Sharma A, Bardwad A, Bagchi S, Bagga A, Agarwal SK, et al. Galactose deficient IgA1 in Primary and Secondary IgA and other IgA containing diseases, International CME and 14th Annual conference of Indian Society of Renal and Transplant Pathologists, 11-13th October 2019, Lucknow
10. Rajeshwari, Kumari K, Mathew G, Bardwad A, Bagga A, Bagchi S, et al. Renal involvement and role of renal biopsy in Fabry's disease: Case series from tertiary care center, International CME and 14th Annual Conference of Indian Society of Renal and Transplant Pathologists, 11–13 October 2019, Lucknow
11. Sangha S, Yadav RK, Agarwal SK, Bhowmik D, Mahajan S, Bagchi S, et al. To study the demographic and clinical profile of non-proteinuric kidney disease in Type 2 diabetic patients, Delhi Nephrology Society-Annual Update, 2 February 2020, Delhi
12. Sangha S, Yadav RK, Agarwal SK, Bhowmik D, Mahajan S, Bagchi S, Kumar A. To study the demographic and clinical profile of non-proteinuric kidney disease in Type 2 diabetic patients, North Zone ISN, 28 February–1 March 2020, Lucknow
13. Sonal MK, Kumari K, Bardwad A, Kumar L, Bagchi S, Bhowmik D, et al. Rare and unique spectrum of MGRS from a tertiary health care center, International CME and 14th Annual Conference of Indian Society of Renal and Transplant Pathologist, 11–13 October 2019, Lucknow
14. Yadav RK, Behera V, Bhowmik D, Kapil A, Subbiah A, Bagchi S, et al. Clinico-microbiological profile and outcomes of central catheter related blood stream infections in hemodialysis patients in a tertiary care centre, ISN World congress of Nephrology 2019, 12–15 April 2019, Melbourne, Australia

## **RESEARCH**

### **Funded Projects**

#### **Ongoing**

1. Prospective cohort study to find Circulating Levels of Anti Phospholipase A2 receptor (PLA2R) Antibodies and its Correlation with Idiopathic Membranous Nephropathy (IMGN), S.K. Agarwal, ICMR, 3 years, 2017–2020, Rs 31 lakhs

2. Role of T-regulatory cells (T-regs) and their clinical correlation in obesity associated inflammation in type-2 diabetic & CKD, Sandeep Mahajan, ICMR, 3 years, 2019–2022, Rs 56.53 lakhs
3. The association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, AIIMS, 1 year, 2019–2020, Rs 5 lakhs
4. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis, 2 years, 2019-2021, Rs 1.98 lakhs per patient
5. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy. Soumita Bagchi, Novartis, 3 years, 2019-2022, Rs 2 lakhs per patient
6. A Randomized, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Demonstrate the Effects of Sotagliflozin on Cardiovascular and Renal Events in Patients with Type 2 Diabetes, Cardiovascular Risk Factors and Moderately Impaired Renal Function, RK Yadav, Sanofi Pharma, 5 years, 2018-2023, Rs 4.71 lakhs per patient

### ***Completed***

1. Multicentric Study to Find Out Prevalence of Chronic Kidney Disease in Adults in Urban Indian population, SK Agarwal, ICMR, 7 years, 2012–2019, Rs 90 lakhs
2. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: A case control study, Soumita Bagchi, AIIMS, 1 year, 2017–2018, Rs 5 lakhs
3. Pattern of CYP3A5 and MDR-1 single nucleotide polymorphism and its Impact on Individualization of Tacrolimus based Immunosuppression in Living Renal Allograft Recipient, RK Yadav, AIIMS, 2016–2019, Rs 4.05 lakhs

### **Departmental Research**

#### ***Ongoing***

1. Clinicopathological correlation of HBV and HCV infection in patients on renal replacement therapy
2. Evaluation of changes in measured GFR, Echocardiography, markers of bone mineral metabolism and carotid intimal medial thickness (CIMT) after renal donation
3. A study of proteinuria in kidney transplant recipients in first year post transplant
4. Impact of Hepatitis C treatment on long term outcomes of renal allograft recipients in Indian setting
5. Evaluation of nutritional status and exercise tolerance in chronic kidney disease
6. A cohort study to evaluate the changes in exercise tolerance and nutritional status in chronic kidney disease patients on hemodialysis before and after renal transplantation
7. To study the role of Vitamin D levels on disease severity and outcome in Indian patients with primary IgA nephropathy from the AIIMS Primary IgA Nephropathy (APIgAN) cohort
8. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum and urine samples of post-renal transplant patients
9. Supportive management of IgA nephropathy-A prospective study
10. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
11. Electrolyte and acid base disturbances in post renal transplant patients: Prospective study
12. To study vitamin D deficiency as a risk factor for PTDM after kidney transplantation

#### ***Completed***

1. A Cohort Study to Evaluate the Change in Exercise Tolerance and Nutritional Status in Chronic Kidney Disease (CKD) Patients on Hemodialysis before and after Renal Transplant
2. A cross sectional study to assess the link between fluid overload status and quality of sleep in patients on maintenance hemodialysis at AIIMS, New Delhi
3. A study to assess the effect of intradialytic exercises on urea-creatinine clearance and fatigue level of CKD patients undergoing hemodialysis at a tertiary care hospital
4. Impact of universal CMV prophylaxis with Valganciclovir on incidence and pattern of CMV infection in D+/R+ Renal Transplantation in Indian setting
5. Long term outcome of renal donors
6. Pulmonary infections in renal transplant recipients: prospective cohort observational study

7. Retrospective study for evaluating the clinical profile and treatment response and outcome of adult patients with primary FSGS
8. Study of cognitive function in patients with chronic kidney disease and the effect of renal transplantation
9. The profile and risk factors of infections requiring hospitalisation in the first year after renal transplantation
10. Three arm randomized comparison of laparoscopic peritoneal dialysis catheter insertion with or without omentectomy versus conventional open peritoneal dialysis catheter insertion in chronic kidney disease stage 5 patients in terms of catheter malfunction and post-operative complications
11. To delineate the pattern of biopsy proven renal disease in a tertiary care hospital in India
12. To study the demographic and clinical profile of non proteinuric kidney disease in Type 2 diabetic patients
13. To study the outcomes of percutaneous hemodialysis catheters in tertiary care nephrology centre

## **Collaborative Projects**

### ***Ongoing***

1. To define intestinal insufficiency in patients with celiac disease, Gastroenterology
2. Detection and genotyping of Human Cytomegalovirus from Neonates and Renal Transplant Recipients, Microbiology
3. Molecular detection and characterization of Pneumocystis Jiroveci in respiratory samples from the patients both immunocompromised as well immunocompetent with suspected interstitial pneumonia and other chronic lung diseases, Microbiology
4. To study the prevalence of UL 97 Gene Mutation in Ganciclovir Non-Responders vis a vis Responders in Indian Renal Transplant Patients, Lab Medicine
5. A Prospective study Comparing outcomes and quality of life after Laparoscopic donor nephrectomy Versus open donor nephrectomy, Surgery
6. Study of Population genetics of clinical strains of Pneumocystis Jiroveci and its clinico-epidemiological correlation, Microbiology
7. Development of Immunoblot assay for diagnosis of subclinical Cryptococcus, Microbiology
8. Detection and genotype distribution of BK polyoma virus in renal transplant recipients, Microbiology
9. Study of muscle enzyme elevation in neurosurgery and its relevance in postop acute kidney injury: A pilot study, Neuroanaesthesia
10. An immunohistochemical and ultra-structural study of glomerular capillary endothelial injury in cellular rejection, Pathology
11. Development of Immunoblot assay for diagnosis of subclinical cryptococcosis, Microbiology
12. Antifungal susceptibility testing and genotyping of Cryptococcal isolates from Delhi and other parts of India, Microbiology
13. To study the effect of 24 hour versus standard 7-day prophylactic antibiotic regimen in renal transplant recipients: A randomized control study, Surgery
14. Assessment of Fok I polymorphism of VDR gene, vitamin D and parathyroid hormone levels in stage 4-5 CKD patients, Laboratory Medicine
15. Improving maturation rates of AV fistula hemodialysis access in CKD V patients using autologous adipose tissue derived mesenchymal stem cells: A double blind, randomized placebo-controlled trial, Cardiovascular Radiology & Endovascular Interventions
16. Short term and long-term outcomes following laparoscopic donor nephrectomy and open donor nephrectomy: An ambispective comparative cohort study, Surgery
17. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: A pilot study, Biochemistry

### ***Completed***

1. Long-term outcome of anti-complement factor H antibody associated atypical hemolytic uremic syndrome, Paediatrics
2. Membranous nephropathy: a study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation, Pathology
3. Intravascular fluid guided therapy versus standard fluid therapy in predicted severe acute pancreatitis: A randomized controlled study, Gastroenterology
4. Stent vs no stent in ureteroneocystostomy in live related renal transplant: a prospective randomized controlled trial, Surgery

5. Prevalence of sarcopenia in cirrhosis and its correlation with serum myostatin and myostatin gene expression in muscle biopsy, Gastroenterology
6. A study to assess the knowledge and quality of life among CAPD patients at AIIMS hospital with a view to develop an information booklet, College of Nursing
7. Membranous nephropathy: A study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation, Pathology

## PUBLICATIONS

**Journals: 12    Abstracts: 1    Chapters in Books: 3**

## PATIENT CARE

Arunkumar S

1. Medical Camp at Leh, Ladakh (2 October 2019 to 6 October 2019)
2. Health Awareness Camp for Hon'ble M.P.'s (23 November 2019 to 4 December 2019)

### *Facilities available in the department*

In addition to providing general nephrology care for all nephrology related illnesses, department provides state-of-the-art renal replacement therapy; hemodialysis, CAPD and renal transplant at very low cost to any patient of end stage renal disease. Department provides swap transplant and ABO incompatible renal transplant. Department also provides immunosuppressive drug monitoring free of cost. During hemodialysis, ultrapure water is provided to machine so that absolutely safe hemodialysis can be provided to patients.

*Following number of patients were provided respective facility.*

S. No.	Area		
1	Haemodialysis Related	HD New Patients	1377
		Emergency HD Patients	1113
		Total HD	11453
		Plasmapheresis	84
		Femoral Vein catheterisation	933
		Jugular / Subclavian catheterisation	336
		AV Fistula	570
		Permacath Insertion	133
2	ICU Related	CRRT/SLED	23
3	Peritoneal Dialysis	Acute PD	12
		CAPD	17
4	Indoor Related	Kidney Biopsy	819
		Liver Biopsy	2
		Indoor regular admission	1378
		Indoor short admission	4382
		Indoor Death / male	60/37
		Nephrology consultation	6320
		Ultrasound	762
5	Day Care Treatment	Pulse Methylprednisolone Tt	66
		IV Iron Therapy	189
		IV Cyclophosphamide Therapy	27
		Other Miscellaneous Therapies	1742

6	Renal Transplant	Evaluation of LRRT	441
		Evaluation of Cadaver recipient	141
		Living RT done	114
		Cadaver RT done	6
7	Renal Lab related	Blood sampling	140685
		Biochemistry (Urea, Cr, Na, K)	88211
		Urine osmolality	1324
		24 hr urine testing	19683
		Hemogram for RT Patients	12746
		CO2	29239
		Serum iron	6513
		TIBC	6513
		UIBC	6513
		T Saturation	6513
		Serum Ferritin	2749
		Tac Level	5365
8	OPD Related	Renal clinic new patient	11282
		Renal clinic old patient	48029
		Renal clinic Total Patients	59311
		RTCC New Cases	441
		RTCC Old Cases	1447
		RT new cases	212
		RT old cases	10492
		RT Clinic Total Patients	10704

## AWARDS, HONORS AND SIGNIFICANT EVENTS

**Professor SK Agarwal** conferred Dr. Siddhartha N Shah Oration on Epidemiology on “Public Health Initiative Directed Towards Community Screening of Hypertension and CKD” during 28th Annual Conference of Hypertension Society of India and 1st International Kidney and Hypertension Conference, held at Hotel Trident, Mumbai on 20-22 September 2019; Editor in chief Seminars in Dialysis (2020-continuing); Invited to mentor renal transplant program in Gandhi Medical College, Bhopal; Initiated renal transplant program at Indira Gandhi Medical College, Shimla, HP; Member of consultation meet on the need for public health approach to address Non-Alcoholic Fatty Liver Disease (NAFLD) dated 17 March 2020 at NITI AAYOG; Chair Global Burden of Disease: Indian CKD group (2017-continuing); Member “Subject Expert Committee” of “Cradio-Renal Division” of CDSCO (2016-continuing); Member of South Asian Board of Nephrology, a division of International Society of Nephrology (2011-continuing); Member of the Appellate committee of National Organ Transplant Program, Government of India; Member of committee of MOHFW for deciding the fitness of renal transplant patients for the government jobs; Member of expert group for review of Draft guidelines for CKD by National Center of Disease Control, Government of India; Editor of Indian J of Nephrology, 2015-continuing; Core group member of National Acute Kidney Injury registry of Indian Society of Nephrology; Invited to be member of Technical Expert Committee for National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS), August 2017-continuing; Invited as an expert in Medical Technology Assessment Board (MTAB) of government of India for renal replacement therapy in the country, 2017-continuing; Member of expert committee for making guidelines for National Organ Transplant Program; Member of expert committee making operational guidelines for continuous ambulatory peritoneal dialysis in India; Elected by the ISN-Advancing Clinical Trial (ACT) as ISN-ACT Committee member (2016-continuing); Invited to be member of “Expert Group” constituted for Kidney Diseases under Grant-in-aid (GIA) scheme of Inter-Sectoral Convergence and Coordination for Promotion and Guidance on Health Research formed by department of Health Research, 2018-continuing; Invited to be editorial board member of European Medical Journal (2018-continuing); Invited to be editorial board member of Archives in Nephrology (2018-continuing).

**Professor Dipankar M Bhowmik** is Visiting Professor Nephrology AIIMS Rishikesh; Deputy Editor of Indian Journal of Nephrology; External expert for faculty selection in: (a) AIIMS Rishikesh, (b) ILBS, New Delhi, (c) IGMER RML Hospital, (d) IGIMS Patna, (e) Rajiv Gandhi Superspecialty Hospital, Tahirpur, Delhi; DM examiner for various national institutes, PGI Chandigarh, IGMC Shimla; Trustee of Guru Kripa Trust; Member of CSIR selection committee for Pool officers; Member of National Committee List of Essential Medicines (Devices); Organised World Kidney Day celebrations in March 2020 in AIIMS, RML and Safdarjung in association with ISNNZ and IFKD; Member of Store Purchase Committee AIIMS.

**Professor Sandeep Mahajan** was awarded fellowship of Indian Society of Organ Transplantation (2019); Member of the National PD Guidelines Committee (2014-continuing); Invited to the National Expert Panel of the Certificate Course in Management of Hypertension by Public Health Foundation of India (2016-continuing); Member of the Scientific Committee of Peritoneal Dialysis Society of India (2019-continuing); Program Chair for the Post Graduate Medical Program (Nephrology) for the Texila American University (2017-continuing); Expert member of the reconstituted Task Force of Metabolic Disorders and Auto-Immune Diseases, by Department of Biotechnology, Ministry of Science & Technology (2017-continuing); Member of Committee for roll-out of Peritoneal Dialysis under the National Health Mission (2017-continuing); Nominated as Co-chairperson for the Expert Group set up by ICMR, for the preparation of standard treatment workflows (STWs) for Nephrology (2018-continuing); Nominated as Member of South Asian Guidelines for Travel and endemic infections in solid organ recipients (2019-continuing); Member of the Drug Selection Committee of AIIMS (2018-continuing); Member of the Committee on Extra Budgetary Resources and Corporate Social Responsibility (2018-continuing); Member of the AIIMS Public Awareness Committee (2018-continuing); Member of the AIIMS Project Management Committee for New Paid Ward Block (2018-continuing); Member of the Committee to review plans for expansion of AIIMS, New Delhi (2018-continuing).

**Dr RK Yadav** is the reviewer for Abstracts - 28th International Congress of the Transplantation Society (TTS 2020), Seoul, South Korea from 12 to 16 September 2020; Talk on All India Radio on Chronic Kidney Disease, 2 September 2020, Delhi; Developed a module 'Collection of Arterial blood sample' for UG teaching under SET facility.

**Dr S Arunkumar** is the recipient of ISN – ANIO Indukaka Ipcowala Advanced Scholarship for the year 2019; ERA (European Renal Association) travel award for young nephrologists to attend SEID (Scientific Education and Interaction Day).

#### VISITING SCIENTIST

1. **Dr Anju Yadav**, MD FASN, Assistant Professor and Assistant Director, Living Kidney Donor Program, Division of Nephrology Hypertension and Transplantation, Thomas Jefferson University Philadelphia, USA visited the department of nephrology on 11 February 2020 and gave a talk on "Living Related Renal Transplant: Experience from USA". She also attended CGR held between 4 and 5 PM done by department of Radiodiagnosis on Hepatic Vein Outflow Tract Obstruction and enjoyed well.
2. **Patrick Toby Hewlett COATES**, Professor of Medicine and Director of Transplantation, Australian Renal Transplant Service, Royal Adelaide Hospital, Consultant, National Transplantation Services, Australian Red Cross Blood Transfusion Service, Associate Editor: Transplantation and Immunology & Kidney International, Councillor ISN for Declaration of Istanbul Custodian Group (DICG) and President Elect Transplantation Society of Australia and New Zealand (TSANZ) visited department of Nephrology on 15 February 2020 and gave a talk on "Everolimus in Renal Transplant".
3. **Ervin Steve Woodle**, Professor of Surgery, division of transplantation, University of Cincinnati College of Medicine and Chairman, Board of Director. Israel Penn Center of Transplant Oncology visited department of Nephrology on 25 February 2020 and gave a guest lecture on "Redefining Rejection as a Basis for Development of New Rejection Therapies".

## 9.22. Nuclear Magnetic Resonance

### Professor and Head

Rama Jayasundar

### Professor

S Senthil Kumaran

### Additional Professors

Uma Sharma

Virendra Kumar

### Scientists

Sujeet Kumar Mewar

Pawan Kumar

### HIGHLIGHTS

The MRI Facility was operational from the beginning of the COVID19 crisis. It is the only MRI facility functional during this crisis. Using the 1.5 Tesla Aera MR scanner, an Advanced Cardiovascular MR Workshop (techniques, technologies and applications) was conducted by Department of Cardiovascular Radiology and Endovascular Interventions in collaboration with Department of NMR on 7-8 November 2019. Four radiographers from the department participated in a marathon MR scanning of Iron estimation in Thalassemia patients (230 patients in 64 hours) in a collaborative study between Department of Cardiovascular Radiology and Endovascular Interventions and Department of NMR.

### EDUCATION

The Faculties and Scientists delivered lectures and participated in the demonstration of MR techniques in the following courses in the Institute: (i) M. Biotech programme of the Department of Biotechnology – (i) Course 10 (Structural Biology and NMR Technology), Course 11 (Bioinformatics and Molecular Medicine); (ii) Third Semester, MBBS Course; (iii) MD Physiology Course, Department of Physiology.

### Short/Long Term Training

Four candidates from medical and science disciplines from various government hospitals from India and BSc Radiography students, AIIMS, underwent training in MRI, fMRI and MRS techniques.

### CMEs, National and International Conferences

#### Lectures delivered

**Rama Jayasundar: 35**

**S Senthil Kumaran: 3**

#### Rama Jayasundar

1. Evaluation of physiotherapy induced changes in post-stroke recovery using MRI, 27th Annual Meeting of International Society for Magnetic Resonance in Medicine (ISMRM), 14 May 2019, Montreal, Canada
2. Traditional system of medicine: Ayurveda, Lecture Series for Foreign Diplomats from CARICOM, Foreign Service Institute, Ministry of External affairs, Govt. of India, 22 August 2019, New Delhi
3. MR and Ayurveda: Transcending traditional boundaries Invited lecture, Ayur Biology Course, Sri Venkateswara College, University of Delhi, 21 September 2019, New Delhi
4. Applications of NMR in Ayurveda, Conference on 'A Dialogue between Modern and Vedic Sciences', Indian Institute of Technology (IIT), Benaras Hindu University (BHU), 22 September 2019, Varanasi
5. Modern research tools for studying Ayurveda and Yoga Panelist, Conference on 'A Dialogue between Modern and Vedic Sciences,' Indian Institute of Technology (IIT), Benaras Hindu University (BHU), 22 September 2019, Varanasi
6. Pharmacovigilance in Traditional Medicine, 13th Skill Development Program on Pharmacovigilance for Medicinal Products, Indian Pharmacopoeia Commission, 27 September 2019, Ghaziabad
7. Spectroscopic analysis of medicinal plants for standardization & quality assessment Invited presentation, 60th Meeting of PSC-II, National Medicinal Plant Board, Ministry of AYUSH, 28 September 2019, New Delhi
8. Contemporary Science in Ayurveda, 1st Academicians Meet on Indian Knowledge Systems, Dev Sanskriti University, 11 October 2019, Haridwar

9. Research in Indian Knowledge Systems Panelist, 1st Academicians Meet on Indian Knowledge Systems, Dev Sanskriti University, 11 October 2019, Haridwar
10. Magnetic Resonance and Ayurveda: Transcending traditional boundaries, Conference on 'Biology through an Interdisciplinary Lens', 1 November 2019, Indian Institute of Technology (IIT), Jodhpur
- 11-19. A series of 10 lectures on various aspects of Ayurveda including research, Invited lecture series for Vedic Heritage Portal, Govt. of India, Indira Gandhi National Centre for Arts (IGNCA), Ministry of Culture, 9 November 2019, New Delhi
20. Transdisciplinary research Panelist, AYUSH for future health challenges: Strengthening trans-disciplinary network for research, Savitribai Phule Pune University, 29 November 2019, Pune
21. Novel applications of NMR and MRI for transdisciplinary research Invited lecture, Conference on AYUSH for future health challenges: Strengthening trans-disciplinary network for research, Savitribai Phule Pune University, 30 November 2019, Pune
22. Transdisciplinary research and capacity building Panelist, AYUSH for future health challenges: Strengthening trans-disciplinary network for research, Savitribai Phule Pune University, 30 November 2019, Pune
23. Overview of science and logic behind Ayurveda, Lecture Series for Foreign Diplomats, Foreign Service Institute, Ministry of External affairs, Govt. of India, 11 December 2019, New Delhi
24. Pharmacovigilance of Traditional Medicine: An overview Invited lecture, 14th Skill Development Program on Pharmacovigilance for Medicinal Products, Indian Pharmacopoeia Commission, Ministry of Health & Family Welfare, Govt. of India, 13 December 2019, Ghaziabad
- 25-33. A series of 9 lectures on the scientific aspects of Ayurveda including research, Invited lectures for Annual Refresher Programme in Teaching (ARPIT) course in History of Indian Science and Technology, HRDC Centre (MHRD), Jawaharlal Nehru University, 14 December 2019, New Delhi
34. AYUSH systems and modern medicine: Why, how and where they differ, Plenary lecture at National Seminar on Integrative Research Approaches in Siddha System of Medicine – Recent Trends, Vardhaman Mahaveer Medical College, Safdarjung Hospital, 9 January 2020, New Delhi
35. A longitudinal MR study of the therapeutic effects of Yoga in post-stroke recovery, 61st Experimental NMR Conference (ENC), 9 March 2020, Baltimore, USA

#### **S Senthil Kumaran**

1. Neurobiology of Parkinson's Disease using NMR and MRI, Continuous Education Programme on the "Combating Neurological Disorders: Approaches and Methods", 18 September 2019, Delhi
2. MRI Imaging for Neuropsychiatric conditions, II Conference of Annual Report preparers, 12 December 2019, New Delhi
3. Metabolic and functional assessments in patients with Parkinson's Disease, 26th National Magnetic Resonance Society Meeting & Conference on NMR-from Molecules to Human Behaviour and Beyond, 20 February 2020, Rajkot

#### **Oral papers/posters presented**

1. Ankeeta, Kumaran SS, Jagannathan NR, Saxena R, Altered cortical thickness relevance in the early blind, late blind during the critical developmental time, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
2. Ankeeta, Kumaran SS, Jagannathan NR, Saxena R, Neurocognitive modifications associated with auditory perception in children and adolescent group in early and late blind subjects: A functional magnetic resonance imaging study 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019 Montréal, Canada
3. Challa A, Jagannathan NR, Kachhawa G, Sood S, Sharma U, Kumar P, et al. Identification of discriminatory biomarkers of bacterial vaginosis using proton (1H) nuclear magnetic resonance (NMR) spectroscopy-based metabolomics, 43rd National Conference of IASSTD & AIDS (ASTICON), 11-13 October 2019, Kodaikanal
4. Challa A, Jagannathan NR, Kachhawa G, Sood S, Sharma U, Kumar P, et al. Proton (1H) nuclear magnetic resonance (NMR) spectroscopy based metabolic profiling of vaginal fluid to identify discriminatory biomarker/s of bacterial vaginosis, International Union against Sexually Transmitted Infections (IUSTI)-Asia Pacific, 23-26 October 2019, Shanghai, China
5. Chaudhary K, Kumaran, SS, Chandra SP, Tripathi M, A combined task-based fMRI connectivity and VBM study to lateralization of memory function in pre-and post-surgery mesial temporal lobe epilepsy patients. 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada

6. Chaudhary S, Kumaran SS, Goyal V, Bhat P, Sharma A, Kalojiya G. Altered connectivity following olfaction fMRI in Patients with Parkinson's Disease: A comparative study using two different odors 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
7. Dibashree T, Chaudhary, S, Kumaran SS, Jaryal A, Srivastava A, Kishore D. Altered Connectivity Using Resting State fMRI in SCA1 and SCA2 Patients 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
8. Gudwani S, Upadhyay P, Sharma K, Rajesh S, Dhamija R, Kumaran SS. Cine imaging using water (saline) bolus for investigating swallowing problems (dysphagia) in Parkinson's Disease, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
9. Gudwani, S, Kumaran SS, Sagar R, Behari M, Mehta M, Narang V, et al. Dual-route mechanism for pictorial visual perception in developmental dyslexia, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13–16, May 2019, Montréal, Canada
10. Jagannathan NR, Kumar P, Kumar R, Kumar V, Kumaran SS, Sharma S, et al. Blood plasma metabolic profiling discriminates prostate cancer patients with metastases from those without metastases. 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
11. Jain S, Kumaran SS, Dhawan A, Pattanayak R, Jain R. Effect of cue induced craving on brain morphometry and function in adolescent inhalant users, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
12. Jayasundar R, Mishra R, Kumar D, Kumaran S, Chahat, Bhagat P, et al. A longitudinal MR study of the therapeutic effects of yoga in post-stroke recovery, 61st Experimental NMR Conference (ENC), 9 March 2020, Baltimore, USA
13. Jayasundar R. Applications of NMR in Ayurveda, A Dialogue between Modern and Vedic Sciences, IIT (BHU), 22 September 2019, Varanasi
14. Jayasundar R. AYUSH systems and modern medicine: why, how and where they differ, National Seminar on Integrative Research Approaches in Siddha System of Medicine – Recent Trends, Vardhaman Mahaveer Medical College, Safdarjung Hospital, 9 January 2020, New Delhi
15. Jayasundar R. Contemporary science in Ayurveda, 1st Academicians Meet on Indian Knowledge Systems, 11 October 2019, Haridwar
16. Jayasundar R. Magnetic Resonance and Ayurveda: transcending traditional boundaries, Biology through an Interdisciplinary Lens, IIT, Jodhpur, 1 November 2019, Jodhpur
17. Jayasundar R. Novel applications of NMR and MRI for transdisciplinary research, AYUSH for future health challenges: strengthening trans-disciplinary network for research, 30 November 2019, Pune
18. Jayasundar R. Pharmacovigilance in Traditional Medicine, 13th Skill Development Program on Pharmacovigilance for Medicinal Products, Indian Pharmacopoeia Commission, Ministry of Health & Family Welfare, Govt. of India, 27 September 2019, Ghaziabad
19. Jayasundar R. Pharmacovigilance of Traditional Medicine: An overview, 14th Skill Development Program on Pharmacovigilance for Medicinal Products, Indian Pharmacopoeia Commission, Ministry of Health & Family Welfare, Govt. of India, 13 December 2019, Ghaziabad
20. Kumar P, Kumar R, Kumar V, Kumaran SS, Sharma S, Thulkar S, et al. Metabolomics study of urine discriminates prostate cancer (PCa) patients from benign prostatic hyperplasia (BPH) by 1H-spectroscopy. 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16 May 2019, Montréal, Canada
21. Kumar P, Kumar R, Sharma S, Thulkar S, Datta Gupta S, Kumaran SS, et al. Metabolomics of Blood Associated with Progression of Prostate Cancer, World Congress on Cancer, 3-5, February 2020, Jaipur
22. Kumar P, Kumar R, Sharma S, Thulkar S, Datta Gupta S, Kumaran SS, et al. Nuclear Magnetic Resonance Metabolomics reveals Blood Plasma metabolic Signature of Metastases Prostate Cancer, 26th National Magnetic Resonance Society Meeting & International Conference on NMR-from Molecules to Human Behaviour and Beyond, 18-21, February 2020, Rajkot, Gujarat
23. Kumar P, Kumar V, Das S, Bej P. NMR Metabolomics Study of Blood during Cardiopulmonary Bypass for Heart Surgery, 26th National Magnetic Resonance Society Meeting & International Conference on NMR-from Molecules to Human Behaviour and Beyond, 18-21, February 2020 Rajkot, Gujarat
24. Kumar V, Kumar P, Thulkar S, Sharma S, Datta Gupta S, Jagannathan NR, et al. Metabolomics Study of Blood Plasma in Patients with Metastatic Prostate Cancer, 26th National Magnetic Resonance Society Meeting & International Conference on NMR-from Molecules to Human Behaviour and Beyond, 18-21, February 2020, Rajkot, Gujarat

25. Kumar V, Mewar S, Sharma S, Kumar P, Panaiyadiyan S, Dhamijia E, et al. Role of ADC in MRI targeted biopsy of PIRADS 4 and 5 prostate cancer, World Congress on Cancer, 3-5, February 2020, Jaipur
26. Kumar V, Singh D, Bhattacharya S, Das CJ, Singh A, Mehndiratta A. Automatic Segmentation of Peripheral and Transition Zone of Prostate Gland on MR Images, The Fourth Paradigm Conference: From Data to Discovery Artificial Intelligence in Scientific Research, 27-30, January 2020, IISER, Bhopal
27. Kumaran SS, Chaudhary S, Goyal V, Bhat P, Sharma A, Kaloiya G, et al. Olfaction connectivity in Patients with Parkinson's disease: A comparative fMRI study, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
28. Mewar S, Sharma S, Dhamijia E, Thulkar S, Panaiyadiyan S, Kumar P, et al. Comparison of detection rate of prostate cancer between mpMRI guided in-bore biopsy and routine TRUS biopsy, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
29. Mewar SK, Sharma S, Thulkar S, Dhamijia E, Kumar P, Panaiyadiyan S, et al. MR Targeted In-Bore Biopsy of Prostate Cancer, 26th National Magnetic Resonance Society Meeting & International Conference on NMR-from Molecules to Human Behaviour and Beyond, 18-21, February 2020, Rajkot, Gujarat
30. Mewar SK, Sharma S, Thulkar S, Dhamijia E, Kumar P, Panaiyadiyan S, et al. mpMRI Guided In-Bore Biopsy to Increase the Detection Rate of Prostate Cancer, 61st Experimental Nuclear Magnetic Resonance Conference, 8-13 March 2020, Baltimore, USA
31. Mishra R, Kumar D, Kaura S, Kumaran S, Bhagat P, Srivastava MVP, et al. Evaluation of physiotherapy induced changes in post-stroke recovery using MRI 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019 Montreal, Canada
32. Reeta KH, Singh D, Sharma U, Jagannathan NR, Gupta YK. Monomethyl fumarate exerts neuroprotection in experimental model of stroke by its anti-inflammatory and antioxidant properties, 14th World Congress on Inflammation (WCI 2019), 15–19, September 2019, Sydney, Australia
33. Singh A, Jayasundar R, Kumar D. Novel chemosensory application of <sup>1</sup>H and <sup>13</sup>C NMR metabolomics in medicinal plants of nutritional value, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montreal, Canada
34. Singh A, Jayasundar R, Srivastava MVP. NMR chemometrics as quality control tool in ethnomedicine, 61st Experimental NMR Conference (ENC), 11 March 2020, Baltimore, USA
35. Singh A, Singh A, Kumar D, Jayasundar R. NMR chemometrics for chemosensory differentiation of sweet and pungent phytochemicals, 61st Experimental NMR Conference (ENC), 10 March 2020, Baltimore, USA
36. Singh D, Bhattacharya S, Das CJ, Kumar V, Singh A, Mehndiratta A. Automated Segmentation of Prostate Gland with Superpixel based and Active Contour based Methodology using Diffusion-Weighted MR Imaging Computer Assisted Radiology and Surgery-2019, 18-21 June 2019, Rennes, France
37. Singh D, Bhattacharya S, Kumar V, Das CJ, Singh A, Mehndiratta A. Optimal b-Value for Superpixel based Automatic Prostate Gland Segmentation using Diffusion Weighted Imaging 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
38. Singh D, Kumar V, Das CJ, Singh A, Mehndiratta A. Automated Detection and PIRADS v2 Scoring of Prostate Cancer using Multiparametric MRI. 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
39. Singh D, Kumar V, Das CJ, Singh A, Mehndiratta A. Gland and Zonal Segmentation of Prostate using Diffusion-Weighted MR Imaging, 27th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM), 13-16, May 2019, Montréal, Canada
40. Singh D, Wasan H, Joshi B, Prakash R, Sharma U, Jagannathan NR, et al. Temporal expression profile of heme oxygenase-1 after cerebral ischemia reperfusion injury in rats, 5th European Stroke Organization Conference (ESOC-2019), 22-24, May 2019, Milan, Italy
41. Singh D, Wasan H, Sharma U, Dinda AK, Reeta KH. Dihydropyridinyl exerts neuroprotection in ischemia reperfusion induced neuronal damage by inhibiting apoptosis and astrogliosis. International Society of Neurochemistry, American Society for Neurochemistry meeting 2019 (ISN-ASN 2019), 4–8 August 2019, Montreal, Canada
42. Upadhyay D, Singh A, Das P, Datta Gupta S, Makharia G, Jagannathan NR, et al. MR based Metabonomics of Intestinal Mucosal Biopsies, Blood and Urine to Identify Potential Biomarker(s) for Celiac Disease, 18th International Celiac Disease Symposium (ICDS), 5-7, September 2019, Paris, France
43. Wasan H, Singh D, Joshi B, Sharma U, Jagannathan NR, Reeta KH. Evaluation of neuroprotective effects of safinamide in experimental model of ischemic stroke, 24th World Congress of Neurology (WCN, 2019), 27-31 October 2019, Dubai, UAE
44. Wasan H, Singh S, Joshi B, Sharma U, Jagannathan NR, Reeta KH. Evaluation of neuro-protective effects of

## RESEARCH

### Funded projects

#### *Ongoing*

1. NMR phytometabolomics and studies of chemosensory signature to address the fundamental question of 'rasa' in ayurvedic pharmacology, Rama Jayasundar, SERB, 3 years, 2017-2020, Rs 74.76 lakhs
2. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using magnetic resonance and other techniques based structural, functional and chemical biomarkers, Rama Jayasundar, SERB, 3 years, 2017-2020, Rs 79 lakhs
3. Effects of environmental and occupational noise on cognition, S Senthil Kumaran, Life Sciences Research Board (LSRB), DRDO, 3 years, 2018-2020, Rs 59.25 lakhs
4. Morphological and Neurobiological Changes in Spinocerebellar Ataxia Affected Patients (SCA) through MRI Techniques Using Computer Vision Based Analysis, S Senthil Kumaran, SERB, 3 years, 2019-2021, Rs 65.22 lakhs
5. Understanding and Facilitation of Neural Plasticity for Enhancing Post Stroke Recovery Using Low-Cost Non-Invasive Brain Stimulation Techniques, S Senthil Kumaran, DHR-ICMR, 3 years, 2017-2020, Rs 34.32 lakhs
6. Role of Normobaric Oxygen Therapy, Fluoxetin and Transcranial Direct Current Stimulation (rTDCS) in Hypoxic Ischemic Brain Injury - HIBI Initiative, S Senthil Kumaran, DBT, 5 years, 2018-2023, Rs 106.03 lakhs
6. MR spectroscopy for identification of non-invasive biomarkers in patients with gluten ataxia and celiac disease, Uma Sharma, AIIMS, 2 years, 2019-2021, Rs 4.50 lakhs
7. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder, Uma Sharma, SERB, 3 years, 2020-2023, Rs 33.08 lakhs

#### *Completed*

1. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Rama Jayasundar, National Medicinal Plant Board (NMPB), Ministry of AYUSH, Govt. of India, 5 years, 2014-2019, Rs 48.96 lakhs
2. Elucidating the science of yoga as a therapeutic intervention in post stroke recovery study of brain using the technique of Magnetic Resonance, Rama Jayasundar, SERB, 3 years, 2017-2020, Rs 43.23 lakhs
3. Morphological, functional, Biochemical and Behavioral evaluation post-emf radiation, S Senthil Kumaran, SERB, 3 years, 2015-2018, Rs 52.70 lakhs
4. Neuro-imaging Hyposmia in Movement Disorder, S Senthil Kumaran, DST, 2014-2019, Rs 49.5 lakhs

### Departmental projects

#### *Ongoing*

1. NMR phytometabolomics for chemosensory and pharmacological evaluation for functional signatures of select medicinal plants
2. Role of Magnetic Resonance in assessing therapeutic efficacy of physiotherapy interventions in stroke patients
3. Role of Magnetic Resonance in assessing therapeutic efficacy of Ayurveda interventions in stroke patients
4. Spectroscopic studies on anti-HIV medicinal plants
5. Mapping functional and biochemical correlates in brain of Parkinson's Patients with Cognitive Impairment
6. In-bore MR guided targeted prostate biopsy in patients suffering from prostate cancer.
7. MRI and MRS of prostate cancer
8. NMR metabolomics study blood and urine in prostate cancer patients.
9. Metabonomics study of celiac disease by NMR spectroscopy
10. Metabolomic profile of healthy neonates
11. Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats.
12. Neuroprotective study of nano carrier based Berberine chloride in middle cerebral artery occlusion model of transient focal cerebral ischemia in rats.

13. Evaluation of dihydromyricetin in experimental model of stroke and post stroke seizure susceptibility in rats.
14. MRI and MRS of prostate cancer
15. Metabolomics of patients with gluten ataxia
16. Evaluation of neuroprotective effects of safinamide in experimental model of ischemic stroke

### ***Completed***

1. Role of Magnetic Resonance in assessing therapeutic efficacy of yoga interventions in stroke patients
2. Identification of biomarkers in Parkinson's disease using NMR
3. Molecular and biochemical characterization of hepatic glycogenoses type I and III
4. Magnetic Resonance (MR) multi-parametric approach to the study of breast cancer and its correlation with molecular markers.

### **Collaborative projects**

#### ***Ongoing***

1. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Ocular pharmacology and pharmacy
2. NMR phytometabolomics and studies of chemosensory signature of Ayurvedic medicinal plants, Ocular pharmacology and pharmacy
3. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other technique based structural, functional and chemical, biomarkers, Neurology, Neuroradiology
4. Studies on anti-HIV medicinal plants, Biochemistry
5. Study of Cognition and QOL in chronic intractable epilepsy using Functional magnetic resonance imaging (fMRI), Neurology
6. Providing insights into the mechanism of modified Constraint Induced Movement Therapy in children with hemiparetic cerebral palsy – A Functional Magnetic Resonance Imaging based study, Paediatrics
7. Cue Induced Craving in Adolescent Inhalant Users: A functional magnetic resonance imaging (fMRI) study, Psychiatry
8. Neuroprotective study of lercanidipine and citalopram in experimental model of stroke in rats, Biophysics
9. Neurochemical Correlates of Cognitive Functions in Euthymic Patients with Bipolar I Disorder, Psychiatry
10. Providing insights into the mechanism of modified Constraint Induced Movement Therapy in children with hemiparetic cerebral palsy – A Functional Magnetic Resonance Imaging based study, Paediatrics
11. Cortical reorganization in complete spinal cord injured rats: Effect of superparamagnetic nanoparticles and low intensity magnetic field exposure, Physiology
12. Role of mediodorsal thalamic nuclei in sleep, Physiology
13. Robotic hand assisted Transcranial Magnetic Stimulation therapy for post stroke, Neuro-Rehabilitation, IIT New Delhi–CBME
14. Efficacy of comparative Magnetoencephalography vs Electroencephalography Source Localization and Propagation of interictal epileptic discharges in patients with drug resistant epilepsy, Neurosurgery and NBRC
15. Neurocognitive correlates of emotion and cognition among Yoga practitioners, physically active and sedentary lifestyle individuals: An fMRI and neuropsychological study, CIMR
16. Understanding movement execution and its cognitive processing in Parkinson's Disease–A pilot study. Department of Neurology, LHMC, New Delhi
17. Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer, Radiodiagnosis
18. Role of multiparametric MRI in detection and localization of prostate cancer, Centre for Biomedical Engineering, IIT-Delhi
19. Metabolomics of serum in sepsis patients using proton nuclear magnetic resonance spectroscopy, Medicine
20. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Physiology
21. A comparative study of neurochemical alteration on 1h mrs in schizophrenia, obsessive compulsive disorder and schizophrenia with obsessive compulsive symptoms, Psychiatry
22. Small molecule Bio-signatures in Diagnosis of Tuberculosis, Microbiology
23. Analysis of anti-neurotoxicity of amyloid beta in Alzheimers (AD) disease pathology targeting lipooxygenases, Biophysics

### **Completed**

1. HIV associated neurocognitive decline and brain metabolism, Medicine
2. Elucidating the science of yoga as a therapeutic intervention in post stroke recovery study of brain using the technique of magnetic Resonance, Neurology and Neuroradiology

### **PATIENT CARE**

The department has three MRI scanners (two 3.0 Tesla and one 1.5 Tesla scanners) for patient care and research. The department provides continuous patient care MRI (24x7) services. The details of the number of patients scanned during the period April 2019 to March 2020 are:

Clinical Diagnostic MRI Scans	:	6119 patients
Research	:	876 patients and healthy volunteers

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rama Jayasundar** was nominated by Hon'ble President of India as His (Visitor's) nominee for Nagaland University Mumbai for a period of three years; Nominated by Vice Chancellor, Jawaharlal University (JNU) as a member of the Academic Council for Annual Refresher Program in Teaching Course in History of Indian Science and Technology; Invited by Ministry of External affairs, Govt. of India to address Foreign Diplomats from various countries on the science of Ayurveda; Hon'ble President of India's nominee as a member of the Executive Council of Delhi University; Hon'ble President of India's nominee for Indian Institute of Technology (IIT), Mumbai; Member of Advisory Committee of CSIR-Traditional Knowledge Digital Library (CSIR-TKDL), Council of Scientific and Industrial Research, New Delhi; Member of the Scientific Advisory Committee, Centre of Excellence, Interdisciplinary School of Health Sciences, Savitribhai Phule Pune University; Member of the Board of Governors of Indian Institute of Science Education & Research (IISER), Kolkata; Ministry of Human Resource Development (MHRD)'s nominee for the selection committee for appointment of Professors in the Indian Institute of Science Education & Research (IISER), Mohali; Nominated as member of jury for awards for Excellence in Information Technology in AYUSH Sector, Ministry of AYUSH, Government of India; Nominated as Member of the Executive Committee of the Central Council for Research in Homeopathy (CCRH), Ministry of AYUSH, Government of India; Keynote, plenary and invited speaker in 12 conferences; Editorial Board panel of Journal of Ayurveda and Integrative Medicine; Reviewer for Current Science and Journal of Ayurveda and Integrative Medicine.

**Professor S Senthil Kumaran** was elected member of Executive committee of ISMRM-Indian Chapter; Reviewer for Annals of Indian Academy of Neurology, Magnetic Resonance in Medicine, Neurorehabilitation & Neural Repair (Sage Publishing) and IEEE Access.

**Dr Uma Sharma** was Guest Editor for Frontiers in Neurosciences.

**Dr Virendra Kumar** was Editorial Board panel of Current Metabolomics and Systems Biology, Bentham Science; Reviewer for Journals: Scientific Reports, Springer Nature; Cancer Imaging, Springer Nature; World Journal of Surgical Oncology, Springer Nature; Cancer Medicine, John Wiley; Magnetic Resonance in Medicine, John Wiley; Journal of Electrical and Computer Engineering, Hindawi; Computer Methods and Programs in Medicine, Elsevier.



## 9.23. Nuclear Medicine

### Professor and Head

CS Bal

### Professors

Rakesh Kumar

Chetan D Patel (CNC)

### Additional Professors

Madhavi Tripathi

Anil K Pandey (Medical Physics)

### Associate Professors

Nishikant A Damle

Shamim A Shamim

### Assistant Professor

Khangemam Bangkim Chandra

### HIGHLIGHTS

Department of Nuclear Medicine has two distinct services: Diagnostic and Therapeutic facilities. The Diagnostic services include general nuclear medicine services using Gamma Camera, SPECT and SPECT/CT in main department and specialty services as Nuclear Cardiology unit in CNC that caters to patients referred for cardiac studies from CN center and other departments of the hospital. The main department has two PET/CT scanners and a dedicated 11 MeV Cyclotron with PET radiochemistry facility. The other division provide Therapeutic nuclear medicine facility for Endocrine tumours, metastatic Neuroendocrine tumours, metastatic castration-resistant Prostate cancers (mCRPC), pediatric cancers like neuroblastoma, adult malignant pheochromocytomas and paragangliomas, hepatocellular carcinoma, radiosynovectomy and Bone pain palliation using beta-particle emitters, namely I-131, Lu-177, P-32, Sm-153 and most recently alpha radionuclide Actinium-225 labelled DOTATATE and PSMA-617. In alpha therapy AIIMS is ahead of USA and among top 3 countries of the world using Ac-225.

### EDUCATION

The Department has 3 PhD, 5 DM, 22 MD & 18 MSc students in this academic year. Apart from that department also trained two physicians from Regional Cancer Centre at Agartala, Govt of Tripura in PET/CT for 6 months each and two Physicians from Imphal Govt Hospital, Manipur in Nuclear Cardiology for 3 months. Hands-on-training of five senior Nuclear Medicine Physicians from various National medical centres /hospitals in Therapeutic Nuclear Medicine under the supervision of Prof CS Bal from 22-24 April 2019.

Integrated teaching seminars for 6th Semester UG students taken by Professor CS Bal one on Introduction to Imaging along with Radiology faculty Prof DN Srivastav and for 8th Semester UG on Renal function Tests along with Professor Mahajan and again for 8th semester UG students on Neuroimaging along with Dr Joseph, Additional Professor in Neuroradiology.

Dr Madhavi Tripathi took Integrated seminar for 6th semester students on 19 March 20, on '*Benign and malignant tumors of the tracheo-bronchial tree including mediastinal tumors*'. Prof SK Kabra, Dr Sanjiv Sinha, Dr Smita Manchanda, and Dr Madhavi Tripathi.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

CS Bal: 12

Rakesh Kumar: 9

Chetan Patel: 3

Madhavi Tripathi: 6

Anil Kumar Pandey: 5

Nishikant A Damle: 5

Shamim A Shamim: 2

#### CS Bal

1. Moderator, Symposia on Thyroglobulin Elevation with Negative Radioactive Iodine Scintigraphy (TENIS), Indian Thyroid Society (ITSCON2019) Annual Conference, 17-19 May 2019, Bengaluru
2. Co-Moderator, Therapy Council Meeting at SNMMI Annual Conference, USA Society of Nuclear Medicine & Molecular Imaging (SNMMI), USA, 25 June 2019, Anaheim, USA

3. Radiation Safety Issues in Nuclear Medicine Therapy, Medical Physics Conference, 20 July 2019, AIIMS, New Delhi
4. Recent Advances of Radionuclide Therapy in Neuroendocrine Tumours, National Update on Nuclear Medicine Therapy, 30 August 2019, Army Hospital R & R, New Delhi
5. PET/CT Response Evaluation Criteria following Immunotherapy, ANMPI Annual Conference, 19-21 September 2019, Pune
6. Role of Nuclear Medicine in Biliary Imaging, Pediatric Surgery Update, 23 September 2019, MAMC, Delhi
7. Radioiodine Therapy in Metastatic DTC, ISTS Annual Conference, 11 October 2019, Chennai
8. Neuroimaging in Epilepsy, National Update on Epilepsy Surgery, 13 October 2019, NIMS, Hyderabad
9. Role of Nuclear Medicine in Focal Epilepsy management, Kuwait Society of Nuclear Medicine, 25-27 October 2019, Kuwait city
10. Debate: Completion Thyroidectomy versus RAI Lobar Ablation, Thyroid Master Class 2019, 8 December 2019, Nagpur
11. Alpha Particle Therapy-Current Status, SNM Annual Meeting, 13 December 2019, Mumbai
12. Management of GEPNET by PRRT, National Update, 4 January 2020, ILBS, Delhi

#### **Rakesh Kumar**

1. Nuclear Medicine Training, Research Experience, SNMMI, 24 June 2019, Anaheim, USA
2. International Scene: Imaging, Tracers & Therapies, SNMMI, 25 June 2019, Anaheim, USA
3. PET/CT in Head & Neck Cancer, MAMC, 10 August 2019, New Delhi
4. Thoracic masses, XVII Annual SOC of Ped Radiology, 7 September 2019, AIIMS, New Delhi
5. Nuclear Medicine in Genitourinary System, AIIMS-MAMC-PGI Imaging, 16 November 2019, Delhi
6. PET/CT in Chest tumours, AIIMS Radiology Course, 30 November 2019, Delhi
7. Dual Time Point Imaging, SNM Annual Meeting, 12 December 2019, Mumbai
8. Lung VQ scan & GER scan, Pediatric Pulmonology & Intensive Care, 23 February 2020, AIIMS, New Delhi
9. Molecular Imaging in H & N Cancer, International oral cancer congress, 8 March 2020, Delhi
- 10.

#### **Chetan Patel**

1. Cardio-Oncology Nuclear Medicine Option, 1st Research Co-ordination Meeting on the International Study on Imaging in Cardio-Oncology (iCOS), 15-17 May 2019, Vienna, Austria
2. Emerging role of Nuclear Medicine in HF, CSI National Heart Failure Congress, 20 and 21 July 2019, Kochi, Kerala
3. Current trends and future application of Nuclear Imaging in HF, 12th Biennial Conference of Nuclear Cardiological Society of India, 5 and 6 October 2019, Chennai
- 4.
5. Madhavi Tripathi
6. Softwares for brain PET quantification, 3rd Annual conference of Nuclear Medicine Physicists of India-NMPAICON2019, 13 April 2019, Gurugram
7. Imaging and therapy in Neurodegenerative disorders, Nucleocon 2019, 31 August 2019, New Delhi
8. The role of molecular imaging (SPECT/PET) in better understanding neurological disorders, Combating Neurological Disorders: Approaches and methods-CEP, INMAS, 17 September 2019, Delhi
9. Case based review of Dementia, CME on Nuclear Medicine and Neurosciences, 13 October 2019, Hyderabad
10. PET imaging in Parkinson Plus syndromes, CME on Nuclear Medicine and Neurosciences, 13 October 2019, Hyderabad
11. Imaging in DRE-PET & SPECT in localization, ECON 2020, 17 January 20, Ahmedabad

#### **Anil Kumar Pandey**

1. Texture analysis and its application in nuclear medicine, 3rd Annual Conference of Nuclear Medicine Physicist Association of India (NMPAICON2019), 13 and 14 April 2019, Gurgaon
2. Prognostication of NSCLC cancer patients undergoing PET/CT scan using machine learning algorithm, CEP on Machine Learning in Nuclear Medicine, 3-5 July 2019, Delhi
3. Basic Atomic and Nuclear Physics, 2nd symposium on Basic Nuclear Medicine Physics and Radiation, Safety, 20 and 21 July 2018, Delhi

4. Radiation Hazard Evaluation and Control, Continuing Education Program on Radiation Safety in the Use of Radioactivity in Animals, 2-4 September 2019, Delhi
5. Texture Using HLAC, 51st Annual Conference of society of Nuclear Medicine, India, SNMICON 2019, 12-15 November 2019, Mumbai

#### **Nishikant A Damle**

1. Challenges in Ca Thyroid Management, ANMPICON–2019, 22 September 2019, Pune
2. Nuclear Medicine in Endocrinology, Mid-Term ESICON called EnSPIRE, 15 and 16 February 2020, Gurugram
3. PET scan in Endocrine Practice, Society for Promotion of Education in Endocrinology & Diabetes (SPEED), 1 and 2 February 2020, Gurugram
4. Nuclear Medicine in Endocrinology, ANMPI-2019, 28 April 2019, Aurangabad
5. TENIS syndrome and redifferentiation therapies–the current perspective, NUCLEOCON 2019, 30 August 2019, New Delhi

#### **Shamim A Shamim**

1. The Changing Paradigm in Treatment of Lung Cancer, CRABECON PUNJ 2019, September 2019, Jammu
2. Management of oligometastasis in prostate Cancer, PROSCON 2019, December 2019, Jammu

#### **Oral papers/posters presented**

1. Arun Raj ST, Hemrom A, Tripathi M, Tripathi M, Khan D, Sagar S, et al. Comparison of Tc- 99m ECD interictal and ictal SPECT and subtraction ictal SPECT coregistered to interictal brain SPECT (SISCOS) in preoperative evaluation of drug refractory epilepsy patients, SNMICON 2019, November 2019, Mumbai
2. Baghel V, Tripathi M, Damle N, Goyal H, Kumar P, Sharma A, et al. 99mTc-TRODAT-1 SPECT and 18F-FDOPA PET in clinically suspected Parkinson's disease, EANM, 12-16 October- 2019, Barcelona, Spain
3. Bal CS, Ballal S, Yadav M Long-term outcome of Radioiodine Therapy in Brain Metastases from Differentiated Thyroid Cancer-Single Centre Cohort Study. SNMMI, 22-26 June 2019, Anaheim, USA
4. Bal CS, Yadav M, Ballal S, Tripathi M, Sahoo R. Clinical Experience on 225Ac-PSMA-617 Targeted Alpha Therapy in Metastatic Castration-Resistant Prostate Cancer Patients: Safety and Efficacy Results, SNMMI, 22-26 June 2019, Anaheim, USA.
5. Ballal S, Yadav M, Bal CS. Early results of 225Ac-DOTATATE Targeted Alpha Therapy in Metastatic Gastroenteropancreatic Neuroendocrine Tumors: First Clinical Experience on Safety and Efficacy. EANM, 12-16 October 2019, Barcelona, Spain
6. Ballal S, Yadav MP, Bal CS. Preliminary results on 225Ac-DOTATATE Targeted Alpha Therapy in Metastatic Gastroenteropancreatic Neuroendocrine Tumors: First Clinical Experience on Safety and Efficacy, SNMMI, 22 – 24 June 2019, Anaheim, USA
7. Damle N, Angamuthu M, Arora S, Lata K, Shankar K, Meel R, et al. Assessment of Somatostatin Receptor Expression in Thyroid Associated Orbitopathy with Ga-68-DOTANOC PET/CT. EANM, 12-16 October 2019, Barcelona, Spain
8. Datta Gupta S, Shamim S, Gamanagatti S, Shalimar, Gupta P, Khan MA, et al. Effect of transarterial Re-188 lipiodol therapy on survival outcome in hepatocellular carcinoma with portalveinthrombosis EANM 2019, October 2019, Barcelona, Spain
9. Datta Gupta S, Shamim SA, Shivanand G, Shalimar, Gupta P, Khan M, et al. Re-188 lipiodol therapy in liver cancer with portal vein thrombosis: a promising alternative. SNMMI 2019, June 2019, Anaheim USA
10. Hemrom A, Prabhu M, Tupalli A, Kumar A, Agarwala S, Seth R, et al. Evaluation of 131I-MIBG scintigraphy and 18F-DOPA positron emission tomography/computed tomography in neuroblastoma-initial results. 51st Annual Conference of Society of Nuclear Medicine, India 12-15 December 2019, Mumbai
11. Jaleel J, Tripathi M, Baghel V, Arunraj ST, Kumar P, Dey AB, et al. 18F-ML-104 Tau PET patterns in amnesic mild cognitive impairment. SNM India 2019, 14 December 2019, Mumbai
12. Kaushik P, Patel C, Gulati G, Seth S, Parakh N, Kumar R, et al. Comparison of 68Ga-DOTANOC PET/CT with cardiac MRI for imaging inflammation in cardiac sarcoidosis, 32nd Annual Congress of the European Association of Nuclear Medicine 2019, 12-16 October 2019, Barcelona, Spain
13. Kaushik P, Patel C, Kumar R, Gulati GS, Parakh N, Seth S, et al. A comparison of Somatostatin receptor PET/CT and Myocardial perfusion SPECT with cardiac magnetic resonance imaging in cardiac sarcoidosis. SNMMI, 22-26 June 2019, Anaheim, USA.
14. Khan D, Arun Raj ST, Tripathi M, Tripathi M, Doddamani R, Chandra SP, et al. Epileptogenic zone localization

on SISCOS in drug refractory epilepsy, SNM India 2019, 14 December 2019, Mumbai

15. Kumar A, Arun Raj ST, Tripathi M, Haresh KP, Gupta S, Damle NA, et al. Prospective evaluation of prostate specific membrane antigen expression in recurrent high grade gliomas using Ga-68 prostate specific membrane antigen positron emission tomography/computed tomography, 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 December 2019, Mumbai
16. Kumar R, Arora S, Passah A, Prashanth A, Mohan N, Vuthaluru AR, et al. Annual Meeting of European Society of Nuclear Medicine and Molecular Imaging, October 2018, Barcelona, Spain
17. Kumar R, Damle NA, Tripathi M, Bal CS. Synthesis of generator based <sup>68</sup>Ga-labeled prostate specific membrane antigen 11 by a new reliable and fast method. 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 December 2019 Mumbai
18. Kumar R, Harish N, Sharma A, Gupta RK, Sharma A, Bakhshi S, et al. Comparison of FDG PET/CT and CT in response assessment and prognosis of patients with extra medullary disease in acute myeloid leukemia, Annual Meeting of Society of Nuclear Medicine and Molecular Imaging, June 2019, Anaheim, USA.
19. Kumar R, Sharma A, Mohan A, Bhalla A, Pandey A, Thulkar S, et al. Role of metabolic tumor volume (MTV) and standardized uptake value(SUV) based parameters derived from whole body (WB) <sup>18</sup>F-FDG PET/CT in prediction of overall survival (OS) in NSCLC, Annual Meeting of Society of Nuclear Medicine and Molecular Imaging, June 2019, Anaheim, USA.
20. Kumar S, Arora G, Damle NA, Bal CS, Tripathi M, Bhattacharya B, et al. In-house standardization of radiolabelling of antitubercular drug ethambutol with <sup>99m</sup>Tc-Technetium. 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 Dec. 2019 Mumbai
21. Kumar S, Arora G, Damle NA, Bal CS, Tripathi M, et al. In-house radiolabeling and quality control of <sup>99m</sup>Tc-ceftriaxone and <sup>99m</sup>Tc-ciprofloxacin. 51st Annual Conference of Society of Nuclear Medicine, India 12-15 December 2019 Mumbai
22. Meivel A, Shamim SA, Arora G, Somani S, Arun Raj ST, Kumar R, et al. Clinical impact of <sup>18</sup>F-fluorodeoxy glucose positron emission tomography/computed tomography in the management of malignant melanoma, SNMICON 2019, November 2019, Mumbai
23. Mohan N, Shamim S, Arora S, Passah A, Baghel V, Roma R, et al. To assess the role of F-18 FDG PET-CT in management of adrenocortical carcinoma, EANM 2019, October 2019, Barcelona, Spain
24. Pandey A, Kaushik P, Datta Gupta S, Sharma PD, Patel C, Bal CS, Kumar R. Predicting Good count image from low count image using Machine learning algorithm, 51th Annual Conference of society of Nuclear Medicine, India, SNMICON 2019, 12-15 November 2019, Mumbai
25. Pandey AK, Lavanya K, Yashwariya, Patel CD, Bal CS, Kumar R. Regularized image restoration of <sup>99m</sup>Tc-MDP bone scan image using regularization by denoising (RED) frame work, 22nd National Symposium on Radiation Physics, 8-10 November 2019, New Delhi
26. Pandey AK, Sharma A, Sharma V, Patel CD, Bal CS, Kumar R. Prognostic value of locally stationary wavelet field texture analysis using baseline F-18 FDG PET/CT images of Non-Small cell lung cancer (NSCLC) patients. SNMMI 2019 Annual Meeting, 22-25 June 2019, California, USA
27. Prakash S, Damle NA, Bal CS, Arora G, Srivastava S. In vivo assessment of anti-tuberculous drug delivery in patients with tuberculous lymphadenitis by <sup>99m</sup>Tc-Technetium ethambutol scintigraphy. 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 December 2019 Mumbai
28. Sagar S, Shankar K, Arun Raj ST, Tripathi M, Goyal V, Damle N, et al. Evaluation of <sup>99m</sup>Tc-TRODAT SPECT in the first year of onset of Parkinsonism, SNMICON 2019, November 2019, Mumbai
29. Shamim S, Arora G, Hussain J, Somani S, Datta Gupta S, Tripathy M, et al. <sup>68</sup>Ga-DOTANOC PET/CT in Meningioma EANM 2019 Oct 2019 Barcelona, Spain
30. Shamim S, Behra A, Gupta R, Arora G, Datta Gupta S, Bal CS. Comparison of conventional MDP bone scan and Somatostatin Receptor PET CT in detection of active Rheumatoid Arthritis EANM 2019, October 2019 Barcelona, Spain
31. Shamim S, Datta Gupta S, Tripathy S, Hussain J, Damle N, Tripathi M, et al. Localization of ectopic ACTH screening lesion with <sup>68</sup>Ga DOTANOC PET/CT, SNMMI 2019, June 2019 Anaheim, USA
32. Shamim SA, Angamuthu M, Arora G, Somani S, Arun Raj ST, Kumar R, et al. Role of <sup>18</sup>F-fluorodeoxy glucose positron emission tomography/computed tomography in the follow-up of patients with malignant melanoma postresection of primary SNMICON 2019, November 2019, Mumbai
33. Shamim SA, Arora G, Hussain J, Somani S, Gupta SD, Tripathy M. Ga-68-DOTANOC PET/CT in Meningioma. EANM, 12-16 October 2019, Barcelona, Spain
34. Shamim SA, Arora G, Somani S, Angamuthu M, Arun Raj ST, Tripathi M, et al. Role of <sup>18</sup>F-fluorodeoxyglucose

- positron emission tomography/computed tomography in diagnosis of paraneoplastic syndrome 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 December 2019, Mumbai
35. Shamim SA, Arora G, Somani S, Angamuthu M, Arun Raj ST, Tripathi M, et al. Clinical utility of 18F-fluorodeoxyglucose positron emission tomography/computed tomography in evaluation of recurrent salivary gland tumors. 51st Annual Conference of Society of Nuclear Medicine, India, 12-15 December 2019, Mumbai
  36. Shamim SA, Arora G, Somani S, Angamuthu M, Arun Raj ST, Tripathi M, et al. Role of 18F-fluorodeoxyglucose positron emission tomography/computed tomography in diagnosis of paraneoplastic syndrome SNMICON 2019, November 2019, Mumbai
  37. Shamim SA, Arora G, Somani S, Angamuthu M, Arun Raj ST, Tripathi M, et al. Clinical utility of 18F-fluorodeoxyglucose positron emission tomography/computed tomography in evaluation of recurrent salivary gland tumors, SNMICON 2019, November 2019, Mumbai
  38. Shamim SA, Arun Raj ST, Arora G, Tripathy M, Tripathi M, Arora S, et al. Incremental role of fluorine-18 FDG PET-CT in clinically suspected osteomyelitis and prosthetic infection and indeterminate for infection on triple phase 99mTc-MDP bone scintigraphy with SPECT-CT, SNMICON 2019, November 2019, Mumbai
  39. Shamim SA, Datta Gupta S, Tripathy S, Hussain J, Arora G, Bal C, Response Assessment of Rosai-Dorfman Disease with 18F FDG PET/CT EANM 2019, October 2019, Barcelona, Spain
  40. Shamim SA, Gupta SD, Tripathy S, Hussain J, Damle N, Tripathi M. Localization of ectopic ACTH secreting lesion with 68Ga-DOTANOC PET/CT. SNMMI, 22-25 June 2019, California, USA
  41. Sharma A, Mohan A, Bhalla A, Sreenivas V, Pandey A, Arora G, et al. To evaluate the role of F-18 FDG-PET/CT in different molecular subtypes of breast cancer for prognostication. Annual Meeting of Society of Nuclear Medicine and Molecular Imaging, June 2019, Anaheim, USA.
  42. Singh R, Arora G, Shamim SA, Bal CS, Sharma A, Bhaskar S, et al. Comparison of PET-CT & CT in detecting locally advanced head and neck squamous cell carcinoma, SNMICON 2019, November 2019, Mumbai
  43. Somani S, Gupta P, Angamuthu M, Baghel V, Reddy KS, Lavanya K, Pandey AK, Patel CD. Effect of additional dietary intervention in reducing interfering infra-cardiac activity in patients undergoing Tc99m-MIBI myocardial perfusion SPECT 50th Annual Conference of Society of Nuclear Medicine 12-15 December 2019, Mumbai
  44. Thayumanavan T, Patel C, Bal C, Seth S, Roy A, Pandey AK, et al. To assess the feasibility of fluorine-18 fluoro L-dihydroxyphenylalanine positron emission tomography-computed tomography for evaluation of cardiac sympathetic innervation in heart failure, 50th Annual Conference of Society of Nuclear Medicine, 12-15 December 2019, Mumbai
  45. Yadav D, Shamim SA, Rastogi S, Bal CS. Role of 18F-FDG PET/CT Management Of Malignant Peripheral Nerve Sheath Tumors (MPNST), EANM 2019, October 2019, Barcelona, Spain
  46. Yadav M, Bal CS, Ballal S, Sahoo R, Tripathi M, Damle N. A long-term outcome study on 177Lu-PSMA-617 Radioligand Therapy in metastatic castration Resistant Prostate Cancer: Single-institutional Results. SNMMI, 22-26 June 2019, Anaheim, USA
  47. Yadav M, Bal CS, Ballal S, Tripathi M, Damle NA. Lu-177-PSMA-617 Radioligand Therapy in Metastatic Castration Resistant Prostate Cancer: Safety, Efficacy and Quality of Life Assessment. EANM 12-16 October 2019, Barcelona, Spain (BEST PAPER AWARD)
  48. Yadav M, Chandrasekhar Bal, Ballal S, Sahoo R, Tripathi M, Damle NA Long-term outcome study on 177Lu-PSMA-617 Radioligand Therapy in metastatic castration Resistant Prostate Cancer: Single-institutional Results. SNMMI, 22-25 June 2019, California, USA

## RESEARCH

### Funded projects

#### *Ongoing*

1. Dosimetry Of 177lu -Labelled PSMA-617 In Castration-Resistant Prostate Cancer Patients. CS Bal, ICMR, 3 years, 2017-2020, Rs 25 lakhs
2. Comparison of Alpha Emitting 225Ac-DOTATATE Versus Beta Emitting 177Lu-DOTATATE Therapy in Advanced End-stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients. CS Bal, ICMR, 5 years, 2019-2024, Rs 150 lakhs
3. Use of PET-CT with Gallium-68 Labeled Prostrate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer, Rakesh Kumar, IAEA, 5 years, 2017-2022, Euro 15,000
4. International study on imaging in Cardio-Oncology Study (iCOS), Chetan D. Patel, IAEA, 5 years, 2019-2023, Euro 2000

5. Enhancing the capacity of neuroimaging and biomarkers: Application in early-stage Alzheimers disease with comorbidities, Madhavi Tripathi, IAEA, 4 years, 2015-2020, Euro 18,000
6. Evaluation of long acting octreotide therapy in steroid resistant Graves ophthalmopathy with somatostatin receptor expression on 68Ga-DOTANOC PET/CT, Nishikant A. Damle, AIIMS, 2 years, 2019-2021, Rs 5 lakhs/year
7. Diagnostic accuracy of antifungal scintigraphy in diagnosing invasive fungal disease (IFD) in febrile neutropenia in pediatric hematologic malignancies, Nishikant A. Damle, AIIMS, 2 years, 2019-2021, Rs 5 lakhs/year
8. Utility of Radiolabelled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nishikant A. Damle, ICMR, 2019-2022, 3 years, Rs 36 lakhs
9. 68Ga-PSMA PET-CT for evaluation of hepatocellular carcinoma, Shamim A Shamim, AIIMS, New Delhi, 1 year, 2019-2020, Rs 5 lakhs
10. Comparison of Re-188-HDD Lipiodol Trans Arterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the management of advanced Hepatocellular Carcinoma: A Randomized Control Trial, Shamim A Shamim, ICMR, 3 years, 2019-2022, Rs 47.56 lakhs

## Departmental projects

### Ongoing

1. 225Ac-DOTATATE therapy in GEP-NETs
2. 225Ac-PSMA-617 therapy in castration resistant prostate cancer
3. 68Ga-PSMA PET-CT for evaluation of hepatocellular carcinoma
4. A retrospective cohort study to analyse the diagnostic accuracy of SISCOS in drug refractory epilepsy
5. A retrospective study to compare diagnostic accuracy of 18F-FCH PET/CT, 4D-CT and 99m Tc-Sestamibi in detection and localization of culprit lesions in patients with primary hyperparathyroidism
6. Biodistribution and radiation dosimetry of 68Ga-DATA.SA.FAPi in patients diagnosed with various cancers.
7. Comparison of 225Ac-PSMA-617 versus 177Lu-PSMA-617 in the treatment of metastatic castration resistant prostate cancer.
8. Comparison of Re-188-HDD Lipiodol Trans Arterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the management of advanced Hepatocellular Carcinoma: A Randomized Control Trial
9. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
10. Diagnostic performance of CRH stimulated BIPSS in patients with ACTH dependent Cushing's syndrome
11. Dosimetric study in children and young adults with differentiated thyroid cancer undergoing radioiodine therapy.
12. Evaluation of standard uptake value ratios in 18F-tau positron emission tomography
13. Evaluation of Striatal Binding ratios on Tc-99m TRODAT SPECT/CT
14. Gastric emptying scintigraphy using standard vegan meal: Establishment of control values
15. Is there a need to change administered 131I activity in high turnover Graves disease
16. Non invasive tissue diagnosis – A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
17. Prospective comparison between 18F-FDG PET/CT and conventional modalities for Ewing's family of tumors
18. Prospective evaluation of Prostate Specific Membrane Antigen expression in recurrent high grade gliomas using Ga-68 PSMA PET/CT.
19. Role of 18F-Fluorocholine PET/CT in the localization of culprit lesions in patients with persistent/recurrent primary hyperparathyroidism
20. Role of 68Ga-DOTA/DATA.SA.FAPi in the staging of breast cancer.
21. Role of 68Ga-PSMA-HBED-CC PET/CT in Adenoid Cystic Carcinoma
22. Role of Texture analysis in 18F-FDG PET/CT in response assessment in soft tissue sarcoma
23. Scintigraphic Image Restoration using Constrained least square filtering
24. Scintigraphic images Restoration using Richardson Lucy Algorithm
25. Standardization of technetium-99m ethylene dicysteine (99mTc-LLEC) clearance in renal transplant donors/normal human subjects and comparison with Glomerular Filtration Rate (GFR) in vitro by two plasma sample method
26. To assess the feasibility of Flourine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT for evaluation

of cardiac sympathetic innervation in Heart Failure. Comparison with Carbon-11 Hydroxyephedrine (C-11 HED) PET-CT

27. To study the clinical profile, investigations and outcome of patients Undergoing Parathyroidectomy: A Retrospective and Prospective Experience.
28. To study the concordance of thyroid imaging and data reporting system (TIRADS) and the Bethesda system for reporting thyroid cystopathology (TBSRTC) with final histopathology in solitary thyroid nodule (STN)
29. To study the role of vascular function and pain sensitivity in microvascular angina
30. Utility of <sup>99m</sup>Tc Ubiquitin in differentiation of infective and noninfective lesions

### **Completed**

1. A pilot study to assess the therapeutic potential of <sup>177</sup>Lu-DKFZ-PSMA 617 in <sup>68</sup>Ga-PSMA HBED CC PET/CT positive anaplastic thyroid carcinoma
2. A Prospective study to determine the efficacy of Positron Emission Tomography/Computed Tomography (PET/CT) in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo-Radiation Therapy
3. Comprehensive assessment of right ventricle function and pulmonary perfusion in patients with Eisenmenger syndrome using multi-modality imaging
4. Dosimetry and efficacy of <sup>177</sup>Lu-PSMA-617 therapy in metastatic castration resistant prostate patients
5. Effect of dietary intervention in reducing interfering infra-cardiac activity in patients undergoing <sup>99m</sup>Tc-MIBI Myocardial Perfusion SPECT
6. Efficacy of Rhenium -188 HDD lipiodol in hepatocellular carcinoma with malignant portal vein thrombosis
7. Evaluation of amnesic mild cognitive impairment using F-18 Tau and F-18 FDG PET/CT.
8. Image denoising using wavelet transform
9. Imaging PSMA expression in metastatic triple negative breast cancer using <sup>68</sup>Ga-PSMA PET/CT.
10. In vivo assessment of somatostatin receptor expression with <sup>68</sup>Ga-DOTANOC PET/CT in patients with autoimmune and immune related orbitopathy
11. Interim treatment response evaluation of high grade lymphoma using texture analysis on F-18 FDG PET/CT study
12. Prevalence of asymptomatic stress induced myocardial ischemia in patients with advanced CKD by stress myocardial perfusion scintigraphy
13. Role of <sup>18</sup>F-FDG PET-CT in staging and early treatment response evaluation in patients of soft tissue sarcoma
14. Role of <sup>68</sup>Ga-DOTANOC PET/CT in Cardiac Sarcoidosis; Comparison with Cardiac MRI
15. Synthesis, Quality Control and Biodistribution Studies Of <sup>99m</sup>Tc Labelled Antibiotics for Infection Imaging.

### **Collaborative projects**

#### **Ongoing**

1. Biodistribution and radiation dosimetry of <sup>68</sup>Ga-DOTA-SA-FAPi in patients diagnosed with various cancers. University of Mainz, Germany.
2. Evaluation of the graft kidney by contrast-ultrasound and elastography in early postoperative period, Radiology
3. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, ENT, Ortho
4. Monosymptomatic rest tremor classification based on clinical electrophysiological and dopamine transporter binding profile in Indian patients. Department of Neurology, GB Pant Institute of Maulana Azad Medical College & Associated G.I.P.M.E.R., New Delhi
5. Role of <sup>68</sup>Ga-DOTA/DOTA-SA-FAPi in the staging of breast cancer. University of Mainz, Germany.
6. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI, Cardiology

#### **Completed**

1. A study of clinical spectrum of drug induced movement disorders and its associated risk factors. Department of Neurology, GB Pant Institute of Maulana Azad Medical College & Associated G.I.P.M.E.R., New Delhi
2. Cognitive impairment in early onset and idiopathic parkinson's disease. Department of Neurology, GB Pant Institute of Maulana Azad Medical College & Associated G.I.P.M.E.R., New Delhi

## PUBLICATIONS

**Journals: 79**

## PATIENT CARE

Department of Nuclear Medicine has two distinct services: Diagnostic facility that includes general nuclear medicine services using Gamma Camera, SPECT and SPECT/CT in main department and specialty services as Nuclear Cardiology unit in CNC that caters to patients referred for cardiac studies from CN center and other departments of the hospital. The department does 120-150 diagnostic patient scans/studies per day.

The other division provide therapeutic nuclear medicine facility for Endocrine tumours, metastatic Neuroendocrine tumours, metastatic castration-resistant Prostate cancers (mCRPC), hepatocellular carcinoma, radiosynovectomy and Bone pain palliation using beta-particle emitters, namely I-131, Lu-177, P-32, Sm-153 and most recently alpha radionuclide Actinium-225 labelled DOTATATE and PSMA-617. The therapeutic facility provide OPD facility for 110-170 patients per day and admits about 35-50 patient studies per week. Most of the therapies in Nuclear medicine is OPD procedures and as per AERB regulations all thyroid cancer patients administered more than 30 mCi I-131 need admission. We have more than 11,000 DTC patients under our regular follow up since 1967, and more than 7000 hyperthyroid patients since 1972. We have daily OPD services with faculty and DM students taking care of both indoor and outpatient facilities.

The department routinely performs myocardial perfusion SPECT imaging which is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also perform cardiac PET imaging with PET tracer F-18 FDG for assessment of myocardial viability and for cardiac infective pathologies. New diagnostic techniques for non CAD indications are now performed like Gallium-68 DOTANOC and Tc99m PYP for cardiac sarcoidosis and infiltrative/inflammatory pathologies, respectively. We have also assessed the feasibility of F-18 FDOPA for evaluation of cardiac sympathetic innervations and in an ongoing study evaluating its role in Heart failure patients. The department also performs radionuclide ventriculography for assessment of left ventricular function in CAD patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

### The number of diagnostic scans and radionuclide therapies administered 2019-2020

<b>Routine diagnostic</b>	
99mTc-RBC Blood Pool Scan	24
DMSA	1460
DRCG	178
ECD-Ictal SPECT	229
ECD-INT SPECT	258
GER	502
GET	99
HIDA	278
LIV-SPLN	02
Lymphoscitigraphy	219
MDP Bone Scan	1803
131I-MIBG-Dx	271
131I-MIBG-Tx	27
Meckel's Scan	40
Parathyroid Imaging	213
Renal Dynamic Study	3788
Sentinel Node Imaging	02
PertechnetateThyroid Scan	457
99mTc-Trodat Scan	14
WBS -Dx	1179
WBS-Tx	864

177LU-DOTATATE	48
177LU-PSMA-617	35
177LU-EDTMP/DOTMP/BPAMD/ZOL	20
225Actinium – DOTATATE	28
225Actinium-PSMA-617	12
131I-MIBG	1145
131I-Therapy for Hyperthyroidism	300
131I-Therapy for Thyroid Cancer	798
GFR	2242
<b>Diagnostics- POSITRON EMISSION TOMOGRAPHY (PET/CT)</b>	
18F FDG	7546
Ga68 PSMA	520
Ga68 DOTA NOC	774
F18 Choline	83
68Ga Exendin4	12
F18 DOPA	101
F18 TAU	15
18F-Fluoride PET/CT Bone Scan	20
NH3 cardiac PET scan	9
68Ga-GUL-NOTA PET/CT	34
68Ga-FAPI PET/CT scan	6
NCCT	621
<b>CARDIAC CENTRE ACTIVITIES</b>	
Cardiac F18-FDG PET	156
99mTc/Myocardial perfusion study	1859
RNV Study(MUGA)	562
Misc. (V/Q Scan, 1st Pass)	147

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor CS Bal** received *Best Paper Award-2019 for Yadav MP, Ballal S, Tripathi M, Damle NA, Sahoo RK, Seth A, Bal CS.* <sup>177</sup>Lu-DKFZ-PSMA-617 therapy in metastatic castration-resistant prostate cancer: safety, efficacy, and quality of life assessment. Eur J Nucl Med Mol Imaging (2017) 44: 81. doi: 10.1007/s00259-016-3481-7. EANM, Barcelona, Spain; Also presented in the following: *Oncology: Clinical Therapy and Diagnosis - Center for Therapy Excellence YIA Symposium* Ballal S, Yadav M, Bal CS. Early results of 225Ac-DOTATATE Targeted Alpha Therapy in Metastatic gastroenteropancreatic Neuroendocrine Tumors: First Clinical Experience on Safety and Efficacy. J Nucl Med 2019 60:74. **SNMMI, 2019, Anaheim, USA;** was elected as FNASc (Fellow of National Academy of Sciences, India) and FNSc (Fellow of Indian Academy of Sciences, Bengaluru) in October and December 2019, respectively.

**Professor Chetan Patel** has been elected as Vice President, Nuclear Cardiological Society of India; Member of Executive Committee, Society of Nuclear Medicine, India; Member of Executive Committee, Association of Nuclear Medicine Physicians of India; Chairperson in Nuclear Cardiology session Panel discussion 51st Annual conference of Society of Nuclear Medicine, 12-14 December 2019, Mumbai Maharashtra



## 9.24. Obstetrics and Gynaecology

	<b>Professor and Head</b> Sunesh Kumar	
	<b>Professors</b>	
Dipika Deka (on deputation) Neena Malhotra	Neerja Bhatla Vatsla Dadhwal Neeta Singh	KK Roy JB Sharma
	<b>Additional Professors</b>	
K Aparna Sharma Reeta Mahey		Garima Kachhawa P Vanamail
	<b>Associate Professors</b>	
Vidushi Kulshrestha Rajesh Kumari		Seema Singhal Jyoti Meena
	<b>Assistant Professors</b>	
Juhi Bharti Richa Vatsa Kusum Lata Neha Varun	Nilanchali Singh Deepali Garg Archana Kumari Soniya Dhiman Anubhuti Rana	Monica Gupta Rinchan Zangmo Anju Singh Indira Prasad
	<b>Scientist</b>	
Rohini Sehgal (G III)		Arun Kumar (G I)

### HIGHLIGHTS

The Department started Gynaecologic Oncology services at the National Cancer Institute, AIIMS, Jhajjar, in February 2020. Both OPD and OT services were initiated with 24x7 availability of resident doctors and consultants.

### EDUCATION

The first candidates of MCh (Gynaec Oncology) and DM (Reproductive Oncology) passed the examination in December 2019.

### Short Term Training

1. The Department offers short term training in various super specialty subjects like Gynae Endoscopic Surgery, High Risk Pregnancy, Gynae Oncology, Ultrasonography and Infertility. Following Doctors were trained in different disciplines.
2. Dr Beela Venkata, Vishakapatnam, 15 March 2019 to 15 May 2019, Minimally Invasive Gynaecological Surgery
3. Dr Radha Kumari, Vishakapatnam, 15 March 2019 to 15 May 2019, Minimally Invasive Gynaecological Surgery
4. Lt Col Dr Shahnur Chisty, Bangladesh, 17 June 2019 to 16 December 2020, Maternal Foetal Medicine
5. Col Dr Ismat Ara, Bangladesh, 17 June 2019 to 16 December 2029, Maternal Foetal Medicine
6. Dr Poonam Sharma, Haryana, 3 September 2019 to 2 March 2020, Minimally Invasive Gynaecological Surgery
7. Lt Col Abhijeet Kumar, Military Hospital, Ramgarh Cantt, 1 October 2019 to 30 September 2020, Maternal Foetal Medicine
8. Dr Charu Sharma, Rajasthan, 9 December 2019 to 20 December 2019, Maternal Foetal Medicine
9. Dr Meenakshi Gothwal Rajasthan, 9 December 2019 to 20 December 2019, Maternal Foetal Medicine
10. Dr Divya Pandery New Delhi, 23 December 2019 to 5 January 2020, Obstetrics & Gynaecology

### Long Term Training

1. Lt Col Dr Vinod G Nair, Ministry of Defence, New Delhi, 31 October 2017 to 31 October 2019, Minimally Invasive Gynaecological Surgery
2. Lt Col Dr Venus Deshwal, Ministry of Defence, New Delhi, 1 November 2017 to 31 October 2019, Minimally Invasive Gynaecological Surgery

3. Lt Col (Dr) Mhaske Nilesh Madhukar, Ministry of Defence, New Delhi, 15 October 2018 to 14 October 2019, Maternal Foetal Medicine
4. Wg Cdr N Mohana Priya, Command Hospital (AF), Bangalore, 7 October 2019 to 7 October 2021, Minimally Invasive Gynaecological Surgery

### **CMEs/Workshops/Symposia/National and International Conferences**

#### **Organized by the Department**

1. Understanding Doppler in Obstetrics, 28 April 2019, AIIMS, New Delhi
2. VIIth AIIMS Fetal Medicine Workshop, 29 April 2019 to 2 May 2019 AIIMS, New Delhi
3. Bowel Suturing Practicum Workshop for MCh (Gyn Onc) & SRs, 11 May 2019, AIIMS, New Delhi
4. Fetal Echocardiography Workshop, 8 September 2019, AIIMS, New Delhi
5. 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi 26-29 September 2019, Nehru Place, New Delhi
6. National Partners Meeting for Quality of Care Work, 16 and 17 December 2019, AIIMS, New Delhi
7. Expert Group Meeting to review undergraduate medical curriculum to strengthen comprehensive abortion care: WHO-SEARO, 23 and 24 December 2019, New Delhi

#### **Organisation of Workshops related to Quality Improvement**

1. First Residents Orientation Workshop for Quality Improvement, 13 April 2019, AIIMS, New Delhi
2. Second Residents Orientation Workshop for Quality Improvement, 11 May 2019, AIIMS, New Delhi
3. Quality Improvement Methodology Workshops, under the AOGD QI committee, 28 July 2019, LHMC, New Delhi
4. Orientation Workshop for National Mentoring for LaQshya identified Medical Colleges led by AIIMS, 30 and 31 August 2019, AIIMS, New Delhi
5. Quality Improvement Methodology Workshops, under the AOGD QI committee, 16 November 2019, MAMC, New Delhi
6. Quality Improvement Methodology Workshops, under the AOGD QI committee, 14 December 2019, AIIMS, New Delhi
7. Third Residents Orientation Workshop for Quality Improvement, 12 December 2019, AIIMS, New Delhi
8. Fourth Residents Orientation Workshop for Quality Improvement, 3 March 2020, AIIMS, New Delhi

#### **Lectures delivered**

**Sunesh Kumar: 1**

**Neena Malhotra: 27**

**Neeta Singh: 8**

**Reeta Mahey: 5**

**Rajesh Kumari: 5**

**Richa Vatsa: 1**

**Archana Kumari: 1**

**Neerja Bhatla: 24**

**Vatsla Dadhwal: 22**

**K Aparna Sharma: 52**

**Vidushi Kulshrestha: 6**

**Jyoti Meena: 7**

**Rinchan Zangmo: 1**

**Neha Varun: 2**

**KK Roy: 23**

**JB Sharma: 17**

**Garima Kachhawa: 9**

**Seema Singhal: 6**

**Juhi Bharti: 8**

**Deepali Garg: 1**

**Anubhuti Rana: 9**

#### **Sunesh Kumar**

1. Medical Education/From Past to Future, 41st AOGD Conference, 28 and 29 September 2019, New Delhi

#### **Neerja Bhatla**

1. Recent Updates in Cervical Cancer, 1st National Oncology Conclave, 6 and 7 April 2019, Ludhiana
2. Comparison of Portable Colposcopic Devices, 14th Annual Conference of the Indian Society for Colposcopy and Cervical Pathology (ISCCP), 19-21 April 2019, Visakhapatnam
3. New FIGO staging of cervical cancer, 14th Annual Conference of ISCCP, 19-21 April 2019, Visakhapatnam
4. FIGO-WHO goals for Cervical Cancer Elimination, 14th Annual Conference of ISCCP, 19-21 April 2019, Visakhapatnam
5. Portable colposcopes and the quest for elimination for Cervical Cancer, AOGIN Interim Meeting, 2019, 26-28 April 2019, Beijing, China
6. Management of Locally Advanced Ca Cervix Update in Oncology – 2019, Controversies in Gynae Oncology, 4 and 5 May 2019, New Delhi
7. Technique of Open Wertheim Hysterectomy (Video presentation), Update in Oncology– 2019, Controversies in Gynae Oncology, 4 and 5 May 2019, New Delhi

8. Portable Colposcopy and Elimination of Cervical Cancer, IV Colombian Colposcopy Congress, 23-25 May 2019, Cartagena, Colombia
9. New FIGO classification (2018) for cervical cancer and its implication, IV Colombian Colposcopy Congress, 23-25 May 2019, Cartagena, Colombia
10. Elimination of Cervical Cancer by 2030–The new goal National Congress on Technology, Advances and Infections in Obst. & Gynae, 22 and 23 June 2019, Hyderabad
11. Portable colposcopes–Taking technology to last mile facilities, 1st World Congress on Women’s Health Innovations and Inventions (WHII): Addressing Unmet Needs, 9-11 July 2019, Tel Aviv, Israel
12. Cervical cancer 2018—The global view of issues and promise for elimination, 1st World Congress on Women’s Health Innovations and Inventions (WHII): Addressing Unmet Needs, 9-11 July 2019, Tel Aviv, Israel
13. Case Discussions in Oncology (Moderator for Panel Discussion), 33rd Annual Conference AICC RCOG, 5-8 September 2019, Kolkata
14. Principles of Colposcopy, 33rd Annual Conference AICC RCOG—Post conference workshop, 5-8 September 2019, Kolkata
15. Hands-on training for thermal ablation, 33rd Annual Conference AICC RCOG—Post conference workshop 5-8 September 2019, Kolkata
16. Developing of Cancer Staging Apps such as TNM and FIGO to Support Health Professionals, IAEA Scientific Forum on “A decade of Action on Cancer Control and the Way Forward”, 17 and 18 September 2019, Vienna, Austria
17. Cervical Cancer Elimination: The beginning of the End, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 28 September 2019, New Delhi
18. Elimination of cervical cancer: Global overview and prospects for Asia, 6th Biennial Meeting of Asian Society of Gynecologic Oncology (ASGO 2019), 10-12 October 2019, Incheon, Korea
19. Grand Round on Global Cervical Cancer Control and the Promise of Elimination, Gynecology Service Conference, Memorial Sloane Kettering Cancer Centre, 17 November 2019, New York, USA
20. Strategies for elimination of cervical cancer – Indian perspective, 9th National Meeting of AOGIN-India, 13-15 December 2019, Kochi
21. Revised FIGO staging of cervical cancer (2018), 9th National Meeting of AOGIN-India, 13-15 December 2019, Kochi
22. Controversies to Consensus in HPV Vaccine, 63rd All India Congress of Obst & Gynae (AICOG 2020), 31 January 2020, Lucknow
23. Cervical Cancer Prevention in India – Progress and challenges, Golden Jubilee Celebrations of National Institute of Research in Reproductive Health and International Conference on Women’s Health (ICMR), 22 February 2020, Mumbai

#### **KK Roy**

1. Infertility in PCOS – Ovulation induction CME on “Newer Concepts in Management of Polycystic Ovarian Syndrome” AIIMS, 28 July 2019, Jodhpur
2. Abortion aph prom prenatal diagnosis in pregnancy coagulation failure amenorrhoea genital fistula genital tb genital prolapse (pop-q) common infection in gynaecology National Association for Reproductive & Child Health of India (NARCHI) 17 and 18 August 2019, Kolkata
3. Chairperson- Robotic in Gynaecology- Entering a Noman’s Zone DGES 2019, 1 September 2019, New Delhi
4. Panelist – Endometriosis an Enigma DGES 2019, 1 September 2019, New Delhi
5. Panel – Trouble shooting in hysteroscopy SELSICON-2019, 14 September 2019, New Delhi
6. Guest lecture AIIMS, 20 September 2019, Raipur
7. Fertility enhancing laparoscopic and hysteroscopic surgeries East Zone Yuva FOGSI, 1 -3 November 2019, Shillong, Meghalaya
8. Ovulation induction, luteal phase defect and impact of environment Indian Society for Assisted Reproduction (ISAR), 10 November 2019, Kolkata
9. Hysteroscopic septal resection 26th Annual Conference of NARCHI Delhi, 23 and 24 November 2019, Delhi
10. Protocols in ovulation induction with Letrozole National Association for Reproductive & Child Health of India (NARCHI), 8 December 2019, Jaipur
11. Management of hypertension in pregnancy Obstetrics and Gynecology Society (Mohali), 15 December 2019, Chandigarh

12. Primary Infertility, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
13. Secondary Infertility, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
14. Contraception in Detail, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
15. PCOS & HIRSUTISM, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
16. MTP in Details, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
17. Early Pregnancy Bleeding, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
18. Ectopic, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
19. Prophylactic Antibiotic in Obs & Gyn, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
20. Common infection in gynaecology, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
21. AUB – HMB, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
22. Endometriosis, National Association for Reproductive & Child Health of India (NARCHI), 22 and 23 February 2020, Kolkata
23. Operative Hysteroscopy CME in Endoscopy 15 February 2020, MAMC, Delhi

#### **Neena Malhotra**

1. Prevention of Preterm Labour, Gynae Forum Dwarka, 15 May 2019, New Delhi
2. Freeze all, Annual Conference of Haryana chapter of IFS, 19 May 2019, New Delhi
3. Blastocyst vs cleavage stage embryo transfer, 16th ART Annual Conference of Greater Chandigarh Chapter of IFS, 25 May 2019, Punjab
4. Panel Discussion, Troubleshooting in Fertility Management, National Congress: Breaking silos across Adolescence to Menopause, 10 August, 2019, New Delhi
5. Management of Fibroids in Infertility, Practical Management of Infertility for a Practicing Gynecologist. Basics to Latest trends, Thane Obstetrics & Gynecological Society (TOGS) in Association with Indian Fertility Society (IFS), 25 August 2019, Maharashtra.
6. Endometriosis and Infertility, Infertility and Reproductive Endocrinology, 23rd Annual Conference AICC RCOG 2019, 5 and 6 September 2019, Kolkata.
7. Updates in Infertility and Ultrasound, Ian Donald Congress, 21 and 22 September 2019, Ahmedabad
8. Is digitization poised to disrupt IVF? ET Health world's National Fertility Awards, 4 October 2019, New Delhi
9. Formulation of PhD Research Questions, Hypothesis, Aims and Objectives, Workshop on "Protocol Writing: The Systematic Approach", The SSUHS, 8 November 2019, Guwahati
10. Journey of Hysteroscopy: From "Looking for An Indication" to "A Must Technique.", 31st Annual Conference UP Chapter of Obstetrics & Gynaecology, UPCOG 2019, Varanasi Obstetric & Gynaecological Society, 15 November 2019, Varanasi
11. Stimulation Protocol And IVF Failure, 15th National Annual Conference-Fertivision 2019, Indian Fertility Society (IFS), 6 and 7 December 2019, New Delhi
12. Ovarian hyperstimulation, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
13. Basic principles, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
14. Types of medication, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
15. Stimulation regimes (types, rationales), 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
16. OHSS Outcome, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
17. The health of the children, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
18. Risk factors, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi

19. Maternal factors, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
20. Paternal factors, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
21. Multiple pregnancies, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
22. Chromosomal factors, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
23. Malformations Imprinting, 7th Embryology Certification Course for ESHRE Exams, 4 December 2019, New Delhi
24. Hormones – Which & When? All India Congress of Obstetrics and Gynaecology (AICOG 2020), Lucknow Obstetrics & Gynecology Society, 29 January 2020, Lucknow
25. Trigger in ART-Emerging Trends, All India Congress of Obstetrics and Gynaecology (AICOG 2020), Lucknow Obstetrics & Gynecology Society, 31 January 2020, Lucknow
26. Cancer Treatment and Fertility in Men and Women, ISSRF-2020, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction, 14 and 16 February, 2020, Jammu and Kashmir
27. Mullerian anomalies and reproductive outcome, Panel discussion on Genital TB and infertility, 25th Annual Conference of ISAR Indian Society of Assisted Reproduction, 7 and 8 March 2020, Hyderabad

### **Vatsla Dadhwal**

1. Integrated antepartum monitoring, CME, Forum of Obstetricians and Gynaecologists of South Delhi under aegis of AOGD/NARCHI DELHI/ISCCP, 13 April 2019, New Delhi
2. Screening in twins, Update on Prenatal & Newborn Screening, 4 May 2019, New Delhi
3. We are Twins: Double Trouble, Perinatology update 2019: Simplifying Approach to Prenatal Screening, 5 May 2019, Punjab
4. Panel moderator: Unfolding the prenatal screen & taking right step ahead, Perinatology update 2019: Simplifying Approach to Prenatal Screening, 5 May 2019, Punjab
5. NIPT Vs Invasive Testing, CME on Maternal and Fetal Medicine 12 May 2019, AIIMS, Jodhpur
6. Moderator: Panel Discussion: Congenital Malformations-What to do next, CME on Maternal and Fetal Medicine, 12 May 2019, AIIMS, Jodhpur
7. Update on Genetic Sonogram, FOGSI TAIQG 2019, 23 June 2019, Hyderabad
8. Screening and Imaging in Multiple Pregnancy, 19th NOGS Annual Conference, 21 July 2019, Uttar Pradesh
9. Intrauterine Transfusion, Optimising Obstetrics Outcome under aegis of FOGSI (Triples O conference), 7 July 2019, Bengaluru
10. Video Demonstration of Cordocentesis, Interventions in Multifetal Pregnancies: Expert Diagnostic and Basic Interventional Procedures in Fetal Medicine, Hands on Simulator Workshop & Course Society of Fetal Medicine, 26 and 27 July 2019, Hyderabad
11. Nuchal Thickness – Measure right interpret right, FOGSI International Conference Saving Mothers, 2 and 3 August 2019, Uttar Pradesh
12. NIPT: Add to Confused Scenario of Genetic Anueploidy Screening, FOGSI International Conference Saving Mothers, 2 and 3 August, 2019, Uttar Pradesh
13. Panel moderator-Rh Incompatibility – Protocols, Prevention and Management of Rh Isoimmunisation, FOGSI International Conference Saving Mothers, 2 and 3 August, 2019, Uttar Pradesh
14. Management of Rh negative Pregnancy, Breaking Silos Across: Adolescence to Menopause, 11 August 2019, New Delhi
15. Isolated mild ventriculomegaly- workup and prognostication, SFM 1st Quarterly meet, 19 September 2019, New Delhi
16. Principles and components of first trimester screening. Diagnostic vs screening tests, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, Precongress workshop on First trimester quality control, 26 September 2019, New Delhi
17. Approach to common foetal anomalies: Panel moderator, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 28 and 29 September 2019, New Delhi
18. Optimizing antenatal treatment in fetal arrhythmias: Lessons from recent experience in a resource restricted tertiary care centre, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
19. Recurrent Vaginal Infection- an Overview, Femaestheticon 2019, 9 and 10 November 2019, Haryana
20. Interventions in Twins, SFM Quarterly meet, 10 November 2019, New Delhi

21. Invasive fetal therapy: IUT and RFA, 63rd All India Congress of Obstetrics and Gynaecology Dr CG Saraiya CME, 29 January-1 February 2020, Uttar Pradesh
22. Approach to Primary Amenorrhea, 63rd All India Congress of Obstetrics and Gynaecology Dr CG Saraiya CME, 29 January-1 February 2020, Uttar Pradesh

### **JB Sharma**

1. Role of Progesterone in Preterm Labour and Role of VIT D in Pregnancy, Workshop, 18 May 2019, Uttar Pradesh
2. Prevention of ATL and new approach in the treatment of vulvovaginal, Conference, 25 May 2019, Delhi
3. Twice the effort-strengthen bone and muscles, CME, 7 June 2019, Delhi
4. Social and Psychological Challenges of Overactive Bladder, Medical Management, 19th Annual Conference, 21 July 2019, Uttar Pradesh
5. Role of PDES in IUGR and ET, CME, 22 July 2019, Delhi
6. Adolescent health and Menstrual Hygiene, CME, 27 July 2019, Uttar Pradesh
7. Pelvic Organ Prolapse, Puducherry OBG Society, 8 August 2019, Puducherry
8. Current Diagnosis and Management of Female Genital Tuberculosis, 33rd AICC RCOG Annual Conference, 6 and 7 September 2019, Kolkata
9. Diagnosis and treatment of anemia during pregnancy, 33rd AICC RCOG Annual Conference, 6 and 7 September 2019, Kolkata
10. Management of SUI, 33rd AICC RCOG Annual Conference, 6 and 7 September 2019, Kolkata
11. Management of Overactive Bladder Syndrome, 33rd AICC RCOG Annual Conference, 6 and 7 September 2019, Kolkata
12. Newer approaches in the management of UTI, CME, 6 October 2019, Jaipur
13. Pre-term labor in advance management, Conference, 12 October 2019, Rajasthan
14. Urogynaecology Conference, 16 and 17 November 2019, Hyderabad
15. Management of Recurrent UTI and Vulvovaginal Candidiasis, Conference, 24 November 2019, Uttar Pradesh
16. Anatomy on Pelvic Floor, All India Congress of Obstetrics and Gynaecology (AICOG 2020), 29 January to 2 February 2020, Uttar Pradesh
17. Current Diagnosis and Management of Female Genital Tuberculosis, NIRRH Golden Conference, 22 February 2020, Mumbai

### **Neeta Singh**

1. Social Egg Freezing, AIIMS, Rishikesh, 15 April 2019, Rishikesh, Uttarakhand
2. Effect of intravenous intralipid on implantation rate in women with previous implantation failure after IVF/ICSI: A randomized controlled trial, RCOG World Congress 2019, 17-19 June 2019, London, UK
3. Autologous bone marrow derived CD34+ stem cell therapy for refractory Asherman syndrome (AS) and endometrial atrophy (EA): 5 year follow up study, 35th Annual Meeting of European Society of Human Reproductive & Embryology (ESHRE)- ESHRE-2019, 23-26 June 2019, Vienna, Austria
4. Ovulation Induction and IUI, AOGD Pre Congress Workshop, 26 September 2019, New Delhi
5. Emerging Challenges in Current Infertility Practices, CME on “Emerging Challenges in Current Infertility Practices”, Department of In-Vitro Fertilization, Max Hospital, Gurgaon, 23 October 2019, Haryana
6. Reproductive Surgery Workshop, 31st Annual Conference UP Chapter of Obstetrics & Gynaecology UPCOG-2019, 15 and 16 November 2019, Varanasi
7. Role of Immunotherapy in IVF, 15th Annual Congress of Indian Fertility Society-2019, 6 and 7 December 2019, New Delhi
8. Tailoring ovulation Induction – Which patient which protocol, Indian Society for Assisted Reproduction-ISAR 2020, 6 - 8 Mar 2020, Hyderabad, Telangana

### **K Aparna Sharma**

1. Road Map for providing quality care: Obstetric Sensitization workshop, Project ABHILASHA, 3 April 2019, Haryana
2. Counselling for aneuploidy screening, FOGSI FORCE RAJDHANI-PG Academic Programme, 7 April 2019, New Delhi

3. CS techniques, FOGSI FORCE RAJDHANI, PG Academic Programme, 7 April 2019, New Delhi
4. Methodologies to Quality Improvement, Understanding POCQ, Residents Training Program in QI, 13 April 2019, New Delhi
5. Changes required in to keep 'Prasav' normal Care provided to mother-Counseling & monitoring during 'Prasav', Bihar Continuous Quality Improvement (CQI) Collaborative, 26 April 2019, Patna
6. Fetal Anemia, Third Quarterly meet of SFM, 28 April 2019, AIIMS, New Delhi
7. Panel on IUGR, Third Quarterly meet of SFM, 28 April 2019, AIIMS, New Delhi
8. Aminocentesis, VII AIIMS Fetal Medicine Workshop, 29 April-2 May 2020, AIIMS, New Delhi
9. Role of Triple and Quadruple marker, Update on Prenatal Screening, 4 May 2019, MAMC, New Delhi
10. Rh Negative Pregnancy, Perinatology Update, 5 May 2019, Ludhiana
11. Panel on Malformations, Perinatology Update, 5 May 2019, Ludhiana
12. Panel on Malformations, Essentials of Maternal and Fetal Medicine: Clinical Approach, 12 May 2019, AIIMS, Jodhpur
13. Aneuploidy Screening, Essentials of Maternal and Fetal Medicine: Clinical Approach, 12 May 2019, AIIMS, Jodhpur
14. Current Status of Fetal Therapy, National Congress on Technology, Advances and Infections in Obstetrics and Gynaecology, 23 June 2019, Hyderabad
15. Saving a hydropic fetus, Optimising Obstetric Outcome, 7 July 2019, Bengaluru
16. Panelist, Panel on Complications of CS, 21 July 2019, Annual Conference of NOIDA Obs Gyn Society
17. Screening for Preeclampsia, CME on Hypertensive disorders of pregnancy, 24 July 2019, Agra
18. Cordocentesis, Diagnostic and Basic Interventional Procedures in Fetal Medicine, 26-28 July 2019, Hyderabad
19. Video/Live Demonstration of Basic Diagnostic Procedures, Diagnostic and Basic Interventional Procedures in Fetal Medicine, 26-28 July 2019, Hyderabad
20. Preconceptional Care, FOGSI SAFOG Saving Mothers, 1 August 2019, Gorakhpur
21. Fetal Intervention in twins, FOGSI SAFOG Saving Mothers, 2 August 2019, Gorakhpur
22. Postdated Pregnancy, FOGSI SAFOG Saving Mothers, 2 August 2019, Gorakhpur
23. Vasoocclusive techniques in Monochorionic twins, Breaking Silos across adolescence to menopause, 10 and 11 August 2019, New Delhi
24. PPH Drill, Breaking Silos across adolescence to menopause, 10 and 11 August 2019, New Delhi
25. Fetal Tachyarrhythmia's, Fetal cardiocon, 25 August 2019, New Delhi
26. Preeclampsia Screening PG update, 25 August 2019, New Delhi
27. Pregnant women at facility and community level. Technical Deliberation for Preconception Care, 5 September 2019, New Delhi
28. Quality Improvement: Need of the hour Quality Improvement Workshop for Nurses, 9 September 2019, New Delhi
29. Panel Discussion: FGR SIMS Black Travelling Fellowship: Small Baby, 9 September 2019, New Delhi
30. Echogenic Lung Lesions First Quarterly Meeting of Society of Fetal Medicine, 19 September 2019, New Delhi
31. Vision and framework for ideal QoC program for India: Assuring standards, making process/outcome changes Quality Improvement Workshop cum Consultation for Paediatricians, 27 September 2019, New Delhi
32. Managing Rh Negative Pregnancy 41st Annual Conference of AOGD, 28 September 2019, New Delhi
33. Consortium on Safe Abortion: Panel Discussion 41st Annual Conference of AOGD, 28 September 2019, New Delhi
34. Non Immune Hydrops: The Wider Perspective World Congress of the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG), 15 October 2019, Berlin
35. Genetic syndromes – Prenatal and postnatal aspects, 1st International Nursing CME & Module Development in Child Care on 1 and 2 November 2019, New Delhi
36. PG academic program Management of Rh Negative Pregnancy, PG heights Tops, 10 November 2019, New Delhi
37. Urinary collecting system disorders Hydronephrosis & Uretero hydronephrosis, Second Quarterly meeting, 2019-2020 SFM Delhi Chapter Under the aegis of AOGD, 10 November 2019, New Delhi
38. Updates on Management of Hypertensive Disorders of Pregnancy. Faridabad Obstetric & Gynaecological Society (FOGS), 15 November 2019, Faridabad
39. Controversies-ISO immunized Pregnancy-Optimizing Fetal Outcome 31st Annual Conference UP Chapter of Obstetrics & Gynaecology, UPGOG 2019, 17 November 2019, Varanasi

40. Simulation Based Teaching, Fourth Annual meeting of Pediatric Research and Education Society of India (PRESIDE), 22 November 2019, New Delhi
41. Postpartum Hemorrhage: Management Update, NARCHI Preconference Workshop on Postpartum Hemorrhage: Management Update, 24 November 2019, New Delhi
42. Panel Discussion Still Birth and Perinatal Death, 26th Annual Conference, NARCHI, 24 November 2019, New Delhi
43. PET-made simple, Delhi Gynaecologist Forum, 5 December 2019, New Delhi
44. Thrombocytopenia in Pregnancy: An update, 31st Annual Conference of Patiala Ob/Gynae Society, 8 December 2019, Patiala
45. Standard Treatment Protocols Sustain-Accelerate-Mainstream Access to Reproductive-health Through-WHO-India National Inception Workshop, 10 December 2019, New Delhi
46. Patient Safety: Everyone's Concern, NURSICON 2019, 11 December 2019, New Delhi
47. LaQshya National Mentoring – Key Findings Challenges and Road Ahead: AIIMS WHO-CC Experience Partners Forum On Quality Improvement – Towards Achieving LaQshya, 16 and 17 December 2019, New Delhi
48. Uptake of Dakshata by Medical College: Panel Discussion, Partners Forum on Quality Improvement – Towards Achieving LaQshya, 16 and 17 December 2019, New Delhi
49. Panel Discussion: Pregnancy with Foetal cardiac anomaly, 5th MAMC-MFM CME: Pregnancy with heart disease, 21 December 2019, New Delhi
50. Foetal Medicine, CME, 21 January 2020, Rewari, Haryana
51. Monochorionic twins- Are they at risk? AICOG 2020 Precongress Workshop, Managing Fetus at Risk, 29 January 2020, Lucknow
52. Towards Safe Motherhood: Panel Discussion on Ending Preventable Mortality, WHO panel in AICOG, 1 February 2019, Lucknow

#### **Garima Kachhawa**

1. Gynecological Perspective of Persistent Pelvic Pain (Panel), CME on Chronic Pelvic Pain, Royal College of Medicine, UK & the Israeli Society of Musculoskeletal Medicine under the aegis of multidisciplinary committee of AOGD & DFSG, 11 May 2019, New Delhi
2. Hyperandrogenism and Hirsutism, Newer Concepts in Management of Polycystic Ovarian Syndrome, 28 July 2019, AIIMS, Jodhpur
3. Live Operative Workshop, Delhi Gynecological Endoscopic Society, 31 August 2019, New Delhi
4. Precongress AOGD video workshop—Urogynaecology, 41st Annual Conference of AOGD, 27 and 28 September 2019, AIIMS, New Delhi
5. Hyper Andro genemia, Femaestheticon 2019, 10 November 2019, Haryana
6. Role of Cabergoline in Endometriosis, CME on Endometriosis 2019, 21 December 2019, Jaipur, Rajasthan
7. Management of PCOS, DGF NW, 26 November 2019, New Delhi
8. Society for Promotion of Education in Endocrinology & Diabetes (SPEED), 3rd Annual Conference-SPEEDCON 2020, 2 February 2020, Haryana
9. Predicting Obstetrical Syndrome, 1st CME of Faridabad Obstetrics & Gynaecological Society, 18 January 2020, New Delhi

#### **Reeta Mahey**

1. Ovulation induction–Panelist, Annual Conference Indian Fertility Society (Haryana), 19 May 2019, Haryana
2. Outcome measure in treatment of PCOS, FOGSI-ERIS initiative, 25 May 2019, Kerala
3. Tubal factor infertility and IVF, YUVA-ISAR 2019, 16-18 August 2019, Agra
4. PCOS and infertility (Panel moderator), AOGD Annual Conference, 29 September 2019, New Delhi
5. Complications of ART- Can Total Quality Management reduce complication? Annual Conference of Indian Fertility Society, 6-8 December 2019, Haryana

#### **Vidushi Kulshrestha**

1. Panel on Case Based Approach to Abnormal Uterine Bleeding (Moderator), 41st Annual Conference of AOGD, Organised by Department of Obstetrics and Gynaecology AIIMS, Delhi, 28 September 2019, New Delhi
2. Management of Liver Disorders in Pregnancy, CME on Tackling Obstetric Dilemma, AOGD under aegis of FOGSI Medical Disorders in Pregnancy Committee, 16 November 2019, New Delhi

3. Postpartum Management of Medical Disorders (Panelist), 26th Annual NARCHI Delhi Conference, RML Hospital, 23 November 2019, New Delhi
4. Analysing the problem and measuring the quality of care, Quality Improvement Workshop LaQshya- Labour room & Maternity OT Quality Improvement Initiative, 24 December 2019, Jodhpur
5. Evaluation & supportive therapy of critically ill women (Panelist), 63rd ACOG- 2020, Lucknow Obs & Gyn Society, 1 February 2020, Lucknow
6. Minilap: Difficulties and solutions. Video Session “Surakshit Naritva” National FOGSI Conference, AOGD & Sir Ganga Ram Hospital, New Delhi, 29 February 2020, New Delhi

#### **Seema Singhal**

1. HIPEC in OVARIAN CANCER-Ready for the first line, Max Debates (conducted as part of Max Cancer Congress), 18 August 2019, Delhi
2. Risk stratification in cancer endometrium—is there a consensus? DGOG meeting, 15 September 2019, Delhi
3. HIPEC in Ovarian Cancer: Standard of Care or experimental approach, AOGD 2019, 29 September 2019, Delhi
4. Cervical cancer screening in India, 6th Biennial Meeting of Asian Society of Gynecologic Oncology, 10-12 October 2019, Seoul, South Korea
5. Moderated a panel discussion on Case scenarios: Management of cervical screen-positive cases, AOGIN-INDIA, 16 December 2019, Kochi, Kerala
6. Live/Video –Thermocoagulation, ACOG 2020, 29 January 2020, Lucknow

#### **Rajesh Kumari**

1. Panel on Current Diagnosis and Management and SUI (Moderator), 41st Annual Conference of AOGD, Department of Obstetrics and Gynaecology AIIMS, Delhi, 28 September 2019, New Delhi
2. Fecal Incontinence—Experience from tertiary care center, AIUG 2019, 15-17 November 2019, Hyderabad
3. Chronic pelvic pain panel, Urogynecology workshop 63rd ACOG, 30 January 2020, Lucknow
4. Stress urinary incontinence, 1st International Conference South Asian Federation of Urogynecology SAFUG, Nepal, Birat Medical College, 21 and 22 February 2020, Birat Nagar, Nepal
5. Obstetrics Fistula, 1st International Conference South Asian Federation of Urogynecology SAFUG, Nepal, Birat Medical College, 21 and 22 February 2020, Birat Nagar, Nepal

#### **Jyoti Meena**

1. Panel discussion on Autism: Multidisciplinary management: Interventions & therapies, Sensory modalities in treatment of children with Autism, 13 April 2019, Delhi
2. Debate: Induction at 39 weeks (Against), 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 28 September 2019, Delhi
3. Panel discussion on management of gynaecological cancers in younger women, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 29 September 2019, Delhi
4. Drills and Role Play: Eclampsia and Shoulder Dystocia, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 29 September 2019, Delhi
5. HPV vaccine: Clearing all myths, 1st Annual Conference, Association of Obstetricians & Gynaecologists (HAROBGYN), 1 September 2019, Haryana
6. Minimally Invasive Surgery in Ovarian & Cervical Cancer: What is evidence? 31st Annual Conference, Patiala Obs & Gynae Society, 8 December 2019, Punjab
7. Tales of Nomadic Migration, Clinical Combined Round, 11 February 2020, Delhi

#### **Juhi Bharti**

1. Video presentation on techniques of Caesarean Section, Academic Program, PG Heights Top, 7 April 2019, New Delhi
2. Group facilitator for Making own projects, Quality Improvement workshops in medical colleges and government hospitals of Delhi to orient the clinicians towards methodology for quality improvement to implement the Laqshya Labour Room Guidelines, 28 July 2019, New Delhi
3. PPH Management, Drill & Skill, Breaking Silos Across: Adolescence to menopause (Conference), 10 August 2019, New Delhi
4. Skill & Drill\_Eclampsia Current Concepts in Ob Gyn, PG Heights, 25 August 2019, New Delhi

5. Group facilitator for elements of coaching exercises, Workshop on National Mentoring for implementation of Laqshya in medical colleges organised by WHO CCR and AIIMS, New Delhi, 30 and 31 August 2019, New Delhi
6. Skill & Drill\_Eclampsia & Shoulder Dystocia, 41st Annual AOGD Conference, 29 September 2019, New Delhi
7. Skill & Drill\_Shoulder Dystocia, Academic Programme by PG Heights Top, 10 November 2019, New Delhi
8. Group facilitator for Making own projects, Quality Improvement Workshop in AIIMS to implement Laqshya labour Room Guidelines, 14 December 2019, New Delhi

#### **Richa Vatsa**

1. Antenatal counselling for suspected congenital anomalies, 1st International Nursing CME and Module development in child care, 1 and 2 November 2019, Delhi

#### **Rinchan Zangmo**

1. Intra-partum care in high risk mothers, 1st International Nursing CME & Module Development in Child Care, Department of Pediatric Surgery, AIIMS, New Delhi, 1 November 2019, New Delhi

#### **Deepali Garg**

1. Fetal surgery & ethics, 1st International Nursing CME & Module Development in Child Care, Department of Pediatric Surgery, AIIMS, New Delhi, 1 November 2019, New Delhi

#### **Archana Kumari**

1. Telemedicine during COVID-19 pandemic, Webinar organized by NARCHI, Delhi, 2 May 2019, New Delhi

#### **Neha Varun**

1. Panelist, Indian Fertility Society, 7 December 2019, Delhi
2. Panelist, ACOG, 29 January 2020, Lucknow

#### **Anubhuti Rana**

1. Fetal Growth Restriction: Current guidelines, Third Quarterly meet of SFM, 28 April 2019, AIIMS, New Delhi
2. Antihypertensive therapy, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
3. Active Management of third stage of labour, PG Academic program: PG Heights Tops, 2 June 2019, New Delhi
4. Eclampsia: Anti-hypertensive therapy, PG Academic program: PG Heights Tops, 25 August 2019, New Delhi
5. Screening for Preeclampsia, PG academic program: PG Heights Tops, 25 August 2019, New Delhi
6. Congenital heart disease and fetal echocardiography, PG academic program: PG Heights Tops, 10 November 2019, New Delhi
7. Shoulder Dystocia, PG academic program: PG Heights Tops, 10 November 2019, New Delhi
8. WHO India Compilation of Laws, Policies and Guidelines for Safe Abortion in India, Expert Group Meeting to review undergraduate medical curriculum to strengthen comprehensive abortion care: WHO-SEARO, 23 December 2019, New Delhi
9. Stillbirth: The way forward, CME, 21 January 2020, Rewari, Haryana

#### **Oral papers/posters presented**

1. Behera A, Rewari V, Ramachandran R, Trikha A, Kumar S. Long Term Clinical Outcome and Late Toxicity of Intensity Modulated Vs Conventional Pelvic Radiation Therapy for Locally Advanced Cervix Carcinoma, 44th Annual Regional Anesthesiology and Acute Pain Medicine Meeting, 11-13 April 2019, Las Vegas, Nevada
2. Bharathi VK, Kumari R. Diagnosis of occult SUI- A comparative Study, 41st Annual Conference of AOGD, 28 September 2019, New Delhi
3. Bharti J, Roy KK, Nair V, Das A. Case report on Laparoscopic Assisted Cervicovaginoplasty, 41st Annual Conference of AOGD, 29 September 2019, New Delhi
4. Bharti M, Dadhwal V, Singh N, Meena J, Kulshrestha V. Bladder an innocent victim, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
5. Chawla J, Dadhwal V, Sharma KA. Cardiac Manifestations and Management in Fetuses of mothers with Rho Antibodies, Fetal Cardiocon 2019, 25 August 2019, New Delhi

6. Dadhwal V, Deka D, Sharma KA, Rana A. Invasive prenatal diagnostic procedures: A single centre experience, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
7. Dadhwal V, Hillman S, Angchuk P, Dolma P, Williams D, Montgomery H. Increased uterine artery diameter protects from altitude associated reduction in fetal growth, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
8. Dadhwal V, Sharma KA, Chawla J, Rana A. Transplacental and direct fetal therapy for tachyarrhythmias, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
9. Dadhwal V, Sharma KA, Rana A, Chawla J. Prenatal Sonographic diagnosis of meconium Peritonitis and postnatal management: A report of two cases. 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
10. Dadhwal V, Sharma. Pregnancy after conversation management of cesarean scar ectopic, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany
11. Deka D, Dadhwal V, Sharma KA. Management of Rh iso immunization: The challenge continues, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12 -16 October 2019, Berlin, Germany
12. Jain S, Sharma JB, Kriplani A, Bhatla N, Kulshrestha V, Mahey R, et al. To evaluate the role of Gene Xpert in diagnosis of female genital tuberculosis as compared to other conventional diagnostic techniques, AICOG-2020, Lucknow Obs & Gyn Society, 2 February 2020, Lucknow
13. Joseph A, Kumar L, Kumar S, Khurana S, Bhatla N. Does comprehensive surgical staging determine the oncological outcome of malignant ovarian germ cell tumour?, 6th Biennial Meeting of Asian Society of Gynecologic Oncology (ASGO 2019), 10-12 October 2019, Incheon, Korea
14. Joseph A, Natarajan J, Vashisht S, Singhal S, Mathur S, Tanwar P, et al. Comparison of Swede scoring system with IFCPC nomenclature for interpretation of colposcopic findings in high risk HPV positive women, Annual meeting of AOGIN-INDIA, 15 December 2019, Kochi, Kerala (Best Poster Award)
15. Kandpal S, Sharma KA, Dadhwal V, Malhotra N, Gautam S. Impact of Counselling on Gender Identity Disorder: A Report of Two Cases, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
16. Kaur T, Kumari R, Pandey K, Uppal B, Sharma JB. A cross-sectional case-control study of sexual dysfunction in Incontinent women, 41st Annual Conference of AOGD, 29 September 2019, New Delhi
17. Kulshrestha V, Kachhawa G, Gupta M, Kriplani A. Genital Tuberculosis: Diagnosis Clinched by Chylous Ascites on Laparoscopy, 41st Annual Conference of AOGD, 28 September 2019, New Delhi
18. Kumari A, Sharma KA, Kumar S. Establishing birth companion practice in labour room of a tertiary care centre- a quality improvement initiative, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
19. Kumari A, Soni S, Sharma KA, Dadhwal V, Bharti J, Roy KK. Influenza virus infection in pregnancy: Course and outcome, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
20. Kumari A. Raised Neutrophil Lymphocyte Ratio and Serum beta hCG level in early second trimester of pregnancy as predictors of development and severity of Preeclampsia, AICOG 2020, 31 January 2020, Lucknow
21. Kumari R, Bharthi VK. Subjective and objective cure following surgery for occult sui, 41st Annual Conference of AOGD, 28 September 2019, New Delhi
22. Kumari R, Pandey K, Kaur T, Uppal B, Sharma JB, Bhatla N. Fecal Incontinence- Experience from tertiary care center, AIUG 2019, 15-17 November 2019, KIMS Hospital, Hyderabad
23. Mahey R, Gupta M, Malhotra N, Singh N, Vanamail P. FSH receptor polymorphism among infertile women and correlation with ovarian response among patients undergoing IVF/ICSI, Annual Conference of Indian Fertility Society, 6-8 December 2019, Haryana
24. Mahey R, Gupta M, Malhotra N, Singh N, Vanamail P. To evaluate the Association of FSH Receptor Gene Polymorphisms with Ovarian Response in Indian Women Undergoing IVF/ICSI, YUVA ISAR 2019, 16-18 August 2019, Agra
25. Malhotra N, Reeta, Keerthana, Short term effects of metformin, myo-inositol or combination on metabolic and endocrine profile of infertile women with polycystic ovarian syndrome (PCOS), 35th Annual Meeting of European Society of Human Reproduction and Embryology, 23-26 June 2019, Vienna, Austria
26. Malhotra N, Sarkar P. Pregnancy Outcome After Bed Rest Versus Early Ambulation Following Embryo Transfer During IVF/ICSI Cycles – A Randomised Controlled Study, 75th annual meeting of American Society for Reproductive Medicine (ASRM), 12-16 October 2019, Philadelphia, Pennsylvania
27. Manchanda S, Vora Z, Sharma R, Hari S, Das CJ, Kachhawa G, et al. Utility of Apparent Diffusion Coefficient

- (ADC) in Evaluation of Endometrial Masses – The Dark Horse of Pelvic MRI Women’s Imaging, IRIA 2019, 72nd Annual Conference of Indian Radiological and Imaging Association, 17-19 January 2020, PGIMER, Chandigarh
28. Mansoor S, Sharma KA, Gupta M. Primary Amenorrhea – An Experience from a Tertiary Care Hospital in India, AOGD, 29 September 2019, New Delhi
  29. Mathur S, Bhatla N. Androgen Receptor Expression in Endometrioid Endometrial Carcinoma, USCAP 2020 Annual Meeting, 29 February - 5 March 2020, Los Angeles, USA
  30. Meena J, Dadhwal V, Singh N, Kumar S, Nayyar R, Kulshrestha V, et al. Bladder an innocent victim, 63rd All India Congress of Obstetrics and Gynaecology, 31 January 2020, Lucknow
  31. Meena J, Kumar S, Roy KK, Singh N, Singhal S. Placental growth factor as a predictive and prognostic marker for development of pre-eclampsia in high risk patients, 33rd Annual Conference of RCOG, 7 September 2019, Kolkata
  32. Meena J, Kumar S, Roy KK, Singh N, Singhal S. Spontaneous heterotropic rudimentary horn pregnancy: A rare entity, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 28 September 19, Delhi
  33. Meena J, Singhal S, Kumar S, Shekhar B, Roy KK, Singh N. An Unusual Case of Heterotropic rudimentary horn pregnancy: A case report, 33rd Annual Conference of RCOG, 6 September 2019, Kolkata
  34. Meena S, Dadhwal V, Sharma KA, Malhotra N, Vanamail P. Role of cerebro-placental ratio in prediction of adverse perinatal outcome in term pregnancies, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  35. Menon A, Rana A, Dadhwal V, Sharma KA. Prenatal Sonographic diagnosis of meconium Peritonitis and postnatal management: a report of two cases, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  36. Mhaske N, Sharma KA, Dadhwal V. A stitch in time saves nine, 18th ICMR course on Medical Genetics & Genetic Counseling, 26 August-7 September 2019, Lucknow
  37. Mhaske N, Yadav S, Sharma KA, Dadhwal V. Prenatal diagnosis of megacystis- microcolon-intestinal hypoperistalsis syndrome in the first trimester: A case report, INSUG 2019 Conference, 5 May 2019, Uttar Pradesh
  38. Mishra N, Dadhwal V, Kulshreshtha V. 5 Years Experience in Management of Placenta Accreta Spectrum Disorders in AIIMS, New Delhi: A tertiary referral centre, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  39. Nilofar, Sharma KA, Dadhwal V, Roy KK. Hypothyroidism with pituitary hyperplasia and facial palsy in pregnancy: A case report. Breaking silos across: Adolescence to menopause, 10 and 11 August 2019, New Delhi
  40. Noor N, Das A, Roy KK, Bharti J, Nair VG, Rai R. Extraperitoneal laparoscopy in severe intraabdominal adhesions: A Novel approach. DGES Annual Conference 2019, 1 September 2019, New Delhi
  41. Pandey A, Malhotra N, Dadhwal V, Sharma KA. Evaluation of the Changes in Serum AMH Levels with Dienogest Therapy in Symptomatic Patients with Endometrioma, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  42. Pandey K, Kumari R, Kaur T, Uppal B, Sharma JB, Bhatla N. Depression a silent epidemic in incontinent women, 41st Annual Conference of AOGD, 29 September 2019, New Delhi
  43. Patel G, Kumar S, Singh S, Roy KK, Singhal S, Meena J. To evaluate the pre-operative serum levels of HE-4 and CA 125 in women with Endometrial cancer, 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, 28 September 2019, Delhi
  44. Priya S, Dadhwal V, Datta S, Deep R, Malhotra N, Sharma KA, et al. Psychosocial stress and its affect on lipid profile and pregnancy outcome, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  45. Rana A, Dadhwal V, Sharma KA. Fetus as our Patient: Pattern of Referral of Antenatally Diagnosed Fetal Malformations and their Outcome, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
  46. Reid F, Bhatla N, Adams T, Benites A, Blank S, Cohen R, et al. Perspectives from the Every Woman Study: Comparing experiences of women being diagnosed and treated for ovarian cancer from around the world, The 2019 Annual Scientific Meeting of the British Gynaecological Cancer Society, 11 July 2019, Cambridge, UK
  47. Reid F, Oza A, Bhatla N, Adams T, Benites A, Blank S, et al. Are there opportunities to improve the number of women able to start and tolerate surgery for ovarian cancer?, European perspectives from the World Ovarian Cancer Coalition’s Every Woman Study, 21st European Gynaecological Oncology Congress of the European Society of Gynaecological Oncology, 2-5 November 2019, Athens, Greece
  48. Sharma JB. Demonstration of transobturator tape, Honorary Clinical Observership, 20 June-4 July 2019, London, UK (Dr RP Soonawala Award in Obstetrics)

49. Sharma JB. Role of rectus fascial sling for surgical management of SUI, SAFUG International Conference, 21 and 22 February 2020, Nepal
50. Sharma KA, Dadhwal V, Chawla J, Rana A. Fetal Tachyarrhythmias: A single centre experience, Fetal Cardiocon, 25 August 2019, New Delhi
51. Sharma KA, Jain A, Noor N, Bharti J, Roy KK. Tuberculosis-The Great Masquerader: Diagnostic dilemma and management challenges in a case of tubercular meningitis in pregnancy. 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
52. Sharma KA, Malhotra N, Noor N, Bansal P. Caesarean scar ectopic pregnancy: A case series, AOGD, 29 September 2019, New Delhi
53. Sharma KA, Swami S, Dadhwal V, Vanamail P. A prospective study of aortic isthmus Doppler Changes in appropriately grown and small for gestational age fetuses and establishing the threshold of aortic isthmus values for prediction of adverse perinatal outcome: a prospective cohort study, 29th World Congress on Ultrasound in Obstetrics and Gynaecology, 12-16 October 2019, Berlin, Germany (FOGSI-Karan Gupta Memorial prize)
54. Singh N, Davis A. Effect of intravenous intralipid on implantation rate in women with previous implantation failure after IVF/ICSI: A randomized controlled trial RCOG, World Congress 2019, 17-19 June 2019, London, UK
55. Singh N, Kumar S, Shekhar B. O-124 Autologous bone marrow derived stem cell therapy for refractory Asherman syndrome and Endometrial atrophy: 5 year follow up study. ESHRE annual meeting 2019, Hum Reprod July 2019, Vienna, Austria
56. Singh N, Shekhar B, Kumar S, Vanamail P. Autologous bone marrow derived CD34+ stem cell therapy for refractory Asherman syndrome (AS) and endometrial atrophy (EA): 5 year follow up study, 35th Annual Meeting of European Society of Human Reproductive & Embryology (ESHRE)- ESHRE-2019, 23-26 June 2019, Vienna, Austria
57. Singhal S, Kumar L, Kumar S, Khurana S, Bhatla N. Gestational trophoblastic neoplasia: Determinants of outcome, The 6th Biennial Meeting of Asian Society of Gynecologic Oncology, 12 October 2019, Seoul, South Korea
58. Soni S, Noor N, Bharti J, Sharma KA, Roy KK. Pregnancy in a Patient with Chronic Liver Disease and Chronic Kidney Disease: Difficulties in Management, Breaking Silos: adolescence to Menopause, 10 August 19, New Delhi (First Prize for oral presentation)
59. Sudhakaran S, Mahey R, Vashist S, Mathur S, Tanwar P, Kachhawa G, et al. Cervical cancer screening in pregnancy: An HPV testing change the paradigm? 9th National Meeting of AOGIN-India, 13-15 December 2019, Kochi
60. Tiwari A, Dadhwal V, Rana A. Successful outcome in a fetus with an extremely low heart rate in a case of complete congenital heart block: A case report, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi
61. Vanamail P. A Bayesian Logistic Regression approach in early onset of preeclampsia among nulliparous women, Indian Society for Medical Statistics (ISMS), 37th Annual Conference, 5-7 December 2019, AIIMS, Patna
62. Vatsa R, Suri V, Gainder S, Arora A. Effect of cervical mucus removal before intrauterine insemination in unexplained infertility: A randomized controlled trial, Fertilisation 2019, 6-8 December 2019, Haryana
63. Yadav A, Sharma A, Sridhar C, Malhotra N. Improving the feasibility of infertility treatment at a tertiary care centre- A quality improvement initiative, 41st Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 26-29 September 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Double-blind, Randomized, Adaptive Design, Controlled Clinical Trial to Evaluate the Efficacy and Safety of Saroglitazar 2 mg and 4 mg Tablets Versus Placebo for Treating Women with Polycystic Ovary Syndrome (PCOS), Garima Kachhawa, Cadila Health Care Ltd., 1.5 years, 2019-2021, Rs 1 lakh
2. A feasibility study to assess the usability, usefulness and adherence to Standard Treatment Guidelines in Indian Healthcare Settings with the use of Elsevier's "Arezzo ®"-a Declarative Artificial Intelligence based Clinical Decision Support System and pathway technology, K Aparna Sharma, NITI Aayog-UK-DIT, 1 year, 2019-2020, Rs 37.83 lakhs
3. A Phase-II/III, Partially Double-blind, Randomized, Active-controlled, Multicentric Study to Assess the Immunogenicity and Safety of SIIPL's qHPV Vaccine Administered Intramuscularly in Healthy Volunteers

According to a two-dose Schedule to Cohort 1 (Girls and Boys Aged 9-14 years) and a three-dose Schedule to Cohort 2 (Women and Men Aged 15-26 years) as Compared to Merck's HPV6/11/16/18 vaccine (Gardasil®), Neerja Bhatla, Serum Institute of India Pvt. Ltd., Pune, 5 years, 2018-23, Rs 17.47 lakhs

4. A prospective study to develop a preeclampsia prediction model for the Indian Population based on contingent utilisation of historical factors and biophysical and biochemical parameters, K Aparna Sharma, AIIMS, 2 years, 2018-2021, Rs 3.5 lakhs
5. A prospective, open-label, single-center, single arm, post-marketing study to evaluate the efficacy and safety of D-chiro inositol and myo-inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Garima Kachhawa, Ambrosia Life Science Pvt. Ltd., 2 years, 2019-2021, Rs 12.96 lakhs
6. A Randomized Controlled Trial of a Study Comparing Autologous Rectus Fascia Pubovaginal Sling versus Mid-Urethral Sling versus Burch Colposuspension Procedure in Women with Stress Urinary Incontinence. JB Sharma, ICMR, 3 years, 2019-2022, Rs 65 lakhs
7. A side-by-side comparison of a transvaginal colposcope to standard of care visual inspection in a 100-patient pilot study on women undergoing cervical cancer screening, Neerja Bhatla, Duke University, NC, USA, 3 years, 2017-20, Rs 10.53 lakhs
8. Age specific normograms of Anti-Mullerian Hormone (AMH) and Antral Follicle Counts in infertile and fertile Indian women, Neena Malhotra, CSR funded by RECPDCL, Government of India, 3 years, 2016-2020, Rs 50 lakhs
9. AIIMS National Mentoring Group for Implementation of Laqshya in Medical Colleges: A Quality Improvement Project, K Aparna Sharma, AIIMS-MOHFW-NHSRC Initiative, 1 year, 2019-2020, Funding for travel, stay and Honorarium of Mentors by GOI
10. Circulatory exosomal microRNA as marker of endometriosis-A Pilot Study, Juhi Bharti, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
11. Developing a low cost training model for teaching the skills of screening and treatment of pre invasive lesions of cervix to health care professionals, Seema Singhal, AIIMS, 1 year, 2019-2020, Rs 3.45 lakhs
12. Development of an informative tool for early detection of placenta iron status and risk of malaria: a cost-effective approach to reduce adverse pregnancy outcomes, K Aparna Sharma, DHR, 36 months, 2017-2020, Rs 101.66 lakhs
13. Effect of Yoga on maternal and perinatal outcome on Pregnancy, JB Sharma, DST, 3 years, 2020-2023, Rs 35 lakhs
14. Effectiveness and safety of 2 vs 3 doses of HPV vaccine in preventing cervical cancer: An Indian Multi-centre randomized trial, Neerja Bhatla, WHO-IARC, 11 years, 2009-20, Rs 193.36 lakhs
15. Effects of Non-Ionizing Electro Magnetic Field (EMF) on Human Health, JB Sharma, ICMR, 5 years, 2019-2024, Rs 47 lakhs
16. Enhanced, tailored antenatal care to reduce anaemia in pregnancy – The Comprehensive Anaemia Programme and Personalized Therapies (CAPPT) project, Vatsla Dadhwal, DBT, 3 years, 2018-2021, Rs 116.98 lakhs
17. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variation in response to different therapeutic modalities among Indian women with PCOS: A multicenter study across India, Neena Malhotra, ICMR, 4 years, 2018-2021, Rs 37.58 lakhs
18. Implementation of WHO ANC Model using web based application in primary, secondary and tertiary health care levels by trained health care providers, semi-skilled healthcare providers and community health workers, K Aparna Sharma, DST, 2 years, 2019-2021, Rs 19.75 lakhs
19. Rapid point of Care Detection of HPV-Associated Malignancies, Neerja Bhatla, NCI, USA through Arizona State University, USA, 3 years, 2017-20, Rs 90.19 lakhs
20. Role of Endocrine Disrupting Chemicals (EDC'S) in Maternal and Child Health, Garima Kachhawa, ICMR, 3 years, 2018-2021, Rs 35.72 lakhs
21. To evaluate combination of biochemical endothelial markers and arterial stiffness in prediction of preeclampsia, Garima Kachhawa, ICMR (DHR), 3 years, 2018-2021, Rs 73.93 lakhs
22. To evaluate the role of Autologous Bone Marrow derived Stem Cells transplantation for premature ovarian ageing, Neeta Singh, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
23. To investigate the role of natural Killer cells in implantation failure and to study immunomodulatory effect of Intralipids in women with elevated uterine natural Killer (uNK) cells in fresh non donor IVF cycles- A randomized Controlled trial, Neeta Singh, ICMR, 3 years, 2019-2022, Rs 40 lakhs
24. To study the efficacy and safety of Diosmin (900 mg) given along with Traneximic acid (500 mg) and Mefenamic acid (250 mg) in reducing menstrual blood loss in patients of Abnormal Uterine bleeding, JB Sharma, Wallter Bushnel, 4 years, 2016-2020, Rs 17 lakhs
25. To study the prevalence of FSH receptor gene polymorphisms in infertile and fertile Indian women and evaluate

response to ovarian stimulation in the infertile subset undergoing IVF/ICSI, Reeta Mahey, SERB, 3 years, 2018-2021, Rs 35 lakhs

26. Validation of Preeclampsia Congo Red Detection kit (Point-of-Care test) : Multicentric trial, K Aparna Sharma, Perkin-Elmers, 2 years, 2019-2021, Funding for Kits

### **Completed**

1. Comparison between two Regimens of Intermittent Ulipristal Acetate treatment in management of uterine fibroids, Garima Kachhawa, Jagsonpal Pvt. Ltd, 3 years, 2016-2019, Rs 4.45 lakhs
2. Development and pilot testing of smart phone based app for non-invasive detection of anaemia in pregnant women, Vatsla Dadhwal, AIIMS-UCL, 1 year, 2019, Rs 5 lakhs
3. Evaluation of Gene Xpert as compared to conventional methods in diagnosis of genital TB among infertile women, JB Sharma, Ministry of Health and Family Welfare (MOHFW), 3 years, 2016-2020, Rs 28 lakhs
4. The expression of Human Epididymis protein 4 (HE4) in ovarian carcinoma and correlation with prognosis, Neerja Bhatla, ICMR, 2 years, 2017-2019, Rs 3.19 lakhs

### **Departmental projects**

#### **Ongoing**

1. A comparative pilot study of TOT vs rectus fascia pubovaginal sling surgery in patients with urodynamically proven SUI
2. A comparison of efficacy of transrectal ultrasonography (TRUS) with magnetic resonance imaging (MRI) in assessing tumor characteristics and metastatic disease in women with cervical malignancy
3. A Cross-Sectional Case- Control Study of Depression in Incontinent Women
4. A prospective randomized control trial to compare the efficacy of darifenacin versus
5. A Prospective randomized controlled trial to study the effect of prenatal yoga on maternal weight gain and psychological stress in pregnancy and its association with pregnancy outcomes: A Pilot study
6. A prospective study of Fetal Cardiac profiling in Appropriately Grown small for Gestational age and Growth restricted fetuses and its association with perinatal outcome
7. A Prospective Study to Evaluate the Effect of Laparoscopic Salpingectomy on Ovarian Reserve in Patients with Hydrosalpinges
8. Agonist (LEUPROLIDE) prior to in-vitro-fertilization (IVF) cycle in women with endometriosis associated infertility – A Randomized Controlled study
9. Assessment of pain score after administration of 1% injection lignocaine versus emla cream in patients undergoing prenatal invasive testing
10. Assisted Reproductive Technique outcomes after growth hormone supplementation in poor responders undergoing IVF – A Randomized Controlled Trial
11. Association of placental volume and vascularisation indices in pregnancy following in vitro fertilisation & adverse pregnancy outcome
12. Comparison of a dual trigger versus a single trigger in antagonist cycles in non donor in vitro fertilization: A Randomised Controlled Trial
13. Comparison of Cervical Shear Wave Elastography, Bishop Score, and Transvaginal Cervical Length Measurement for Prediction of Successful Labor Induction: A Pilot Study
14. Comparison of Direct Trocar and Verres Needle in Establishing Pneumoperitoneum During Laparoscopy: A Clinical Trial
15. Comparison of Insulin Resistance as Marker of Psychological Morbidity (perceived stress, depression and anxiety) and Quality of Life (QoL) Between PCOS and non-PCOS Infertile women- A case control study
16. Comparison of Myoinositol plus Metformin versus Myoinositol alone in PCOS women undergoing ovulation induction and IUI cycles- A Randomized Controlled Trial
17. Comparison of portable advanced intrapartum monitoring system and standard cardiotocography for assessment of fetal heart rate and uterine contractions and correlation with neonatal outcome
18. Comparison of Quality of Antenatal Care delivered using a Web Based mobile Application as compared to the standard care protocol: A Pilot Study
19. Correlation of first trimester metabolic parameters and maternal body fat indices with development of gestational diabetes mellitus in Asian Indian women- A comparative study

20. Evaluation of efficacy and feasibility of implementation of Enhanced Recovery After Surgery (ERAS) protocol in women undergoing gynaecological surgery
21. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction
22. Evaluation of leucocyte and platelet indices in preeclampsia compared to normotensive asian indian pregnant women
23. Evaluation of ovarian reserve after ovarian cystectomy for endometriosis between 2 different surgical techniques
24. Evaluation of Placental Elastography and Placental Vascularisation Index in Fetal Growth Restricted Pregnancy: A Case Control Study
25. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using CT based reporting system "PAUSE"
26. Evaluation of who and intergrowth-21 fetal growth charts in indian population
27. Feasibility and efficacy of an artificial intelligence based device for screening and management of preinvasive lesions of cervix
28. Feasibility and efficacy of modern minilaparoscopy with 2.9 mm laparoscope for diagnostic and level II gynaecological procedures
29. Feasibility and outcome of minilaparotomy assisted laparoscopic myomectomy for large myomas
30. Feasibility and Outcome of Minilaparotomy Assisted Laparoscopic Myomectomy for Large Myomas
31. Female sexual dysfunction in women with urinary incontinence
32. Prevalence of mental health problems (Anxiety, Depression and Stress Reaction) in mothers of preterm infants admitted to NICU: A Cross Sectional Study
33. Prospective study to develop the current nomogram of semen analysis parameters in fertile Indian males
34. Pulmonary vein pulsatility index cardiac remodelling (global sphericity index) and function (myocardial performance index) in growth restricted and normally grown fetuses
35. Randomised control trial comparing pregnancy outcome using Letrozole versus GnRH agonist HRT for endometrial preparation during frozen embryo transfer cycles
36. Relationship between middle cerebral artery peak systolic velocity and perinatal outcome in intrauterine growth restricted fetuses
37. Relationship of MCA PSV & perinatal outcome in FGR fetuses
38. Role of endometriosis fertility index for prediction of pregnancy outcome with assisted reproductive technology in patients with endometriosis: A Prospective Study
39. Role of Epigenetics in FGTB
40. Role of Gene Xpert in diagnosis of female genital tuberculosis
41. Role of Myo-inositol in the Treatment of Gestational Diabetes Mellitus Compared to Medical Nutrition Therapy alone in Asian Indian Women: A Pilot
42. Study of fetal cardiac remodeling and its postnatal persistence in pregnancies after assisted reproductive technologies
43. The Role of Paracervical Block in Reducing Immediate Post Operative Pain after Laparoscopic Hysterectomy: A Prospective Randomised Placebo Controlled Trial
44. To compare letrozole plus gonadotrophins versus gonadotrophins alone for controlled ovarian stimulation among PCOS women undergoing IVF-ICSI cycles- A Randomized Trial
45. To compare the efficacy of Solifenacin and Tolterodine in women with overactive bladder
46. To evaluate exhaled air carbon monoxide level in pregnancy and correlate with maternal and fetal outcome: A Pilot Study
47. To evaluate role of TB loop mediated isothermal amplification assay as compared to other conventional techniques in diagnosing female genital tuberculosis
48. To evaluate the combination of biochemical and biophysical markers in prediction of Preeclampsia
49. To evaluate the role of Serum D-dimer, Neutrophil/Lymphocyte Ratio, Platelet/Lymphocyte ratio and CA125 in assessment of Ovarian masses
50. To look for incidence of Urogynaecological problems in postpartum patients and its relation to mode of delivery
51. Use of normal saline Vs room temperature normal saline as distension medium for pain relief during office hysteroscopy-A Randomised Controlled Trial

### **Completed**

1. A crossover randomized study of portable transvaginal colposcope and hand-held colposcope for evaluation of cervical intraepithelial neoplasia
2. A prospective study of Fetal Cardiac profiling in appropriately grown small for Gestational age and growth restricted fetuses and its association with perinatal outcome.
3. A validation of endometriosis fertility index (efi) for non-art pregnancy in women with endometriosis associated infertility: A prospective study
4. Comparison of various modalities to diagnose occult stress urinary incontinence in pelvic organ prolapse
5. Co-relation of fetal soft tissue thickness measured Sonographically with neonatal body composition
6. Effects of myoinositol in comparison to metformin on art outcome in women with Pcos undergoing in-vitro fertilization (IVF) cycles- A “non-inferiority” trial
7. Placental growth factor, uterine artery doppler and 3D power Doppler of placenta for prediction of pre-eclampsia in high risk pregnancies
8. Prediction of adverse perinatal outcome by Cerebroplacental ratio in term Pregnancy
9. Psychosocial stress and lipid profile as predictors of adverse pregnancy outcomes
10. To evaluate the changes in serum AMH levels in endometrioma patients receiving dienogest therapy in comparison to endometriotic cystectomy
11. To study the role of Myo-Inositol-D-Chiro-Inositol Combination Versus Combined Oral Contraceptives on Clinico-hormonal and Metabolic Parameters in Young Asian-Indian Girls with Polycystic Ovary Syndrome

### **Collaborative projects**

#### **Ongoing**

1. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus. India, Bangladesh, Sri Lanka, Endocrinology & Metabolism
2. A quasi experimental study to assess the effectiveness of low fidelity simulation on knowledge regarding selected midwifery skills among undergraduate nursing students, College of Nursing
3. A randomized, open label, assessor-blind, parallel group, multi-centre Phase III study to compare the efficacy and safety of r-hMG and HP-hMG in subjects undergoing controlled ovarian stimulation for ART, Bharat Serum Pharmaceuticals
4. Assessment of BRCA and Non-BRCA mutations with multi gene panel testing in patients of ovarian cancer: A cross-sectional observational study
5. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance, Surgical Oncology
6. Bio-markers for prediction of successful pregnancy in women undergoing IVF: Using the proteomics approach in a North Indian population: hospital-based prospective cohort study, Clinical Epidemiology Unit
7. Detection of HPV circulating tumour DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Preventive Oncology
8. Development and Validation of a questionnaire to assess violence against doctors, Medicine
9. Development, Validation and Dissemination of Communication Skills Training Modules (CSTM) for MBBS students and Resident Doctors in India, Medicine
10. Efficacy and safety of ultrasound guided superior hypogastric plexus block in chronic pelvic pain: A Randomized Controlled Study, Anaesthesiology and Pain medicine
11. Endometrial Neurotrophic Factors and Nerve Fibres in Endometriosis Associated Pain, ICMR
12. Evaluation of Gene Xpert as Compared to Conventional Methods in Diagnosis of Genital TB Among Infertile Women, Ministry of Health and Family Welfare
13. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, Anatomy
14. Genetic determinants of premature and primary ovarian failure, Reproductive Biology
15. Magnetic nanoparticles and quantum dots coupled visual confirmation of cervical cancer cells from cytology sample: A cost effect, quick and suitable test for rural Indian setup, Anatomy
16. Molecular characterization of endometrial cancer and correlation with clinicopathological features, Pathology
17. R2TP complex as a target of human papilloma virus oncoproteins E6 and E7, DST

18. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like pre-eclampsia, Anatomy
19. STAT3 regulation via miRNAs in ovarian cancer stem cells: A therapeutic approach, Reproductive Biology
20. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Anatomy
21. Study of Citrate Synthase Expression in Human Sperm and Oocyte Activation in Mice, Reproductive Biology
22. To develop a strategy for postpartum follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Endocrinology & Metabolism
23. To establish mother-offspring-spouse cohort of women with history of gestational diabetes mellitus to study the vertical and horizontal influence on cardiovascular risk factors, Endocrinology & Metabolism
24. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women (within 2 years of last childbirth) when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial, Endocrinology & Metabolism
25. To evaluate the effectiveness of lifestyle intervention programme in women with history of gestational diabetes mellitus when delivered to them along with their spouse as compared to them alone: Two arm parallel randomized control trial, Endocrinology & Metabolism

### **Completed**

1. Comparing the vascularization potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem Cell Facility
2. Effectiveness of Intravenous Ferric Carboxy Maltose (FCM) in improving haemoglobin level among postpartum women with moderate to severe anaemia at a Sub District Hospital, Faridabad, Haryana – An interventional study, Community medicine
3. Effectiveness of intravenous iron sucrose in the treatment of moderate anemia among pregnant women attending sub-district hospital in Haryana, North India, Community medicine
4. Etiological evaluation of nonimmune hydrops fetalis (NIHF), Pediatrics
5. Metabolomics approach for identification of differentially regulated metabolites and pathway in Preeclampsia/ Gestational Hypertension and Gestational diabetes patients during pregnancy, ICGB
6. Psychosocial Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Psychiatry

### **PUBLICATIONS**

**Journals: 57**

**Abstracts: 9**

**Chapters in Books: 13**

### **PATIENT CARE**

#### **Facilities**

Colposcopy	–	806	Cryotherapy	–	23
Thermal Ablation	–	26	LEEP	–	29

#### **Community services/camps**

1. Nationwide 48 Cervical Cancer Screening and Treatment Camps conducted in 12 cities in collaboration with AOGIN-India and Kalyanmayee (CSR wing of Airports Authority of India) in 2019-20
2. Public lecture on Cervical Cancer – Role Rotary can play in its prevention at Annual Programme of The Cancer Foundation, Samvednai, 10 May 2019
3. First Prize awarded to Department of Obstetrics & Gynaecology for Poster Presentation on **Cervical Cancer: Prevention by Vaccination and Screening** on 64th Foundation Day Exhibition, AIIMS, New Delhi, 25 September 2019
4. Public Lecture on **Elimination of Cervical Cancer – What Rotary Can Do** at Annual Rotary Convention, Noida, 11 January 2020
5. National Coordinator, FOGSI Breast and Cervical Screening Camps for paramilitary forces by 225 member societies countrywide on International Women's Day, 8 March 2020

**Neena Malhotra**

Expert for Live show (Phone-in) at Good Evening India the most popular programme of Delhi Doordarshan by DD News topic is based on “IVF Treatment” on 21 May 2019 at 4 to 5 pm, New Delhi

**Vatsla Dadhwal**

Invited for the live programme “HELPLINE” Topic-Cervical Cancer on Tuesday i.e. 14 January 2020 from 03:00 to 04:00 pm on AIR FM Rainbow 102.6 MHZ

**Garima Kachhawa**

Successfully running the special Gynae Endo Clinic in the department of Obstetrics and Gynecology where patients are treated in a multidisciplinary manner

As a dedicated faculty with expertise in Minimally Invasive Surgery in Gynaecology, doing laparoscopic and hysteroscopic surgery for gynae patients especially coming for fertility treatment

**Aparna Sharma****Quality Improvement Projects**

1. Implementation of infection prevention bundle to reduce the surgical site infections in caesarean sections
2. Ensure post-test counselling for all patients undergoing prenatal diagnostic invasive procedures in Fetal Medicine OT
3. Ensure timely IUI within 30 minutes of reaching Gynecology OPD after sample retrieval for all patients planned for IUI
4. Reducing the waiting time to initiation of infertility treatment in the Gynaecology OPD
5. Establishing birth companion practice in labour room of a tertiary care centre- A quality improvement initiative

**Community Service**

1. Live Panel discussion on Lok Sabha Television on Safe Motherhood Day, 12 April 2019
2. Panel Discussion on Health Today on Birth Defects on 21 April 2019
3. Testified in high court regarding need and safety MTP at 24 weeks for a fetus with congenital malformation not compatible with life
4. Made Departmental Poster made on Universal Health care theme during Institute Day Celebrations, 24 September 2019
5. Organised the “Safe Abortion Awareness Walk” on the morning of 29 September 2019 as a part of the annual conference of the Association of Obstetricians and Gynecologists of Delhi
6. Participated in Health Camp in Naudera, Pratapgarh, organized by Samudayik Vikas Samiti, on 9 December 2019
7. Part of a live Panel Discussion on Pradhan Mantri Surakshit Matratav Abhiyan on 6 March, 2020 (Friday) from 5.00 pm to 6.00 pm through Lok Sabha Television under Healthy India Programme

**Juhi Bharati**

Participated as national mentor in AIIMS-GOI led mentoring program for implementation of Laqshya labour room guidelines in medical colleges. In this regard, visited SCB Medical College, Cuttack and organized Point of Care Quality Improvement workshop on 15 November 2019 and conducted onsite mentoring visit on 16 November 2019

**Anubhuti Rana****Quality Improvement Projects**

1. Ensure post-test counselling for all patients undergoing prenatal diagnostic invasive procedures in Fetal Medicine OT
2. Ensure timely IUI within 30 minutes of reaching Gynecology OPD after sample retrieval for all patients planned for IUI

**Community Service**

1. Organised the “Safe Abortion Awareness Walk” on the morning of 29 September 2019 as a part of the annual conference of the Association of Obstetricians and Gynecologists of Delhi.

## Details of patient care services during 2019-2020

### Distribution of Patients' attendance by type of clinics

Clinics	Number of days/ week	New patients	Old patients
High risk pregnancy clinic	3	1981	10051
Gynae Endocrine clinic	3	26	144
Gynaecological cancer clinic	2	737	3741
IVF clinic	1	1073	3427
ANC	3	749	3207
URO Gynae clinic	1	170	639
Family Welfare clinic	6	4267	4053

### Maternal Health performance

Type of services	No. of pregnant women benefited
TT 1st dose	1232
TT 2nd dose	1048
No. of pregnant women given IFA tablets	2256
No. of pregnant women detected with Hypertension (BP > 140/90) and managed	300
No. of Eclampsia cases managed	44
No. of pregnant women tested for HB	2461
No. of pregnant women treated with HB<11	604
No. of pregnant women treated with HB<7	20
No. of pregnant women tested for OGTT	2461
No. of pregnant women treated for GDM	505
No. of pregnant women given insulin out of GDM positives	109
No. of pregnant women tested using POC test for syphilis	2461

### List of Minor and Major surgeries performed during 2019-2020.

#### Foetal medicine

Surgery Details	Total
Amniocentesis	252
Amnio-Infusion	1
Amnioreduction	7
Cephalocentesis	1
Chorionic Villus Sampling	312
Cordocentesis	29
Cyst Aspiration	10
Digoxin Instillation	1
Fetoscopy + Laser Ablation	1
Intra Amniotic Infusion	1

Intra Cardiac Kcl	1
Intramymotrial Methotrexate	1
Intrauterine Transfusion	183
Kcl Instillation	2
Ovarian Cyst Aspiration	4
Pleural Fluid Aspiration	2
Radio Frequency Ablation	22
Selective Fetal Reduction	16
Vesicocentesis	4
<b>Total</b>	<b>850</b>

#### Minimally invasive (minor surgeries)

Surgery Details	Major	Minor	Total
B/L Laparoscopic Salpingoophorectomy	1		1
Cystoscopy		37	37
Davydov's Vaginoplasty	1		1
Diagnostic Hysteroscopy		946	946
Hysteroscopic Adhesiolysis	22		22
Hysteroscopic Iucd Removal	16		16
Hysteroscopic Myomectomy	25		25
Hysteroscopic Polypectomy	89		89
Hysteroscopic Septal Ressection	40		40
Hysteroscopy + Ea +Ecc		69	69
Hysteroscopy + Ea/Ecc/Mock Et		50	50
Hysteroscopy + Mirena Insertion		7	7
Hysteroscopy +Mock Et		14	14
Hysteroscopy+Mock Et+Ea		21	21
Laparoscopic Cystectomy	126		126
Laparoscopic Rudimentary Horn Excision	7		7
Laparoscopic (R) Hemihysterectomy	1		1
Laparoscopic Abdominal Cerclage	2		2
Laparoscopic Adenomyomectomy	5		5
Laparoscopic Cystectomy	30		30

Laparoscopic Davido Vaginoplasty	3		3
Laparoscopic Davydovs		1	1
Laparoscopic Extrafascial Hysterectomy+Bso+B/L Pelvic Lymphadenectomy	7		7
Laparoscopic Gonadectomy	4		4
Laparoscopic Ligation		20	20
Laparoscopic Myomectomy	50		50
Laparoscopic Ovariopexy	1		1
Laparoscopic Ovariectomy	23		23
Laparoscopic Radical Hysterectomy (Type-C)+Bso+B/L Pelvic Lymphadenectomy	2		2
Laparoscopic Rudimentary Horn Excision	6		6
Laparoscopic Salpingectomy/ Clipping	107		107
Laparoscopic Scar Site Excision	1		1
Laparoscopic Staging		1	1
Laparoscopic lymphadenectomy	1		1
Laparoscopy + Hysteroscopy + Polypectomy		1	1
Laparoscopy + Transverse Septum Excision+Vaginoplasty	2		2
Laparoscopy For Infertility (Diagnostic)	300		300
Laparoscopy For Infertility (Operative)	57		57
Laparoscopy Assisted Vaginoscopic Septal Resection	9		9
Rfa		2	2
Tlh ± Salpingectomy	102		102
Tlh ±U/L Or B/L Salpingo-Oophorectomy	52		52
U/L Laparoscopic Salpingoophorectomy	5		5
Vacc + Ligation		7	7
Laparoscopy- Diagnostic	170		170
Total	1267	1176	2443

#### Open Abdominal Surgeries

Open Abdominal Major Surgery Details	Total
Abdominal Sacrocolpopexy	8
Adenomyomectomy	6

Bilateral Ureteric Reimplantation	1
Caeseran Hysterectomy	1
Cystectomy/Ovariectomy U/L Or B/L Salpingoophorectomy	43
Debulking Surgery For Ca Ovary	93
Extrafascial Hysterectomy+ Bso+ B/L Lymphadenectomy	52
Laparotomy + Cerclage	5
Laparotomy + Tubal Recanalisation	1
Laparotomy for Ectopic	21
Laparotomy+Subtotal Hysterectomy	11
Minilap Ligation	7
Multiple Peritoneal Leiomyoma Excision + Infracolic Omentectomy	1
Laparoscopic Myomectomy	70
Radical Hysterectomy	29
Radical Trachelectomy	1
Rectus Fascia Sling Surgery	2
Scar Site Cyst Excision	1
Staging Laprotomy for Ca Ovary	72
Tah ± U/L /B/L Salpingoophrectomy	51
Tah± Salpingectomy	117
Tubal Recanalisation Surgery	6
Total Abdominal Hysterectomy	59
Total Laparoscopic Hysterectomy	53
<b>Total</b>	<b>711</b>

### Vaginal Surgeries

<b>Surgery Details</b>	<b>Major</b>	<b>Minor</b>	<b>Total</b>
Burch Colposuspension		2	2
Cerclage	5	4	9
Cervical Cerclage	5		5
Cervical Conisation	1		1
Cervicovaginoplasty	2		2
Cystocele Repair	2		2
Cystoscopy	2		2
Eua+Cervicovaginoplasty		4	4
Fothergill's Surgery	3		3
Labial Mass Excision	1		1
Labial Separation	1		1
Laparoscopic Vaginoplasty		3	3
Malecot Change	1		1
McDonalds Cerclage		22	22

Mcindoe's Vaginoplasty		10	10
Ndvh	1		1
Radical Vulvectomy + B/L Inguino-Femoral Lymphadenectomy		3	3
Radical Vulvectomy+B/L Inguino Femoral Lymph Node Dissection	3		3
Rectovaginal Fistula Repair		3	3
Rvf Repair	2		2
Sacrospinous Fixation	4		4
Tvt-O	9		9
Vaginal Hysterectomy		7	7
Vaginal Hysterectomy + Pfr	40		40
Vaginal Sacrospinous Fixation		5	5
Vaginoplasty	15	1	16
Vaginoscopy		1	1
Vesicovaginal Fistula Repair		1	1
Vulval Hematoma Drainage		3	3
Vvf Repair	1		1
With Anterior Colporrhaphy		6	6
With Anterior Colporrhaphy and Posterior Colpo-Perineorrhaphy		2	2
With Posterior Colpo-Perineorrhaphy		4	4
<b>Grand Total</b>	<b>98</b>	<b>81</b>	<b>179</b>

### Other Surgeries

Other Surgeries	Major	Minor	Total
Abdominal Scar Endometrioma Excision		6	6
Adhesiolysis		16	16
Bartholin Cyst Excision		20	20
Biopsies (Cervical/Vaginal/Vault/Vulval)		79	79
Biopsies (Vulval/Cervical/Vault)		18	18
Cerclage	6	2	8
Cervical Polypectomy		8	8
Conization		2	2
Cpt Repair	3		3
Cs Scar Ectopic Excision	1		1
Cyst Aspiration		9	9
Cystoscopy		2	2
Cystoscopy + Cocktail Therapy		2	2
Cystoscopy + Vaginoscopy		1	1
Ea + Ecc +Pap Smear		260	260
Ea+Ecc		290	290
Ea+Ecc+Polypectomy		14	14

Ea+Mock Et		1	1
Epidural Analgesia		6	6
Eua + L° + H° + Hematometra and Hematocolpos Drainage	1		1
Examination Under Anaesthesia	8		8
Exploratory Laparotomy + Ascitic Fluid Cytology + Peritoneal Biopsy	1		1
Hematoma Drainage	2		2
Hysteroscopy+Ea+Ecc+Polypectomy		4	4
Iucd Removal		10	10
Lap Fimbrioplasty		2	2
Leep		16	16
Malecot Change		3	3
Malicot Removal		1	1
Manual Removal of Placenta	1		1
Mirena Insertion		69	69
Mirena Removal		1	1
Mould Change		47	47
Myomectomy		11	11
Open Endometriotic Cystectomy	8		8
Open Uterosacral Plication	2		2
Ovarian Drilling	6		6
Ovariectomy	6		6
Pap Smear		28	28
Pelvic Lymphadenectomy	1		1
Peripartum Hysterectomy	2		2
Polypectomy		26	26
Pyometra Drainage		24	24
Rectus Fascia Sling Surgery		4	4
Resuturing		74	74
Rv Repair		1	1
Septal Resection		19	19
Therapeutic D and C		3	3
Transverse Vaginal Septum Excision	5		5
Transverse Vaginal Septum Excision	1		1
Tubal Cannulation		8	8
Tubal Clipping for Hydrosalpinx	7		7
Tuboplasty	3		3
Tvt-O / Tot		2	2
Vacc		31	31
Vacc+Cu-T		1	1
Total	64	1121	1185

## Details of various procedures carried out in Gynae OPD

### Minor:

<b>No. of MTP</b>	<b>577</b>
PNDT for pregnancies	10837
PNDT for Obstetrics	5332
Gynae Ultrasound	1658
F-form USG	286

### Delivery Details:

2. Major (LSCS)	3. 1341
4. Minor (Vaginal+Foreceps)	5. 1120
6. Total deliveries	7. 2461

## Post Partum Programme

### Achievements of different Family Planning Methods, Post Partum Programme

Methods	2018-2019	2019-2020
Cu.T	1262	1001
DMPA Injection 1st dose	118	120
DMPA Injection 2nd dose	16	33
DMPA Injection 3rd dose	8	6
DMPA Injection Fourth and more	4	6
Oral pills	446 pkts	811 pkts
CHAYYA	30	35
Conventional Contraceptives	75500 pieces	81550 pieces
Tubectomy	676	526

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Sunesh Kumar** is Peer Reviewer “European Journal of Obstetric, Gynaecology and Reproductive Medicine”; Member, Interview Board for the post of Medical Officer, Union Public Selection Commission (UPSC), New Delhi; Member, Selection Committee for selection of Faculty in Gynae at PGI, Chandigarh; Member, Selection Committee for the selection of Faculty in Gynae at PGIMER, Rohtak; Member, ICMR Group on Research in Reproductive Medicine; Member, ICMR Research Advisory Committee for Model Rural Health Research Unit (MRHRU), Rajasthan; Member, Bureau of Indian Standard, Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India; Member, DBT Sub-Group Committee for finalizing the REACH Scheme for Biotechnology based Programme for Women; Member, Technical Specification/Selection Committee at AIIMS, New Delhi; Member, Staff Council Committee at AIIMS, New Delhi; Member, Ethics Committee, AIIMS, New Delhi; Member, Subcommittee on Cancer Cervix, Indian Council of Medical Research, New Delhi; Member, ICMR Committee on Healthcare Quality and Patient Steering Advisory Committee; Member, ICMR Task Force Committee on Implementation of Quality Care in India; Member, Committee to review of Fellowship Programs at AIIMS, New Delhi; President, Association of Obstetrics and Gynaecologist of Delhi (2019-2020).

**Professor Neerja Bhatla** was awarded ISCCP Excellence Award 2019 for contributions in the field of cervical cancer prevention; IOG Dr Stya Paul Awards 2019 for Best Original Study. Has been Member, WHO Expert Group and Working Groups for Cervical Cancer Elimination; Council Member, Asian Society of Gynecologic Oncology and National Academy

of Medical Sciences, India, 2019-21. Membership of Programme Advisory Committee, Scientific Advisory Committee, Research Advisory Committee, Government Advisory: Member, Programme Advisory Committee—XXIII FIGO World Congress 2021, Australia, Scientific Track – Gynecological Oncology; World Congress, International Federation of Cervical Pathology & Colposcopy (IFCPC) India 2020. Member, Scientific Advisory Committee—Scientific Advisory Board, ICMR; Strategic Advisory Group of Experts (SAGE) Working Group on HPV vaccines, WHO; National Technical Advisory Group on Immunization (NTAGI); Chair the First Task Force meeting on optimizing the use of Cesarean section in India: ICMR Hqrs, New Delhi, 12 April 2019; Technical Advisory Group for NPCDCS (National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke) e-learning Course for medical officers to prevent and manage NCDs, 16 May 2019; Scientific Advisory Committee Meeting, KnIT program, BIRAC. Member, Government Advisory: Technical Advisory Group of India Cancer Research Consortium, ICMR; Assessor for NBE Accreditation of (i) Gynaecologic Oncology, (ii) Obstetrics & Gynaecology; Member, General Council of Srimanta Sankaradeva University of Health Sciences, Guwahati, Assam. Member, Research Advisory Committee: National Institute of Research in Reproductive Health (NIRRH), ICMR, Mumbai; Gynaecology DMG Guidelines and research group, National Cancer Grid, TMH, Mumbai. New Teaching and Service Initiatives: Gynaec Oncology Incharge, AIIMS Jhajjar. Initiated daily OPD and twice weekly OT services, including MIS services. Development of Guidelines: ICMR Guidelines on Management of Ovarian Cancer, New Delhi, 2019; WHO guidelines for Screen and Treat for cervical pre-cancer, 2020. Development of New International Collaborations: Duke University, North Carolina, USA – Development of a self-screening tool for cervical cancer screening; University College London, UK – Evaluation of genetics of ovarian cancer in India.

**Professor Neena Malhotra** was awarded the Overseas Travel RCOG's Award by Royal College of Obstetricians and Gynaecologists, London for the academic year 2019-2020 held on 20 June 2019, assisted conception unit at Birmingham women's hospital Birmingham, UK.

**Professor Vatsla Dadhwal** was Member SEC (Reproductive & Urology); Hon. Secretary Association of Obstetricians & Gynecologists of Delhi; Member for AEFI committee; Assistant Editor Journal of Fetal Medicine (issue on Infections); Examiner; Invited as Faculty to participate in the current series of post exam review of question paper workshop on 7 January 2020 at National Board of Examinations Dwarka office, PSP Area, Sector-9, opp. District Court Dwarka, New Delhi; Fellowship in Maternal Fetal Medicine-AIIMS; Co-Guide; Comparison of quality of Antenatal care delivered using a web based mobile application as compared to the standard care protocol: A pilot study; A Prospective randomized controlled trial to study the effect of prenatal yoga on maternal weight gain and psychological stress in pregnancy and its association with pregnancy outcomes: A pilot study; Completed Thesis—Prospective study of association between placental volume and vascularisation indices in pregnancies conceived by In Vitro Fertilisation compared to those conceived spontaneously and adverse pregnancy outcomes; To Evaluate the changes in Serum AMH levels in Endometrioma Patients receiving Dienogest therapy in comparison to Endometriotic Cystectomy: A pilot study; A Prospective Study of Fetal Cardiac Profiling in Appropriately Grown, Small for Gestational age and Growth Restricted Fetuses and its association with perinatal outcome; A Study to Evaluate Genetic Abnormalities in Patients with Recurrent Spontaneous Abortions (RSA).

**Professor Neeta Singh** is External Expert for Board of Studies in Deptt. of Obst & Gynae, AIIMS, Rishikesh on 15 April 2019; Awarded the fellowship of ICMR-DHR for UCL London, UK for Reproductive Medicine, 3 June 2019 – 8 August 2019; As an Adviser in “Personality Test (PT) Board for Combined Medical Services Examination 2019”, UPSC for assessing candidates who have qualified in the Combined Medical Services Examination, 2019 from 30 October 2019 – 1 November 2019 at UPSC office, New Delhi; Expert External Subject Expert in the panel of Standing Selection Committee for recruitment of Faculty position in the Department of Obstetrics & Gynaecology at AIIMS, Bhopal (MP) on 17 December 2019; Awarded Dr (Mrs) Mridula Kamboj Memorial Oration-2020 on recognition of outstanding contributions in the field of Reproductive Health by Indian Society for the Study of Reproduction and Fertility (ISSRF).

**Dr K. Aparna Sharma** was awarded John J Sciarra IJGO Prize Paper Award, Honorable Mention 2019 for Best Clinical Research Article from a Low/Middle-Income Country. (International Journal of Gynaecology and Obstetrics); Recipient of the FOGSI-Imaging Science Committee Award for the year 2019; Observership in Fetal Medicine at Harris Birthright Centre, King's College Hospital, London as a part of FOGSI-IAEC-SUN International Travelling Fellowship 5-20 June 2019; Second prize for the Departmental Poster made on Universal Health care theme during Institute day Celebrations 24 September 2019; Certificate of Appreciation from SET facility, AIIMS for involvement, advancement and innovation of SET Facility Programs; Adjunct Faculty for Institute of Health Improvement: Care International – Bihar MCH Initiative. Program Advisory Committee (Government): Part of the National Mentoring Group of Laqshya Labor room quality improvement program of MOHFW, GOI; Leading the AIIMS National Mentoring Group for Implementation of Laqshya in Medical Colleges in Ten Medical Colleges in Nine states by a network of 25 mentors from all over the country. Government Advisory Committee: Member, Expert group to review Antenatal Care Guidelines, MOHFW, GOI; Member, Expert group to review Caesarean Section Audit Form, MOHFW, GOI; Member National level Consultation Workshop on Hysterec-tomy on the 1 August 2019; Member Ethics Committee for draft MTP Amendment Bill, 8 August 2019; Member, Expert Group for Technical Deliberation for Preconception Care – 5 September 2019, MoHFW, GOI; Member, National Techni-

cal Advisory Group on Immunization (NTAGI), Sub Group on Maternal Immunisation; Member, Expert group to review Technical Guidelines for High Risk Pregnancies, MOHFW, GOI; Nominated for Medical Experts for District Advisory Committee, PC & PNDT Act, South District, New Delhi; Member, TRG on Sustainable Model for LaQshya, Labor Room Quality Improvement Program, MOHFW, GOI; Member, TRG on Potential areas of research under LaQshya, MOHFW, GOI; Member, Expert group to review Respectful Maternity & Newborn Care guidelines and training package, MOHFW, GOI. Scientific Advisory Committee: Executive Committee member, Society of Fetal Medicine (SFM), India, 2020-2022; Joint Secretary, Association of Obstetricians and Gynecologists of Delhi (AOGD), 2019-2020; Co-Chairperson, Quality Improvement Committee, AOGD, 2019-2021; North Zone Coordinator, Safe Motherhood Committee FOGSI, 2020-2022; Co-Convener, Special Interest Group on Early Pregnancy, Indian Fertility Society, (IFS) 2020-2022; Scientific Committee, Breaking Silos Across: Adolescence To Menopause, 10 and 11 August 2019; Program Advisory Committee, BMJ-IHI International Forum On Quality And Safety In Health Care, 2020; Expert Reviewer Group supporting the India-UK Healthcare Artificial Intelligence Catalyst (HAIC), to validate the version of Arezzo which is being adapted for the Indian public health system led by NITI Aayog (2019-2020); Member of Genetics and Fetal Medicine Committee of FOGSI 2019-21; Participant, South-East Asia Regional Technical Advisory Group (SEAR-TAG) towards reduction of maternal mortality and stillbirths in the context of Universal Health Coverage, 25-27 November 2019, New Delhi. Member of Institute Committees (AIIMS): Member, Hospital Quality & patient safety Committee and Creation of Quality & patient Safety Cell at AIIMS Hospital under Quality and Patient Safety Programme.

**Dr Garima Kachhawa** is Project Secretary- Post Partum Programme w.e.f. 1 February 2018 for a period of 2 years; Guest Editor in AOGD BULLETIN Volume 19 January 2020, Monthly issue 9. Dedicated Issue: Gynae Endocrinology. EDUCATION: Undergraduate: Lecture-2; Postgraduate: Guide and Perceptor for Seminar and journal club. Departmental Works: Compiled an Evaluation Proforma for assessment of Clinical Skills of Junior Residents. This helped us to provide a structured and individualized training of JRs for surgical and Clinical Skills; Also developed a Skill Enhancement Proforma for Senior Residents to track their learning and to provide individualized training in the department.

**Dr Reeta Mahey** participated as external examiner for MBBS supplementary exam (3rd Professor) at AIIMS, Rishikesh (26 April 2019); Participated as consultant in free Health Checkup Camp organized by Tibetan Patient Trust (28 February to 3 March 2020) held at Dalai Lama Temple, Macleod Gunj, Dharamshala.

**Dr P. Vanamail** co-authored publication Award John J. Sciarra IJGO Prize Paper Award, Honorable Mention 2019 for Best Clinical Research Article from a Low/Middle-Income Country (International Journal of Gynaecology and Obstetrics); IJMR Journal Reviewer; ICMR Expert Committee member for Data-base Management System.

**Dr Vidushi Kulshrestha** is Co-Editor, AOGD Bulletins for the year 2019-2020; Awarded Dr R D Pandit Research prize as a co-author on research titled, 'To evaluate the role of Gene Xpert in diagnosis of female genital tuberculosis as compared to other conventional diagnostic techniques' at 63rd AICOG on 2 February 2020 held at Lucknow; Awarded prize for the best poster as a co-author on 'Bladder an Innocent Victim' at 63rd AICOG on 2 February 2020 held at Lucknow. Facilitator/ Faculty for the following: Expert- Core group Meeting for revision of BEmOC curriculum (a NHSRC, MoHFW, GOI initiative); National Mentor for LaQshya- Labour room & Maternity OT Quality Improvement Initiative for AIIMS, Jodhpur; Facilitator for Quality Improvement Workshop held at AIIMS Jodhpur on 23 and 24 December 2020; Faculty, Medical Board, AIIMS for new entrants for MBBS, B.Sc. Nursing, in courses. (2014 onwards). Quality improvement (QI): Instrumental in Quality Improvement Initiative of the Department. SET facility team member: Drafted skill module for conduct of vaginal delivery for UG teaching. Co-moderated Quiz on General Gynaecology at 63rd AICOG held on 29 September 2019. EDUCATION: Undergraduate Lectures: Physiology of menstruation; Normal & abnormal puberty (VI Semester), 4 January 2020; Benign and premalignant lesions of uterus (VIII Semester), 6 January 2020; Postgraduate Teaching: Seminar Guide: Post-partum Hemorrhage; Twin Pregnancy: Complications; Post-datism/IUD/Still birth; Preceptor for Journal club: NEJM; Contraception. 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, Organised by Department of Obstetrics and Gynaecology AIIMS, New Delhi, 28 and 29 September 2019 (Member-Organizing Committee; Co-Editor- Conference Proceedings; faculty In-charge of Paper/Poster Presentation).

**Dr Seema Singhal** was awarded UICC technical fellowship award and visited Memorial Sloan Kettering cancer center, New York, USA from 25 October 2019 to 28 November 2019; Received first prize in ASGO talent show at biennial meeting of Asian society of gynaecologic Oncologists in Incheon Korea; Expert member Subject expert committee (SEC) New Drug Division DCGI; Elected as Executive member AOGIN India 2020-2022; Guest Editor of AOGD bulletin vol 19(10) February 2020, dedicated issue on Gynecological cancers; Editor AOGIN India 2017-2019; Honorable Mention in John J Sciarra IJGO Prize Paper Award for Best Clinical Research Article from a Low/Middle-Income Country. Documents drafted: Revised curriculum for LSAS. Life saving anaesthesia Skills training program under MOHFW for imparting Anesthesia skills to Medical Officers. Expert member for drafting Revised EmoC curriculum.

**Dr Rajesh Kumari** 41st Annual Conference of Association of Obstetricians and Gynaecologists of Delhi, Organised by Department of Obstetrics and Gynaecology AIIMS, New Delhi, 28 and 29 September 2019. (Member-Organizing Committee; Co-Editor- Conference Proceedings; faculty In-charge of Urogynecology Preconference workshop); Clinical secretary of AOGD 2019-2020; 1st Prize AIUG 2019 15-17 November KIMS Hospital 1st prize FECAL INCONTINENCE- Experience from tertiary care center. Facilitator/ Faculty for the following: Faculty, Medical Board, AIIMS for new entrants for MBBS, BSc Nursing, in courses (2014 onwards); Joint Organising secretary in Urogynecology Workshop organised by OBG AIIMS, New Delhi on 26 September 2019; Examiner in UROGYNECOLOGY FELLOWSHIP PROGRAMME; MBBS Examiner as external examiner at Dr SN Medical College, Jodhpur on 9 to 11 February 2020.

**Dr Jyoti Meena** received Dr RP Soonawala Award in Obstetrics for Best Oral paper at 33rd Annual Conference of RCOG held at Kolkata; FOGSI-Karan Gupta Memorial prize for best poster in miscellaneous group at 63rd All India Congress of Obstetrics and Gynaecology held at Lucknow; Felicitated for contribution to e-SET facility on 5 December 2019.

**Dr Juhi Bharti** participated in Organizing (as Joint Secretary) FOGSI Conference “Breaking Silos Across: Adolescence to menopause” on 10 and 11 August, New Delhi.

**Dr Rinchan Zangmo** was awarded Member of Royal College of Obstetricians & Gynaecologists (MRCOG) on 15 February 2020.

**Dr Deepali Garg** was awarded Fellowship of Indian college of obstetrician & gynaecologists (FICOG); Awarded Fellowship of Indian college of maternal and child health (FICMCH).

**Dr Archana Kumari** was awarded Dr Kamini Rao Orator award for North Zone for 2020; Awarded Fellow of Indian College of Obstetricians & Gynaecologists (FICOG) on 1 February 2020. Documents drafted: Module named “Interpretation of CTG” for SET Facility.

**Dr Anubhuti Rana** is National mentor for RIMS, Ranchi as a part of AIIMS National Mentoring Group for Implementation of Laqshya in Medical Colleges in Medical Colleges.



## 9.25. Orthopaedics

### Professor and Head

Rajesh Malhotra

### Professors

Hira Lal Nag  
Shah Alam Khan

Ravi Mittal  
Vijay Kumar

### Additional Professors

Bhavuk Garg

Mohd. Tahir Ansari

### Assistant Professors

Vijay Kumar Digge  
Vivek Shankar

Vikrant Manhas  
Venkatesan Sampath Kumar

## HIGHLIGHTS

Excelling in the trinity of mission of AIIMS, department of orthopedics was rated the best in the country this year as well maintaining the zeitgeist of last decade. We have been the leaders in the field of orthopedic education country-wide besides providing best undergraduate and postgraduate training. Our regular cadaveric courses, workshops and conferences remained most sought-after in the field last year and covered all subspecialties of orthopedics.

The department witnessed an unparalleled rise in orthopedic research last year and had several research projects with national as well as international funding. We developed dedicated 'state of the art' research labs namely 3D printing lab, Genetic lab, Gait lab, which provided us both national and international recognition in terms of several papers of PubMed repute, papers presentation and awards.

Regarding patient care, our department grabbed unmatched skills and facilities and performed all sorts of complex orthopedic problems. Our new orthopedics operation theatres became best equipped, comparable to any advanced center in the world. We recently introduced robotic facility, EOS facility, advanced intraoperative imaging facilities and many other advanced technologies which also carry the tag of first and only facility in the country. Our "SATHI" and "SSHARA" services are first one of its own kind service in India to cater primary and secondary prevention of fragility fractures.

## EDUCATION

- Innovative and comprehensive fellowship training in Adult reconstruction, Arthroscopy, Pelvic acetabular trauma and Orthopedic oncology
- Objective and comprehensive training of postgraduates and undergraduates in the form of seminars, bedside teaching, case discussions, real life case scenarios, journal clubs

## CMEs/Workshop/Symposia/National and International Conferences

1. Current Concepts in Trauma 2019, Trauma Society of India, 5-7 April 2019, Gurgaon
2. Oxford Instructional Course, 26 and 27 April 2019, New Delhi
3. Fourth AIIMS ACSST Pelvic Acetabulum Workshop, JPNATC, 27 April 2019, New Delhi
4. Round Table Meeting on Promulgation of Emergency Nursing in India, AIIMS, 2 August 2019, New Delhi
5. Workshop on Addressing Emergencies & Critical Care under National Health Mission, Ministry of Health and Family Welfare, Govt. of India, 2 August 2019, New Delhi
6. Workshop on Unicompartmental Knee Replacement during Current Concepts in Arthroplasty, 2019, 16 August 2019, AIIMS, New Delhi
7. Current Concepts in Arthroplasty 2019, 17 and 18 August 2019, AIIMS, New Delhi
8. Best of Orthopaedic Techniques, 13 and 14 September 2019, Aerocity New Delhi
9. AIIMS Arthroplasty Program, 7 and 8 November 2019, AIIMS, New Delhi

## Lectures delivered

Rajesh Malhotra: 45

HL Nag: 4

Ravi Mittal: 16

Shah Alam Khan: 4

Vijay Kumar: 21

Bhavuk Garg: 28

Mohd. Tahir Ansari: 6

Vijay Kumar Digge: 8

Vikrant Manhas: 5

Venkatesan Sampath Kumar: 7

## Rajesh Malhotra

1. Pain Anatomy, Pain Assessment, Current Diagnosis and Scoring Systems, Seminar on Pain Management IOA – SLOA Joint Sessions, 11 August 2019, Colombo, Sri Lanka
2. TKA in Retained Implant, 41st Annual Meeting of the Royal College of Orthopaedic Surgeons of Thailand (RCOST), 20 and 21 October 2019, Bangkok, Thailand
3. THA in Frozen Hip, 29th Turkish National Congress of Orthopaedics and Traumatology, 22-27 October 2019, Antalya, Turkey
4. Hand held accelerometer based navigation for Total Knee Arthroplasty, 29th Turkish National Congress of Orthopaedics and Traumatology, 22-27 October 2019, Antalya, Turkey
5. Work-Life Balance, 29th Turkish National Congress of Orthopaedics and Traumatology, 22-27 October 2019, Antalya, Turkey
6. My Experience as a Writer of Scientific Papers, XIV International Hip and Knee Course, 31 October-2 November 2019, Medellin, Columbia
7. Accelerometer vs Console Based Navigation: Randomised Controlled Trial, XIV International Hip and Knee Course, 31 October-2 November 2019, Medellin, Columbia
8. Acute THA for Acetabular Fractures: Results in Relatively Younger Patients, XIV International Hip and Knee Course, 31 October- 2 November 2019, Medellin, Columbia
9. THA in Bony Ankylosis, XIV International Hip and Knee Course, 31 October-2 November 2019, Medellin, Columbia
10. THA in Acetabular Fractures, Current Concepts in Trauma 2019, 5-7 April 2019, Gurgaon
11. Oxford UKR-Other Indications, Oxford Instructional Course, 26 and 27 April 2019, New Delhi
12. Oxford Knee-Indian Scenario, Oxford Instructional Course, 26 and 27 April 2019, New Delhi
13. THR following Acetabular Fracture, 4th AIIMS ACSST Pelvic Acetabulum Workshop, 27 April 2019, JPNATC, New Delhi
14. THR in Spinopelvic Deformity, Arthroplasty Update JRC 2019, 13 June 2019, Delhi Cantt
15. Allograft Reconstruction in Revision THR, Arthroplasty Update JRC 2019, 13 June 2019, Delhi Cantt
16. Periprosthetic Femur Fractures, 6th AAOS-IOA Trauma Conclave, 16 and 17 June 2019, Mumbai
17. Bone grafts and substitutes-Current Evidence, 6th AAOS-IOA Trauma Conclave, 16 and 17 June 2019, Mumbai
18. Fragility Fracture Care in India: Orthopaedic Perspective and Role of FLS, CME of Indian Bone Academy, 23 June 2019, Delhi
19. Total Knee Reconstruction, PACE Webinar, 6 July 2019
20. Osteoarthritis: When will I offer TKR? Choosing the Right Patient, 3rd Annual Conference of Society of OA Research (OACON), 4 August 2019, Bangalore
21. UKR-Surgical Principles and Techniques Unicompartamental Knee Replacement Workshop, Current Concepts in Arthroplasty 2019, 16 August 2019, New Delhi
22. Oxford UKR-Complications, Unicompartamental Knee Replacement Workshop, Current Concepts in Arthroplasty 2019, 16 August 2019, New Delhi
23. Oxford UKR- Indications, Unicompartamental Knee Replacement Workshop, Current Concepts in Arthroplasty 2019, 16 August 2019, New Delhi
24. Bilateral TKR in same sitting: Advantages & Disadvantages, 7th International Annual Conference of Geriatric Orthopaedic Society of India GOSICON 2019, 5-7 September 2019, Aurangabad
25. FFN India: The Way Forward & Future Implications, 7th International Annual Conference of Geriatric Orthopaedic Society of India GOSICON 2019, 5-7 September 2019, Aurangabad
26. Posteromedial Approach to Proximal Tibia, Best of Orthopaedic Techniques, 13 and 14 September 2019, Aerocity New Delhi
27. TKA for Fractures around the Knee, Best of Orthopaedic Techniques, 13 and 14 September 2019, Aerocity New Delhi
28. Why to choose Partial Knee over Total Knee, Oxford Café Delhi, 28 September 2019, Delhi
29. Where Beginners make mistake while doing Oxford and How to address the same, Oxford Café Delhi, 28 September 2019, Delhi
30. Management of Recurrent Dislocation after THA, Ortho Conclave, 10 November 2019, New Delhi
31. Distal Radioulnar Joint (DRUJ), Ortho Conclave, 10 November 2019, New Delhi
32. How I Choose My Implant, 64th Annual Conference of Indian Orthopaedic Association (IOACON) 2019, 19-24

November 2019, Kolkata

33. FLS: Optimising the Multidisciplinary Secondary Fracture Prevention Program, 64th Annual Conference of Indian Orthopaedic Association (IOACON) 2019, 19-24 November 2019, Kolkata
34. Innovative Solutions for challenging Musculoskeletal Problems Using Allografts, 64th Annual Conference of Indian Orthopaedic Association (IOACON) 2019, 19-24 November 2019, Kolkata
35. Short Stem and its Indications, Depuy Synthes Hip Symposium 2020, 1 and 2 February 2020, Mumbai
36. Removal of well-fixed acetabular component, Depuy Synthes Hip Symposium 2020, 1 and 2 February 2020, Mumbai
37. Trochanteric Slide and Extended Trochanteric Osteotomy, Depuy Synthes Hip Symposium 2020, 1 and 2 February, 2020, Mumbai
38. Multi Disciplinary Approach to PPJ Infection: Getting Out of Trouble, UP Orthopedic Association 44th Annual Conference (UPORTHOCON), 14 and 15 February 2020, Lucknow
39. Articulations of Choice: Assuring Longevity, UP Orthopedic Association 44th Annual Conference (UPORTHOCON), 14 and 15 February 2020, Lucknow
40. An Overview of Medical and Surgical Management of Osteoporosis, D Active India Symposium (DAIS), 1 March 2020, New Delhi
41. Neglect of the Girl Child, AIIMS public lecture, 12 November 2019, New Delhi
42. When less is more: Being Conservative in Arthroplasty, 40th SICOT Orthopaedic World Congress, 4-6 December 2019, Muscat, Oman
43. Osteoporosis in India- the Enemy Within, CIMECON 2020, 9 February 2020, Ranchi
44. Periprosthetic Fractures with a THA- Dilemma: Repair or Replace, Dr TP Srivastava Oration, UP Orthopedic Association 44th Annual Conference (UPORTHOCON), 14 and 15 February 2020, Lucknow
45. Developing Dedicated Arthroplasty Team Leading Orchestra to create Rhapsodies, Presidential Oration, 64th Annual Conference of Indian Orthopaedic Association (IOACON) 2019, 19-24 November 2019, Kolkata
- 46.

#### **HL Nag**

1. Arthroscopic meniscus repair, Jodhpur Arthroscopic Symposium 2019, 20 and 21 December 2019, AIIMS, Jodhpur
2. Arthroscopic Bankart repair – How I do it, 12th JOACON 2020, 1 and 2 February 2020, Jamshedpur
3. Open Latarjet procedure for shoulder instability, 12th JOACON 2020, 1 and 2 February 2020, Jamshedpur
4. All inside ACL Reconstruction, 39th Annual conference of NZOA 2020, 14-16 February 2020, AIIMS, Rishikesh

#### **Ravi Mittal**

1. Indications of High Tibial Osteotomy, Mid Term Symposium of UPIOACON, 26 May 2019, Agra
2. FAQs in high tibial osteotomy, One day one topic, 22 September 2019, Delhi
3. Philosophy of high tibial osteotomy, One day One topic, 22 September 2019, Delhi
4. HTO – case presentation, One day One topic, 22 September 2019, Delhi
5. Live surgery- ACL reconstruction using BTB graft, Indian Arthroscopy Society annual conference, 27 September 2019, Indore
6. Latarjet procedure, Arthroscopy symposium, 6 October 2019, Delhi
7. PCL injury, Punjab Orthopaedic Association Conference, 19 October 2019, Ludhiana
8. PLC injury, Punjab Orthopaedic Association Conference, 19 October 2019, Ludhiana
9. Medial meniscus root tear, Punjab Orthopaedic Association Conference, 19 October 2019, Ludhiana
10. Arthroscopic bankart or Latarjet procedure, Arthroscopy surgeons of Nepal Conference, 8 and 9 November 2019, Kathmandu, Nepal
11. Double row repair is the way, Arthroscopy surgeons of Nepal Conference, 8 and 9 November 2019, Kathmandu, Nepal
12. Examination of shoulder impingement, Arthroscopy surgeons of Nepal Conference, 8 and 9 November 2019, Kathmandu, Nepal
13. Malunited supracondylar humerus fracture with stiff elbow, Delhi Orthopaedic Association conference, 10 November 2019, Delhi
14. HTO- indications beyond Medial OA knee, Indian Orthopaedic Association Conference, 24 November 2019, Kolkata

15. Approach to elbow injuries, Annual Conference of West Delhi Orthopaedic Association, 15 December 2019, Delhi
16. Anteromedial tibia fracture Meet the Masters, 1 February 2020, Delhi

#### **Shah Alam Khan**

1. Staged Management of Malignant Bone Lesions, 32nd Annual Conference of the North Zone of Indian Orthopaedic Association, 8-10 February 2019, Jammu
2. Difficult Reconstructions in Bone Sarcomas, 64th Annual Conference of the Indian Orthopaedic Association, 19-24 November 2019, Kolkata
3. Reconstruction following Bone Tumor Resections in Children, 26th Paediatric Orthopaedic Society of India, 9-12 January 2020, Coimbatore
4. Staged Management of Malignant Bone Lesions, 32nd Annual Conference of the North Zone of Indian Orthopaedic Association, 8-10 February 2019, Jammu

#### **Vijay Kumar**

1. Long Term Results for Meniscus Repair, 3rd Jaipur Shoulder Knee Course, 5-7 April 2019, Jaipur
2. Staged Vs Sequential: Results from Literature, 13th National Congress of Indian Society of Hip and Knee Surgeons, 12-14 April 2019, Bengaluru
3. Results of UKR in Tibia Vara, Oxford Instructional Course, 26 and 27 April 2019, New Delhi
4. Management of Acetabular Bone loss, Meet the Master Course, 30 June 2019, Varanasi
5. Management of Post Infective THR Meet the Masters 2019, 30 June 2019, Varanasi
6. Arthroplasty Pointers that ponder in Osteoporotic Skeleton, 7th international conference of Geriatric Orthopaedic Society of India, 6-8 September 2019, Aurangabad
7. Managing the femur in complex primary, Medicover Hip 360 Course, 14 September 2019, Hyderabad
8. Video Uncemented Total Hip Arthroplasty, Medicover Hip 360 Course, 14 September 2019, Hyderabad
9. Preoperative Psychological and Behavioural Factors in Outcomes Following TKA in Indian Patients, 16th Annual Conference of Indian Arthroplasty Association-IAACON 2019, 20 and 21 September 2019, Mumbai
10. Oxford Clinical Excellence and Survivorship, Oxford Café Delhi, 28 September 2019, Delhi
11. Case Selection – Are you taking the right X rays?, Oxford Café, Delhi, 28 September 2019, Delhi
12. THR in Ankylosed Hip, Anup Masters Course, 13 October 2019, Patna
13. Component Positioning and Limb Length Discrepancy, POACON 2019, 19 and 20 October 2019, Ludhiana
14. THA after Acetabular Fracture, POACON 2019, 19 and 20 October 2019, Ludhiana
15. Importance and objectives of Preoperative Planning (Patient Evaluation & Templating), POACON 2019, 19 and 20 October 2019, Ludhiana
16. Everything you always wanted to know about TKR in Ankylosed Knee, Elite Arthroplasty Congress 2019, 9 November 2019, Chandigarh
17. Balancing a THR: Managing Neck length & Offset, 64th Annual Conference of Indian Orthopaedic Association (IOACON-2019), 18 and 19 November 2019, Kolkata
18. Soft tissue balancing in THR, 39th Annual Conference of North Zone Orthopaedic Association (NZOACON 2020), 14-16 February 2020, Rishikesh
19. Workshop saw bone demonstration on Oxford unicondylar Knee, 39th Annual Conference of North Zone Orthopaedic Association (NZOACON 2020), 14-16 February 2020, Rishikesh
20. Surgical Principles and Techniques of Oxford Knee, 39th Annual Conference of North Zone Orthopaedic Association (NZOACON 2020), 14-16 February 2020, Rishikesh
21. TKR in Bony Ankylosis, Agra Arthroplasty Conclave, 29 February-1 March 2020, Agra

#### **Bhavuk Garg**

1. Magnetic growth rod for scoliosis correction, 5th Congress of Middle East Spine Society and world spinal column society, 4 April 2019, Gurgaon, Haryana
2. Anterior approach to cervical spine & ACDF, DOA basic spine course, 12 April 2019, JPNATC, New Delhi
3. Posterior column osteotomies, DOA advanced spine course, 14 April 2019, Safdarjang Hospital, New Delhi
4. Common orthopaedic problems, Invited by DGHS, MOHFW at Nirman Bhavan, 25 April 2019, New Delhi
5. Co-Cr vs. Titanium rods in deformity correction in Adolescents, 3rd International Conference on Clinical Orthopaedics & Spine Biomechanics, 26-28 April 2019, ISIC, New Delhi

6. Congenital lumbosacral scoliosis, DSS bimonthly meeting, 25 May 2018, New Delhi
7. Outcome and safety of 3D printed patient specific zigs in complex spinal deformities, CMBE biennial congress, 10-12 June 2019, Sendai, Japan
8. Sagittal parameters restoration in complex ankylosing spondylitis deformities, Spine world summit 2019, 24 and 25 June 2019, Kuala Lumpur
9. When to go for long instrumentation in LCS, Spine world summit 2019, 24 and 25 June 2019, Kuala Lumpur
10. Intradiscal therapies, AOSpine advanced specimen course, 13 and 14 July 2019, New Delhi
11. Transthoracic and retroperitoneal approaches, AOSpine advanced specimen course, 13 and 14 July 2019, New Delhi
12. Sacroiliac fixation: rationale and indications, AOSpine advanced specimen course, 13 and 14 July 2019, New Delhi
13. Cervical lateral mass screw fixation, AOSpine advanced specimen course, 13 and 14 July 2019, New Delhi
14. How to do research and write a paper, Neurotrauma 2019, 28th Annual meeting of Neurotrauma Society of India, 23-25 August 2019, Agra, UP
15. Spinal osteotomies in traumatic spine injuries. Neurotrauma 2019, 28th Annual meeting of Neurotrauma Society of India, 23-25 August 2019, Agra, UP
16. Classification of Thoracolumbar trauma and its clinical correlation, Neurotrauma 2019 28th Annual meeting of Neurotrauma Society of India, 23-25 August 2019, Agra, UP
17. Degenerative spinal deformities: when to operate, World neurosciences Summit-II, 23-25 August 2019, New Delhi
18. Post tubercular cervical deformity correction, DSS meeting, 28 July 2019, Delhi
19. Hunch-back of Notre Dame, DSS meeting, 5 October 2019, Delhi
20. Feasibility of 3D printing in spinal trauma, ISSICON 2019, 12-14 October 2019, Delhi
21. Vertebral column resection, ISSICON 2019, 12-14 October 2019, Delhi
22. Bridge above troubled waters, DSS bimonthly meeting, 16 November 2019, Delhi
23. Lumbar pedicle screw, Preconference workshop on spine IOACON 2019, 19-24 November 2019, Kolkata
24. Sacroiliac fixation: Indications, IOACON 2019, 19-24 November 2019, Kolkata
25. C-Arm and neuromonitoring in spine surgery, IOACON 2019, 19-24 November 2019, Kolkata
26. Robotics in spine surgery, NZOACON 2020, 14-16 February 2020, AIIMS, Rishikesh
27. Choosing osteotomy type for rigid kyphotic deformities, Mastering Advanced Technologies and Skills Congress in Neurosurgery (MATS 2020), 20-23 February 2020, Gurgaon, Haryana
28. Herapheri at Top, DSS meeting, 8 February 2020, Delhi

#### **Mohd. Tahir Ansari**

1. Mangled extremity management, AO Trauma Course-Advanced Principles of Fracture Management, 4 May 2019, Delhi
2. Perilunate injuries, DOA Hand Course, 19 May 2019, Delhi
3. Management of late-presenting perilunate injuries, MIDCON 2019, 7 July 2019, Delhi
4. Brunelli Ligamentoplasty, Pune Wrist Course, 27 July 2019, Pune
5. LT augmentation and evolutions, Pune Wrist Course, 27 July 2019, Pune
6. Late management of perilunate injuries, Pune Wrist Course, 28 July 2019, Pune

#### **Vijay Kumar Digge**

1. Ankle fractures – injury biomechanics & restoration, 3rd International conference on Clinical Orthopedic & Spine Biomechanics, 26 April 2019, Delhi
2. Failure in ACL reconstruction, 3rd International conference on Clinical Orthopedic & Spine Biomechanics, 26 April 2019, Delhi
3. Bone harvesting and Bone banking, Deceased Organ & Tissue Donation, 10 May 2019, Delhi
4. Bone harvesting and Bone banking, Deceased Organ & Tissue Donation, 12 September 2019, Delhi
5. Bone harvesting and Bone banking, Deceased Organ & Tissue Donation, 24 Jan 2020, Delhi
6. Pilon fracture fixation – Tips & Tricks to achieve best outcome, NZAOCON 2020, 15 February 2020, Rishikesh
7. Protocol for Achilles Tendon Rupture, NZAOCON, 15 February 2020, Rishikesh
8. Bone harvesting and Bone banking, Deceased Organ & Tissue Donation, 24 February 2020, Delhi

### **Vikrant Manhas**

1. Bone donation Training programme, ORBO, 12 April 2019, New Delhi
2. Common mistakes in applying Ilizarov frame, 2nd Basic ilizarov course, 21 April 2019, New Delhi
3. TJA in inflammatory arthritis - key issues, Arthroplasty update, 9 June 2019, New Delhi
4. Trauma case - young surgeon forum, IFASCON, 30 August 2019, New Delhi
5. Bone screw - how to get it right every time, DOA-Trauma basic course, 22 December 2019, New Delhi

### **Venkatesan Sampath Kumar**

1. Clubfoot Management, Advance Training on Ponseti Method of Clubfoot Management, 27 June 2019, Ranchi
2. Malignant Bone Tumours & Principles of Limb Salvage Surgery, Sir Gangaram Hospital & IOA Postgraduate teaching program, 29 June 2019, New Delhi
3. Panel discussion on Adult and Paediatric Sarcoma, CME on "Orthopaedic Oncology", 21 July 2019, New Delhi
4. The Not So Simple SBC, Paediatric Orthopaedic Society of India Annual Meeting 2020, 11 January 2020, Coimbatore
5. Osteochondroma-When would I intervene? Paediatric Orthopaedic Society of India Annual Meeting 2020, 11 January 2020, Coimbatore
6. Clubfoot Management One day Training on Clubfoot for orthopaedic doctors, 1 February 2020, Trivandrum
7. Interesting Oncological Reconstruction, Indian Musculoskeletal Oncology Society Meeting 2020, 6-8 March 2020, Bengaluru

### **Oral papers/posters presented**

1. Aryal A, Sampath Kumar V, Gamanagatti S, Shamim SA, Khan SA. Comparative study between Tc-99m Skeletal Scintigraphy, Whole body MRI & PET/CT for detecting skeletal metastasis in Osteosarcoma & Ewing's sarcoma, International Society of Limb Salvage Surgery (ISOLS 2019) 20th General Meeting, September 11- to 14 September, 2019, Athens/Greece
2. De Manish, Garg B, Mohan VK, et al. Transforaminal Epidural Injection of Local Anaesthetic and Dorsal Root Ganglion Pulsed Radiofrequency Treatment in Lumbosacral Radicular Pain, International meeting on advanced spinal techniques, 26th International Meeting on Advanced Spine Techniques (IMAST), 17-20th July 2019, Amsterdam, Netherlands
3. Garg B, Mehta N, Gupta M, Malhotra R. Influence of Etiology and Onset of Deformity on Spatiotemporal, Kinetic, Kinematic and Electromyography Gait Variables with Scoliosis. Spinal Cord Society-Gold Medal Paper Award session, ISSICON 2019, 12-14th October 2019, New Delhi
4. Garg B, Mehta N, Mukherjee R. Influence of Cobb's angle on sagittal parameters in AIS patients, ISSICON 2019, 12-14th October 2019, New Delhi
5. Gupta M, Garg B, Mehta N, Malhotra R. Influence of etiology and onset of deformity on 3D Gait pattern of patients with complex spinal deformity, 3rd International Conference on Clinical Orthopedics & Spine Biomechanics, 26-28th April 2019, ISIC, New Delhi
6. Kumar VS, Banjara R, Poudel RR, Majeed A, Khan SA. Relationship between height at diagnosis and Osteosarcoma in the Indian population, International Society of Limb Salvage Surgery (ISOLS 2019) 20th General Meeting, 11 September to 14 September, 2019, Athens/Greece
7. Kumar VS, Kanawat H, Banjara R, Majeed A, Khan SA. Comparing Zoledronic Acid and Denosumab as preoperative adjuvant therapy for Giant Cell Tumour, Indian Musculoskeletal Oncology Society Meeting 2020, 6 March to 8 March, 2020, Bengaluru
8. Malhotra R, Gautam D. Comparison of 3D Model Based Total Hip Arthroplasty Vs Conventional Total Hip Arthroplasty In Patients With Fused Hips And Spinopelvic Deformity-A Prospective Cluster Randomized Controlled Trial, 20th EFORT Congress, 5-7 June 2019, Lisbon, Portugal
9. Malhotra R, Mahato A, Gautam D. Trunnionosis in Total Knee Arthroplasty-A Case Report, 20th EFORT Congress, 5-7 June 2019, Lisbon, Portugal
10. Manhas V, Malhotra R, Gupta S, Chawla L. Short stem THA for osteonecrosis in young: 5 year results, 40th SICOT Congress, 4-7 December, 2019, Muscat, Oman

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Rajesh Malhotra, ICMR, 3 years, 2019- 2022, Rs 139 lakhs

2. A prospective randomized study to compare the systemic emboli in computer assisted navigation vs conventional surgical technique of knee replacement, Rajesh Malhotra, ICMR, 3 years, 2019 to 2022, Rs 50 Lakhs
3. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Study Protocol # CSA2014-02K, Rajesh Malhotra, Zimmer, 7 years, 2015 to 2022, Rs 24 lakhs
4. A prospective randomized study to compare the systemic emboli in computer assisted navigation vs conventional surgical technique of knee replacement, Rajesh Malhotra, ICMR, 3 years, 2019-2022, Rs 50 lakhs
5. Understanding differences in the patterns of osteoarthritis in Indian and Western population: Impact on symptoms, treatment options and their outcome, Rajesh Malhotra and Vijay Kumar, DST-UKIERI, 3 years, 2017-2020, Rs 88 lakhs
6. Treatment response evaluation in extra spinal musculoskeletal tuberculosis using molecular imaging (PET-CT), Shah Alam Khan, ICMR, 3 years, 2018-2020, Rs 8 lakhs
7. Surveillance in Paediatric Bone Sarcomas, Shah Alam Khan, Jiv Daya Foundation, USA, 3 years, 2016-2019, USD 20,000
8. Study of Osteogenic Humoral Factors on Fracture Healing in Patients with Head Injury: decoding the Mystery, Vijay Kumar Digge, DST, 3 years, 2018-2021, Rs 49 lakhs
9. Comparative evaluation of genetic and cytokines profile in age matched Indian subjects with and without knee osteoarthritis, Bhavuk Garg, ICMR, 3 years, 2017-2020, Rs 140 lakhs
10. A Prospective, Active-controlled, Randomized, Double blind, Multicentre, Phase III Study to Compare the Safety and Efficacy of Biosimilar Denosumab of Enzene Biosciences Limited versus Innovator Denosumab in the Treatment of Postmenopausal Osteoporosis, Bhavuk Garg, Alkem Laboratories, 2 years, 2018-2020, Rs 8 lakhs
11. Bone health assessment in transgender population: A pilot study, Bhavuk Garg, ICMR, 2 years, 2018-2021, Rs 72 lakhs
12. Designing of patient specific Total Elbow Replacement prosthesis for Indian Population, Bhavuk Garg, ICMR, 3 years, 2019-2022, Rs 84.63 lakhs
13. Use of O-arm navigational technique versus Free hand standard method in pedicle screws placement for the treatment of Spinal disorders: A Randomized controlled trial, Bhavuk Garg, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
14. Evaluation of Immune Checkpoints in tumour micro-environment of Osteosarcomas, Venkatesan Sampath Kumar, AIIMS, 2 years, 2018-2020, Rs 5 lakhs

#### ***Completed***

1. CV185-158: Phase IV, Open-Label, Multi-center Study to Evaluate the Safety of Apixaban in Indian Subjects Undergoing Elective Total Knee Replacement or Total Hip Replacement Surgery, Rajesh Malhotra, PPD, 4 years, 2015 to 2019, Rs 33 lakhs
2. Epigenetic insight looking at possible differential miRNA expression among osteoporotic elderly and young patients with hip fractures, Bhavuk Garg, AOTRAUMA Asia Pacific Research Grant, 2 years, 2018-2019, Rs 1.7 lakhs
3. Anatomy of the apical pedicles in scoliosis, Bhavuk Garg, AIIMS, 1 year, 2019-2020, Rs 1.25 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. A Prospective Randomized Study to compare Computer Assisted Navigation Vs Free Hand Surgical Technique of Total Hip Replacement
2. Double Blind Randomized Control Trial to Assess the Outcome of Open Vs. Arthroscopic Excision of Dorsal Wrist Ganglion
3. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
4. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
5. To evaluate the tunnel/socket morphology in an arthroscopic ACL reconstruction with two different method of graft fixation methods: A prospective randomized control trial
6. Determination of accuracy of implant positioning and limb alignment in medial unicom part mental knee arthroplasty with computer navigation- an ambispective study
7. Functional and radiological outcomes following plating for displaced fractures of patella
8. Functional and radiological outcomes of fixed versus mobile bearing navigated UKR in patients with AMOA: A RCT
9. Double blind randomised control trial to assess the outcome of pulley release and pulley reconstruction for de quervain's tenosynovitis
10. Higher Forgotten Joint Score In Cruciate Retaining V/S Posterior Stabilising Total knee arthroplasty
11. Double blind randomised control trial to assess the outcome of open vs arthroscopic excision of dorsal wrist ganglion

12. Functional Impact of Congenital Hand Differences: Initiation and maintenance of the congenital Upper Limb Differences (could), Registry at All India Institute of Medical Sciences (AIIMS)

### **Completed**

1. A prospective randomized clinical trial to compare clinical, fluoroscopic and radiological outcome between medial pivot and lateral pivot knee
2. A Prospective Randomized Study to Evaluate Kinematic and Mechanical Alignment in Total Knee Arthroplasty
3. Molecular imaging of tuberculosis
4. Implant migration analysis using RSA and clinic-radiological outcome in Indian population undergoing mobile bearing UKR
5. A Prospective Randomized Study to compare Computer Assisted Navigation Vs Free Hand Surgical Technique of Total Hip Replacement
6. A Prospective Randomised Study To Compare Large Console, Image Less Computer Assisted Navigation Vs Accelerometer Based Portable Navigation Technique Of Total Knee Replacement

### **Collaborative projects**

#### **Ongoing**

1. Understanding Differences in the Patterns of Osteoarthritis in Indian and Western Population: Impact on Symptoms, Treatment Options and Their Outcome, UKIERI-DST
2. The safety and efficacy of transcatheter arterial embolization in moderate osteoarthritis and medial knee pain, Cardiovascular Radiology and Endovascular interventions

#### **Completed**

1. Safety Suitability and Clinical Effectiveness of Unicompartmental Knee Replacement in the Indian Population, DST-UKIERI
2. Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors, IIT, Delhi
3. Quantification of tendon injuries using high frequency ultrasonography in upper limb injuries, Radiology

### **PUBLICATIONS**

**Journals: 45**

**Chapters in Books: 4**

**Books: 1**

### **PATIENT CARE**

- The Orthopedic outpatient and operative care to poor patients - RAAHAT Camp, Mandla (M.P.) on 10-13 November 2019
- Member of committee constituted by AIIMS for Rastriya Arogya Nidhi (RAN) to provide financial assistance for poor patients
- Installation of state of the art modular Ortho OT complex
- Gait lab
- Genetic Lab
- O arm facility
- EOS facility
- SATHI and SSHARA services
- New OPD block
- Robotic spine surgery
- Morning General OPD, twice a week
- Running "Sports Clinic" in the afternoon, once a week
- Attending the injured athletes at Medical Centre, J.L. Nehru Stadium, New Delhi, in the afternoon, once a week

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rajesh Malhotra** was awarded best paper award for the paper entitled: "Influence of Etiology and Onset of Deformity on 3D Gait Pattern of Patients with Complex Spinal Deformity" during the 3rd International Conference on Spine & Orthopaedic Biomechanics on 26-28 April 2019 in New Delhi; Awarded IMA Doctor's Day Award 2019 for

Most Distinguished Services during the Doctor's Day Celebration on 1 July 2019 at IMA, New Delhi; Awarded the CME Educator Award (Individual) during CME Excellence Summit and Awards with media partner CNN News 18 in New Delhi on 7 August 2019; Awarded First Prize in the Exhibition Category- Universal Healthcare during 64th Foundation Day Celebration at AIIMS, New Delhi on 25 September 2019; Awarded First Prize for Hindi Dictation during the Hindi Week Celebration at AIIMS, New Delhi from 2 to 14 September 2019; was **Member** of 2nd Meeting of the Technical Expert Committee (TEC) on "Biomedical Engineering (Medical Devices, Diagnostics and Implants) on 11 July 2019 at Department of Biotechnology, New Delhi; Expert for Scientific and Technical Advisory Group (STAG) meeting of medical biotechnology of DBT on 14 and 15 October 2019;\_Expert Member, Technical /Advisory Core Committee on International Cooperation- Sweden, Finland, France of DBT; Expert, Expert Committee for shortlisting of proposals received against call for proposals on "Nanotechnology interventions in Dentistry and Bone diseases" and "Nanotechnology based tools to enhance agricultural productivity"; Third Technical Expert Committee on Biomedical Engineering (Devices, Diagnostics and Implants);\_Technical Expert Committee meeting on "Nanobiotechnology"; Bionest Committee at AIIMS, New Delhi; **Co-Chairman**, National core group of experts for Strengthening Emergency and Trauma Care Services of Ministry of Health & Family welfare; Editorial Board Member, Medical Journal of Dr DY Patil Vidyapeeth; Editor, Journal of Clinical Orthopaedics and Trauma; Expert for Selection Committee for the interview of Nursing Tutor, scientist I (Biostatistics) and Clinical Psychologist on 16 April 2019 at AIIMS, New Delhi; Chief Guest in ASAMI Indian Basic Ilizarov and Deformity Course in New Delhi on 8 and 9 June 2019;\_Invited by Commandant, Army Hospital to perform Reconstruction using Allograft surgery for Revision of Failed Distal Femoral Megaprosthesis at Army Hospital (R&R), Delhi Cantt on 13 June 2019;\_Visit to Leeds, UK under the DST-UKIERI Project entitled: "Understanding differences in the patterns of osteoarthritis in Indian and Western population: Impact on symptoms, treatment options and their outcome" on 26-29 June 2019; Chief Guest in DOA-MIDCON 2019 in New Delhi on 7 July 2019; Guest of Honour in 8th Annual Convocation of Academy College of Emergency Experts at AIIMS, New Delhi on 3 August 2019;\_Visit to Narita, Japan under "Human resources Exchange Program in Trauma and Acute Medicine" on 19-24 August 2019; Guest of Honour in Swatchh Yamuna Abhiyan at Constitution Club, New Delhi on 25 December 2019.

**Professor Hira Lal Nag** was Chairman, Sports Medicine Section, Central working committee of IOA; Editorial board member, Journal of arthroscopy and sports medicine, official journal of IAS; Expert Member, Human Rights Committee; Member, EHS Advisory Committee; Live surgical demonstration of "High tibial osteotomy" at Jaipur and "All inside ACL reconstruction" Kolkata; Surgical demonstration of "Meniscus Repair" on dry model at Jodhpur; Honorary consultant for Sports Authority of India (SAI); Appointed Member, Hospital Management Board; Nominated Member, Technical Specification Selection Committee of Surgical Items; External Examiner for MS Examination at JIPMER, Puducherry and PGIMER, Dr RML Hospital; Vice President, Orthopaedic Research Society, AIIMS; Member, store purchase committee, AIIMS; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics, AIIMS, Rishikesh; Unit Incharge of Orthopaedics Unit-II & Acting Head of Department from time to time; Faculty Incharge, Orthopaedics OT; Member, Medical equipment committee for SIC (expansion), Safdarjung Hospital; Member, Medical team of Health Camp at Leh; Member, Enquiry Committee for SIC, Safdarjung; External Expert, Standing Selection Committee, for selection of Faculty, Dept of Orthopaedics, AIIMS, Gorakhpur; Expert Member, Indian Standard Bureau for Orthopaedic Implants; Member, Committee for special audit of SIC, Safdarjung Hospital, New Delhi; Member, UG Expert Committee, MCI; External Expert, Standing Selection Committee, for selection of Faculty, Dept of Orthopaedics, Govt Institute of Medical Sciences, Gr. Noida, UP; External Expert, Standing Selection Committee, for selection of Faculty, Dept of Orthopaedics, PGIMER, Rohtak, Haryana.

**Professor Vijay Kumar** was elected Joint Secretary, North Zone Orthopaedic Association; Organized a "Walk for Elderly" during Combined Meeting of 6th International Geriatric Orthopaedic Society of India Conference, Fragility Fracture Network (India) & Current Concept in Arthroplasty 2018 at AIIMS, New Delhi on 7 September 2018; Visited Leeds University under DST UKIERI Project entitled "Understanding differences in the patterns of osteoarthritis in Indian and Western population: Impact on symptoms, treatment options and their outcome", 23 June-2 July 2018.

**Dr Bhavuk Garg** received the Asia Pacific Mimics innovation Award 2019; was Young Fellows Association (YFA) Liaison Representative to the American College of Surgeons Advisory Council for Orthopaedic Surgery; Assistant editor, Indian Journal of Orthopedics; Associate editor, Journal of Clinical Orthopedics & Trauma; Editorial board member, North American Spine Society Journal (NASSJ); AO spine International faculty; Member: SRS patient education committee; Delhi Representative, North Zone Orthopaedic Association; Member executive committee, Association of spine surgeons of India; Member, Task Force on Stem Cell Research and Regenerative Medicine, DBT; Task force on elearnspine.org, Association of spine surgeons of India (ASSI); Task force on scoliosis screening, Association of spine surgeons of India (ASSI); Task force on capacity building, Association of spine surgeons of India (ASSI); Task force on EPTB guidelines, AIIMS; Member, AIIMS TB core committee.

**Dr Mohd. Tahir Ansari** received the AO trauma fellowship: 4 November-13 December 2019; BG Clinic and University Hospital, Tubingen; Germany.

**Dr Vijay Kumar Digge** was Chairperson for the debate on posteromedial corner injury at KASCON held at Bengaluru on 29 June 2019 and Chairperson for the ankle session at IASCON held at Indore on 28 September 2019.

**Dr Vikrant Manhas** successfully completed “AO advance trauma course”, organised by AO foundation on 2-4 May 2019 in New Delhi and “Teacher mentor programme” organised by CMET, AIIMS on 18 July 2019; Table instructor for Oxford UKA saw bone Workshop in “CCA 2019”, 16-18 August 2019 at AIIMS, New Delhi; Successfully completed “Amsterdam foot and ankle course” on 13 and 14 December 2019 at Jaipur, Rajasthan; Workshop on lag screw exercise, external fixator and DHS in “DOA Basic Trauma Course”, 22 December 2019 in New Delhi; Organised a guest lecture on “Recent advances in foot and ankle surgery” by Dr Nasef Mohamed Nasef on 28 February at New Delhi; Appointed as reviewer of “Indian Journal of Orthopaedics” on 26 March 2020.

**Dr Venkatesan Sampath Kumar** visited Ganga Hospital, Coimbatore on “APOA- Ganga Hospital Travelling Trauma Fellowship” between 17 and 24 June 2018.

#### **VISITING SCIENTIST**

1. Dr Ching Lau, USA, Guest Lecture on Genomic Landscape of Osteosarcoma, 10 April 2019, AIIMS, New Delhi
2. Dr Ormonde M Mahoney from Athens, Georgia, Guest Lecture on Current Trends and Controversies in TKR, 16 October 2019, AIIMS, New Delhi
3. Professor Rohit Amritanand, CMC, 12 July 2019, Vellore
4. Professor Raymond P Onders, Cleveland Medical Centre, Ohio, 25 July 2019, USA

## 9.26. Otorhinolaryngology

### Professor and Head

Suresh Chandra Sharma (up to 31 January 2020)

Alok Thakar (from 1 February 2020)

### Professor

Rakesh Kumar

### Additional Professor

Kapil Sikka

Chirom Amit Singh

### Associate Professor

Rajeev Kumar

Prem Sagar

David Victor Kumar Irugu (up to 16 September 2019)

Arvind Kairo

Shuchita Singh

Hitesh Verma

### HIGHLIGHTS

The department continued its activities to impart quality education to its own students and also to delegates and observers. It conducted 10 major and minor workshops in the year. The department planned the International Workshop on Head and Neck Surgery which was to include cadaveric demonstration dissection and Live surgery demonstration but the workshop had to be postponed due to the Covid pandemic. The department conducted two advanced cochlear implant electrode design and insertion technique workshops and CI rehabilitation workshops. The department continued with conducting two Head and Neck cadaveric workshops in July and November. It also organized one cadaveric endoscopic sinus surgery and one microvascular anastomosis course along with pre-conference head and neck CME for SAARC and IAOHNS ENT Conference. Our Public awareness and panel discussion on "World Hearing Day" on 3rd March 2020 was well attended where many patients were screened for hearing and their queries answered.

### EDUCATION

The formal lecture schedule for MBBS students was in the 6th and 8th semesters and consists of 1-hour lectures. The undergraduate students are posted in the department (OPD and Ward) for 2 months on rotation basis. They learn the basic ENT examination, become familiarized with diagnosing the common ENT diseases and learning the elementary management, including communication skills. The clinical training consists of:

1. Two classes on introduction to the clinical aspects of ENT including proper ear, nose and throat examination
2. Bedside teaching and case discussion on common ENT conditions like CSOM, Deviated Nasal septum, Nasal polyps, Cancer larynx, etc.
3. Orientation to commonly used ENT instruments and X-Rays in ENT practice
4. Exposure to commonly done OPD procedures like nasal packing, ear packing, cautery, etc.
5. Exposure to selective operative procedures like tracheostomy, tonsillectomy, septoplasty, nasal polypectomy, etc.
6. Preventive Otolaryngology and head & neck cancer

At the end of the Otorhinolaryngology posting, the students are able to:

1. Examine and diagnosis common ear, nose, and throat problems.
2. Suggest common investigative procedures and their interpretation to diagnose and manage the patient.
3. Treat the common ENT and Head & Neck problems at primary care centre, while treating the patient.
4. Train to perform various minor surgical procedures like ear syringing, nasal packing and biopsy procedure.
5. Have awareness of Preventive otology and head & neck cancer for public guidance.

For postgraduates (PG), major goals are patient care, teaching, research ability, and team work. PG students have to do presentation of seminar/paper, research writing, and acquire Clinical decision making ability and management expertise. Postgraduate students perform major and minor surgical procedures under supervision of a faculty member/a senior resident. They are trained to perform major and minor operations independently. During training, they are posted in orientation programme including exposure to Audiology Section and Vestibular Laboratory, learn bedside history taking in ward, OT exposures, casualty, ICU requirement and their visit to related disciplines such as Neurosurgery/Anaesthesia, Care of indoor (Medical; preoperative and postoperative) patients. Attends operation theatre and emergency operations. Assists ward rounds and visit other wards with senior colleagues to attend call/consultations from other departments. Participates in the teaching sessions in ward for bedside clinical aspect, in specialty clinics in afternoon in seminar/journal Club and do emergency duty as per Roster of the department. Postgraduate students also have to do thesis under guidance of faculty.

The department also runs a superspecialty course of MCh Head and Neck Surgery and fellowship in Skull Base surgery. The MCh residents have been allocated duties in the respective specialties in OPD, OT and also attend academic activities jointly with departments of radiation oncology, medical oncology, pathology, neurosurgery etc. MCh residents and Skull Base Fellows also are promoted to participate in research projects jointly with faculty members. They present Seminars and Journal clubs by rotation. MCh residents are also posted in NCI Jhajjar for clinical and academic duties.

The department also organizes workshops and conferences for benefits of national and international delegates from time to time on various recent topics of interest. The department also welcomes delegates for observership from India and abroad and hosts them to observe departmental activities, specialty clinics, seminars and operative procedures.

### **Long Term Training**

Major Dr Roohie Singh, Graded Specialist (ENT), Military Hospital, Hisar, 1 year, May 2019 onwards

### **Short Term Training**

Dr Manvi Saini, Specialist (ENT), NDMC Charak Palika Hospital, New Delhi, 6 weeks, 15 July 2019 to 23 August 2019

### **Elective training**

1. Internship posting of students of Bachelor's in Audiology and Speech Language Pathology (BASLP), AYJNISHD, Regional Centre, Noida
2. TYBASLP students of AYJNISHD (Divyagjan), Mumbai, visited the Department on 21 February 2020 as part of their education tour

The department had observers and rotation postings from Departments of Emergency Medicine, Pediatrics, Medicine, Physiology and Fellows under the School of International Biodesign (SiB)

### **CMEs/Workshops/Symposia/National and International Conferences**

1. Public awareness camp and Panel Discussion on World Hearing Day, 3 March 2020
2. Two-day advanced surgical and electrode design workshop on cochlear implants: Improving hearing performance with innovation, 12 and 13 February 2020, AIIMS, New Delhi
3. Microvascular techniques and suturing workshop, 27-31 January 2020, AIIMS, New Delhi
4. Second Hands on Functional Endoscopic Sinus Surgery Cadaveric workshop, 18 and 19 January 2020, ACSST Trauma Centre, AIIMS
5. Ninth Cadaveric Head and Neck Course, 26 and 27 November 2019, ACSST, Trauma Centre, AIIMS
6. CI Habilitation and Awareness workshop for parents, 13 and 14 November 2019, AIIMS and Mandi House Auditorium
7. Two-day advanced surgical and electrode design workshop on cochlear implants: Improving hearing performance with innovation with focus on CI 532 Electrode for Cochlear Implant, 7 and 8 November 2019, AIIMS
8. Pre conference workshop on Head and Neck, 8th Annual Conference of Indian academy of Otolaryngology, Head and Neck Surgery and 11th SAARC ENT conference, 15 August 2019
9. Eighth Cadaveric Head and Neck Course at ACSST, 17 and 18 July 2019, Trauma Centre, AIIMS
10. Tenth AIIMS cadaveric and 2nd international workshop, 24-28 March 2020: Postponed due to COVID Pandemic

### **Lectures delivered**

**SC Sharma: 1    Alok Thakar: 46    Rakesh Kumar: 18**  
**Kapil Sikka: 25    Chirom Amit Singh: 13    Rajeev Kumar: 10**  
**Prem Sagar: 9    Arvind Kumar Kairo: 6    Shuchita Singh: 6**  
**Hitesh Verma: 15**

### **SC Sharma**

1. Robotic Surgery: Role of TORS in Head & Neck Surgery, CME on Head and Neck Cancers, 3 May 2019, AIIMS, Rishikesh

### **Alok Thakar**

1. Angiofibroma- Optimizing Surgical Resection & Minimizing Recurrences Expert Series- Instructional Course American Academy of Otolaryngology & Head-Neck Surgery Meeting (AAOHNS), 15-18 September 2019, New Orleans
2. Optic Nerve Decompression and Orbital Decompression Society of Otolaryngologists of Nepal (SOL), 22 April 2019, Kathmandu

3. Oral Submucous Fibrosis- surgical treatment of Trismus, Society of Otolaryngologists of Nepal (SOL), 22 April 2019, Kathmandu
4. Panelist, Oropharynx Cancer—Surgical v/s Nonsurgical; Robotic V/s Endoscopic, 4th Congress of International Guild of Robotic and Endoscopic Head-Neck Surgery, 4-6 October 2019, Gurgaon
5. Early Oral Cancer Choosing Wisely, Indo-UK Collaborative Meeting-Value added Cancer Care for India, 15 October 2019, New Delhi
6. Case Discussions- Oral Cancer Choosing Wisely, Indo-UK Collaborative Meeting-Value added Cancer Care for India, 15 October 2019, New Delhi
7. Early Oral Cancer – Guidelines & Beyond Guidelines, International Conference on Oral Cancer & Reconstruction, 13 and 14 December 2019, New Delhi
8. Moderator, Panel Discussion, Advanced Oral Cancer International Conference on Oral Cancer & Reconstruction, 13 and 14 December 2019, New Delhi
9. Panelist, Case based discussions, International Conference on Oral Cancer & Reconstruction, 13 and 14 December 2019, New Delhi
10. Optic Nerve Decompression- Surgical Technique and Indications, AIIMS Neurosurgery Endonasal Endoscopic Skull Base Surgery Dissection Course, 6 April 2019, New Delhi
11. Endonasal Endoscopic CSF leak repair- surgical technique and results, AIIMS Neurosurgery Endonasal Endoscopic Skull Base Surgery Dissection Course, 6 April 2019, New Delhi
12. Treatment guidelines for early laryngeal cancer, BLK Hospital Laryngeal Laser Course, 6 April 2019, New Delhi
13. Early Oral Cancer, Increasing incidence of Head-Neck Cancer & its management in North-Eastern States, NEGRIMS, 3 May 2019, Shillong
14. Panelist- Prevention & treatment of Head-Neck Cancer, Increasing incidence of Head-Neck Cancer & its management in North-Eastern States, NEGRIMS, 3 May 2019, Shillong
15. Laser Resection for Advanced Laryngeal Cancer, Manipal Head-Neck Surgery and Laser Workshop, 19 and 20 July 2019, Manipal
16. Cancer Larynx - Surgical Organ Preservation, Manipal Head-Neck Surgery and Laser Workshop, 19 and 20 July 2019, Manipal
17. Moderator, Panel Discussion – Cancer Larynx, Manipal Head-Neck Surgery and Laser Workshop, 19 and 20 July 2019, Manipal
18. Panelist, Panel Discussion – Oral Cancer, Manipal Head-Neck Surgery and Laser Workshop, 19 and 20 July 2019, Manipal
19. The Robot in Otolaryngology & Head-Neck Surgery, Manipal Head-Neck Surgery and Laser Workshop, 19 and 20 July 2019, Manipal
20. Panelist, FESS and Sinus Surgery ENT Conclave, 10 August 2019, Indore
21. Robotic Thyroidectomy, Indian Academy of Otolaryngology& Head-Neck Surgery Annual Meeting, 15-18 August 2019, Gurgaon
22. Moderator, Panel Discussion on Oral Cancer, Indian Academy of Otolaryngology& Head-Neck Surgery Annual Meeting, 15-18 August 2019, Gurgaon
23. CO2 laser resections in cancer larynx, Delhi Oncology Forum, 6 September 2019, New Delhi
24. Total Parotidectomy- Cadaveric Demonstration, Indian Academy of Otolaryngology& Head-Neck Surgery Annual Meeting, 15-18 August 2019, Gurgaon
25. The Robot in Otolaryngology & Head-Neck Surgery, Annual meeting of Gujrat Association of Otolaryngologists of India, Udaipur, 28 September 2019, Udaipur
26. Solitary Thyroid Nodule, Annual meeting of Gujrat Association of Otolaryngologists of India, Udaipur, 28 September 2019, Udaipur
27. Panelist, Voice and laryngeal disorders, Annual meeting of Gujrat Association of Otolaryngologists of India, Udaipur, 28 September 2019, Udaipur
28. Trans Oral Ultrasonic Surgery (TOUSS), 19th Annual Conference of the Foundation for Head-Neck Oncology, 11-13 October 2019, Chennai
29. Impact of Vocal fold medialization on Ventilatory Function, Phonocon mid-term meeting, 18 October 2019, New Delhi
30. The role of minimally invasive surgery in morbidity mitigation, Multi-Disciplinary Cancer Symposium, 15 and 16 November 2019, Jalandhar

31. Moderator, Panel Discussion, Intra treatment morbidity mitigation in Head-Neck Cancer, Multi-Disciplinary Cancer Symposium, 15 and 16 November 2019, Jalandhar
32. Robotic Surgery in the Head & Neck, Head-Neck Cancer Symposium, Army Research & Referral (R&R) Hospital, 17 November 2019, New Delhi
33. Speech Rehabilitation after laryngectomy, AIIMS Head-Neck Cadaveric Course, 26 November 2019, New Delhi
34. Panelist, MESS in FESS Image Guidance in Sinus Surgery, AIIMS Rishikesh, 23 November 2019, Rishikesh
35. Panelist, Ethical treatment of Vertigo, Annual Conference of the Otolaryngologist of India, 10 and 11 January 2020, Nagpur
36. Optic and Orbital Decompression-Why When & How, Annual Conference of the Otolaryngologist of India, 10 and 11 January 2020, Nagpur
37. Vertigo Diagnosis and Treatment- Principles & Clinical Approach, Annual conference of the Otolaryngologist of India, 10 and 11 January 2020, Nagpur
38. Surgical Organ Preservation in Cancer Larynx, Laryngology Update, AOI, 7 March 2020, Lucknow
39. Surgical Demonstration-Laser Cordectomy, Multi-Disciplinary Cancer Symposium, 15 and 16 November 2019, Jalandhar
40. Surgical Demonstration-Type I medialization Thyroplasty, Multi-Disciplinary Cancer Symposium, 15 and 16 November 2019, Jalandhar
41. Surgical Demonstration-FESS Image Guidance in Sinus Surgery, AIIMS Rishikesh, 23 November 2019, Rishikesh
42. Surgical Demonstration-Superficial Parotidectomy, Bihar & Jharkhand Annual Meeting, Ranchi, 6 December 2019
43. Surgical Demonstration-Hemi-Thyroidectomy, Bihar & Jharkhand Annual Meeting, Ranchi, 6 December 2019
44. Cadaveric Demonstration-Hemi-Thyroidectomy, AIIMS Head Neck Cadaveric Dissection Course, July 2019, New Delhi
45. Cadaveric Demonstration-Superficial and Total Parotidectomy, Indian Academy of Otolaryngology & Head-Neck Surgery, Pre-Conference CME, 15 Aug 2019, New Delhi
46. Cadaveric Demonstration – Hemi Thyroidectomy, AIIMS Head Neck Cadaveric Dissection Course, November 2019, New Delhi

#### **Rakesh Kumar**

1. Cochlear Implant, Oration at AOI (HP chapter), 1 June 2019, IGMC, Shimla
2. ENT problems and new options in their management, Swasthaya Sanjivini by All India Radio, 15 July 2019, AIR, New Delhi
3. Petrous apex cholesteatoma, Monthly meet of AOI (Delhi), 19 July 2019, AIIMS
4. Demonstrated Pinna plasty- Mustarde's Suture technique and dimple creation, 7th National Facial Plastic Surgery course, 4-6 September 2019, Rammiah Medical College, Bengaluru
5. Demonstrated the local facial flaps- paramedian forehead, nasolabial, bilobed and rhomboid, 7th National Facial Plastic Surgery course, 4-6 September 2019 Rammiah Medical College, Bengaluru
6. Demonstrated the facial reanimation using Labbe's technique of temporalis muscle lengthening, 7th National Facial Plastic Surgery course, 4-6 September 2019, Rammiah Medical College, Bengaluru
7. Hands on certificate course on Robotic Surgery, 7th National Facial Plastic Surgery course, 4-6 September 2019, Rammiah Medical College, Bengaluru
8. Otoplasty, 7th International Rhinoplasty and Facial Plastic Surgery workshop, 7 and 8 September 2019, Care Hospital, Hyderabad
9. Mentored Airway surgery, General Surgical mentoring, 15 October 2019, Bhopal, AIIMS
10. Mentored Laser laryngeal surgery, Surgical Mentoring, 9 November 2019, LHMC
11. Steps of parotid surgery, 9th Head Neck Dissection Course, CTERF, 26 and 27 November 2019, AIIMS
12. Mentored the Temporal bone dissection section, 2nd Temporal bone dissection and cochlear implant live, 28 and 29 September 2019, IGIMS, Shimla
13. Management of Iatrogenic facial palsy, ENT update, 5 and 6 December 2019, MAMC, New Delhi
14. Live demonstration of open septorhinoplasty for a post traumatic postsurgery crooked nasal deformity and nasal obstruction, 3rd Annual Live surgical and hands on soft cadaveric dissection course on Rhinoplasty and Facial plastics, 12 and 13 December 2019, Jodhpur, AIIMS
15. Nasal hump correction, 3rd Annual Live surgical and hands on soft cadaveric dissection course on Rhinoplasty and Facial plastics, 12 and 13 December 2019, Jodhpur, AIIMS

16. Scar revision, 3rd Annual Live surgical and hands on soft cadaveric dissection course on Rhinoplasty and Facial plastics, 12 and 13 December 2019, Jodhpur, AIIMS
17. Nasolabial flap on cadaver, 3rd Annual Live surgical and hands on soft cadaveric dissection course on Rhinoplasty and Facial plastics, 12 and 13 December 2019, Jodhpur, AIIMS
18. Mentored CI surgeries, General Surgical Mentoring, 10 and 11 February 2020, Bhopal, AIIMS

#### **Kapil Sikka**

1. Panelist, Public awareness and panel discussion on Hearing For Life, World Hearing Day, 3 March 2020, AIIMS, New Delhi
2. Key surgical factors for success, 2 day advanced surgical and electrode design workshop on cochlear implants, Improving hearing performance with innovation, 12 and 13 February 2020, AIIMS, New Delhi
3. Surgical steps of Endoscopic Angiofibroma excision, 2nd Hands on Functional Endoscopic Sinus Surgery Cadaveric workshop, 18 and 19 January 2020, ACSST, Trauma Centre, AIIMS, New Delhi
4. Panelist, How to sequence systemic therapy for metastatic SCCHN in 2020, Optimizing outcomes for SCCHN IN 2020, 17 January 2020, New Delhi
5. All about Vagal and Carotid body paragangliomas, World Skull Base course, 23 and 24 December 2019, MS Ramaiah Institute, Bengaluru
6. All about Paranasal Sinus Malignancies, World Skull Base course, 23 and 24 December 2019, MS Ramaiah Institute, Bengaluru
7. Live Cadaveric Demonstration of Maxillary swing Approach, World Skull Base course 23 and 24 December 2019, MS Ramaiah Institute, Bengaluru
8. Chyle leak, Oncology Forum Meeting 2019, 7 and 8 December 2019, New Delhi
9. Live Cadaveric Demonstration of Neck Dissection, 9th Cadaveric Head and Neck Course, 26 and 27 November 2019, ACSST, Trauma Centre, AIIMS
10. Panelist, Difficult scenarios in Cochlear Implantation, 28th Annual National Conference of Indian Society of Otolaryngology, 15-17 November 2019, Biswa Bangla Convention Centre, Kolkata
11. Skull Base Osteomyelitis, 28th Annual National Conference of Indian Society of Otolaryngology 15-17 November 2019, Biswa Bangla Convention Centre, Kolkata
12. Panelist, Panel on Bleeding from tumors, Workshop on Oncologic emergencies, 9 November 2019, AIIMS, New Delhi
13. Panel on Starting a CI Program, 17th Annual Conference of Cochlear Implant Group of India, 11-13 October 2019, Mumbai
14. Factors impacting outcomes in Cochlear Implants, our experience, 5th World Congress on Cochlear Implants in emerging nations, 9-11 October 2019, Cairo, Egypt
15. Infected ears, 5th World Congress on Cochlear Implants in emerging nations, 9-11 October 2019, Cairo, Egypt
16. CI in Infected Ears, 5th World Congress on Cochlear Implants in Emerging Nations, 9-11 October 2019, Cairo, Egypt
17. Participated in round table on CI- Standard Surgery for formulation of guidelines on the topic, 5th World Congress on Cochlear Implants in Emerging Nations, 9-11 October 2019, Cairo, Egypt
18. (De) Addiction patterns of recently diagnosed Oral and Laryngeal squamous cell carcinoma patients and its impact on perioperative outcomes, 7th World Congress on International Academy of Oral Oncology IAOO 2019, 31 August-3 September 2019, Rome, Italy
19. Video on Marginal Mandibulectomy for Mandible abutting early squamous cell carcinoma of buccal mucosa, 7th World Congress on International Academy of Oral Oncology IAOO 2019, 31 August-3rd September 2019, Rome, Italy
20. Cochlear Implant Candidacy, 8th Annual Conference of Indian Academy of Otolaryngology, Head and Neck Surgery and 11th SAARC ENT Conference, 15-18 August 2019, Gurgaon
21. Newer advances in parathyroid identification: ICG; autotransplantation, Pre-conference workshop; 8th Annual Conference of Indian academy of Otolaryngology, Head and Neck Surgery and 11th SAARC ENT Conference, 15-18 August 2019, Gurgaon
22. Extent of neck dissection in early oral cancer, Master course in Oral Cancer Management, 2-4 August 2019, Tata Memorial Centre, Mumbai
23. Malignant Carotid Body tumor, AOI Monthly meet, 19 July 2019, AIIMS, New Delhi

24. Demonstrated Neck Dissection in live demonstration, 8th Cadaveric Head and Neck Course, 17 and 18 July 2019, AIIMS, New Delhi
25. Narrow Band Imaging, Eurasian Society of Head and Neck Oncology, VI Eurasian Head & Neck Cancer Forum, 11-14 July 2019, Moscow, Russia

#### **Chirom Amit Singh**

1. Is routine use of frozen section in oral cancer justified? UK-India Oral Cancer Alliance Symposium on advances in imaging technologies, 27 and 28 April 2019
2. Basic surgical technique Laryngectomy, 5th Head and Neck cadaveric dissection workshop, 17 and 18 July 2019, AIIMS, New Delhi
3. Cadaveric demonstration of laryngectomy, 5th Head and Neck cadaveric dissection workshop 17 and 18 July 2019
4. Facial reanimation 8th Annual Conference of Indian academy of Otolaryngology, Head and Neck Surgery and 11th SAARC ENT conference, 16-18 August 2019, Gurgaon
5. Oral cavity Reconstruction- choosing between locoregional and Free flaps 8th Annual Conference of Indian academy of Otolaryngology, Head and Neck Surgery and 11th SAARC ENT Conference, 16-18 August 2019
6. Panelist, Indian FHNO Symposium, Gingivo-Buccal Cancer 7th World Congress on International Academy of Oral Oncology IAOO 2019, 31 August-3 September 2019, Rome
7. Conservation Laryngeal Surgery – Open partial organ preservation surgery, AIIMS Surgical Oncology Course in Head Neck Oncology, 13 and 14 September 2019
8. Moderator, T3 Carcinoma hypopharynx, Delhi Head and Neck Oncology Group (DHNOG) CME, 6 September 2019
9. Panelist, Panel discussion on Bleeding from tumors, Workshop on Oncologic emergencies, 9 November 2019
10. Basic surgical technique Laryngectomy, 5th Head and Neck cadaveric dissection workshop, 26 and 27 November 2019
11. Cadaveric demonstration of laryngectomy, 5th Head and Neck cadaveric dissection workshop, 26 and 27 November 2019
12. Optimizing outcome in oral cancer reconstruction, International conference on oral cancer and reconstruction, 13 and 4 December 2019
13. Surgical steps of endoscopic medial maxillectomy, 2nd Hands on Functional Endoscopic Sinus Surgery Cadaveric workshop, ACSST, 18 and 19th January 2020

#### **Rajeev Kumar**

1. Open Partial Laryngectomies: When and Why?, EASHNO–2019, The VI Eurasian Head & Neck Cancer, 11-14 July 2019, Moscow, Russia
2. Assessment of depth of invasion on clinical palpation and radiology and its correlation with histopathological depth of invasion in carcinoma tongue patients, EASHNO–2019, The VI Eurasian Head & Neck Cancer, 11-14 July 2019, Moscow, Russia
3. Frontolateral Laryngectomy, Delhi AOI 2019, 19 July 2019, AIIMS, New Delhi
4. Managing Olfactory Neuroblastomas, 6th Annual Conference of IAOHNS and 11th SAARC ENT Conference, 15-18 August 2019, Gurugram, Haryana
5. Evaluation and management of potentially malignant lesions of the oral cavity, International conference on Oral cancer and Reconstruction, 13 and 14 December 2019, New Delhi
6. Endoscopic Sphenopalatine artery ligation, 2nd AIIMS Hands–On FESS cadaveric workshop, 18 and 19 January 2020, ACSST, JNPATC, AIIMS, New Delhi
7. Surgical technique of neck dissection, 9th Head and Neck Cadaveric workshop 2019, 26 and 27 November 2019, ACSST, JPNATC, AIIMS, New Delhi
8. Panelist on case based discussion, Unsafe CSOM, ENT Update-2019, 5-7 December 2019, MAMC, Delhi
9. Post-traumatic facial nerve palsy- Controversies in management, 39th Annual Conference of Neuro-otological and Equilibriometric Society of India, NES-2020, 21-23 February 2020, AIIMS, Patna
10. Management of carcinoma temporal bone, 39th Annual Conference of Neuro-otological and Equilibriometric Society of India, NES-2020, 21-23 February 2020, AIIMS, Patna

#### **Prem Sagar**

1. Case Based Discussion on Thyroid Cancer, 8th AIIMS Head and Neck Dissection Course, 17 and 18th July 2019, CTRF, JNPATC, AIIMS, New Delhi

2. Acquired Laryngomalacia, AOI Delhi Branch monthly clinical meet, 19 July 2019, AIIMS, New Delhi
3. Management of Vestibular Migraine 6th Annual Conference of Indian Academy of Otorhinolaryngology Head & Neck Surgery (IAOHNS 2019) & 11th SAARC ENT Conference, 15-18 August 2019, Gurugram
4. Panelist in discussion on Different case scenarios of vertigo, 6th Annual Conference of Indian Academy of Otorhinolaryngology Head & Neck Surgery (IAOHNS 2019) & 11th SAARC ENT Conference, 15-18 August 2019, Gurugram
5. Case Based Discussion on Thyroid Cancer, 9th Head and Neck Dissection Course, 26 and 27 November 2019, CTRF, JNPATC, AIIMS, New Delhi
6. Surgical steps of endoscopic orbital decompression, 2nd FESS Hands on Cadaveric Workshop, 18 and 19 January 2020, CTRF, JNPATC, AIIMS, New Delhi
7. Surgical steps of endoscopic optic nerve decompression, 2nd Hands-On FESS Cadaveric Workshop, 18 and 19 January 2020 CTRF, JNPATC, AIIMS, New Delhi
8. Setting up a Vertigo Clinic, 39th Annual Conference of Neurotological and Equilibriometric Society of India, NES-2020, 21-23 February 2020, AIIMS, Patna, Bihar
9. Moderator of the panel on 'Nuances in Tinnitus', 39th Annual Conference of Neurotological and Equilibriometric Society of India, NES-2020, 21-23 February 2020, AIIMS, Patna, Bihar

#### **Arvind Kumar Kairo**

1. Surgical principles for Neck dissection, 8th Head and Neck Cadaveric workshop 2019, 17 and 18 July 2019, New Delhi
2. Pinnaplasty, 6th IAOHNS and 11th SAARC ENT conference 2019, 16-18 August 2019, Gurugram
3. Facial flaps and Suturing techniques, 6th IAOHNS and 11th SAARC ENT Conference 2019, 16-18 August 2019, Gurugram
4. Parotid surgery, 3rd Hands on Cadaveric workshop, 30 August 2019, AIIMS, Jodhpur
5. Nasal bleeding management, Official Emergency Medicine National Conference by the Emergency Medicine Association (EMA) and Academic College of Emergency Experts (ACEE) in India, 31 July-4 August 2019, New Delhi
6. Preoperative consideration in FESS, 2nd FESS Cadaveric workshop 2020, 18 and 19 January 2020, New Delhi

#### **Shuchita Singh**

1. Avoiding Complications in Thyroidectomy, 8th Head and Neck Cadaveric dissection workshop 2019, 17 and 18 July 2019, ACSST, JNPATC, New Delhi
2. Avoiding complications in Thyroidectomy, 9th Head and Neck Cadaveric dissection workshop 2019, 26 and 27 November 2019, ACSST, JNPATC, New Delhi
3. Gradenigo's syndrome–Tubercular origin, Delhi AOI monthly meet, 19 July 2019, AIIMS, New Delhi
4. Assessment of swallowing and speech in head neck cancer, 6th IAOHNS and 11th SAARC ENT conference 2019, 16-18 August 2019, Medicity Institute and Research Centre, Gurugram
5. Faculty, Panel discussion–T3 Carcinoma Hypopharynx, 2nd Delhi Head and Neck Oncology group CME, 9 September 19, New Delhi
6. Frontal Sinus, CME on FESS, 2 November 2019, Jamia Hamdard, New Delhi

#### **Hitesh Verma**

1. Complications of FESS, Rhinology Update, BSAMH, 1-5 April 2019, New Delhi
2. Choosing right neck operation, Cadaveric Head and Neck Dissection Course, CTRF, Faculty trauma center, 18 July 2019, AIIMS, New Delhi
3. Challenges in endoscopic revision surgery in skull base region, Delhi AOI monthly meet, 19 July 2019, AIIMS, New Delhi
4. AIIMS Perspective of thyroid surgery, CME Thyroid surgery and airway management, SGPGIMS, 18 July 2019, Lucknow
5. Diagnosis and planning in Rhinoplasty, IAOHNS 2019, 18 Aug 2019, Gurugram
6. Serum galactomannan evaluation in AFRS: Can consider as marker of invasion, RHINOCON 2019, 1 September 2019, Chandigarh
7. Osteoplastic flap approach for posterior table leak, Explore ENT 2019, 30 August 2019, Agra
8. Quiz master, Functional Endoscopic sinus surgery, HIMSA, 2 November 2019, New Delhi

9. Complication of FESS Functional Endoscopic Sinus surgery, HIMSA, 2 November 2019, New Delhi
10. Choosing right neck operation, Cadaveric head and neck dissection course, CTRF, Facility trauma center, 27 November 2019, AIIMS, New Delhi
11. Role of vitamin in allergic rhinitis, RAJAOICON, 15 December 2019, Ranthambore
12. Robotic parapharyngeal surgery (VIDEO), RAJAOICON, 15 December 2019, Ranthambore
13. Uncinectomy, Maxillary Anrostomy, 2nd Cadaveric FESS course, CTRF, Facility Trauma center, 17 January 2020, New Delhi
14. Ethmoidectomy, 2ND Cadaveric FESS course, CTRF, Facility Trauma center, 17 January 2020, New Delhi
15. Upper airway surgery for OSA, AIIMS PULMOCRIT, 7 March 2020, New Delhi

#### **Oral papers/posters presented**

1. Chirom AS, Bollu S, Sikka K. High grade osteosarcoma of mandible in young female; a challenge to wards Survival and Quality of life, 7th World Congress on International Academy of Oral Oncology IAEO 2019, 31 August-3 September; 2019
2. Chirom AS, Chandran CA, Kumar R, Sikka K. Comparison of quality of life after head and neck free flap reconstruction with radiation therapy versus without radiation therapy, 7th World Congress on International Academy of Oral Oncology IAEO 2019, 31 August-3 September; 2019
3. Kairo AK. Combined Approach Glottoplasty- novel method to treat bilateral cord abductor cord palsy, Delhi AOI monthly meet, 19th July 2019, New Delhi
4. Kairo AK. Use of Abbe estlander flap in cases of buccal mucosa carcinoma, 6th IAOHNS and 11th SAARC ENT conference 2019, Gurugram
5. Kumar R , Ponneth M, Manchanda S, Barwad A, Sagar P, Singh C, et al. Assessment of depth of invasion in tongue squamous cell carcinoma (T1-T3) by clinical palpation & radiology and their correlation to histopathological depth of invasion, 19th Annual conference of Federation of Head & Neck Oncology (FHNO), Chennai, 11th-13th October 2019
6. Kumar R, Ponneth M, Manchanda S, Barwad A, Sagar P, Singh C, et al. An assessment of depth of invasion on clinical palpation and radiology and its correlation with histopathological depth of invasion in carcinoma tongue patients, 6th Annual conference of IAOHNS and 11th SAARC ENT conference, Gurugram, Haryana, 15th-18th August 2019
7. Kumar R, Ponneth M, Manchanda S, Barwad A, Sagar P, Singh C, et al. Assessment of depth of invasion on clinical palpation and radiology and its correlation with histopathological depth of invasion in carcinoma tongue patients, 7th World Congress of the International Academy of Oral Oncology, Rome, Italy, 31st August-3rd September 2019
8. Kumar R, Sakthivel P. Video on Infrahyoid myocutaneous flap for tongue reconstruction, 7th World Congress of the International Academy of Oral Oncology in Rome, Italy, 31st August-3rd September 2019
9. Kumar R, Thakur K, Sagar P, Ponneth MS, Barwad A, Kumar R, et al. Impact of depth of invasion in oral tongue squamous cell carcinoma, 7th World Congress of the International Academy of Oral Oncology in Rome, Italy, 31st August- 3rd September 2019
10. Kumar R. Video on Endoscopic stapes surgery, 28th Annual conference of Indian Society of Otolaryngology (ISCON 2019), 15th-17th November 2019
11. Kumar R. Video on Supracricoid Partial Laryngectomy, 19th Annual conference of Federation of Head & Neck Oncology (FHNO), Chennai, 11th-13th October 2019
12. Sagar P, Geetha P, Kumar R, Kumar R. Clinical profile of patients fulfilling the diagnostic criteria for both Meniere's disease and Vestibular Migraine, 6th Annual Conference of Indian Academy of Otorhinolaryngology Head & Neck Surgery (IAOHNS 2019) & 11th SAARC ENT Conference, 15th-18th August 2019
13. Sagar P, Kumar R, Thakur K, Ponneth MS, Barwad A. Impact of Peri-Neural Invasion on the Prognosis of Squamous Cell Carcinoma of Oral Tongue, 7th World Congress of the International Academy of Oral Oncology, 31st August- 3rd September 2019 Rome, Italy
14. Shekhar AJ, Sagar P, Kumar R. Auto Immune Inner Ear Disease-A classical Case. 39th Annual Conference of Neuro-otological and Equilibriometric Society of India, NES-2020, 21st-23rd February 2020 AIIMS, Patna
15. Sikka K, Abhilash K, Gupta P, Chirom A, Thakar A. 7th (De)Addiction patterns of recently diagnosed Oral and Laryngeal squamous cell carcinoma patients and its impact on peri-operative outcomes, 7th World Congress on International Academy of Oral Oncology IAEO 2019, 31 August- to 3rd September; 2019, Rome, Italy
16. Sikka K. Video on Marginal Mandibulectomy for Mandible abutting early squamous cell carcinoma of buccal mucosa, 7th World Congress on International Academy of Oral Oncology IAEO 2019, 31 August to 3 September; 2019, Rome, Italy

17. Verma H. Osteoplastic flap approach for posterior table leak (video competition) RHINOCON 2019, 1 September 2019, Chandigarh
18. Verma H. Timing of optic nerve decompression in craniofacial fibrous dysplasia- clarification of indication and prognostication of surgery: an institutional review (junior consultant award paper) RHINOCON 2019, 1 September 2019, Chandigarh

## RESEARCH

### Funded projects

#### *Ongoing*

1. Prevalence & Etiology of hearing impairment- National Task Force project (Coordinating Centre), Alok Thakar, ICMR, 4 years, 2015-2019, Rs 97 lakhs
2. Effects of non-ionizing electromagnetic field on human health: effects on auditory and vestibular system, Rakesh Kumar, ICMR, 3.5 years, Rs 90 lakhs
3. Sound4All: Re-engineering High-end Audiometric Devices for Robust and Affordable Audiological Testing Phase 2, Kapil Sikka, Indo German Science and Technology Center (IGSTC), 3 years, 2019-2022, Rs 54 lakhs
4. Factors impacting outcomes of Cochlear Implants in Pediatric population, Kapil Sikka, ICMR, 3 years, 2019-2022, Rs 2.84 lakhs
5. The Clinicopathological evaluation of Cholesteatoma aggressiveness, Kapil Sikka, AIIMS, 2 years, 2018-2020, Rs 6.5 lakhs
6. Study of Human Papilloma Virus (HPV) Association in Sinonasal Tumors, Kapil Sikka, AIIMS, 2 years, 2018-2020, Rs 20 lakhs
7. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Chirom Amit Singh, AIIMS, 2 years, 2018-2020, Rs 4.95 lakhs
8. Evaluation of genetic profile of olfactory neuroblastoma, Rajeev Kumar, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
9. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Hitesh Verma, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
10. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer, Hitesh Verma, ICMR, 3 years, 2019-2022, Rs 3 crores
11. Salivary micro-RNA: Their utility as bio-marker during molecular changes in tobacco users vs. tobacco non-users, Shuchita Singh, AIIMS, 2 years, 2016-18, Rs 9.8 lakhs
12. Study of Inner Ear Protein Otolin-1, Vitamin D and Ionized Calcium in circulation as a biomarker in non-Meniere's disease vertigo patients, David Victor Kumar Irugu, AIIMS, 2 years, 2018-2020, Rs 8.66 lakhs
13. Pilot comparative study on expressional level difference of 'psoriasin' between different squamous ear diseases in patients undergoing mastoid surgeries BRCC3 Expression as a prognostic marker in Oropharyngeal Carcinoma Patients and its effect on radiotherapy resistance, Arvind Kumar Kairo, AIIMS, 2 years, 2018-2020, Rs 9.05 lakhs
14. Prevention of Radiotherapy Induced Xerostomia by intraductal administration of N- Acetyl, Arvind Kumar Kairo, ICMR, 3 years, 2020-2023, Rs 36 lakhs

#### *Completed*

1. To elucidate the functional relevance of Sin3B mRNA alternate splicing in pathogenesis of oral squamous cell carcinoma (OSCC), SC Sharma, Science and Engineering Research Board (SERB), 2 years, 2017-2019, Rs 3.55 lakhs
2. Evaluation of level of Vascular Endothelial Growth Factor' – in cases of Recurrent Respiratory Papillomatosis, Hitesh Verma, AIIMS, 2 years, 2016-18, Rs 4.7 lakhs
3. Clinical and biochemical evaluation for depression in patients with recently diagnosed head and neck cancer, Prem Sagar, AIIMS, 3 years, 2016-2019, Rs 8 lakhs

### Departmental projects

#### *Ongoing*

1. Allogenic tissue engineered tracheal transplantation in wistar rats – preclinical study
2. To evaluate the role of transnasal esophageal endoscopy for detection of synchronous esophageal neoplasm in head and neck cancer patients

3. Impact of OSMF on Occult and Overt lymph node metastasis in Gingivobuccal complex carcinoma of Oral Cavity- A prospective study
4. Design and development of Tracheoesophageal prosthesis for improved deployment and voice rehabilitation in post-laryngectomy patients.
5. Parathyroid identification in thyroid surgery by naked eye evaluation, microscopic evaluation and by near infrared fluorescence using indocyanine green
6. Evaluation of clinical features and treatment outcomes in patients with Skull Base Osteomyelitis
7. Evaluation of serum Otolin 1as biomarker and significance of serum vitamin D in BPPV Patients
8. Comparison of different cochlear implantation outcome scores with auditory cortical activity seen on fNIRS in prelingual profound SNHL patients at least 3 years after cochlear implantation
9. Severity of OSA- An evaluation with effect of surgery by inflammatory markers and correlation with anatomical factors
10. Evaluation of fat implantation in patients with sulcus vocalis and videolaryngostroboscopic assessment before and after treatment
11. To determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial/ Total Laryngectomy
12. Outcomes of patients undergoing same stage pinna reconstruction and canalplasty
13. Coblation assisted endoscopic excision of juvenile nasopharyngeal angiofibroma: A prospective pilot study
14. Survival outcomes and quality of life evaluation for surgically treated oral cavity carcinoma patients

### ***Completed***

1. Assessment of depth of invasion in oral cavity squamous cell carcinoma (T1-T3) by clinical palpation and radiology and their correlation to histopathological depth of invasion
2. Study of microvascular density and tumour associated macrophages in oral squamous cell carcinoma
3. A prospective study to explore patterns of nicotine dependence in newly diagnosed cases of head and neck squamous cell carcinoma and evaluate its association with perioperative complications
4. Outcome in patients undergoing surgical correction of microtia
5. Evaluation of various clinical and immunological parameters in predicting the outcomes of sinonasal and skull base invasive fungal diseases: A descriptive study
6. A pilot study on the causal relationship of gastroesophageal reflux and obstructive adenoid or adenotonsillar hypertrophy in paediatric population
7. SDH-X mutation in head and neck paragangliomas: A clinicopathological study
8. Effect of short term endotracheal intubation on laryngeal function
9. Clinico radiological correlation of severity of disease with vit D and immune markers in cases of allergic rhinitis and nasal polyposis
10. Comparison of post cochlear implant outcomes in children with inner ear malformation vs normal anatomy
11. Prospective pilot study to evaluate the incidence of lymph node metastasis in olfactory neuroblastoma
12. EMG findings in dysphonia due to laryngopharyngeal reflex disease and correlation with treatment outcome: an observational study
13. To correlate functional near infrared spectroscopy measurement of auditory cortex activation with auditory verbal outcome in prelingual profound sensorineural hearing loss patients after cochlear implantation
14. Assessment of clinical profile in patients of Menieres Disease and Vestibular Migraine
15. Exploration of first echelon lymph node drainage of squamous cell carcinoma of tonsil with reference to lateral retropharyngeal lymph node of rouviere
16. Role of 68 gapsmahbed cc scan in patients with juvenile nasal angiofibroma S
17. Assessment of host immunological tumour response by histochemistry in cancer oral cavity and its impact on prognosis-retrospective cohort study
18. A prospective study to determine the efficacy of PET-CT scan in determining residual disease in locally advanced head and neck squamous cell carcinoma managed with primary chemoradiotherapy (Department of Nuclear Medicine)
19. A pilot study to assess the therapeutic potential of Lu- 177 DKFZ- PMSA 617 in Ga-68 PSMA HBED CC PET-CT positive anaplastic thyroid carcinoma (Department of Nuclear Medicine)

## Collaborative projects

### Ongoing

1. Prevalence of human papilloma virus in head-neck squamous cell carcinoma (AIIMS Site), Head Neck Co-operative Oncology Group (HNCOG)
2. Evaluation of machine learning techniques including deep learning for the identification of Malignancy in tissue samples, Pathology
3. 3D Printed Tracheal grafts for Regenerative application, Stem Cell Facility
4. Molecular Characterization of Olfactory Neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Pathology
5. Interdisciplinary variations in the spectrum of oral mucosal lesions, Dermatology
6. Pilot study on comparison of efficacy and usability of indigenous handheld suction assembly for pediatric tracheostomised patients with the existing suction devices, Pediatrics
7. Developing suctioning machine for cleaning tracheostomy tubes, IIT Delhi
8. Cleft Lip and Palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital based study, Centre for Dental Education and Research
9. Serum Zinc levels in Indian population with chronic idiopathic tinnitus, Pharmacology
10. A longitudinal Survey to assess Patient Satisfaction for Nurse Initiated Follow Up Tele-Consultation among patients discharged from a selected tertiary care hospital, Nursing
11. An OMR sheet based feed-back survey on in-patient satisfaction regarding various hospital services in a selected tertiary care hospital, College of Nursing
12. Phenotypic and genotypic characterization of non-typeable Haemophilus influenzae (NTHi) from North India, Microbiology
13. A Study of nasopharyngeal carriage of Haemophilus influenza in north Indian population, Microbiology
14. Fluorosis mitigation in scheduled caste community of Bihar through intervention and counselling, Anatomy
15. Pilot study on comparison of efficacy and usability of indigenous handheld suction assembly for paediatric tracheostomised patients with the existing suction devices, Paediatrics
16. Clinico-radio-pathological evaluation of different possible primary sites in cases of FNAC proven SCC of lymph node in head and neck malignancy, Radio-diagnosis and Pathology
17. Role of ultrasound in predicting the depth of tumour invasion and lymph node metastasis in early tongue carcinoma, Radiology
18. Evaluation of split- bolus dual energy CT in staging of carcinoma larynx, Radiodiagnosis
19. Evaluation of WNT and SHH signalling pathways in olfactory neuroblastomas, Pathology, Medical Oncology
20. To compare the functioning of delayed surgical obturator fabricated using conventional and vacuum formed method in maxillectomy patients: a randomized control study, Prosthodontics and Pathology
21. To evaluate the role of Kit-based Loop-Mediated Isothermal Amplification (TB-LAMP) assay in the diagnosis of Extra-pulmonary tuberculosis (EPTB), Medicine

## PUBLICATIONS

**Journals: 43**

**Abstracts: 3**

**Chapters in Books: 3**

## PATIENT CARE

Apart from OPD, Operation theatre and minor OT services, the department runs a rehabilitation unit of audiology and speech pathology and specialty clinics in Audiology and skull base with cochlear implant, rhinology, vertigo, voice and swallowing, and twice a week Head and neck cancer clinic. Department also provides rural services at CRHSP Ballabgarh and Outreach OPD, Jhajjar. The statistics are as follows:

Ward Admissions (D4 Ward): 5298

Long admissions: 1469

Short Admissions: 3829

Number of patients operated

Main OT:

Major cases: 2690

Minor cases: 1938

Minor OT:

OPD procedures: 16960

Number of patients seen in OPD

New patients: 46910

Old registration: 65382

Number of patients seen in RUAS

New patients: 2755

Old Registrations: 2273

Total: 5028

Total audiological tests done (PTA+Tympanometry+FFA+BERA+OAE+ASSR): 29,075

### Specialty Clinics

S. No.	Clinic	New cases	Old cases	Total
1	Vertigo	131	267	398
2	Otology and Skull Base	122	34	156
3	Cochlear Implant	264	547	811
4	Voice	294	246	540
5	Rhinology	207	87	294
6	Head and Neck Cancer	1208	4515	5723
7	Head and Neck Rehabilitation Clinic	76	87	163
8	Radiology Conference	1024	-	1024

### Community service clinics

- Twice weekly clinics in community hospital in Ballabgarh with once a week operating facilities
- Weekly clinics in primary health centre in Gurgaon
- Weekly clinics in community hospital in IIT Delhi
- The department is providing daily OPD services at Outreach OPD Jhajjar and thrice a week OT services.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor SC Sharma** was Chairman designate of National Medical Commission; President, AIIMS, Jodhpur; Member, Institute Body of AIIMS, Raebareli; Fellow (Member of University Senate), Punjab University, Chandigarh; Member, Institute Body, Standing Purchase Committee and Standing Estate Committee of PGIMER, Chandigarh; Chairman, HR Sub-committee of PGIMER, Chandigarh; Honorary Advisor (Deafness), under the National Programme for Prevention and Control of Deafness (NPPCD) in the Ministry of Health & Family Welfare, Govt. of India, New Delhi; Member, Technical Steering Committee, National Programme for Prevention and Control of Deafness (NPPCD) in the Ministry of Health & Family Welfare, Govt. of India, New Delhi; Member, Authorization Committee under the Transplantation of Human Organs Act, 1994, AIIMS, New Delhi; Co-Chairman, Engineering Advisory Committee, AIIMS, New Delhi; Subject Expert, Committee for Sleep disorders, cognitive dysfunction & ENT projects under the programme entitled "Possible Impact of EMF Radiation Exposure from Mobile Towers and Handsets on Life" and related R&D initiatives, Science & Engineering Research Board, Government of India, Vasant Kunj, New Delhi; Chairman, 'Ear, Nose and Throat Surgery Instruments' Sectional Committee of Bureau of Indian Standards (MHD04); Member, Executive Committee of the Haryana Welfare Society for Persons with Speech & Hearing Impairment, Panchkula; Member, Committee to taking initiative of promoting a culture of excellence in the new AIIMS (constituted by Hon'ble Minister of Health and Family Welfare, GOI); Visiting Professor in Department of ENT, AIIMS, Rishikesh; Member, 'National Medical Devices Promotion Council' under the aegis of Department for Promotion of Industry & Internal Trade (DIPP), Ministry of Commerce and Industry, Government of India; Attended official function (inaugurated Modular Operation Theatre) of AIIMS, Jodhpur on 10 April 2019; Accompanied the Hon'ble Vice President of India during his visit to Ranchi and Chennai, 10th – 13 August 2019; Chief Guest of the '7th Annual Day' function of AIIMS, Jodhpur on 15 September 2019; Visited the site of ESIC Medical College at Alwar, Rajasthan as a Team Member on 16 September 2019 (Ref. No. F.10-8/92(D) Estt. I dated 5 September 2019); Chaired the 2nd Convocation ceremony of AIIMS, Jodhpur on 7th December, 2019.

**Professor Alok Thakar** is Chairperson, ICMR Committee for Standard Treatment Workflows in ENT, 2019; Co -Chairperson, Subcommittee for Medical Devices, Standing National Committee on Medicines; Co-ordinator for Head- Neck Cancer National Cancer Grid; Honorary President - Foundation for Head-Neck Oncology; Council Member - Asia-Pacific Society of Thyroid Surgery (APTS) – 2019-2022; Convenor - Delhi Head-Neck Oncology Forum; WHO Expert Member- Regional Expert Group on Hearing Care for South-East Asia Region; International Faculty American academy of Otolaryngology & Head-Neck Surgery (AAOHNS 2019), New Orleans; Visiting Professor, Department of Otolaryngology, AIIMS Rishikesh

(2019); Member, Board of Studies Department of Otorhinolaryngology, Faculty of Health Sciences, Manipal University 2017; Member, Project Review Committee, Indian Council of Medical Research; Padmabhusan Dr. Dukhan Ram Memorial Oration- New Perspectives to Vocal fold paralysis, Bihar & Jharkhand 2019 Annual Conference, Dhanbad, 6-8 December 2019; Keynote Lecture- Surgical Reanimation for the paralyzed facial nerve, Annual meeting of Gujrat Association of Otolaryngologists of India Udaipur, 28 September 2019.

**Dr Rakesh Kumar** is Chairperson of MHD-4 of BIS for looking after standards of ENT surgical instruments in India; Honorary Vice President, Otorhinolaryngologic Research Society of AIIMS (ORSA); Honorary Consultant at Department of Otorhinolaryngology and HNS, IGIMS Patna; Honorary Visiting Consultant at Department of Otorhinolaryngology and HNS, AIIMS, Rishikesh; Attended workshop on improving hearing outcome in cochlear Implant at St Mary Hospital, Seol, South Korea; Starting new facilities at other places in India-**Cochlear implant programme** at AMU Aligarh; Organized Three workshops/conferences and CMEs. Ninth Head Neck Dissection Course, CTERF AIIMS, New Delhi, 26-27 November, 2019 and two hands on workshops for Training ENT surgeons in advanced cochlear implantation; Oration on Cochlear Implant at Himachal Pradesh Chapter of AOI held at IGMC, Shimla on 1 June 2020; Invited as external examiner for MS (ENT) at Govt. Medical College, Haldwani, Guwahati, KGMU, Lucknow, Delhi University, RML; Invited as external subject expert in the panel of standing selection committee for recruitment of faculty at AIIMS, Bhubneshwar and Bhopal; Invited guest faculty at various.

**Dr Kapil Sikka** is Editorial Board Member and Assistant Editor, Indian J of Otolaryngology; Reviewer, Indian J Otolaryngology, Indian J Otolaryngology, Head and Neck Surgery, Indian J Pediatrics, Indian J Cancer; Joint Secretary, Association of Otolaryngologists of India, Delhi State Branch; Hony Treasurer, Otorhinolaryngologic Research Society of AIIMS (ORSA), 2017; Organising Secretary, International Head and Neck Cadaveric workshop; Mentoring team, Cochlear Implant program at JNU Aligarh and DMC Ludhiana; Member Medical Board, AIIMS; Member, editorial team for research directory, AIIMS; Organised Public awareness camp and Panel Discussion on World Hearing Day on 3 March 2020. Was widely covered by media, both print and electronic; Conducted 2 day advanced surgical and electrode design workshop on cochlear implants “Improving hearing performance with innovation” at AIIMS, New Delhi on 12 and 13 February 2020; Invited faculty at 12 national and international Workshops and Conferences; Conducted 8 and 9 Cadaveric Head and Neck Course at ACSST, Trauma Centre, AIIMS in July and November 2019; Organized CI Habilitation and Awareness workshop for parents on 13 and 14 November 2019 at AIIMS and Mandi House Auditorium. Addressed the parents and their queries; Expert, panel discussion on prevention and early diagnosis of Cancer on “Swasth Bharat” on Lok Sabha TV... Addressed live queries on 8 November 2019; Faculty trainer for CI 532 Electrode for Cochlear Implant and conducted workshop for same on 7 and 8 November 2019; Faculty for development of Extra Pulmonary TB Training module and also preparation of training content; Awarded scholarship by THNS (Taiwan Head and Neck Society ) for attending the 13th Annual Meeting of THNS, Taichung City, 26-28 July 2019; External Examiner, MCh Exam at Tata Memorial Hospital, Mumbai; Member, Workshop for institutions identified for issue of disability certificates under All India Quota To ensure application of uniform criteria as per amended Regulations by MCI conducted at AIIMS on 1 June 2019. Led the session on Hearing and Speech Disability; Mentor, CI Program at Safdarjung Hospital, New Delhi

**Dr Chirom Amit Singh** Organized and conducted 2nd Microvascular anastomosis workshop (Live rate model) from 27 to 30 January 2020; One of the members of AIIMS team who conducted health camp at Dharamshala from 19 to 23 June 2019; Reviewer BMJ Innovations; Co-Organised and Conducted 8th and 9th Cadaveric Head and Neck Course at ACSST, Trauma Centre, AIIMS in July and November 2019; Organised Public awareness camp and Panel Discussion on World Hearing Day on 3 March 2020. Was widely covered by media, both print and electronic; Faculty incharge, ENT Department store and faculty incharge Undergraduate Exams; External Examiner, SPMC Bikaner RUHS; Chairperson, Management of Oropharynx, Larynx and Hypopharynx Cancer: Surgical Vs Non surgical & Robotic Vs Endoscopic 4th Congress of IGRhNS on 4-6 October 2019.

**Dr Rajeev Kumar** was awarded Second Prize in “Junior Consultant Award Paper” category in 6th Annual Conference of IAOHNS and 11th SAARC ENT Conference from 15th to 18th August, 2019 at Gurugram, Haryana; Honorary Treasurer of Association of Otolaryngologists of India, Delhi Branch, 2019-2020; Reviewer in the following medical journals: **Indian Journal for Otolaryngology and Head & Neck Surgery, Journal of Medical Case Reports, Indian Journal of Radiology and Imaging, World Journal of Paediatric Surgery, BMJ Case reports.**

**Dr Prem Sagar** was awarded Gold Medal in Temporal bone dissection competition in 28th Annual Conference of Indian Society of Otolaryngology (ISOCON 2019) on 15-17 November 2019 in Kolkata, West Bengal; Judged session on PG Award Paper presentation, 28th Annual Conference of Indian Society of Otolaryngology (ISOCON 2019), 15-17 November 2019 Kolkata, West Bengal; **Member** of Expert group for review of Health Benefit Packages for ENT under AB-PMJAY, Ministry of Health and Family Welfare, Govt. of India; Member of Expert group for Standard Treatment Workflows (STWs) for ENT by Ministry of Health and Family Welfare, Govt of India. Co-opt Member of the panel on ENT Sectional Committee looking after and setting up the standard of ENT Surgery Instruments, MHD 04 by Bureau of Indian Standards; Honorary Editor

of Association of Otolaryngologists of India, Delhi Branch, 2019-2020; Executive body member of Neuro-Equilibriometric Society (NES)- India, 2019-2020; Reviewer in the following medical journals: Annals of Otology, Rhinology & Laryngology, SAGE Journals; Indian Pediatrics, official journal of Indian Academy of Pediatrics, Springer Nature. International Archives of Otorhinolaryngology, Thieme publication, Developmental Medicine & Child Neurology, a Mac Keith Press publication and official journal of the American Academy for Cerebral Palsy and Developmental Medicine (AACPDM) and the British Paediatric Neurology Association (BPNA), Journal of International Medical Research, SAGE Journals; BMJ Innovations, BMJ Journals.

**Dr Shuchita Singh Pachaury** organized a Talk on Endoscopic ear surgery by a foreign guest faculty, by Dr Pryer at AIIMS, New Delhi on 9 December 2019.

**Dr Hitesh Verma participated in** Allergy and ear disease. “Hello Doctor program” Sahara news 24 November 2019; Health camp. Shiv kumari Dubey teaching institute, Pratapgarh on 7 December 2019; CORONA virus talk. INDIA TV, 13 March 2020; MBBS supplementary examination. 12 March 2020, HIMSA

## 9.27. Paediatrics

### Professor and Head

Ashok K. Deorari (Neonatology)

### Professors

Vinod K. Paul (On deputation to NITI Ayog) (Neonatology)

Arvind Bagga  
(Nephrology)

Sushil K Kabra  
(Pulmonology, Intensive Care, Tuberculosis)

Madhulika Kabra  
(Genetics)

Pankaj Hari  
(Nephrology)

Sheffali Gulati  
(Neurology)

Rakesh Lodha  
(Pulmonology, Intensive Care, Tuberculosis)

Rachna Seth  
(Oncology)

Vandana Jain  
(Endocrinology)

Ramesh K Agarwal  
(Neonatology)

### Associate Professors

Neerja Gupta  
(Genetics)

M Jeeva Sankar  
(Neonatology)

Aditi Sinha  
(Nephrology)

Biswaroop Chakrabarty  
(Neurology)

Kana Ram Jat

Jhuma Sankar  
(Pulmonology, Intensive Care, Tuberculosis)

Rajni Sharma  
(Endocrinology)

Anu Sachdeva  
(Neonatology)

Prashant Kumar Jauhari  
(Neurology)

Rohan Malik  
(Gastroenterology)

Jagdish Prasad Meena  
(Oncology)

Narendra Kumar Bagri  
(Rheumatology)

### Assistant Professors

Aditya Kumar Gupta  
(Oncology)

Ankit Verma  
(Neonatology)

### Scientists

Madhumita Roy Chowdhary  
Rashmi Shukla (Contract)

Amita  
Kajal Jain

### Other Staff

Anuja Agarwala (Dietician)  
Pallavi Mishra (Biochemist)  
Dhaneshwar Yadav

Sumita Gupta (Senior Physiotherapist)  
Sadhna Arora (Technical Officer)  
Neena Mehta

(Medical Social Service Officer)

### HIGHLIGHTS

The Department holds the distinction of running six DM courses, two WHO collaborating centres (WHO Collaborating Centres one in Newborn Training & Research in Newborn Care and another on Training in Clinical and Laboratory Genetics) and two ICMR advanced centres of Excellence (Nephrology & Pulmonology) and a Centre for Advanced Research for Childhood Neurodevelopmental Disorders. There are at present 46 DM students and 38 MD students enrolled in Academic programs and another 34 non-academic senior residents postions.

Divison of Neonatology organised 'Advocacy meeting for National Newborn Health' on 21 November 2019 with WHO India country office support for partners (Niti Aayog, GOI, UNICEF, PATH, USAID, IAP, NNF India) and state leaders at Director's Board Room, AIIMS, New Delhi

Under leadership of Departmental Faculty Postgraduate students brought multiple lares to the Department.

### Awards

- Dr. Umang Bharadwaj and Dr. Satya Prakash MD Residents won the NNF National Quiz, held at NEOCON in Hyderabad between 12-15 December 2019

- Dr. S. Madathil, DM won the Dr. S.S. Manchanda Neonatology Research Award for his study titled, “Intravenous Fentanyl versus Intravenous Ketamine for analgesia during laser treatment for Retinopathy of prematurity (ROP) in preterm infants – A Randomized Trial”, at the 57th IAP PEDICON held in Indore from 9-12 January 2020
- Dr. Sagar T, MD won the Dr. Meherban Singh Gold Medal Award for his study titled, “Comparison of Physiological responses during Kangaroo care by fathers and mothers in stable preterm neonates: A non- inferiority cross over study”, at the IAP NEOCON held in Bangalore from 27-29 September 2019

Nearly 10 research papers from various Divisions were judged as Best Paper in various specialty conferences

## EDUCATION

Department is running six DM courses in Neonatology, Nephrology, Neurology, Genetics, Oncology and Pulmonology & Intensive care with 43 students enrolled. A Vibrant PhD program is ongoing with five students.

**MD Program:** An MD program involving a total of 37 students is ongoing. There are regular teaching sessions and a system of ongoing internal assessment. New flip class teaching by Faculty once a month has been introduced. We undertook several training workshops including the Neonatal resuscitation & Paediatrics Advanced Life support programme for postgraduate students of the Department and Ventilation Workshop for the for postgraduate students of the Department.

**DM Program:** All the Divisions have regular structured teaching activities 3-4 times a week. Interdisciplinary and inter-departmental teaching in the form of integrated seminars and case discussions, are encouraged in all disciplines. Regular small workshops and interactive case discussions involving residents and faculty are held. Pulmonology Division uses Telemedicine to connect to other institutions. Neonatology Division organised weekly workshops on common topics such as Kangaroo Mother Care, Total Parenteral Nutrition, understanding equipments, which involve hand on training of residents and nurses. The Division organised 24 such workshops in the last year.

**MBBS teaching:** Departmental faculty is involved in bedside teaching of MBBS students during their posting in Pediatrics (OPD and wards) along with lectures, structured tutorials and integrated seminars. Department of Paediatrics have contributed for the development of skill modules for Undergraduate Medical students for SET facility. Division of Neonatology organised a workshop for UG students on Standard Treatment Protocols for management of Sick neonates using wall charts, simulators, tablets, case studies and workshop on neonatal resuscitation for sixth semesters.

## Endocrinology

- Education and Patient Interaction Programs were held regularly for children with Type 1 Diabetes. New resource material has been developed for children with type 1 diabetes. These include booklets on carbohydrate counting and healthy recipes.
- A dedicated interactive bilingual website for Type 1 diabetes has been developed. It has been made widely available through the Indian Society of Pediatric and Adolescent Endocrinology
- Interactive group sessions are held regularly for children with obesity and their families. A dietician, psychologist and yoga instructor (all employed in research projects) are part of the multi-disciplinary team.

## Gastroenterology

- Short Visit (14-26 September 2019) to Boston Children’s Hospital & Harvard Centre for excellence in celiac disease as part of INDO –US Science and technology Forum (IUSTF) faculty exchange program
- Short term training (24-30 November 2019) in Pediatric IBD at Malaga Spain
- Co organized annual Celiac day and Public lecture at AIIMS New Delhi with Department of Gastroenterology on 15 February 2020 with over 500 people attending
- Upgradation and sanctioning of new equipment: capsule endoscopy, enteroscopies, pH impedance apparatus
- Addition of Gastroenterology Specialty Nurse to the team and her training

## Neonatology

- Dr Ashok Deorari has been elected as President of National Neonatology Forum of India for the year 2020, an organization with nearly 8500 members
- Division of Neonatology is re-designated a WHO Collaborating Centre (2019-23) for training and research in Newborn Care

- Our WHO Collaborating Center for Newborn health supported by UNICEF, UNFPA, USAID and WHO disseminates QI to organizations through its on-line resources, face-to-face workshops and the Point of Care Continuous Quality Improvement (POCQI) module. A dedicated website (<http://aiimsql.org/>) on quality improvement provides free resources for teaching and learning QI, and as a platform for capacity building of teams and sharing QI work. Many SEARO (South East Asian Regional Organization) countries have initiated QI work in their areas. Division has facilitated many workshops for Improving Quality of Hospital Care for Maternal and Newborn Health in India.
- The Division of Neonatology has partnered with PGI, Chandigarh and GMCH, Chandigarh, and Public Health Foundation of India to improve the quality of care of preterm neonates being treated in special newborn care units (SNCU) in four states of the country. The major objective of this activity was to reduce the incidence of retinopathy of prematurity (ROP) in preterm neonates by implementing evidence based practices.
- Division of Neonatology is using e-Learning for disseminating Evidence Based Practices on Newborn Health for healthcare professionals. Currently, three e-learning courses are being offered ([www.ontop-in.org](http://www.ontop-in.org)): Sick newborn care, Newborn nursing and CPAP. We have completed nearly 18 sick newborn and eight essential newborn care courses.
- Developed an App on mobile phone on Preterm baby care package (Download on Android as WHO AIIMS PTC & iOS as Preterm Care) which deals in evidence-based management of the preterm infant is available online and has been completed by 3000 healthcare professionals [www.pretermcare-elimintaingroup.org](http://www.pretermcare-elimintaingroup.org).
- Organised 'Advocacy meeting for National Newborn Health' on 21 November 2019 with WHO India country office support for partners (Niti Aayog, GOI, UNICEF, PATH, USAID, IAP, NNF India ) and state leaders at Director's Board Room, AIIMS, New Delhi

### **Nephrology**

- Professor Arvind Bagga was awarded the prestigious IPNA Education award during the triennial congress of the International Pediatric Nephrology Association, held in Venice, Italy
- Dr Aditi Sinha was member of the core group for IPNA guidelines on management of steroid resistant nephrotic syndrome

### **Neurology**

- Department of Pediatrics organized 4th Dr OP Ghai Memorial Oration which was given by Prof Veena Kalra on "Pediatric Neurology: Present and Future" on 27 November 2019 at AIIMS, New Delhi

### **Oncology**

- Organized patient education and awareness program for child cancer programs
- Organized public lecture and exhibition on childhood cancers
- Facilitated financial assistance from government and non government organization to families with a child cancer patient
- Prepared modules on E-Learning on Cancer Fundamentals as part of initiative by Indian Cancer Society

### **Rheumatology**

- Patient awareness talk on "Autoimmune diseases in children" in public awareness programme "Total Health" on Doordarshan broadcasted on 27 January 2019

### **Genetics**

1. Undergraduate Teaching including teaching for Nurses : 20 lectures on common Genetic, and Pediatric problems
2. Postgraduate Teaching (Pediatrics): 5-6 days a week
3. Also involved in Biotechnology PG teaching
4. PhD (Genetics) teaching – 2 classes per week

### ***Short Term Training Record - 2019-2020***

1. Dr Ankur Singh, 1-30 April 2019, 1 month, Molecular, Cytogenetics, Biochemical, Institute of Medical Sciences, Banaras Hindu University, Varanasi
2. Dr Siva S, 30 September 2019 to 31 March 2020, 6 months, Molecular, Cytogenetics, Biochemical DBT under UMMID initiative
3. Dr Ambrish, 14 October 2019 to 15 April 2020, 6 months, Cytogenetics, DBT under UMMID initiative
4. Dr Ekta, 16 October 2019 to 15 April 2020, 6 months, Molecular, Cytogenetics, Biochemical, Lady Harding Medical College, New Delhi
5. Neetu Kataria, 15 February 2019 to 30 April 2019, 2 ½ months, Molecular Lab, College of Nursing, AIIMS, Rishikesh, Uttarakhand
6. Ms. Surbhi, 01 June 2019 to 30 July 2019, 2 months, Biochemical Lab, Molecular Lab, Maharshi Dayanad University, Haryana
7. Ms. Sonia Jangra, 01 June 19 to 31 July 19, 2 months, Biochemical Lab, Molecular Lab, Maharshi Dayanad University, Haryana
8. Lt. Col. Shivani Sangwan, 17 June 2019 to 16 June 21, [Long Term Training], 2 years (24 months), Cytogenetic Lab, Office of DGAFMS/DG-1D, Ministry of Defence, New Delhi

### ***Fellowship/Rotation Intra and inter Departmental***

1. Dr Rahul Sinha, DM (Pediatric Neurology) Student in Deptt. of Pediatrics, 1-30 March 2020, One month, Through: Professor Sheffali Gulati, Department of Pediatrics, AIIMS, New Delhi
2. Dr Gurleen Oberoi DM Hematopathology in Deptt. of Hematology, 1-10 July 2019, 10 days, All 3 labs, HOD, Department of Hematology
3. Dr Upinder Singh J.R. (Acad.) Lab.Medicine, 1-30 November 2019, One month, All 3 labs, HOD, Deptt of Lab. Medicine
4. Dr Vadanya Shrivastava, Dr Rameshwar Tiwary, Dr Sanket Katpara MD students, 14-24 September 2019, 10 days, All 3 labs, PG Teaching-in-charge, Deptt. of Biochemistry
5. Dr Ayushman Dobhal, Dr. Nikhil Chandran, Dr. Suman Saha, Dr. Astha Sachan, MD students, 31 October 2019 to 11 November 2019, 10 days, All 3 labs, PG Teaching-in-charge, Deptt. of Biochemistry
6. Dr Danish Ali, J.R.(Acad.) Lab.Medicine, 1-31 May 2019, 1 month, All 3 labs, Dr M Irshad, HOD, Lab Medicine
7. Dr Priyanka Goswami, J.R.(Acad.) Lab.Medicine, 1-31 May 2019, 1 month, All 3 labs, Dr M Irshad, HOD, Lab Medicine
8. Dr.Srimantinee Routray, J.R.(Acad.) Lab.Medicine, 1-30 April 2019, 1 month, All 3 labs, Dr. M. Irshad, HOD, Lab Medicine
9. Dr.Abhirup Sarkar, J.R.(Acad.) Lab.Medicine, 1-30 April 2019, 1 month, All 3 labs, Dr. M. Irshad, HOD, Lab Medicine

### **Neonatology**

#### ***MD Program***

1. The division undertook two training workshops on Neonatal Resuscitation Program for postgraduate students of the Department
2. The division organised weekly workshops on common topics such as Kangaroo Mother Care, Total Parenteral Nutrition, understanding equipment, involving hands on training of residents and nurses. There were 12 such workshops in the last year.
3. The attendees of these workshops included postgraduate residents and nurses in the division.

#### ***DM program***

1. The division organised weekly workshops on bedside echocardiography, parenteral nutrition, ventilator settings in respiratory disorders and neonatal equipment. A senior DM resident (final year) under the mentorship of division faculty steers the training which involves other DM residents and senior MD residents.
2. The division organised five integrated seminars and case discussions involving other disciplines in the teaching programme.

## **MBBS teaching**

1. Department of Paediatrics has contributed for development of skill modules for Undergraduate Medical students for SET facility. The Division of Neonatology organised a workshop for seventh semester students on Standard Treatment Protocols for management of Sick neonates using wall charts, simulators, tablets and case studies. And a regular neonatal resuscitation programme workshop in small groups for sixth semester students.
2. UG students are encouraged to use E contents developed by the Division, available on [www.newbornwhocc.org](http://www.newbornwhocc.org) or on Mobile Apps

## **Nephrology**

The DM program currently has 5 residents. Two residents completed the course in 2019.

### **Long- and Short-term training in Pediatric Nephrology**

- Dr Ajite Adebukola, from Abuja, Nigeria, trained for 3 months during June-August 2019
- Lieutenant Colonel Zaw Min Htwe, lecturer & consultant pediatrician in Defense Services Medical Academy, Yangon, Myanmar, completed his 6-months training in April 2019
- Two fellows continued their two-year fellowship training; Lieutenant Colonel Aditi Sharma, classified specialist pediatrician from the Indian Army (training since August 2018) and Dr Jasintha Sabanadesan, trainee from Breach Candy, Sri Lanka (training since March 2019).

**International Pediatric Nephrology Association (IPNA) Asian Pediatric Nephrology Association (AsPNA) Junior Master Class (Cycle 2, year 1):** This triennial event was conducted on 6-7 April 2019 at AIIMS, New Delhi. Faculty included ~25 nationwide experts in Pediatric Nephrology and four eminent international speakers, namely Professors Pierre Cochat (Lyon, France), Hui Kim Yap (Singapore), Elena Levtchenko (Leuven, Belgium) and Amita Sharma, (Boston, USA). About 110 delegates, chiefly postgraduate residents and trainees in Pediatric Nephrology from across India, attended the meeting.

**Training of Specialty Nurses:** Two technicians and two nursing officers from Kalawati Saran Children's hospital observed in the pediatric hemodialysis unit for two weeks in March 2020.

## **Neurology**

1. **DM Paediatric Neurology ongoing program** (11 students till December 2019; now 10 students)
2. **Undergraduate Teaching** (Professor Sheffali Gulati is Preceptor) including teaching for Nurses: all the three faculty members were actively involved in the 4th, 6th and 8th semester undergraduate teaching programmes.
3. **Postgraduate teaching programme:** All the 3 faculty members were actively involved in the post graduate teaching programme.
4. **Short Term Trainees:** Dr. Md. Abu Sayed (Bangladesh) 18 February 2019 to 14 April 2019
5. **Rotation of intra-institute of students and residents:** MD (PMR) residents, DM (Adult Neurology) 15, MSc Nursing 6, Fellow Pediatric Neurosurgery 1
6. **Innovative Educational activities:**  
E learning modules on various aspects of Child Neurology  
Mobile app based diagnostic tool developed: Autism, Epilepsy, Attention Deficit Hyperactivity Disorder and Neuro Motor Impairments.  
Autism Sensory Integration intervention pamphlets (English and Hindi)

## **Pulmonology, Intensive Care, Tuberculosis**

1. DM (Pediatric Pulmonology and Intensive Care) ongoing two batches completed. Two days a week teaching program along with 3 teleconferencing with PGIMER Chandigarh. Other Medical institutions (AIIMS, Jodhpur, AIIMS Bhubaneswar) also join it.
2. Division is mentoring students in MD (Pediatrics); MSc (Nursing); BSc Nursing; MBBS; PhD program

## **Rheumatology**

1. Faculty in conducting workshop on "Clinical Immunological Investigations: A Primer for Residents" held on 10 November 2019
2. Involved in drafting teaching modules for undergraduates in SET facility and formulating "Pulse Oximetry" module.

## **CMEs/Workshops/Symposia/National and International Conferences**

### **Endocrinology**

- AIIMS workshop and brainstorming meeting on Disorders of Sex Development, on 2n November 2019 at AIIMS, New Delhi

### **Genetics**

1. Birth defects, From Count to Care, 20 April 2019, AIIMS, New Delhi
2. Educational Program on Turner Syndrome, Jointly organised by University of Colorado, Sir Ganga Ram Hospital and All India Institute of Medical Science, 19 January 2020, AIIMS, New Delhi.
3. Tuberous sclerosis CME & Symposium for patient & Parent Education in collaboration Tuberous Sclerosis India Alliance, 11-12 February 2020, AIIMS, New Delhi
4. From Genes to Genome—Rejuvenating the Concepts!! 25 January 2020, AIIMS, New Delhi

### **Neonatology**

1. A total of Five simulation-based learning for improving 'Preterm baby care' using 'Point of Care Quality Improvement' approach (Total: 5) supported by Public Health Foundation India, 11-13 January 2019, 17-19 May 2019, 11-13 September 2019, 11-13 November 2019, 27-29 December 2019, AIIMS, New Delhi
2. Breastfeeding workshop (Comprehensive lactation management centre (CLMC) team supported by Common Wealth Human Rights Initiative, India, 7 August 2019, AIIMS, New Delhi
3. POCQI (Point of care quality Improvement) (for Pediatricians and IAP working committee), 3 and 4 November 2019, New Delhi
4. POCQI (Point of care quality Improvement), (for Pediatricians and IAP working committee), 20 and 21 December 2019, New Delhi
5. Quality Improvement sensitisation workshop for newly joined residents as part of Research methodology foundation course, 4 March 2020, New Delhi

### **Neurology**

1. Organized National Workshop on Sensory Modalities in the treatment of children with Autism in Center of Excellence & Advanced Research on Childhood Neurodevelopmental Disorders on 13-14 April 2019 at SET facility, Convergence Block, AIIMS, New Delhi
2. Training of working professionals in Alternative and Augmentative communication along with Action for Ability Development and Inclusion (AADI) inauguration on 14 February 2020 for 7 weekends

### **Oncology**

1. Public lecture & panel discussion, Childhood cancer awareness, 17 February 2020, AIIMS, New Delhi.
2. Patients education program, Childhood cancer, 09 December 2019, AIIMS, New Delhi.
3. C2S meeting Childhood cancer Survivorship & late effects, 03 December 2019, AIIMS, New Delhi.
4. CCR Eosinophilia exotica! Think beyond allergy & infections, 15 October 2019, AIIMS, New Delhi.
5. Patient education program Childhood cancer, 13 May 19, AIIMS, New Delhi.
6. 15th meeting of NIPOF (North India Pediatric Oncology Forum), 20 July 2019, Sir Ganga Ram Hospital, New Delhi.
7. Annual Oncology Forum on behalf of NIPOF, 08 December 2019, New Delhi

### **Pulmonology, Intensive Care, Tuberculosis**

1. AIIMS Pediatric pulmonology and Intensive Care: Module 8: Pulmonary rehabilitation Course, 20-21 July 2019, AIIMS, New Delhi
2. AIIMS Pediatric Pulmonology and Intensive Course Module 9 on Imaging in Pediatric Pulmonology, 21-22 February 2020, AIIMS New Delhi
3. IJP Annual function and 12th Dr KC Chaudhuri oration, 7th Dr IC Verma excellence in research award, best original research award and competitive clinical grand round, AIIMS, Board room on 29 September 2019

## Lectures delivered

### Vandana Jain

1. Panelist for discussion on childhood obesity, Third Meeting of National Technical Board on Nutrition (NTBN), 12 April 2019, New Delhi
2. Adverse effects of Growth Hormone Therapy, “Growth Disorders: Solving difficult issues” organized by Department of Endocrinology, AIIMS, 20-21 April 2019, New Delhi
3. What’s new in treatment and monitoring of patients with classical Congenital Adrenal Hyperplasia, Annual Meet of Growth Hormone Research Society, 8-9 June 2019, New Delhi
4. Lecture: Molecular findings in Indian children with XY DSD, AIIMS workshop and brainstorming meeting on Disorders of Sex Development, 2 November 2019, New Delhi
5. Moderator of three panel discussions on need for local guidelines, diagnostics and best management practices in XY DSD, AIIMS workshop and brainstorming meeting on Disorders of Sex Development, 2 November 2019, New Delhi
6. Clinical diagnosis and problems in Turner Syndrome, Turner Syndrome symposium organized by Divisions of Genetics and Pediatric Endocrinology, Department of Pediatrics AIIMS, New Delhi, 19 January 2020, New Delhi
7. Panelist for Growth and endocrine issues in childhood cancer survivors, Symposium on Childhood Cancer Survivors, 17 February 2020, New Delhi

### Rajni Sharma

1. Moderator, Panel discussion on Non-GH Management of Turner syndrome, Growth Hormone symposium, Department of Endocrinology, AIIMS, Growth Hormone Society of India and Indian Society of Pediatric and Adolescent Endocrinology, 23-24 April; 2019, New Delhi
2. Neonatal Diabetes, HOPE (Hospital and Office based Pediatric Endocrinology) symposium organized by Indian Academy of Pediatrics Gurgaon in association with IAP, Gurgaon and Medanta Hospital, 30 April 2019, Gurgaon
3. Panel discussion, Congenital hypothyroidism screening guidelines, HOPE (Hospital and Office based Pediatric Endocrinology), Indian Academy of Pediatrics Gurgaon in association with IAP, Gurgaon and Medanta Hospital, 30 April 2019, Gurgaon
4. Moderator, How short is too short; Short stature, Endocrine conference ENDOCON, Delhi Indian Academy of Pediatrics, 6 October 2019, New Delhi
5. Panel discussion on disorders of puberty, Endocrine conference ENDOCON, Delhi Indian Academy of Pediatrics, 6 October 2019, New Delhi
6. Nutrition in Endocrine Diseases, 1st International Nursing CME, 1 November 2019, Department of Pediatric Surgery, AIIMS, New Delhi
7. Disorders of Sex Development: classification and management. AIIMS workshop and brainstorming meeting on Disorders of Sex Development, 2 November 2019, AIIMS, New Delhi.
8. Management guidelines of Silver Russel syndrome, Indian Society of Pediatric and Adolescent Endocrinology (ISPAE) 6th Biennial meeting, 29 November-1 December 2019, Kolkata, West Bengal
9. Growth in Turner syndrome, Turner symposium organized by Division of Genetics and Pediatric Endocrinology, Department of Pediatrics AIIMS, New Delhi, 19 January 2020, AIIMS, New Delhi

### Rohan Malik

1. Immunosuppressed child presenting to the Clinic; What the pediatrician needs to know, ISPGHANCON 2019, 20 October 2019, Chennai
2. Fatty Liver in Pediatrics, ISPGHAN Midterm 2019, 14 July 2019, Kolkata
3. Case scenarios in pediatric IBD, ISPGHAN Midterm 2019, 14 July 2019, Kolkata
4. Hepatitis C in children, International Pediatric Gastroenterology and Hepatology summer school, 2 November 2019, Apollo Hospital, New Delhi
5. Bloody Diarrhea in children, IAP Master Class on Diarrhea, 23 February 2020, Gurugram, Haryana

### Madhulika Kabra

1. Current Strategy for Genetic / Genomic Education in India, 9th International conference on Birth Defects & Disabilities in the Developing world, 23 February 2020, Colombo, Sri Lanka

2. Genetic Disorders- How to choose the correct test, 8th Annual Conference of Molecular Pathology Association of India, MPAICON 2020, 11 January 2020, Jaipur
3. Newborn Screening, Eighteenth ICMR Course on Medical Genetics and Genetic counseling, 28 August 2019, SGPGI, Lucknow
4. Approach to Neurodegenerative disorders, Eighteenth ICMR Course on Medical Genetics and Genetic counseling, 28 August 2019, SGPGI, Lucknow
5. Reaching out for Rare Diseases in Developing Countries, 7th International conference on Rare and Undiagnosed diseases Addressing patient needs for Rare Disorders in India, 14 April 2019, New Delhi
6. eLearning on Genomics for community, Antenatal Screening, Expert Meeting on Genomic & Genetic Disorders (WHO), 8-11 April 2019, Pretoria, South Africa

### **Neerja Gupta**

1. Simplified Approach to Diagnosis of Birth defects and Overview of Birth Defect Surveillance, Many birth defects, one voice. Birth Defects - From "Count to Care" *An awareness program for health care professionals*, 20 April 2019, Delhi
2. Regional overview of birth defect surveillance data quality and common quality gaps, Regional meeting to strengthen integrated surveillance and prevention of birth defects, stillbirths and congenital Zika virus infection to accelerate reduction in newborn mortality, 9 July 2019, Nepal
3. Acute metabolic disorders, Illustrative cases, Eighteenth ICMR Course, 29 August 2019, Lucknow
4. Skin as a clue to the diagnosis, Eighteenth ICMR Course, 29 August 2019, Lucknow
5. Management of IEM: what do we have, Awareness workshop on IEM by Indore IAP, 1 September 2019, Indore
6. Genetic diagnosis of inherited hematological disorders, 23rd Annual Conference of Pediatric Hematology Oncology, 6 September 2019, Varanasi
7. Genetic disorders: Magnitude of the problem in India, Launch of DBT sponsored UMMID program, 23 September 2019, Delhi
8. Genomics in Clinical Practice, Integrative Molecular Epidemiology Workshop: Bridging Environmental Health and Translational Research, 12 December 2019, ICMR-NIREH, Bhopal
9. Exome in clinics-What a clinician must know!!; From Genes to Genome"-Rejuvenating the Concepts!!, 25 January 2020, Delhi

### **Madhumita Roy Chowdhury**

1. Molecular Techniques in hematology, Invited lecture, HAEMATOCON 2019, CME HEAMOTECH, 7 November 2019, New Delhi
2. How Important is Genetic Testing in TSC?, Symposium on Tuberous Sclerosis Complex, Set Facility-I, AIIMS, 12 February 2020, New Delhi

### **Ashok K Deorari**

1. Quality improvement in neonatal care – Indian perspective, Leadership and Management for improving Quality of Neonatal-Perinatal care, 14 April 2019, Chandigarh
2. Quality improvement approach for prevention of blindness in India, 3rd ROP Project Steering Committee Meeting, 24 April 2019, Hyderabad
3. Quality improvement approach in improving maternal & newborn practices, Quality Improvement on Mother and Newborn Care, 28th and 29 May 2019, Raipur
4. Concepts of Oxygenation in sick newborn, Neonatal Ventilation Workshop, 24 May 2019, Hyderabad
5. Safe care for Preterms: Evidence based, 13th Annual South Zone Neonatology Conference (South Neocon, 2019), 29 June 2019, Vijayawada, Andhra Pradesh
6. Use of Digital Technology in Medical Education – Reality or just a Hype!, Visiting Faculty - Academic Interactions with Faculty, Residents and Nursing Officers, 5-6 August 2019, AIIMS Rishikesh
7. Science of Non invasive ventilation in newborn, Neonatal Non-invasive Ventilation Workshop, 17 August 2019, KEM, Pune
8. Assisting Selection Committee as an expert, Selection Committee Meeting of ILBS, 3 September 2019, New Delhi
9. Dwipen Bagachi Oration, Quality Improvement on Mother and Newborn Care, 1st EAST ZONE NEOCON and 23rd Annual Conference of Neonatology Society of West Bengal, 7 September 2019, Kolkata

10. Oxygenation Principles in sick newborn, Neonatal Ventilation Workshop, 13 September 2019, Hyderabad, Telangana
11. Safe care for preterm- Doctor's Role, 2nd West Zone Pedicon 2019, 21 September 2019, Surat
12. Keynote Speaker, Quality improvement in neonatology, IAPNEOCON 2019 – The 12th National Conference of the IAP Neonatology Chapter, 28 September 2019, Bangalore
13. Strengthening quality of newborn care in the state of Odisha- Aspirational Districts, Koraput, Strengthening quality of newborn care in the state of Odisha, 30 September 2019, Koraput, Odisha
14. Dr Puneet Sharma Oration, Innovative solutions to newborn care, West Zone NEOCON 2019, 5 October 2019, Jaipur
15. Preterm Care—Safe and Effective Neonatal Practices, 50th Annual Conference of MP IAP- Golden Jubilee MP-PEDICON, 9 November 2019, Indore
16. Quality of Care in Pediatrics practice, Fourth Annual meeting of Pediatric Research & Education Society of India (PRESIDE), 22 November 2019, New Delhi
17. Panel Discussion – Quality Improvement Initiatives – implementation in NICU, 39th NNF NEOCON, 12- 15 December 2019, Hyderabad
18. Quality healthcare for newborn resuscitation, 12th NRP National Training of Trainers (TOT), 7-8 January 2020, Indore
19. Quality Child Care: Vision Statement, 57th National Conference of Indian Academy of Pediatrics (PEDICON 2020), 10- 13 January 2020, Indore
20. India's Journey of Quality, Equity and Dignity, All India Congress of Obstetrics and Gynaecology (AICOG 2020), 31 January and 1 February 2020, Lucknow
21. Quality Healthcare -Role of Neonatal Nurses- Keynote speaker, Annual Conference, Indian Association of Neonatal Nurses, 10 February 2020, AIIMS, Bhubneshwar
22. Quality improvement in neonatal practice: Role of Nurses & Doctors, Indo Norwegian CME in Neonatology, 7 March 2020, LHMC, Delhi
23. Choosing Right Antimicrobials, Annual CME, Rainbow Children Hospital, New Delhi, 14 July 2019, New Delhi
24. Challenges to clinical trials in children with emphasis on neonates, Enabling AMR-related clinical trials in India, 25 November 2019, ICMR, New Delhi

#### **M Jeeva Sankar**

1. Role of sepsis screen in diagnosing neonatal sepsis - where do we stand?, Advanced Neonatal Intensive Care Course (ANICC), 14 July 2019, Delhi
2. Multi-drug resistance in neonatal sepsis - prevention and treatment, CME on 'Emerging and Re-Emerging Pediatric Infections: Strategies for Future', 10-11 August 2019, Pune
3. Clinical Trial (Parallel/Cross over; Superiority, Equivalence, Non-Inferiority), Workshop on 'Research Methodology, Writing and Communication' for MD and DM/MCh residents, 3rd September 2019, Delhi
4. Writing a research paper: Methods, Workshop on 'Research Methodology, Writing and Communication' for MD and DM/MCh residents, 6 September 2019, Delhi
5. Descriptive statistics, Workshop 'Doing Surgical Research: The methods & the statistics', 10 October 2019, Delhi
6. Clinical Trial (Parallel/Cross over; Superiority, Equivalence, Non-Inferiority), Workshop on 'Research Methodology, Writing and Communication' for MD and DM/MCh residents, 22 October 2019, Delhi
7. Writing a research paper: Results; tables & figures, Workshop on 'Research Methodology, Writing and Communication' for MD and DM/MCh residents, 25 October 2019, Delhi
8. Systematic review and meta-analysis, Young Clinicians' Program, Indian Society of Gastroenterology, 12 October 2019, Chennai
9. Understanding the Kaplan Meier curve, Young Clinicians' Program, Indian Society of Gastroenterology, 12 October 2019, Chennai
10. Case-control study, Train the Trainer's workshop 2019; Indian Society of Gastroenterology, 8 November 2019, Gurugram
11. Meta-analysis and interpretation of forest plot, Train the Trainer's workshop 2019; Indian Society of Gastroenterology, 8 November 2019, Gurugram
12. Neonatal sepsis in India, Workshop on 'Developing state consortium on antimicrobial resistance in neonates', 21 November 2019, Delhi

13. Sample size estimation: making it simple, Annual conference of National Neonatology Forum – NEOCON 2019, 14 December 2019, Hyderabad
14. Statistics: understanding the jargon, Annual conference of National Neonatology Forum – NEOCON 2019, 15 December 2019, Hyderabad
15. Respiratory support for preterm care, National Consultation on Care of Preterm and Low Birth Weight Infants, 13-14 January 2020, Delhi
16. Bronchopulmonary dysplasia (BPD) and steroids - Old gun and new bullets, CME ‘Bridging Excellence in Neonatology’, 15 February 2020, Delhi
17. Clinical Trial (Parallel/Cross over; Superiority, Equivalence, Non-Inferiority), Workshop on ‘Research Methodology, Writing and Communication’ for MD and DM/MCh residents, 3 March 2020, Delhi
18. Writing a research paper: Results; tables & figures, Workshop on ‘Research Methodology, Writing and Communication’ for MD and DM/MCh residents, 6 March 2020, Delhi
19. A clinician’s guide to meta-analysis, Indo Norwegian CME on ‘Recent Advances in Neonatology’, 7 March 2020, Delhi
20. Grant opportunities in India, Neonatal Conference on Research and Expert Talks ‘NeoCORE 2020’, 14-15 March 2020, Chennai
21. Stakeholders Meeting on Risk Factors for Neonatal Sepsis in Low-Resource Settings, CDC’s Global Communications Center Meeting, April 2019, Atlanta
22. WHO recommendations on postnatal care-Scoping Meeting, WHO/HQ meeting, April 2019, Geneva, Switzerland
23. Trial Protocol and Site Implementation Plan Development Workshop: Optimizing place of treatment and antibiotic regimens for young infants with signs of PSBI, WHO/HQ meeting, September 2019, Geneva, Switzerland

#### **Anu Sachdeva**

1. Preterm care package: “Do no Harm”, POCQI (Point of care quality Improvement) and Preterm baby package workshop, 17-19 May 2019, Delhi
2. Preterm care package: “Do no Harm”, Quality Improvement training for improving healthy survival of preterm infants’, 29 and 30 June 2019, Shimoga
3. How to do LaQshya ongoing Mentoring of QI, Teams in Medical colleges (Remote), “National mentoring for Implementation of LaQshya in Medical Colleges”, 30 and 31 August 2019, Delhi
4. Preterm care package: “Do no Harm”, Preterm care best practices workshop, 6 September 2019, Kolkata
5. Approach to common fetal anomalies: detection at birth, Panel on “Approach to common fetal anomalies”, 28 September 2019, New Delhi
6. “Early Intervention as in NICU; our follow up data”, Clinical Approaches, Solutions and Skill Building Workshop, 4 October 2019, Delhi
7. Preterm care package: “Do no Harm”, Regional meeting to accelerate reduction in newborn and child mortality towards achieving SDG 2030 targets., 15th to 17 October New Delhi
8. Preterm care package: “Do no Harm”, POCQI (Point of care quality Improvement) and Preterm baby package workshop, 11-13 November 2019, Delhi
9. Quality Improvement: Step 2, POCQI (Point of care quality Improvement), 3 and 4 November 2019, New Delhi
10. Quality Improvement: Step 2, POCQI (Point of care quality Improvement), 12 December Hyderabad
11. Preterm care package: “Do no Harm”, POCQI (Point of care quality Improvement) and Preterm baby package workshop, 19 and 20 December 2019, Kolkata
12. Cost effective care in NICU - How to achieve?”, Hyderabad NNF Neocon 2019, 13 December Hyderabad
13. Quality Improvement: Step 2, POCQI (Point of care quality Improvement), 20 and 21 December 2019, Delhi
14. Preterm care package: “Do no Harm”, Point of care quality Improvement) and Preterm baby package workshop, 27 to 29 December 2019, Delhi

#### **Arvind Bagga**

15. Potassium handling and its disorders, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 6-7 April 2019, Board Room AIIMS, New Delhi
16. Hemolytic uremic syndrome: Evolving consensus, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 6-7 April 2019, Board Room AIIMS, New Delhi

17. Advances in acute kidney injury, World Congress of Nephrology, 12 April 2019, Victoria Convention Center, Melbourne
18. Management of difficult nephrotic syndrome, World Congress of Nephrology, 13 April 2019, Victoria Convention Center, Melbourne
19. Renal tubular acidosis, World Congress of Nephrology, 14 April 2019, Victoria Convention Center, Melbourne
20. Current status of pediatric renal replacement therapy in India, RRT KIDS 2019: CME and Workshop on Pediatric Dialysis and Nutrition, 19-21 July 2019, Chennai
21. Non-dialytic management and nutrition in pediatric acute kidney injury: An update, Critical Care Pediatric Nephrology Course, 4 August 2019, Gurgaon
22. Urinary tract infection in children, IPNA Training Course in Pediatric Nephrology, 6 August 2019, Jigme Dorji Wangchuk National Referral Hospital, Thimphu, Bhutan
23. Management of nephrotic syndrome, IPNA Training Course in Pediatric Nephrology, 6 August 2019, Jigme Dorji Wangchuk National Referral Hospital, Thimphu, Bhutan
24. Hemolytic uremic syndrome: Diagnosis and management, IPNA Training Course in Pediatric Nephrology, 7 August 2019, Jigme Dorji Wangchuk National Referral Hospital, Thimphu, Bhutan
25. Acute glomerulonephritis, IPNA Training Course in Pediatric Nephrology, 7 August 2019, Jigme Dorji Wangchuk National Referral Hospital, Thimphu, Bhutan
26. Approach to renal tubular disease, IPNA Training Course in Pediatric Nephrology, 8 August 2019, Jigme Dorji Wangchuk National Referral Hospital, Thimphu, Bhutan
27. Advances in acute and chronic dialysis for children in South Asia, Annual CME of Institute of Child Health: RR Kids 2019, 15 August 2019, Institute of Child Health, Kolkata
28. Neonatal acute kidney injury, Update on neonatology, Akron Children's Medical Center, 14 September 2019, Akron Children's Medical Center and Akron Nephrology Associates, AGMC Cleveland Clinic, Cleveland, Ohio, USA
29. Orphan drugs, Update on neonatology, Akron Children's Medical Center, 14 September 2019, Akron Children's Medical Center and Akron Nephrology Associates, AGMC Cleveland Clinic, Cleveland, Ohio, USA
30. Challenges in developing world, 16th Congress of the Asian Society of Transplantation, 28 September 2019, India Extension Mart Limited, Greater NOIDA, Greater NOIDA, India
31. Anti CFH-HUS, 18th Congress of the International Pediatric Nephrology Association (IPNA), 17-21 October 2019, Palazzo del Cinema, Convention Center, Venice-Lido, Venice, Italy
32. Research Methodology, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 13 December 2019, Armed Forces Medical College, Pune
33. Transplantation in atypical hemolytic uremic syndrome, Annual Conference of the North Zone Indian Society of Nephrology, 15 December 2019, Delhi
34. Secondary hypertension: A closer look, PNSP's 25th Anniversary Year and 24th Annual Convention, 17-19 November 2019, Ateneo School of Medicine and Public Health, Mandaluyong, Philippines
35. Atypical hemolytic uremic syndrome (HUS): New insights and new challenges, 5th International Scientific Conference of Pediatric Nephrology Society of Bangladesh, 8 February 2020, BSMM University, Shahbag, Dhaka, Bangladesh
36. Nephronophthisis & medullary cystic kidney diseases, 5th International Scientific Conference of Pediatric Nephrology Society of Bangladesh, 9 February 2020, BSMM University, Shahbag, Dhaka, Bangladesh

### **Pankaj Hari**

1. Acute Kidney Injury: Evaluation and management, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 6 April 2019, Board Room AIIMS, New Delhi
2. C3 glomerulopathy, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 7 April 2019, Board Room AIIMS, New Delhi
3. Vesicoureteric reflux: much ado about nothing, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 7 April 2019, Board Room AIIMS, New Delhi
4. Childhood lupus nephritis, Registry on childhood lupus nephritis, 22 June 2019, Kolkata
5. Acute and rapidly progressive glomerulonephritis, Pediatric Nephrology CME, 28 July 2019, Prayagraj, Prayagraj
6. Urinary tract infections: Consensus and controversies, Pediatric Nephrology CME, 28 July 2019, Prayagraj, Prayagraj
7. Plasmapheresis in pediatric renal disorders, Critical Care Pediatric Nephrology Course, 4 August 2019, Gurgaon
8. Urinary tract infection in children, Update in Pediatric Nephrology, 18 December 2019, Max Super Specialty Hospital, Shalimar Bagh, New Delhi

9. Management of ADPKD in Children, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 20-22 December 2019, Armed Forces Medical College, Pune
10. Approach to antenatally detected hydronephrosis, Pediatric Nephrology Teaching Course & Peritoneal Dialysis Hands on Workshop, 16 February 2020, Army Hospital R&R, New Delhi

#### **Aditi Sinha**

1. Physiology of acid base handling, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 6 April 2019, Board Room AIIMS, New Delhi
2. Cystic kidney diseases, IPNA-AsPNA Junior Master Class in Pediatric Nephrology and XI Annual Pediatric Nephrology Training Course, 7 April 2019, Board Room AIIMS, New Delhi
3. Ten commandments for managing a child with AKI, East Zone Pediatric Nephrology Update 2019, 28 April 2019, Montana Vista, Uttarayan, Siliguri
4. How do I manage the first episode of nephrotic syndrome, East Zone Pediatric Nephrology Update 2019, 28 April 2019, Montana Vista, Uttarayan, Siliguri
5. Acute kidney injury: Evaluation and management, Pediatric Nephrology CME, 28 July 2019, Pragagraj, Prayagraj
6. Antenatally detected hydronephrosis, Pediatric Nephrology CME, 28 July 2019, Pragagraj, Prayagraj
7. Peritoneal dialysis catheter insertion, Critical Care Pediatric Nephrology Course, 4 August 2019, Gurgaon
8. Plasmapheresis, Critical Care Pediatric Nephrology Course, 4 August 2019, Gurgaon
9. Acute kidney injury: Preventing iatrogenic insults, PEDICON North Zone and Pediatric Conference of North India, 29 September 2019, New Delhi
10. Pathophysiology and prevention of chronic kidney disease (webinar), IPNA-European Society of Pediatric Nephrology Junior Master Class, 14 October 2019, Convention Center, Lido, Italy
11. What is the role of levamisole (Non -steroidal treatment of steroid sensitive nephrotic syndrome), 18th International Pediatric Nephrology Association Congress 2019 at Venice, Italy, 19 October 2019, Convention Center, Lido, Italy
12. Sepsis associated AKI: How is it different, Pediatric Renal Basic Life Support Course (PRBLS), 16 November 2019, St. John's Medical College and Hospital, Bangalore
13. Recent trends in management of nephrotic syndrome, Pediatric Nephrology in Office Practice, 28 September 2019, New Delhi
14. Disease course of nephrotic syndrome: Results of a nationwide registry, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 14 December 2019, Armed Forces Medical College (AFMC), Pune
15. Current usage of rituximab in pediatric nephrology, Pediatric Nephrology Symposium, 22 January 2020, Institute of Child Health (ICH), Kolkata
16. Case discussions in renal tubular acidosis, Pediatric Nephrology Teaching Course & Peritoneal Dialysis Hands on Workshop, 16 February 2020, Army Hospital R&R, New Delhi
17. Post-transplant infections in an Indian context, 1st Primer on Pediatric Renal Transplant: IPNA-ISN-TTS Teaching Course, 6-7 March 2020, Christian Medical College, Vellore, Chennai

#### **Sheffali Gulati**

1. Autism- Diagnostic Tools (DSM 5based) Going E-Way, World Autism Awareness Week for Scientific Conclave on Autism, ADHD, Anxiety-Mental Health Challenges "Evidence Based Approach" by Indian Academy of Pediatrics, Chandigarh and Asha, Centre for Autism & Intellectual Developmental Disorders, Chandigarh, National Centre for control of Diseases, MoHFW, National Health Mission, Haryana, IAP Chapter of Neurodevelopmental Pediatrics, 2 April 2019, Chandigarh
2. Evaluation of a child with unexplained developmental delay and panelist for a case discussion, IAN First Master Class in Pediatric Neurology by Pediatric Neurology Unit, Department of Neurological Sciences, Christian Medical College, 05 April 2019, Christian Medical College, Vellore, Tamil Nadu
3. Neurodevelopmental disorders with special emphasis on ASD, the journey thus far, National Workshop on Sensory Modalities in the treatment of children with Autism, Center of Excellence & Advanced Research on Childhood Neurodevelopmental Disorders, 13-14 April 2019, SET facility, Convergence Block, AIIMS, New Delh
4. Moderator for the session: Landau Kleffner syndrome, and CSWS, NuPed 2019: CME on difficult childhood epilepsy, 14 April 2019, New Delhi
5. New ILAE seizure and epilepsy classification, KSCH Pediatric EEG Course Neurology Division, Department of Pediatrics, Kalawati Saran Children's Hospital, 30 April 2019, Kalawati Saran Children's Hospital, New Delhi
6. When do we suspect a congenital myopathy?, 18th Asian and Oceanian Myology Center Meeting 2019 (AOMC 2019), 2nd June 2019, Mumbai

7. Neurodevelopmental Disorders: Diagnosis with mobile, IAP Delhi's monthly Clinical meeting in collaboration with IAP Central Delhi City Branch, Indian Academy of Pediatrics, 20 June 2019, New Delhi
8. Moderator for session on Non 5Q Spinal Muscular Atrophies, 2nd edition of Monsoon Summit 2019, Kerala Association of Neurologists, 13 July 2019, Kochi
9. Acute Encephalitis Syndrome in context of Muzzafarpur's Chamki Bukhar, Vigyan Prasar Deptt of Science and Technology, Govt of India, 23 July 2019, C-457, Sector 10, Noida, UP
10. ASD the Journey Thus far, Indo-Canadian ASD Initiative Round table Meeting, 24 July 2019, Hyderabad
11. Diagnostic challenges in congenital myopathies and congenital muscular dystrophies, 19th Annual Conference of Neurology Chapter of IAP "Neuropedicon 2019", 27 July 2019, Hyderabad
12. Moderator: Neurophysiology of bladder control and Clinical evaluation of neurological bladder abnormalities; Examination of the unconscious child, 7th Workshop on "Clinical Evaluation in Pediatric Neurology, Lady Hardinge Medical College and associated Kalawati Saran Children's Hospital, 3 August 2019, Seminar room, KSCH, New Delhi
13. Screening tool for Autism", National Original Research Convention (NORC 2019), 10 August 2019, Dwarka, New Delhi
14. Dietary Therapies in intractable epilepsy: Our experience, "Practice pearls in Epilepsy- Case based management", 10 August 2019, Hotel Claridges, New Delhi
15. Approach to childhood Headache, National Summit of Pediatric Neurology "Natneurocon 2019", 17 August 2019, Raipur
16. Moderated the Panel discussion on Drug treatment in childhood epilepsy, National Summit of Pediatric Neurology "Natneurocon 2019", 17 August 2019, Raipur
17. Panelist to develop a protocol for SMA patients to receive Spinraza as a part of Humanitarian Access Program in India. Spinraza individual patient Humanitarian Access Program, 24 August 2019, Mumbai, New Delhi
18. Moderated a session: What's new in medical care of Paediatric Epilepsy, World Neurosciences Summit II, 25 August 2019, Aerocity, New Delhi
19. Independent living and supported decision making, State level conference "Think College" Higher Education Option for Person with Disabilities and Developmental Disabilities (PIDD), 30 August 2019, Satyagraha Mandap, Gandhi Smriti, New Delhi
20. Neurodevelopmental disorders: Autism Spectrum Disorder, Cerebral Palsy, Down Syndrome and Intellectual disability: current scenario for families and teachers, Air Force Golden Jubilee Institute, 31st August 2019, Subroto Park, Dhaula Kuan, New Delhi
21. Moderator, Non-pharmacological treatments (Diet and surgery) and supportive care., AOCN-IES consensus meeting for the diagnosis and treatment of West Syndrome, 1st September 2019, Army R & R Hospital, Dhaula Kuan, New Delhi
22. Neurodevelopmental Disorders: the journey thus far and beyond", 83rd Board meeting of the National Trust, DEPwD, MSJE, Govt of India, 11 September 2019, Conference Room, DEPwD, 5th Floor, Antyodaya Bhawan, CGO Complex, Lodhi Road, New Delhi
23. Moderator, Impact of Social-Emotional Learning, International Conference on 'Early Childhood Development for Children with Intellectual Disabilities', Amity Institute of Rehabilitation Sciences and Amity School of Physical Education and Sports Sciences, Special Olympics Bharat, 12 September 2019, Amity University, Noida
24. Cerebral Palsy – what's new?, 15th Asian and Oceanian Congress of Child Neurology (AOCCN-2019), 19-22 September 2019, Kuala Lumpur, Malaysia
25. Clinical Pediatric Neurology: Relevance in arena of Radio-genomics, Preconference workshop: Demystifying Diagnostics in Pediatric Neurology: A Practical Approach. NZ PEDICON and PCNI, 2019 Department of Pediatrics, VMMC and Safdarjung Hospital and IAP Delhi, 27 September 2019, Medical Education Unit, VMMC and Safdarjung Hospital New Delhi
26. Moderated session on: Semiology –does it really matter in diagnosing seizure?, PEDICON –NZ and PCNI 2019 conference "Child Healthcare in Harmony and Emerging trends in Neonatal and Pediatrics Care and Challenges" IAP Delhi State Branch, 28 September 2019, New Delhi
27. Pediatric updates on Muscular Dystrophy, Awareness programme on Muscular Dystrophy, Indian Medical Association, 30 September 2019, Indraprastha Marg, IP Estate\ New Delhi
28. Follow-up Identification of an At Risk Child for Developmental Delay, Early Care of a Child with Developmental delay & follow up of the NICU Graduate, My Whole Child Center for Special Needs, Indian Academy of Pediatrics – Delhi and Indian Child Abuse Neglect & Child Labour Group, 4 October 2019, New Delhi
29. Moderator, Neurodegeneration with brain iron accumulation and Neuroimaging in Cerebral Palsy, 1st National

Symposium on Pediatric Neuroradiology Bridging Clinical and Radiological Perspectives, DNPNG and AOCN, 19 October 2019, New Delhi

30. Neurodevelopmental Disorders: The Journey thus far, The Dreams and Their Realization- going e way; empowering professionals and parents, National Workshop on building legal capacity of persons with Intellectual and Developmental Disabilities, National Trust, Ministry of Social Justice and Empowerment, Govt of India and Indian Law Institute, 23 October 2019, Indian law Institute, Opposite Supreme Court of India, Bhagwan Das Road, New Delhi
31. Panelist, Mental wellbeing in children and adolescents, presentation on Neurodevelopmental Disorders the journey thus far (2 decades) and beyond: AIIMS Experience. Comprehensive mental healthcare in life course-Action plan GOI and National Mental health program, Chhattisgarh, 13 November 2019, Raipur, Chhattisgarh
32. Autism Spectrum Disorder: Manifestation Causes and Management, Advanced Diploma in Child Guidance & Counseling, National Institute of Public Cooperation and Child Development, 21 November 2019, NIPCCD, 5 Siri Institutional Area, Hauz Khas, New Delhi
33. Neurodevelopmental Disorder-Journey thus far and beyond, Interactive session for parents and professionals relayed Pan India, Awareness for Inclusion Foundation, 28 November 2019, Microsoft, Gurugram
34. Needs of mental health for PIDD and their care takers, National Seminar on Mental Health and Social Inclusion of Person with Intellectual and Developmental Disability (NSMH02) Rehabilitation Council of India (RCI).29 November 2019, Institute of Human Behaviour and Allied Science (IHBAS), Dilshad Garden, Delhi
35. Keynote address, Neurodevelopmental disorders: The journey thus far, The Dreams and their realization-going e way, empowering professionals and parents, National conference on Assessment and diagnosis of Autism Spectrum Disorder, National Institute for Empowerment of Persons with Multiple Disabilities (Divyangjan), 4 January 2020, CBSM Delhi, PSP Sector-13, Dwarka, New Delhi
36. Approach to Neuroregression, PEDICON 2020 57th National conference of IAP, 9 January 2020, Indore, Madhya Pradesh
37. Case based session on Autism Spectrum Disorder and Opsoclonus Myoclonus Ataxia Syndrome, PEDICON 2020 57th National conference of IAP, 9 January 2020, Indore, Madhya Pradesh
38. Panelist, Rehabilitation of older and special needs OAS children, National consultative workshop on child adoption in India, Central adoption resource authority, Ministry of women and child development, Government of India, 14 January 2020, Teen Murti Marg, Teen Murti Bhavan, New Delhi
39. Mental health Concept, identification, challenges & Comorbidities, National conference on understanding disability and mental health towards inclusion and empowerment, National Institute for Empowerment of Persons with Multiple, Disabilities (Divyangjan), DEPwD (Divyangjan), MSJ&E,GOI,Chennai, 17 January 2020, New Maharashtra Sadan, Kasturba Gandhi Marg, New Delhi
40. Epilepsy in the setting of Neurocutaneous Syndromes. 21st Joint Annual Conference of IEA and IES: ECON 2020, 18 January 2020, Ahmedabad, Gujarat
41. Need to mainstream persons with Disabilities into the Jan Andolan of POSHAN Abhiyaan, Redefining Welfare, Safety and Security of Women and Children- Role of Institutions, Ministry of Women and Child Development, 27 January 2020, Chanakyapuri, New Delhi
42. Neurodevelopmental Disorders, The Journey thus far, the Dreams and their realization, going w-way, empowering parents and professionals, 3rd International BMI Autism Conference: Diagnosis to treatment- No Child left behind; Enabling meaningful inclusion, Behavior Momentum India, 1 February 2020, Hyderabad
43. Clinical Practice, research and policies in Neuro-developmental Disorders: An update *Given presentation through skype*, 4th Annual Multidisciplinary National Conference on Disability and Rehabilitation, Calicut University; Social Justice Department, Govt. of Kerala, 7 February 2020, CDMRP-Calicut University, Kerala
44. Moderated a session on Approach to a child with abnormal movements, 6th BLK Annual Pediatric update Delhi; Indian Academy of Pediatrics, 9 February 2020, New Delhi
45. Panel discussion on “Epilepsy”, Total Health, 9 February 2020, Mandi House, New Delhi
46. Neurological and Neurodevelopmental issues in TSC and moderated a panel discussion, Symposium on Tuberous Sclerosis Complex (TSC), Division of Genetics, Department of Pediatrics, AIIMS & Tuberous Sclerosis Alliance of India., 12 February 2020, AIIMS, New Delhi
47. Alternative and Augmentative communication, Training of working professionals in Alternative and Augmentative communication along with Action for Ability Development and Inclusion (AADI), 14 February 2020, AADI, Hauz Khas, New Delhi
48. Autism Spectrum Disorders: Clinical service, research and advocacy: our experience over last 2 decades, Indo-Canadian Autism network symposium leaving a footprint – founding a network I-CAN 2020, 17 February 2020, Hyderabad

49. AES etiologies in India: AIIMS experience, IAE Symposium on Acute Encephalitis Syndrome Indian Association of Epidemiologists and Department of Community Medicine, VMMC and Safdarjung Hospital, 22 February 2020, Safdarjung Hospital, New Delhi
50. Co-moderator, Pediatric Sleep Disorder, 4th International Sleep Update 2020 Ace School of Sleep Medicine and World Sleep Society, 23 February 2020, New Delhi
51. Technology and Apps in Neurodevelopmental Disorders, 10th AOCN 2020 Annual Conference Child Neurology Group, Karnataka, 29 February 2020, Bengaluru
52. Maturation of EEG, The International Workshop on Epilepsy, 1 March 2020, PGIMER & Dr RML Hospital, New Delhi
53. Childhood Autism Rating Scale and panelist/ expert for all the discussions and case studies Via Skype, Elicitation Board disclosure meeting, 11 March 2020, Paris, France

#### **Biswaroop Chakrabarty**

1. Moderator for Rasmussen Encephalitis and related disorders, NuPed 2019, Difficult Childhood Epilepsy, 14 April 2019, New Delhi
2. EEG in Idiopathic generalized epilepsy in children, KSCH Pediatric EEG course, KSCH, 2nd May 2019, New Delhi
3. EEG in metabolic and degenerative disorders in children, KSCH Pediatric EEG course, KSCH, 2 May 2019, New Delhi
4. Seizure Mimics, Pediatric Neurology CME, 21 July 2019, Ahmedabad
5. Febrile Seizures, Pediatric Neurology CME, 21 July 2019, Ahmedabad
6. Resource Faculty, Workshop on clinical evaluation in Pediatric Neurology, KSCH, 4 and 5 August 2019, New Delhi
7. Acute Febrile encephalopathy, PCNI and PEDICON North Zone 2019, 29 September 2019, New Delhi
8. Approach to a child with Headache, IAP Delhi monthly clinical meeting, Lok Nayak Hospital, 16 October 2019, New Delhi
9. Movement Disorders in Children, Pediatric Neuro Update, GSVM Medical College, 20 October 2019, Kanpur
10. Acquired CNS demyelination, Pediatric Neuro Update, GSVM Medical College, 20 October 2019, Kanpur
11. Moderator for panel discussion on "Acute Encephalitic syndrome", PEDICON 2020, 10 January 2020, Indore
12. Development, Behavior, Nutrition and Immunisation, CBSE Wellness Teacher Training Program, 28 January 2020, New Delhi
13. Febrile seizures; are they benign?, Pediatric Neurology Update, 22 February 2020, New Delhi
14. Delegate, Ace School of Sleep Medicine, 23 February 2020, New Delhi

#### **Prashant Jauhari**

1. Activation procedures in EEG, KSCH Pediatric EEG course, KSCH, 30 April 2019, New Delhi
2. Faculty for Hands on EEG training, KSCH Pediatric EEG course, KSCH, 9 May 2019, New Delhi
3. Resource Faculty, Workshop on clinical evaluation in Pediatric Neurology, KSCH, 4 and 5 August 2019, New Delhi
4. Approach to stroke in children, Pediatric Neuro Update, GSVM Medical College, 20 October 2019, Kanpur
5. Case based approach to childhood onset epilepsies, Pediatric Neuro Update, GSVM Medical College, 20 October 2019, Kanpur
6. How to plan investigations of an epileptic child, Pediatric Neuro Update, GSVM Medical College, 20 October 2019, Kanpur
7. Chief Guest for National Workshop on Advanced Quantitative Research Methods (AQRM) in Social Sciences, Department of Education, Central Institute of Education (CIE), University of Delhi, 9-15 December 2019, New Delhi
8. Quantitative research: Need of the hour, Department of Education, Central Institute of Education (CIE), University of Delhi, 9 December 2019, New Delhi
9. Neuroregressive disorders, Pediatric Neurology Update, 22 February 2020, New Delhi

#### **Rachna Seth**

1. World Health Organization (WHO) Global Initiative for Childhood Cancer: Discussion, Childhood Cancer Town Hall and Networking, 24 June 2019, Max Super Specialty Hospital, Saket, New Delhi
2. Optimum management of Hodgkin Lymphoma, 23rd Annual Pediatric Hematology Oncology Conference (PHOCON 2019), 6-8 September 2019, Department of Pediatrics, Institutes of Medical Sciences, BHU, Varanasi
3. Neonatal Tumors: How to approach, 23rd Annual Pediatric Hematology Oncology Conference (PHOCON 2019),

6-8 September 2019, Department of Pediatrics, Institutes of Medical Sciences, BHU, Varanasi

4. After treatment completion registry of childhood cancers: Multicenter study-Phase -1 (In PoG study), 23rd Annual Pediatric Hematology Oncology Conference (PHOCON 2019), 6-8 September 2019, Department of Pediatrics, Institutes of Medical Sciences, BHU, Varanasi
5. Cancer survivorship & Late effects: concept of Survivor Clinics, 4th Pediatric Oncology Support Services Conference (PHOSSCON 2019), 7-8 September 2019, Varanasi, Department of Pediatrics, Institutes of Medical Sciences, BHU, Varanasi
6. Fungal infections in Pediatric Oncology, Oncology Forum Annual Meeting 2019, 7-8 December 2019, New Delhi
7. Moderator of session, BEST OF SIOP 2019", 12 December 2019, Rohini, New Delhi
8. Childhood Cancer Survivors: panel discussion, CME in Pediatric Hematology Oncology Pediatric Hematology-Oncology Unit, 1- 2 February 2020, Advanced Pediatrics Centre, PGIMER, Chandigarh
9. Multicenter wide childhood cancer survivor registry: Synopsis/preliminary results, Brainstorming late effects & Survivorship, 3 December 2019, AIIMS, New Delhi
10. Guest speaker, Childhood Cancer: way forward, 30 September 2019, Safdarjung Hospital

#### **Jagdish P Meena**

1. Panel discussion on Rhabdomyosarcoma, 15th meeting of NIPOF (North India Pediatric Oncology Forum), 20 July 2019, Sir Ganga Ram Hospital, New Delhi
2. Panel discussion on bacterial infection in immunocompromised host, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September, 2019, BHU
3. Interactive discussion on Sarcoma, CME in Pediatric Hematology Oncology, 1- 2 February 2020, PGIMER, New Delhi
4. Managing B-NHL in AYA population, CME on Pediatric Leukemia and Lymphoma, 8-9 February 2020, Sir Ganga Ram Hospital, New Delhi

#### **Aditya Kumar Gupta**

1. Hematopoietic stem cell transplant-clinical and technical perspectives, Guest Lecture, 26 June 2019, BHU, Varanasi
2. Colony Stimulating factors, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi
3. Role of health care professional as stakeholder in pediatric cancer care, PHOSCON, 23rd Annual Conference of Pediatric Hematology Oncology, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi
4. Panelist for session on chemotherapy in low grade gliomas, CME on Pediatric Brain Tumors, 10 November 19, Sir Ganga Ram Hospital, New Delhi
5. Outpatient management of febrile neutropenia, CME on Lymphomas and Leukemias, 8 February 2020, Sir Ganga Ram Hospital, New Delhi
6. Osteonecrosis in Pediatric ALL, Best of SIOP 2019, 11 January 2020, Rajiv Gandhi Cancer Institute

#### **SK Kabra**

1. Pediatric Tuberculosis, Diagnosis, clinical features and imaging, CME on Pediatric Tuberculosis, IAP Vishakapatnam branch, 7 April 2019, Vishakhapatnam
2. Pediatric Tuberculosis diagnosis 2: Microbiology, CME on Pediatric Tuberculosis, IAP Vishakapatnam branch, 7 April 2019, Vishakhapatnam
3. Pediatric tuberculosis in special circumstances (Perinatal tuberculosis, HIV TB), CME on Pediatric Tuberculosis, IAP Vishakapatnam branch, 7 April 2019, Vishakhapatnam
4. Panel discussion on Tuberculosis, North Zone Pediatrics Conference, IAP NOIDA, 21 April 2019, Greater Noida
5. Profile Pediatric Poisoning, National Symposium on Poisoning as a Public Health Problem, (Symp-NIPC 2019). National Poison Information Center, Department of Pharmacology, AIIMS, New Delhi, 26 April 2019, New Delhi
6. Dengue in children: issues for management, National Dengue day organised by Department of Medicine AIIMS and National Vector Control program, Ministry of Health and Family Welfare at AIIMS, 1 May 2019, New Delhi
7. Pediatric Tuberculosis: Recent Update in RNTCP, Annual CME of IAP Haryana, organized by IAP, Faridabad branch, Asian Institute of Medical Sciences, 19 May 2019, Faridabad
8. Cystic Fibrosis in Asia report of survey, council meeting of Asian Pediatric Pulmonology Society, 18th International

conference of Pediatric Pulmonology (CIPP) and 5th Annual Conference of Asian Pediatric Pulmonology Society, 29 June 2019, Chiba, Japan

9. Cystic Fibrosis in India, 18th International conference of Pediatric Pulmonology (CIPP) and 5th Annual Conference of Asian Pediatric Pulmonology Society, 29 June 2019, Chiba, Japan
10. Cystic Fibrosis and Chronic lung diseases, Workshop on second Pediatric Pulmonology update, organized by IAP Guwahati branch, 6-7 July 2019, Guwahati
11. Management algorithm for chronic cough, Second Pediatric Pulmonology update, organized by IAP Guwahati branch, 6-7 July 2019, Guwahati
12. Recurrent pneumonia, Second Pediatric Pulmonology update, IAP Guwahati branch, 6-7 July 2019, Guwahati
13. Panel discussion: Stridor in children, Second Pediatric Pulmonology update, IAP Guwahati branch, 6-7 July 2019, Guwahati
14. Update in Childhood Tuberculosis, 4th Annual CME of Rajasthan Respiratory Chapter, organized by IAP Respiratory Chapter, Rajasthan and IAP Udaipur branch, 14 July 2019, Udaipur
15. Panel Discussion: Childhood Tuberculosis., 4th Annual CME of Rajasthan Respiratory Chapter, organized by IAP Respiratory Chapter, Rajasthan and IAP Udaipur branch, 14 July 2019, Udaipur
16. TB update, Pediatric Pulmonology Update, Academy of Pediatrics, Nagpur, 28 July 2019, Nagpur
17. Panel discussion: Pneumonia, Pediatric Pulmonology Update, Academy of Pediatrics, Nagpur, 28.7.2019, 28 July 2019, Nagpur
18. Panel Discussion: Childhood asthma, Pediatric Pulmonology Update, Academy of Pediatrics, Nagpur, 28 July 2019, Nagpur
19. Home oxygen II, AIIMS Pediatric pulmonology and Intensive Care course Module 8. Department of Pediatrics AIIMS New Delhi, 21 July 2019, New Delhi
20. Asthma Update: what is new in GINA 2019, North Delhi Pulmocon 2019 organized by IAP North Delhi branch, 4 August 2019, New Delhi
21. Absence of evidence is not evidence of absence: CF & PCD story, National Original Research Convention (NORC 2019) on 11 August 2019, New Delhi
22. Cystic Fibrosis: A disease with clinical markers from newborn to adulthood, CME on Update on common and not so uncommon Pediatric Problems, Department of Pediatrics, Jawarlal Nehru Medical College, Aligarh Muslim University, 25 August 2019, Aligarh
23. Flexible bronchoscopy in children, CME on Update On Common And Not So Uncommon Pediatric Problems, Department of Pediatrics, Jawarlal Nehru Medical College, Aligarh Muslim University, 25 August 2019, Aligarh
24. Panel discussion: Tumor Board: Thoracic Masses in Childhood, Annual Conference of Indian Society of Pediatric Radiologists. Department of Radiodiagnosis, AIIMS New Delhi, 7 September 2019, New Delhi
25. Emerging modality in F O Bronchoscopy- EBUS, 2<sup>nd</sup> Delhi Respicon, Pediatric Respiratory Society, RML Hospital, 15 September 2019, New Delhi
26. Chronic lung Diseases- Transformation of care from Childhood to Adults, 2nd Delhi Respicon 2019, Pediatric Respiratory Society Delhi at RML Hospital, 15 September 2019, New Delhi
27. Difficult pneumonia, Pediatric conference of North Zone and North India, IAP Delhi, 28-29 September 2019, New Delhi
28. Panel discussion: Newer guideline for tuberculosis., Pediatric conference of North zone and North India. Organized by IAP Delhi, 28-29 September 2019, New Delhi
29. Childhood Pneumonia, 6th annual meeting of Childhood Respiratory Disease Study Circle of Sri Lanka, 6 October 2019, Colombo
30. Etiological Spectrum of Bronchiectasis, 6th Annual Meeting of Childhood Respiratory Disease Study Circle of Sri Lanka, 6 October 2019, Colombo, Sri Lanka
31. Panel discussion: Pediatric Tuberculosis, 6th Annual Meeting of Childhood Respiratory Disease Study Circle of Sri Lanka, 6 October 2019, Colombo, Sri Lanka
32. Panel discussion: School age asthma, 6th Annual Meeting of Childhood Respiratory Disease Study Circle of Sri Lanka, 6 October 2019, Colombo, Sri Lanka
33. Diagnosis of cystic fibrosis, in workshop Diagnosing and Managing Emerging Respiratory Diseases (Cystic Fibrosis and Primary Ciliary Dyskinesia), 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Indore
34. Diagnosis of cystic fibrosis, in workshop Diagnosing and Managing Emerging Respiratory Diseases (Cystic Fibrosis and Primary Ciliary Dyskinesia), 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics

(RESPICON 2019), 11-13 October 2019, Pune

35. Clinical symptoms of primary ciliary dyskinesia., 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Pune
36. Open house on question and answer on respiratory illnesses, 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Pune
37. Panel discussion: Cystic fibrosis –Newer Horizons in diagnosis and management, 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Pune
38. Immunology of Pulmonary TB-Current Understanding, 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Pune
39. Expert in Interesting Cases- Presentation and discussion, 31st National Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2019), 11-13 October 2019, Pune
40. Role of Xpert ultra and Urine LAM in diagnosis of TB in children, Child and Adolescent TB Working group”, 30 October 2019, Hyderabad
41. Childhood Tuberculosis - Defining magnitude of the problem, Natural History of Disease, Monitoring of treatment – Defining response and non response, Management of adverse effects, Neonate of a mother with TB, Prevention of TB. Post-graduate course, in 50th Union world conference on lung health at Hyderabad, 30 October 2019, Hyderabad
42. Approach to a case of problematic or unresponsive asthma, 53rd Conference Indian College of Allergy Asthma and Applied Immunology 2019, National Institute of Tuberculosis and Respiratory Diseases (NITRD) at NITRD, 9 October 2019, New Delhi
43. Childhood TB management: National guidelines, Pediatric Update, IAP Allahabad and Department of Pediatrics, MLN Medical College, Allahabad, 10 Novemebr 2019, Allahabad
44. Management of asthma in children, Pediatric Update, IAP Allahabad and Department of Pediatrics, MLN Medical College, Allahabad, 10 November 2019, Allahabad
45. Multi Drug resistant Tuberculosis, Fourth Annual meeting of Pediatric Research and Education Society of India (PRESIDE), Department of Pediatrics, Maulana Azad medical College and AIIMS, 23 November 2019, New Delhi
46. Management of Acute Bronchial Asthma (Current evidence based recommendation), Annual Conference of AIP Assam (ASPEDICON 2019), IAP Tinsukia, 29-30 November 2019, Tinsukia
47. How to improve diagnosis of Tuberculosis. Respiratory CME, Surat Pediatric Association, 26 January 2020, Surat
48. Pulmonary Function Test in Under five children, Respiratory CME, Surat Pediatric Association, 26 January 2020, Surat
49. Panel Discussion: Common Respiratory Problems. Respiratory CME, Surat Pediatric Association, 26 January 2020, Surat
50. TB Diagnostic Part 2 (Microbiology etc), Childhood TB Workshop North Regional TOT at India HabitatCenter, 9 February 2020, New Delhi
51. Treatment of Tuberculosis, Childhood TB Workshop North Regional TOT at India Habitat Center, 9 February 2020, New Delhi
52. Special conditions: HIV and TB and Neonate born to mother with TB, Childhood TB Workshop North Regional TOT at India Habitat Center, 9 February 2020, New Delhi
53. Case Discussion: HIV infection, Course in Clinical examination for Post Graduates (COCEP), University College of Medical Sciences, GTB Hospital, 16 February 2020, Delhi
54. CT Chest Part III: clinicradiological correlation. AIIMS Pediatric pulmonology and Intensive Care Course: Module 9. Organized by department of Pediatrics at AIIMS, 22-23 February 2020, New Delhi
55. How to make your paper worthy of publication?, 2nd IAP ResRCHcon organized by Department of Pediatrics, Lady Hardinge Medical College, 29 February and 1 March 2020, New Delhi

#### **Rakesh Lodha**

1. Resource Faculty for the workshop, Workshop on “Research writing and publishing in medicine”, 13-15 July 2019, National Academy of Medical Sciences, Bir Hospital, Kathmandu
2. Resource Faculty for the workshop, Workshop on “Art and Science of Writing a Paper”, 23- 24 September 2019, Indraprastha Apollo Hospital, Delhi

#### **Kana Ram Jat**

1. Primary Ciliary Dyskinesia, UP PEDIA RESPIRA 2019, 6-7 July 2019, Noida, UP
2. 60, Cystic fibrosis-Is it common in India?, UP PEDIA RESPIRA 2019, 6-7 July 2019, Noida, UP

3. Operational aspects: training of care giver, monitoring at home, visit by staff, use of social media etc, AIIMS Pediatric Pulmonology and Intensive care Course: Module VIII- Pulmonary rehabilitation, 20-21 July 2019, New Delhi
4. Basic life support overview, workstation on CPR, Indian Academy of Pediatrics (IAP)-Basic Life Support Course, 18 August 2019, New Delhi
5. Panelist in Panel discussion: Radiology Quiz, 2nd DELHI RESPICON 2019, 15 September 2019, New Delhi
6. Rhythm Disturbances and defibrillator, IAP-Advanced Life Support Course, 7-8 September 2019, New Delhi
7. Learning station-Respiratory emergencies, IAP-Advanced Life Support Course, 7-8 September 2019, New Delhi
8. Assessment of sick child-disability and exposure, IAP-Advanced Life Support, Mass Awareness Program TOT, 13 October 2019, New Delhi
9. Update on childhood asthma, CME on Pediatric Update, 1 December 2019, Jammu, J&K
10. Rhythm Disturbances and defibrillator, IAP-Advanced Life Support Course, 21-22 December 2019, New Delhi
11. Learning station-Cardiac arrest, IAP-Advanced Life Support Course, 21-22 December 2019, New Delhi
12. Moderator: Panel Discussion-Children's Interstitial Disease, PEDICON 2020, 9-12 January 2020, Indore, MP  
Chairperson: childhood tuberculosis, PEDICON 2020, 9-12 January 2020, Indore, MP
13. Diagnosis and management of cystic fibrosis-What is new?, PEDICON 2020, 9-12 January 2020, Indore, MP
14. GER-pH study, AIIMS Pediatric Pulmonology and Intensive care Course: Module IX-Pediatric Pulmonology Diagnostics, 22-23 February 2020, New Delhi

### **Jhuma Shankar**

1. Balanced salt versus normal saline in children with septic shock (Presentation of results), PALISI Spring meeting, New Orleans, 4-7 March 2020, New Orleans, LA (teleconference presentation), Los Angeles, USA
2. Case based Discussion: Shock and raised ICP (Moderator), PEDICON 2020, 8-12 January 2020, Indore, India
3. Acute Respiratory Distress syndrome (Panel Discussion), PEDICON 2020- Advanced ventilation workshop, 8-12 January 2020, Indore, India
4. Ventilator associated pneumonia, PEDICON 2020- Advanced ventilation workshop, 8-12 January 2020, Indore, India
5. ARDS: A challenge for intensivists, Pediatric Critical Care Update-2019, 4-7 January 2020, AIIMS, Jodhpur, India
6. Home oxygen part III: Reasons for desaturation, trouble shooting, AIIMS Pediatric Pulmonology and IntensiveCare Course Module VIII: Pulmonary rehabilitation, 20-21st July 2019, AIIMS, New Delhi, India
7. Home Ventilation part-II, Heated Humidified High Flow Nasal Canula, AIIMS Pediatric Pulmonology and IntensiveCare Course Module VIII: Pulmonary rehabilitation, 20-21 July 2019, AIIMS, New Delhi, India
8. Recognition of a sick child, Pediatric Advanced Life Support course, 7 and 8 September 2019, AIIMS, New Delhi, India
9. Airway techniques (skill station), Pediatric Advanced Life Support course, 7 and 8 September 2019, AIIMS, New Delhi, India
10. Acute encephalitis Syndrome – Training (Faculty), Workshop for training of nurses and doctors from Bihar by Ministry of Health and Family Welfare, 17- 21 February 2020, Kalawati Saran Children's Hospital, New Delhi, India

### **Narender Kumar Bagri**

1. Principles of Management of PID, Sensitization Seminar on Primary Immunodeficiency disorders, MAMC, 20 April 2019, New Delhi
2. Rheumatology & Eye diseases, Ophthalmology Society conference, 14 April 2019, New Delhi
3. Approach to a child with limp, CME on Pediatric Rheumatology IAP, IAP House, 13 July 2019, Kota, Rajasthan
4. Biomarkers in Kawasaki Disease, Behcets disease, 2nd Conference of Kawasaki Disease of India, Kolkata, 2 November 2019, Kolkata
5. Behcet's disease, 3rd West Bengal Pediatric Rheumatology Society, 3 November 2019, Kolkata

### **Oral papers/posters presented**

1. Agarwal A, Sinha A, Parveen A, Hari P, Bagga A. Outcomes of maintenance hemodialysis at a charitable pediatric hemodialysis unit, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy

2. Aggarwal B, Gupta N, Mishra A, Sivasubbu S, Choudhary MR, Gulati S, et al. Clinical and Genotypic Spectrum of Nuclear, Mitochondriopathies: An Initial Experience from a Tertiary Care Centre in India, 13th Asia Pacific Conference on Human Genetics, 7-9 November 2019, Manila, Philippines
3. Aggarwal M, Chakrabarty B, Sirolia V, Jauhari P, Kumar A, Gulati S. Clinico-radiological profile and outcome predictors of pediatric neurotuberculosis: a retrospective cohort study., Pediatric Academic Societies (PAS) 2019 Meeting, 27-30 April 2019, Baltimore, USA
4. Aggarwal N, Aggarwala A, Wajid D, Sahoo D, Purkayastha K, Gupta A, et al. Identification of the impact of nasogastric tube feeding versus oral feeding on the nutritional status of pediatric oncology patients & Enteral Nutrition (EN) related myths amongst parents, 23rd Annual Pediatric Hematology Oncology Conference (PHOCON 2019), 6-8 September 2019, BHU, Varanasi
5. Arunambika C, Sharma A, Sankar MJ. Fortification of expressed breast milk with preterm formula powder vs. human milk fortifier in preterm very low birth weight neonates: A randomized, non-inferiority trial\*, NNF NEOCON 2019, Hyderabad, 12-15 December 2019, Hyderabad, Telangana, **Rank 2 for Gold Medal Paper**
6. Badal S, Panda PK, Sirolia V, Piwal S, Yadav S, Gulati S. Comparison of diagnostic efficacy of short term sleep and awake video EEG to detect epileptiform abnormalities in various childhood epilepsy syndromes aged 5-18 years on first EEG recording, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
7. Badal S, Panda PK, Yadav S, Gulati S. EEG abnormalities in critically ill children admitted to a pediatric intensive care unit in North India and their diagnostic, therapeutic and prognostic implications, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
8. Bagri NK, Gupta A, Triparthy SK, Phulwara RH, Arava S, Cryopyrin associated periodic fever syndrome, 3rd Scientific congress of Asia Pacific Society for Primary Immunodeficiencies, 8-9 February 2020, PGIMER, Chandigarh,
9. Bagri NK, Karmakar S, Haldar P, Lodha R, Kabra SK, Predicting Response to Methotrexate In Children With Juvenile Idiopathic Arthritis: Role of Biomarkers, 35th Annual Conference of Indian Rheumatology Association, 5-8 December 2019, JIPMER, Puducherry
10. Chaudhary P, Bagri NK, MVK deficiency, 3rd Scientific congress of Asia Pacific Society for Primary Immunodeficiencies, 8-9 February 2020, PGIMER, Chandigarh
11. Correa ARE, Aggarwal B, Gupta N, Kabra M. Report of the Ninth Case Worldwide and First Case from India of Penttinen -Type Premature Aging Syndrome, 7th International Conference on Rare & Undiagnosed Diseases, 13-15 April 2019, Gurgaon
12. Correa ARE, Aggarwal B, Kabra M, Gupta N. Aicardi-Goutières syndrome- Report of pathogenic variants in 8 Indian patients, 13th Asia Pacific Conference on Human Genetics, 7-9 November 2019, Manila, Philippines
13. Correa ARE, Kaur R, Gupta N, Kabra M. Identification of two novel stop gain variants in UNC80 using whole exome sequencing in two Indian siblings, 13th Asia Pacific Conference on Human Genetics, 7-9 November 2019, Manila, Philippines
14. Dhochak N, Jat KR, Sankar J, Lodha R, Kabra SK. Hypersensitivity myocarditis due to anti-tubercular drugs in children: a retrospective review. (Poster presentation), Respicon 2019, 12 October 2019, Pune
15. Endrakanti M, Aggarwal B, Correa A, Mishra A, Sivasubbu S, Choudhary MR, et al. Clinical and Genotypic spectrum of Nuclear Mitochondriopathies: An Initial Experience from a Tertiary Care Centre in India, Sixth Annual Conference of SIAMG and the Indo- US Symposium on Genetic Neuromuscular Disorders, 21-23rd November 2019, Hyderabad, India
16. Endrakanti M, Aggarwal B, Gupta N, Kabra M, Next Generation Sequencing Solving the Enigma of Rare Adult onset Neurometabolic Genetic Disorders, Sixth Annual Conference of SIAMG and the Indo- US Symposium on Genetic Neuromuscular Disorders, 21-23 November 2019, Hyderabad, India
17. Ghimire JJ, Gulla KM, Jat KR, Sankar J, Lodha R, Kabra SK. Risk factors and clinical course of children with cystic fibrosis colonized with staphylococcus spp (Oral presentation), Respicon 2019, 12 October 2019, Pune
18. Ghimire JJ, Sankar J, Lodha R. Decreasing time to recognition and administration of first dose of antibiotics in children with septic shock (Poster presentation), NCPIC 2019, December 2019, Bengaluru
19. Gulati S, Badal S, Panda PK, Sirolia V, Piwal S, Yadav S. Hyperventilation and intermittent photic stimulation to increase the diagnostic yield of EEG recording to detect epileptiform abnormalities: experience from a tertiary care center in North India, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
20. Gulati S, Panda PK, Sondhi V, Agarwal A. Challenges in providing Ketogenic Dietary therapies in treatment of childhood drug resistant epilepsy to caregivers with low level of literacy and poor socioeconomic status in resource constrained settings and the innovative measures adapted to overcome these hurdles in a North Indian teaching hospital over last twelve years, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
21. Gulla KM, Parihar MS, Jat KR, Lodha R, Kabra SK. Congenital Lung Malformations: Experience from a tertiary

- care center (Oral presentation awarded), Respicon 2019, 12 October 2019, Pune
22. Gupta A, Chopra A, Meena J, Pandey RM, Singh J, Bakhshi S, et al. Effect of Rituximab added to standard chemotherapy therapy on minimal residual disease during induction in CD-20 positive pediatric acute lymphoblastic leukemia, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi
  23. Gupta A, Chopra A, Meena J, Pandey RM, Singh J, Bakhshi S, et al. Effect of Rituximab added to standard chemotherapy therapy on minimal residual disease during induction in CD-20 positive pediatric acute lymphoblastic leukemia, 51 Congress of the International Society of Pediatric Oncology, 23-26 October 2019, Lyon, France
  24. Gupta A, Meena J, Devarapalli S, Sahoo D, Wajid MA, Tiwary N, et al. Reasons for missed chemotherapy appointments in retinoblastoma patients at a tertiary care centre in India, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi
  25. Gupta A, Meena J, Devarapalli S, Sahoo D, Wajid MA, Tiwary N, et al. Reasons for missed chemotherapy appointments in retinoblastoma patients at a tertiary care centre in India, 51 Congress of the International Society of Pediatric Oncology, 23-26 October 2019, Lyon, France
  26. Gupta J, Kaushik JS, Sinha R, Badal S, Gulati S. Childhood onset extra-pyramidal symptoms: an ever widening spectrum, 10th AOCN 2020, Child Neurocon, 28 February–1 March 2020, Bengaluru
  27. Gupta J, Sinha R, Anand V, Singh S, Jauhari P, Chakrabarty B, et al. A Mysterious case of Tumefactive Demyelination, 10th AOCN 2020, Child Neurocon, 28 February–1 March 2020, Bengaluru
  28. Gupta N, Kaur R, Vandana K, Langeh N, Sachdeva A, Sharma A, et al. Hospital based surveillance of congenital malformations at a tertiary care center in North India – An initial experience, 9th International conference on Birth Defects & Disabilities in the Developing world, 25 February 2020, Colombo, Sri Lanka
  29. Jat KR, Goel N, Lodha R, Gupta N, Kabra SK. Association between Vitamin D Levels and Asthma Control in Children from A Developing Country, American Thoracic Society (ATS) 2019 International Conference, 17-22 May 2019, Dallas, Texas, USA
  30. Jat KR, Kumari J, Lodha R, Mukherjee A, Saini S, Kumar A, Kabra SK. Cut-off values of diagnostic criteria for allergic bronchopulmonary, aspergillosis in asthmatic children, International Congress on Pediatric Pulmonology, 27-30 June 2019, Chiba-Tokyo, Japan
  31. Jauhari P, Kaur P, Gupta A, Chakrabarty B, Gulati S. Infantile epileptic channelopathies: molecular genetics and clinical phenotypes, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
  32. Joshi A, Sinha A, Sharma A, Shamim U, Sharma P, Zahra S, et al. Genetic basis and phenotype of congenital nephrotic syndrome using whole exome sequencing, 18th International Pediatric Nephrology Association Congress, 18-21st October 2019, Lido, Italy
  33. Kaur P, Madaan P, Shruthi NM, Jauhari P, Chakrabarty B, Gulati S. Syndromes of Eyelid myoclonia with absence and Epilepsy with myoclonic absences: Under-recognised generalised pediatric epilepsies, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
  34. Khandelwal P, Faruq M, Puraswani M, Joshi A, Sinha A, Hari P, et al. Coexisting variations in complement genes increase relapse risk in anti-factor H associated atypical HUS, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
  35. Khandelwal P, Saini H, Singh G, Saini S, Sinha A, Bagga A, et al. Therapy and outcome of C3 glomerulopathy and immune-complex membranoproliferative glomerulonephritis, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
  36. Kiran Kumar B, Jat KR, Shah J, Sankar J, Lodha R, Kabra SK. Cut-off values of diagnostic criteria for allergic Bronchopulmonary Aspergillus in asthmatic children- A retrospective study. (Oral presentation), Respicon 2019, 12 October 2019, Pune
  37. Kiran Kumar B, Kumar A, Shah S, Sankar J, Lodha R, Kabra SK. Outcomes of children with congenital heart disease awaiting surgery admitted to a PICU of a tertiary care centre (Poster presentation), NCPIC 2019, December 2019, Bengaluru
  38. Kumar A, Jat KR, Sankar J, Lakshmy R, Lodha R, Kabra SK. To study role of highly sensitive c-reactive protein in assessment of asthma control in children (Oral presentation), Respicon 2019, 12 October 2019, Pune
  39. Kushwah S, Yadav M, Hari P, Sinha A, Bagga A. Incidence and risk factors for acute kidney injury in nephrotic syndrome, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 16-18 December 2019, Armed Forces Medical College (AFMC), Pune (Best paper award)
  40. Langeh N, Gupta N, Sharma A, Mridha A, Jana M, Barwad A, et al. Minimally invasive autopsy in the evaluation of fetal malformations, International Conference on Birth Defects and Disabilities in the Developing World, 23rd to 26 February 2020, Colombo, Sri Lanka.
  41. Madaan P, Gupta D, Agrawal D, Kumar A, Jauhari P, Chakrabarty B, et al. Neurocognitive outcomes and their Diffusion Tensor Imaging (DTI) correlates in children with Mild Traumatic Brain Injury (mTBI) (P5. 6-059), 71st

Annual meeting of American Academy of Neurology, 4-10 May 2019, Philadelphia, USA (**2019 International Scholarship Award**)

42. Madathil S, Sankar MJ, Agarwal R. Intravenous Fentanyl versus Intravenous Ketamine for analgesia during laser treatment for Retinopathy of prematurity (ROP) in preterm infants – A Randomized Trial, 57th IAP PEDICON 2020, Indore, 9-12 January 2020, Indore, **Dr. S. S Manchanda Neonatology Research Award**
43. Mandal A, Meena J, Khandelwal P, Sinha A, Hari P, Bagga A, Variations in *SCL34A1* predominate on whole exome sequencing in isolated nephrolithiasis, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Convention Center, Lido, Italy
44. Marik B, Bagga A, Sinha A, Khandelwal P, Hari P, Sharma A. Whole exome sequencing in patients with hypophosphatemic rickets, 18th International Pediatric Nephrology Association Congress, 16 October 2019, Convention Center, Lido, Italy
45. Mathew G, Sinha A, Grewal N, Hari P, Bagga A, Sequential rituximab therapy in steroid and/or calcineurin inhibitor dependent nephrotic syndrome, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
46. Mathew G, Sinha A, Grewal N, Hari P, Bagga A. Sequential rituximab therapy in steroid and/or calcineurin inhibitor dependent nephrotic syndrome, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 16 December 2019, Armed Forces Medical College, Pune
47. Meena J, Mathew G, Hari P, Sinha A, Bagga A. Bladder-bowel dysfunction in children with UTI and/or VUR: Systematic review and meta-analysis, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
48. Mukherjee A, Saini S, Tripathi A, Singh V, Grewal MSH, Lodha R, Kabra SK. Variability of interferon gamma release assay over six months of anti-tubercular therapy in children. (Oral presentation), 50th Union world conference on lung health, 30 October 2019, Hyderabad
49. Niranjana B, Phuljhele S, Sharma P, Saxena R, Gulati S. The pattern of visual impairment in spectrum of hypoxic ischemic encephalopathy, INOS, 2nd Annual Conference, Indian Neuro-Ophthalmology Society, 30 November – 1 December 2019, New Delhi (**Best oral presentation award**)
50. Panda PK, Agarwal A, Jauhari P, Chakrabarty B, Jain V, Pandey RM, et al. DILT (Daily vs Intermittent LGIT) trial-Comparison of Efficacy of Daily and Intermittent Low Glycemic Index Therapy Diet among Children with Drug Resistant Epilepsy aged 1-15 years: A Randomized Controlled Non-inferiority Trial (Platform presentation), 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
51. Panda PK, Badal S, Gulati S. Prevalence and variables associated with occurrence of seizures in pediatric arterial ischemic stroke, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
52. Panda PK, Badal S, Sirolia V, Sharma S, Khan S, Parveen S, et al. Epilepsy in children with Autism Spectrum Disorder: its prevalence, associated factors, effect on severity of autism and treatment implications-experience from a tertiary care center in North India, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
53. Panda PK, Badal S, Sirolia V, Sharma S, Thupliyal N, Parmar B, et al. Video EEG with Suggestion (VEST) trial-Comparison of efficacy between suggestion methods during Video EEG recording: verbal suggestion in isolation and verbal suggestion along with cotton swab or tuning fork for inducing the paroxysmal event in children aged 5 to 18 years with suspected psychogenic nonepileptic seizures-a randomized controlled non-inferiority trial (Platform Presentation), 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
54. Panda PK, Sharma S, Madaan P, Badal S, Gulati S. Clinical experience with psychogenic non epileptic seizures in children from a tertiary care center in North India, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
55. Panda PK, Sharma S, Sayeed S, Gulati S. Adolescents with Autism Spectrum Disorder-challenging behaviors, difficulties in inclusive education and sensory processing disorders: experience from a tertiary care center in North India, NEUROPEDICON 2019, 19th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics, 26-28 July 2019, Hyderabad
56. Panda PK, Shruthi NM, Jauhari P, Chakrabarty B, Jana M, Kumar A, et al. Aberrant origin of Right vertebral artery with posterior circulation stroke due to vertebral artery dissection in a child with Down syndrome: more than a mere coincidence, 15th Asian and Oceania Congress of Child Neurology 2019, 19-22 September 2019, Kuala Lumpur, Malaysia
57. Panda PK, Shruti NM, Gupta N, Kabra M, Gulati S. 5-Year-Old Girl With Infantile Epilepsy And Developmental Delay With A Rare Neurogenetic Syndrome, 15th Asian and Oceania Congress of Child Neurology 2019, 19-22 September 2019, Kuala Lumpur, Malaysia
58. Panda PK, Sondhi V, Kanan L, Badal S, Pandey RM, Gulati S. Efficacy of low glycemic index therapy in children with drug resistant epilepsy: a systematic review of existing literature and pooled analysis of the results of these

clinical studies, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand

59. Panda PK, Sondhi V, Madaan P, Dubey R, Jauhari P, Chakrabarty B, et al. Seronegative autoimmune encephalitis in children: experience of a tertiary care teaching centre in North India, NEUROPEDICON 2019, 19th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics, 26-28 July 2019, Hyderabad
60. Pathania A, Sankar J, Singh M, Kabra SK, Lodha R. Quality improvement initiative to improve initiation and acceptability of non-invasive ventilation (Poster presentation), NCPIC 2019, December 2019, Bengaluru
61. Patnaik SK, Kanitkar M, Kumar P, Bamal M, Yadav M, Ramamurthy HR, et al. Cardiovascular outcomes of nephrotic syndrome (CVONS) study: interim analysis, 18th International Pediatric Nephrology Association Congress 2019, 18-21 October 2019, Convention Center, Lido, Italy
62. Puraswani M, Khandelwal P, Tomar M, Hari P, Saini S, Sinha A, et al. Functional characterization of antifactor H antibodies in atypical hemolytic uremic syndrome, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Convention Center, Lido, Italy
63. Sagar T, Deorari A, Sachdeva A, Sankar MJ, Agarwal R. Comparison of Physiological responses during Kangaroo care by fathers and mothers in stable preterm neonates: A non- inferiority cross over study, IAP NEOCON, Bangalore, 27-29 September 2019, Bangalore, **Dr Meharban Singh gold medal award for best paper**
64. Sankar A, Haghayegh SZ, Nakamura K, Kabra M, Gatti RA, Shukla R. Spectrum of Pathogenic ATM Variants Identified in Indian Ataxia Telangiectasia Families, 45th Annual Conference of the Indian Society of Human Genetics, 13-15 February 2020, Chennai, India
65. Seth R, Kapoor G, Arora R, Verma N, Mahajan A, Jain P, et al. (C2S study group), After treatment completion registry of childhood cancers: Multicenter study-Phase -1 (In PoG study)C2S study, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi.
66. Sharma K, Sharma S, Gupta DK, Kabra SK, Bajpai M. Long term outcomes of esophageal replacement in children: experience from a tertiary care center, Congress of European Pediatric Surgeons Association, 12-15 June 2019, Belgrade
67. Sharma R, Kumar A, Faruq M, Palany R, Prasad H, Hiort O, Jain V. NR5A1 mutations in 7 patients with 46, XY DSD, Indian Society of Pediatric and Adolescent Endocrinology (ISPAE) 6th Biennial meeting, 29th Nov-1st Dec 2019, Kolkata
68. Sharma R, Kumar A, Faruq M, Werner R, Hiort O, Jain V. *SRD5A2* pathogenic variants in Indian children with 46, XY DSD and clinically suspected steroid 5 $\alpha$ -reductase 2 deficiency, Indian Society of Pediatric and Adolescent Endocrinology (ISPAE) 6th Biennial meeting, 29th Nov-1st Dec 2019, Kolkata, **2nd Prize in Oral Paper category**
69. Sharma S, Panda PK, Khan S, Gulati S. Evaluation of impact of timely institution of Applied Behavior Analysis on the clinical course of young children at risk for developing Autism Spectrum Disorder aged 18-36 months: a single center observational study, NEUROPEDICON 2019, 19th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics, 26-28 July 2019, Hyderabad
70. Sharma S, Panda PK, Khan S, Parveen S, Gulati S. Clinical profile of children presenting with Functional Neurological Complaints from a tertiary care Center in North India (Platform presentation), 46th NACIACP (National Annual Conference of Indian Association of Clinical Psychologists), 21- 23 February 2020, Chandigarh (**Best paper award in Scientific session**)
71. Sharma S, Panda PK, Shruti NM, Gulati S. Clinico-psychological profile and response to behavioral intervention in children with functional weakness: experience from a tertiary care center in north India, NEUROPEDICON 2019, 19th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics, 26-28 July 2019, Hyderabad
72. Shruthi NM, Gandhi T, Singh U, Jauhari P, Chakrabarty B, Kumaran S, et al. Comparing the efficacy of Virtual Reality Therapy Assisted Modified Constraint Induced Movement Therapy versus Modified Constraint Induced Movement Therapy alone, for children with Hemiparetic Cerebral Palsy aged >5-18 yrs- An Open labelled Randomised Controlled parallel design superiority trial. (Moderated poster), 15th Asian and Oceania Congress of Child Neurology 2019, 19-22 September 2019, Kuala Lumpur, Malaysia
73. Shruthi NM, Panda PK, Chakrabarty B, Jauhari P, Jana M, Kumar A, et al. Rare case of Chikungunya encephalitis with unprecedented recovery, 15th Asian and Oceania Congress of Child Neurology 2019, 19-22 September 2019, Kuala Lumpur, Malaysia
74. Shruti NM, Panda PK, Badal S, Jauhari P, Chakrabarty B, Jana M, et al. Clinical Experience with neurological manifestations of Wilson disease in children from a tertiary center in north India, NEUROPEDICON 2019, 19th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics, 26-28 July 2019, Hyderabad
75. Shukla R, Sankar A, Haghayegh SZ, Nakamura K, Kabra M, Gatti RA. Novel Pathogenic ATM Variants in Indian Ataxia Telangiectasia Patients, 18th International Ataxia Telangiectasia Workshop, 1-4 May 2019, Houston, TX, USA
76. Singh S, Gupta J, Sinha R, Kamila G, Jauhari P, Gulati S. Atypical Juvenile ALS with SOD-1 gene variation who

responded to IVIG, 10th AOCN 2020, Child Neurocon, 28 February – 1 March 2020, Bengaluru

77. Sinha A, Gipson D, Wong C, Massengill S, Ahmad A, Hari P, Bagga A, 6-months versus 3-months prednisolone for initial therapy of steroidsensitive nephrotic syndrome: Open label RCT, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
78. Sinha A, Khandelwal P, Chandan M, Tewari P, George J, Hari P, et al. Whole exome sequencing in steroid and calcineurin inhibitor resistant nephrotic syndrome, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
79. Sinha A, Raut S, Ghanapriya K, Bhardwaj M, Kalra S, Bagga A. Alternate-day prednisolone made daily during infections versus levamisole for frequently-relapsing nephrotic syndrome, 18th International Pediatric Nephrology Association Congress, 18-21 October 2019, Lido, Italy
80. Sinha A, Vasudevan A, Amitha NG, Sharma A, Chandan M, Tewari P, et al. Nationwide longitudinal disease cohorts and biorepository for nephrotic syndrome: Preliminary results, 18th International Pediatric Nephrology Association Congress, 18 October 2019, Lido, Italy
81. Sinha R, Singh S, Badal S, Kumar A, Gulati S. Radiogenomics in Pediatric Neurology- The way ahead, 10th AOCN 2020, Child Neurocon, 28 February – 1 March 2020, Bengaluru
82. Sinha R, Singh S, Gupta J, Anand V, Chakrabarty B, Gulati S. A dancing Eye Dancing Feet Syndrome with Brain on Fire –Rare Association with Scrub Typhus, 10th AOCN 2020, Child Neurocon, 28 February– 1 March 2020, Bengaluru
83. Sirolia V, Panda PK, Badal S, Gulati S, Yadav, Pilwal S. EEG before discontinuing antiepileptic drugs in well controlled childhood epilepsy: is it useful in properly guiding the clinician in decision making?, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
84. Srivastava AK, Gulati S, Rajeswari MR, Pathak D. PBMC proteome changes in Freidreich's ataxia: unraveling down regulated Actin a cardiac muscle 1 in patients, XXIV World Congress on Parkinson's Disease and related Disorders (IAPRD-2019), 16-19 June 2019, Montreal
85. Sudarshan S, Kumar A, Sethuraman G, Sapra S, Gupta N, Kaur P, et al. Mutation Spectrum of Tuberous Sclerosis Complex Patients in Indian Population, Indo-US symposium on Genetic Neuromuscular Disorders & Sixth Annual Conference of the Society for Indian Academy of Medical Genetics, 21-23 November 2019, Hyderabad, Telangana
86. Swami M, Bagri NK, Jana M, Chronic recurrent multifocal osteomyelitis, 3rd Scientific congress of Asia Pacific Society for Primary Immunodeficiencies, 8-9 February 2020, PGIMER, Chandigarh,
87. Thomas CC, Raut S, Naranje P, Sinha A, Hari P, Bagga A. An uncommon site of post-transplant tuberculosis, 1st Primer on Pediatric Renal Transplant: IPNA-ISN-TTS Teaching Course, 6-7 March 2020, Christian Medical College, Vellore, Chennai (Best paper award)
88. Thomas CC, Yadav M, Khandelwal P, Meena JK, Bansal VK, Sinha A, Hari P, Bagga A. ABO incompatible renal transplantation: A feasible option to overcome organ shortage, 1st Primer on Pediatric Renal Transplant: IPNA-ISN-TTS Teaching Course, 6-7 March 2020, Christian Medical College, Vellore, Chennai
89. Thomas CC, Yadav M, Singh G, Sinha A, Hari P, Bagga A. Calcineurin inhibitor toxicity despite target tacrolimus trough levels: Experience in a pediatric renal transplant recipient, 1st Primer on Pediatric Renal Transplant: IPNA-ISN-TTS Teaching Course, 6-7 March 2020, Christian Medical College, Vellore, Chennai
90. Tiwari R, Gulati S, Jauhari P, Lodha R, Sankar J, Kumar A, et al. Validation of END-IT score in children aged 1 month to 14 years with convulsive status epilepticus, 33rd International Epilepsy Congress, 22-26 June 2019, Bangkok, Thailand
91. Tiwari SK, Sharma R, Joshi P, Kabra SK. A study to assess depression, coping strategies and treatment adherence in patients with Cystic Fibrosis (Oral presentation awarded), Respicon 2019, 12 October 2019, Pune
92. Wajid A, Sahoo D, Gupta AK, Meena J, Seth R. Clinical outcomes after sequential therapy of juvenile myelomonocytic leukemia with cytarabine and 6-mercaptopurine, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi.
93. Wajid MA, Seth R, Gupta AK, Meena JP, Sahoo D. Myeloid neoplasm with t(5;12) and ETV6-PDGFRB gene fusion: case report with imatinib therapy and review of the literature, 23rd Annual Conference of Pediatric Hematology Oncology (PHOCON), 6-8 September 2019, BHU, Varanasi
94. Yadav M, Sinha A, Ghanapriya K, Chandan M, Hari P, Bagga A. Phenotypic characteristics of genotyped Alport syndrome, 31st Annual Conference of the Indian Society of Pediatric Nephrology, 16-18 December 2019, Armed Forces Medical College (AFMC), Pune
95. Yadav M, Thomas CC, Bansal VK, Subramaniam R, Rajeshwari M, Sinha A, Hari P, Bagga A. Renal transplant in a rare multisystem disease: Continued vigilance is necessary, 1st Primer on Pediatric Renal Transplant: IPNA-ISN-TTS Teaching Course, 6-7 March 2020, Christian Medical College, Vellore, Chennai

## RESEARCH

### Funded projects

#### Ongoing

1. “Chemo to Cure (C TO C)” study of cancer survivorship, Rachna Seth, JIV DAYA foundation, 8 years, 2011-2021, Rs. 120 lakhs
2. A collaborative, multicenter, national study for newly diagnosed patients with acute lymphoblastic leukaemia, (ICiCle), Rachna Seth, National Cancer Grid & ICMR, 5 years, 2017-2022, Rs. 30 lakhs
3. A Phase 3, Randomised, Double blind, Placebo-controlled efficacy and safety study of Ataluren in patients with non sense mutation Duchenne Muscular Dystrophy and Open label extension, Sheffali Gulati, PTC Therapeutics, USA, 2 years, 2019-2020, 50 lakhs
4. A Randomized, double blind placebo controlled six month study to evaluate the efficacy, safety and tolerability of Sarizotan in patients with Rett syndrome with respiratory symptoms, Sheffali Gulati, Neuron Pharmaceuticals, Italy, 2 years, 2017-2020, Rs 42 lakhs
5. A Study for Evaluation of the performance of the stool Provenessing Kit Combined with Xpert MTB/RIF Ultra for Paediatrics TB Diagnosis, Rakesh Lodha, FIND, INDIA, 15 months, 2019-2020, Rs. 42.82 lakhs
6. Anti-complement factor H (FH) associated hemolytic uremic syndrome (HUS) in children: Immunological and genetic basis, and functional characterization of autoantibodies, Aditi Sinha, DST, 3 years, 2017-2020, Rs 68.21 lakhs
7. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis, Pankaj Hari, DBT, 3 years, 2017-2019
8. Biomarkers of Acute Gastrointestinal Injury in Critically ill Children, Rakesh Lodha, ICMR, 2 years, 2019-2021, Rs. 55.84 lakhs
9. Breakpoint Mapping of Apparently Balanced Chromosome Rearrangements Associated with Clinical Phenotypes, Rashmi Shukla, AIIMS, 2 Years, 2019-2021, 10 lakhs
10. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, M Jeeva Sankar, BMGF, US, 2 ½ Year, 2019-2021, USD 12,43,286
11. Center for advance research in Pediatric Respiratory Diseases. ICMR, 2018-2023. Rakesh Lodha, Kanaram Jat, Jhuma Sankar, Rs 620 lakhs Projects as follows (i) Capacity building for management of chronic respiratory disorders in children. (ii) Cystic Fibrosis in India: Prevalence, Mutation Profile and Development of Registry (iii) Interstitial lung disease in children (iv) Point of care testing for Primary Ciliary Dyskinesia in Children.
12. Center of Excellence & Advanced Research on Childhood Neurodevelopmental disorders with its projects in 5 thrust areas, Sheffali Gulati, GIA (supported by MOHFW) and IIFCL (as part of its CSR), 5 years, 2017-2022, Rs 1130 lakhs
13. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of amino acid metabolism patients, Pallavi Mishra, AIIMS, 2 Years, 2019-2020, 10 lakhs
14. COMPASS: Communication-focused parent-mediated treatment for Autism Spectrum Disorder in South Asia trial (University of Manchester and Sangath), Sheffali Gulati, MRC, UK, 4 years, 2018-2022, Rs 1120 lakhs
15. Comprehensive evaluation of underlying molecular mechanisms of severe fetal and neonatal Mendelian developmental defects using whole exome sequencing, Neerja Gupta, Madhulika Kabra, DHR, 2 years, 2018-2020, Rs 49.3 lakhs
16. Contribution of Copy Number and Sequence Variants in Cilia and Sonic Hedgehog Pathway Genes in the Formation of AVSD in Down Syndrome, Rashmi Shukla, ICMR, 3 years, 2019-2022, 65 lakhs
17. **Deciphering idiopathic intellectual disability (DIID) through Next Generation Sequencing (DIID-NGS study)**, Neerja Gupta, Madhulika Kabra, DBT, 3 years, 2018-2021, Rs 86.81 lakhs
18. Deciphering molecular pathogenesis and clinical spectrum of Isolated Lateralized Overgrowth/ Isolated Hemihyperplasia, Madhumita Roy Chowdhury, AIIMS, 2 years, 2018-2020, Rs. 10 lakhs
19. Dengue Infection in India, SK Kabra, NIH, 5 years, 2015-2020, Rs. 90 lakhs
20. Dengue Virus Infection In India, Rakesh Lodha, NIH, USA, 5 year, 2015-2021, Rs 210 lakhs
21. Detection of circulating cell free micro RNA in the blood sample of neuroblastoma patients and its clinical correlation, Aditya K Gupta, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
22. Detection of genetic mutations profile of Primary Ciliary Dyskinesia and correlation of mutation with clinical phenotype in Indian Children, Kana Ram Jat, DBT, New Delhi, 3 years, 2018-2021, Rs 30.86 lakhs
23. Developing reinforcement based AI model for improvising the predictive skills of individuals with autism, Sheffali Gulati, AIIMS–IIT Delhi Collaborative Research Project, 1 year, 2019-2020, Rs 5 lakhs

24. Development of a high throughput genome editing pipeline based on based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction In collaboration with IGIB, Madhulika Kabra, Neerja Gupta, Madhumita Roy Chowdhury, DBT, 2 years, 2019-2021, Rs 120 lakhs
25. Early Detection of Sepsis in Paediatric Intensive Care Units through Integration of Clinical and Big Data, Rakesh Lodha, Wellcome Trust –DBT, 5 years, 2015-2020, Rs. 196 lakhs
26. Efficacy of Metformin in reduction of hepatic fat fraction and insulin resistance in overweight adolescents with NAFLD: an RCT, Vandana Jain, ICMR, 3 yrs, 2018-21, Rs. 59.2 lakhs
27. Establishing a biorepository& registry for patients with hemolytic uremic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022,
28. Evaluation of geno-phenome of Indian patients with skeletal dysplasia using comprehensive genomic evaluation and translational bioinformatics, Neerja Gupta, Madhulika Kabra, ICMR, 3 years, 2019-2022, 57 lakhs
29. Evaluation of read through compounds for nonsense suppression of ATM mutations in Indian patients, Rashmi Shukla, ICMR, 3 years, 2019-2022, 45 lakhs
30. Ex vivo Correction of ATM Splice Variants Using Antisense Oligonucleotides, Rashmi Shukla, (SRF Fellowship awarded to Ms Akhila Sankar), ICMR, 3 years, 2019-2022, 16 lakhs
31. Formulating & disseminating evidence-based guidelines for diagnosis & therapy of childhood renal illnesses, Arvind Bagga, ICMR, 5 years, 2017-2022,
32. Human B Cell responses and receptor repertoire in dengue patients from India, Rakesh Lodha, DBT, 2 years, 2019-2021, Rs. 46.6 lakhs
33. ICMR Registry for Rare and other inherited disorders, Madhulika Kabra, Neerja Gupta ICMR, 6 years, 2019-2025, Rs 109 lakhs
34. Integrated molecular biology of biological markers: Role of copy number alterations of genes in Indian Childhood B Lineage Acute Lymphoblastic Leukemia, Nivedita, Rachna Seth, UGC women Scientist Fellowship, 5 years, 2018-2022, Rs. 40 lakhs
35. Longitudinal Big-Data Mining for Prediction and precision in Critical care Medicine, Rakesh Lodha, DST, 2 year, 2018-2020, Rs. 35.74 lakhs
36. Mobile app based Augmentative and Alternative Communication based intervention in Children with ASD, Sheffali Gulati, AIIMS UG Research mentorship Scheme, 2 years, 2019-2021, Rs 2 lakhs
37. Molecular alterations in childhood acute lymphoblastic leukemia (ALL): Role of Cytokine receptor –like F actor-2 (*CRLF2*) rearrangements and Janus kinase (JAK) mutation, Rachna Seth, ICMR, 3 years, 2015-2019, Rs. 38 lakhs
38. Molecular evaluation of gene copy number variations and mutation profile in pediatric Acute Myeloid Leukemia (AML) patients and its association with disease prognosis, Jagdish Prasad Meena, AIIMS, 2 years, 2018-2020, Rs 4.76 lakhs per year
39. Multicenter randomized double blind placebo controlled trial to evaluate the effects of intra erythrocyte dexamethasone sodium phosphate on neurological symptoms in patients with Ataxia Telangiectasia, Sheffali Gulati, Ery Del, S.p.A, Italy, 2 years, 2018-2020, 72 lakhs
40. Multi-system health outcomes (neurodevelopment, growth, respiratory, cardiac, metabolic and renal) of extremely preterm (<28 weeks OR <1000 g) at 2-5 years of age, Anu Sachdeva, AIIMS, 1 year, 2019-2020, Rs. 5 lakhs
41. NeoAMR Global Neonatal Sepsis Observational Study (NeoOBS): a prospective cohort study of sepsis in hospitalized neonates, Ramesh Agarwal, DNDi and GARDP, Swaziland, 1 ½ year, 2018-2020, Rs 151.35 lakhs
42. NeoAMR Global Neonatal Sepsis Observational Study (NeoOBS): a prospective cohort study of sepsis in hospitalized neonates, Ramesh Agarwal, ICMR, 1 ½ year, 2018-2020, Rs 102.46
43. Noninvasive markers of injury in celiac disease, Rohan Malik, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
44. Open label, randomized, controlled trial to compare the efficacy of daily therapy with low dose prednisolone vs. standard therapy on alternate days in patients with frequently relapsing or steroid dependent nephrotic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022,
45. Optimizing insulin and diet regimes for children with type 1 diabetes in low resource settings, Vandana Jain, Department of Health Research, 2.5 yrs, 2017-20, Rs. 25 lakhs
46. Pediatric Renal Biology Program: Research on nephrotic syndrome, Arvind Bagga, DBT, 5 years, 2016-2021, Rs 800 lakhs
47. Pilot study of genetic variations among Indian children with vesicoureteral reflux, Pankaj Hari, ICMR, 5 years, 2017-2022,
48. Prevalence of mycoplasma and chlamydia infection in children with poorly controlled asthma, Kana Ram Jat,

- AIIMS, 2 years, 2019-2021, Rs 9.8 lakhs
49. Pro-Adrenomedullin as a Novel Biomarker for Predicting Infections and Response to Antimicrobial Therapy in Febrile Neutropenic Children with Cancer and its Comparison to Procalcitonin, Jagdish Prasad Meena, DST, 3 years, 2020-2023, Rs. 42.18 lakhs
  50. Procalcitonin guided antibiotic therapy in children, Jhuma Sankar, ICMR, 3 years, 2019-2021, Rs. 81 lakhs
  51. ICMR Advanced Centre for Research in Pediatric Kidney Diseases, Arvind Bagga, ICMR, 5 years, 2017-2022, Rs 160.95 lakhs
  52. Randomized open labeled controlled trial to compare the efficacy and safety of levamisole versus long term alternate days steroids made daily during infection, in patients with frequently relapsing steroid sensitive nephrotic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022
  53. Randomized, multicentric, open label, parallel group trial to compare the efficacy of 6-months versus 3-months therapy with prednisolone for the first episode of idiopathic nephrotic syndrome in children younger than 4 years, Arvind Bagga, DBT, 5 years, 2016-2021,
  54. Respiratory Complications of Primary and Acquired Immunodeficiency Disorders in children, SK Kabra, ICMR, 5 years, 2018-2022, Rs 600 lakhs
  55. Serum and urinary microRNAs as biomarkers of renal histology and response to therapy in children with steroid resistant nephrotic syndrome, Arvind Bagga, DBT, 5 years, 2016-2019
  56. Serum matrix metalloproteinase- 9: A potential biomarker for predicting calcification and epilepsy in Neurocysticercosis; a longitudinal observational study, Biswaroop Chakrabarty, AIIMS, 3 years, 2016-2019, Rs 5 lakhs
  57. Serum sICAM5 and MP9/TIMP1 Ratio: Potential Predictors Of Disease Activity In Children With Encephalopathy With Electrical Status In Sleep (ESES) Syndrome, Prashant Jauhari, AIIMS, 2 years, 2017-2019, Rs 5 lakhs
  58. Signs of shock in children, Jhuma Sankar, DST, 3 years, 2019-2021, Rs. 35 lakhs
  59. Systematic Pulmonary Tuberculosis Case finding among severely malnourished children admitted to nutritional rehabilitation centres. SK Kabra, ICMR, 2 years, 2018-2020, Rs 14.2 lakhs
  60. To compare efficacy and safety of Melatonin and Triclofos in inducing sleep in children posted for sleep deprived sleep EEG: A double blind, parallel design, randomised clinical trial, Prashant Jauhari, Undergraduate research mentorship scheme AIIMS, 2 years, 2020-2021, Rs 1.1 lakhs
  61. To determine the role of Ikzf1 gene and various IKAROS isoforms in pathogenesis of B cell acute lymphoblastic leukemia (BALL) in Indian pediatric population, Kakali Purkayastha, Rachna Seth, DBT under BIOCARE grant, 3 years, 2018-2020, Rs. 60 lakhs
  62. To establish the comprehensive lactation management centre (CLMC) to universalize access and uptake of human milk for babies to improve neonatal outcomes, Kajal Jain, CHRI, India, 3 years, 2018-2021, Rs. 18.31 lakhs and equipment for CLMC
  63. To evaluate the efficacy of oral probiotic supplementation in children with Autism Spectrum Disorders (ASDs): A randomized double blind, placebo controlled Trial, Sheffali Gulati, ICMR, 2 years, 2019-2021, Rs 33.32 lakhs
  64. To explore the role of synovial fluid proteomics in predicting the disease course and subtypes of Juvenile Idiopathic Arthritis, NK Bagri, ICMR, 3 years, 2019-2021, Rs. 42.12 lakhs
  65. To provide technical support to sustain the regional learning platform for improving quality of care, Prof. Ashok Deorari, WHO, 1 year, 2020-2021, 34.44 lakhs
  66. Training of Clinicians cum Creation of Genetic Diagnostic unit' in Human Genetics with an Aspirational District component, under Unique Methods of Management and treatment of Inherited Disorders (UMMID) initiative. Madhulika Kabra, Neerja Gupta, DBT, 3 years, 2019-2022, Rs 400 lakhs
  67. Translation Research Consortium for establishing platform Technologies to support Prophylactic and Therapeutic Strategies for Dengue Discovery to Proof-of-Concept, Rakesh Lodha, BIRAC, DBT, 4 years, 2019-2023, Rs. 161.68 lakhs
  68. Understanding disease biology and diagnosis of bacterial sepsis in hospitalized neonates: A multi- centre study, Ramesh Agarwal, DBT, India, 5 years, 2015-2020, Rs. 209.12 lakhs
  69. Use of Biomarkers and Imaging for early detection and treatment of chemotherapy induced cardio toxicity in newly diagnosed children of acute leukemia, Rachna Seth, ICMR, 3 years, 2019-2022, Rs. 70.68 lakhs
  70. WHO guidelines on postnatal care of the mother and the newborn, M Jeeva Sankar, WHO, 4 Months, 2019-2020, Rs. 7.14 lakhs
  71. Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022,

## Completed

1. APW on Quality Assurance & Quality Improvement for Birth Defects surveillance in SEAR, Madhulika Kabra, WHO, 1 year, 2019-2020, Rs 12 lakhs
2. Balanced salt versus normal saline in initial fluid resuscitation in septic shock, Jhuma Sankar, DST, 3 years, 2017-2019, Rs 71 lakhs
3. Blood heavy metal levels and quantitative EEG correlates in children with autism, Sheffali Gulati, ICMR, 4.5 years, 2014-2019, Rs. 49.04 lakhs
4. Developing guidelines on complementary feeding for preterm babies <34 weeks of gestation, M Jeeva Sankar, ICMR, 1 year, 2018-2019, Rs. 9.51 lakhs
5. Development & validation of a scalable mobile platform for screening of developmental neuropsychiatric disorders in low-resource settings: START-Screening Tools for Autism Risk using Technology (MRC Foundation Award Scheme, UK), Sheffali Gulati, MRC, UK, 2 years, 2017-2019, Rs. 4.8 lakhs
6. Does the fetal immune response in case of neonatal early onset sepsis begin in utero?, Kajal, AIIMS, 2 years, 2017-2019, Rs. 9.5 lakhs
7. Effect of outdoor air pollution on acute respiratory symptoms in Delhi: A multisite study. Technical coordinator site. SK Kabra, ICMR, 2 years, 2017-2019, Rs. 56.21 lakhs
8. Effect of Rituximab added to standard chemotherapy therapy on minimal residual disease during induction in CD-20 positive pediatric acute lymphoblastic leukemia: a randomized controlled pilot study, Aditya Kumar Gupta, AIIMS, 1 year, 2018-2019, Rs. 3.5 lakhs
9. Efficacy and safety of vitamin D supplementation in asthmatic children who are vitamin D deficient: a randomized controlled trial (ESDAC trial), Kana Ram Jat, ICMR, 2 years, 2017-2019, Rs 34.88 lakhs
10. Efficacy of a family based comprehensive yoga program for weight reduction among overweight children and adolescents: An RCT, Vandana Jain, Ministry of Ayush, 3 years, 2016-2019, Rs 51.6 lakhs
11. Evaluating the efficacy and safety of an innovative and affordable Goat Lung Surfactant for the treatment of respiratory distress syndrome in preterm neonates: a multi-site randomized clinical trial, Ramesh Agarwal, Wellcome Trust, UK, 3 ½ years, 2016-2019, Rs. 1008.63 lakhs
12. Facilitation of research on neonatal sepsis and antimicrobial resistance in LMICs: A collaboration with GARDP/DNDi, Ramesh Agarwal, Drug for Neglected Disease initiative (DNDi), 1 year, 2018-2019, Rs. 45.78 lakhs
13. Honey versus standard treatment for bed sores in critically ill children, Jhuma Sankar, World Federation of Pediatric Intensive and Critical Care-HARD grant, 1 year, 2017-2018, Rs. 6.5 lakhs
14. Improving diagnosis and management of inherited rare disorders of sex development in India, Vandana Jain, ICMR, Delhi and BMBF, Germany, 2.5 years, 2017-2019, Rs. 47 lakhs
15. Integrate quality improvement training in preterm newborn care package and pre-service education, Ashok Deorari, WHO, 1 year, 2018-2019, Rs. 33.56 lakhs
16. Intermittent versus continuous ScvO2 monitoring in children with septic shock, Jhuma Sankar, AIIMS, 3 years, 2015-2018, 8 lakhs
17. International study on atypical hemolytic uremic syndrome, Arvind Bagga, CEFIPRA (DST), 3 years, 2016-2019, Rs. 12.25 lakhs
18. Minimally invasive autopsy (MIA) in the evaluation of fetal malformations and still births- A feasibility study for the development of a standard protocol for still birth evaluation, Neerja Gupta, Madhulika Kabra, ICMR, 3 years, 2017-2020, Rs 29.59 lakhs
19. Multiplex point-of-Care test for acute febrile illness (mPOCT). Rakesh Lodha, THSTI, 2 years, 2017-2019, Rs. 32 lakhs
20. Pharmacokinetics of Second-Line Anti-Tubercular Drugs in Children. Rakesh Lodha, DHR, 2 years, 2017-2019, Rs. 24.58 lakhs
21. Predicting Response to Methotrexate In Children With Juvenile Idiopathic Arthritis: Role Of Biomarkers, AIIMS, 2016-2018, 2 years, Rs. 4 lakhs
22. Prenatal screening initiative by dried blood spots: role for triaging and resource utilization, Neerja Gupta, Madhulika Kabra, DBT, 3 years, 2016-2019, 17.86 lakhs
23. Reducing retinopathy of prematurity by improving the quality of neonatal care in special care neonatal unit, Ashok Deorari, PHFI, 3 ½ years, 2016-2019, Rs 114.03 lakhs
24. Validation and Indian Adaptation of the adapted ASQ-3 (Ages and Stages Questionnaire) as a developmental screening tool as compared to reference standard tool (DASII-Developmental Assessment Scale for Indian Infants) in at risk Indian children 2 to 24 months of age, Sheffali Gulati, ICMR, 2 years, 2017-2019, Rs 19.01 lakhs

## Departmental projects

### Ongoing

1. Safety of Procalcitonin Guided Discontinuation of Antibiotic Therapy among Children Receiving Cancer Chemotherapy and Having Low Risk Febrile Neutropenia – A Randomized Non-Inferiority Trial (ProFenC study)
2. A pilot study on the causal relationship of gastro-esophageal reflux and obstructive adenoid or adeno-tonsillar hypertrophy in paediatric population, Functional outcomes of children with severe sepsis, To develop algorithm for diagnosis of cystic fibrosis in resource limited setting using clinical features, lab tests and aquagenic wrinkling of palms
3. A Randomized Sham Controlled Trial Of Targeted Low Frequency rTMS Therapy In Childhood And Adolescent Focal Onset Refractory Epilepsy.
4. Assessment of dysregulated adipokines in survivors of acute lymphoblastic leukemia
5. Association of *IKZF1* gene alterations and *Cytokine Receptor Like Factor 2 (CRLF2)* expression with prognostic markers at presentation and response to induction chemotherapy in Indian children with Acute Lymphoblastic Leukemia (ALL)
6. Azithromycin for poorly controlled asthma in children: a randomized controlled trial.
7. Body composition (Fat mass and fat free mass) in preterm (28-34 week) Very low birth weight (<1500 g) infants fed unfortified breast milk compared to fortified breast milk: A Randomized controlled trial
8. Body composition in preterm newborns at birth and in early infancy by air displacement plethysmography: A longitudinal study
9. Body composition monitoring in patients on hemodialysis
10. Characterization of the immune response of HIV 1 infected children
11. Childhood and Adolescent Sleep Awareness in Caregivers and Health care Professionals: a Community and Hospital Based Survey
12. Clinical and Molecular Characterization of Congenital Limb Defects Using Genomic Approaches
13. Comparison of oxidative biomarkers between Autism Spectrum Disorders and Typically Developing children between 2 – 18 years of age
14. Cortical excitability in children aged 5 to 12 years with Electrical Status Epilepticus in Sleep (ESES) compared to non-epileptic healthy children using Transcranial Magnetic Stimulation.
15. Development and validation of a prediction model based on machine learning for early recognition of multi-drug resistance in newborns with sepsis admitted in a tertiary health centre
16. Development and Validation of a Weight Estimation Tool for Acutely Ill Children Who Cannot be weighed.
17. Devising A Formula For The Insertion Length of Peripherally Inserted Central Catheter (PICC) In Indian Newborns – A Prospective Observational Study
18. Diagnostic and treatment gap in Neurodevelopmental Disorders in children aged 1 month to 18 years: An observational study
19. DTI, fMRI and qEEG correlates of cognition and behaviour in children and adolescents with well controlled non-lesional epilepsy: An observational study.
20. Early versus delayed initiation of parenteral nutrition in critically ill children
21. Effect of visual inspection based abdominal monitoring vs routine prefeed abdominal girth monitoring on time to reach full enteral feeds in preterm neonates ( $\leq 32$  weeks' gestation) - A randomized controlled trial
22. Efficacy and safety of intravenous rituximab versus tacrolimus for frequently relapsing nephrotic syndrome
23. Efficacy and safety of olanzapine as an add on therapy in children receiving highly emetogenic chemotherapy. A randomized double blind placebo controlled study
24. Efficacy of intravenous rituximab versus oral mycophenolate mofetil in sustaining remission in steroid resistant nephrotic syndrome maintained on calcineurin inhibitors for more than 2-years: Open-label non-inferiority randomized controlled trial
25. Efficacy of Pulse Dexamethasone in addition to standard therapy versus standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomized controlled trial
26. Estimating the prevalence of sensory processing abnormalities in children aged 3-15 years with cerebral palsy using the sensory profile caregiver questionnaire 2: a cross sectional observational study.
27. Evaluation of diaphragm function of ventilated children using bed side ultrasonography
28. Evaluation of HIV-1 subtype C Envelop in infected children
29. Evaluation of repetitive Transcranial Magnetic Stimulation as an adjunct to modified Constraint Induced Movement

Therapy in improving Upper Limb Function in Children with Hemiparetic Cerebral palsy aged 5-18 years - A Randomized Controlled Trial.

30. Evaluation of trisaccharide BM-652 as a potential biomarker in serum of ERT naive patients with MPS I and MPS II aged 6 months-18 years”
31. Fat gain trajectory from birth to 6 months in healthy infants, and its effect on serum insulin, IGF-1 and adiponectin at 2 years of age
32. Feasibility and efficacy of sustained low efficiency dialysis in critically ill children with severe acute kidney injury
33. Feasibility, effectiveness and sustainability of the implementation of —facility-team-driven approach for improving the quality of care in the Special Newborn Care Unit in South India
34. Furosemide stress test in predicting progression to acute kidney injury (AKI) stage III in children admitted to the ICU with early stages of AKI
35. Gastrointestinal dysfunction in children with septic shock (DM thesis)
36. Incidence and determinants of outcome of neutropenic enterocolitis in pediatric cancer patients
37. Ketamine Mouthwash versus Placebo in the Treatment of Severe Oral Mucositis Pain in Children with Cancer; A randomized double-blind Placebo-controlled trial
38. Long-term safety of rituximab therapy in children with NS: Prevalence of human anti-chimeric antibodies (HACA), hypogammaglobulinemia and BK and JC viruria
39. Molecular detection and characterization of Rickettsia among patients with acute febrile illness.
40. Molecular detection and characterization of Tick born Lyme Borreliosis, Human Monocytic Ehrlichiosis and Human granulocytic Anaplasmosis
41. Neurological outcomes in critically ill children (MD thesis)
42. Neutropenic Diet vs Standard Indian diet in reducing the incidence of febrile neutropenia following chemotherapy in pediatric oncology patients: A Randomized controlled Trial
43. Norepinephrine versus epinephrine in children with septic shock (DM thesis)
44. Optimal EEG duration in children and adolescents with seizures: An observational study
45. Performance of two visual methods of assessment of neonatal jaundice- Kramer’s and Modified Kramer’s method in healthy term and near term neonates
46. Predictors of outcomes in Juvenile Dermatomyositis: a cross-sectional study (Institute UG research grant)
47. Prevalence of acute gastrointestinal injury in critically ill children, Changes in muscle thickness and muscle echogenicity in critically ill children during their initial 7 days’ stay in PICU: an observational study
48. Prevalence of microdeletions in NF1 gene and evaluation of phenotypic spectrum of patients with Neurofibromatosis Type 1
49. Pulmonary dysfunction in childhood Hodgkin lymphoma survivors
50. Pulmonary dysfunction in Hodgkin Lymphoma survivors
51. Remediating Indian school going children having Specific learning disorder with Dyslexia using Artificial Intelligence based structured intervention program: A longitudinal intervention study.
52. Respiratory complications in primary and acquired immunodeficiency disorders in children
53. Role of Intestinal Fatty Acid binding protein and Citrulline in the diagnosis of Celiac disease and evaluation of Compliance on follow up
54. Short term efficacy and safety of atorvastatin for treatment of dyslipidemia in children with chronic kidney disease
55. Study Of Bacterial Infections in a cohort of patients clinically diagnosed Of *Pneumocystis Jirovecii* Pneumonia (Pjp)/ *Pneumocystis* Pneumonia (Pcp) and its impact on outcome of the disease.
56. The Incidence and Risk Factors for Occurrence of Acute Kidney Injury in Newly Diagnosed Pediatric Patients with Acute Lymphoblastic Leukemia receiving High Dose Methotrexate
57. To study changes in muscle thickness and muscle echogenicity in critically ill children, aged 1-18 years during their initial 7 day stay in picu: an observational study
58. To study the infant pulmonary function tests (IPFT) in children with airway anomalies and to correlate these with bronchoscopy finding.
59. To study the prevalence and the risk factors of psychiatric morbidities and sleep disturbances in pediatric Acute lymphoblastic leukemia survivors
60. To study the prevalence of dosage anomalies at 22q11 locus and Evaluate the phenotypic spectrum of facio-auriculo-ocular spectrum disorders

## **Completed**

1. “Simulation-based” education vs. “conventional” education in improving the practices and knowledge of health care professionals for stabilization of a preterm neonate in delivery room: A randomized trial
2. A cross-sectional observation study to assess the prevalence of renal dysfunction in children with solitary functioning kidney
3. A pilot study of the genetic variation among Indian children with vesicoureteral reflux
4. A Study on clinical profile and outcome of Chronic pulmonary aspergillosis patients attending speciality clinic in tertiary hospital in North India
5. Association of IKZF-1 gene alterations & Cytokine Receptor like Factor 2 (CRLF2) expression with prognostic markers at presentation & response to induction chemotherapy in Indian children with Acute Lymphoblastic Leukemia (ALL)
6. Body composition of healthy term neonates at birth by air displacement plethysmography
7. Cardiovascular outcomes in renal transplant recipients
8. Characterization of bone marrow involvement in pediatric Hodgkin lymphoma using 18F-FDG PET/CT and its comparison with blind bone marrow biopsy
9. Comparison of Efficacy of Low Glycemic Index Therapy and Modified Atkins Diet among Children with Drug Resistant Epilepsy: A Randomized Non-Inferiority Trial
10. Comparison of performance of two point-of-care glucose meters in detection of hypoglycemia among at risk neonates
11. Comparison of symptom severity as per AIIMS Modified INDT-ADHD tool with Conner’s Parent reported scale in 6-18 year old children and adolescents with ADHD
12. Comparison of three different methods of orotracheal tube length estimation in neonates: A postmortem study
13. Correlation of cord blood and breast milk IGF-1 levels with neonatal adiposity in infants born to mothers with gestational diabetes mellitus - A prospective cohort study
14. Cystic kidney disease in infants and children: clinical spectrum and ultrasound findings
15. Decreasing administration of first dose of antibiotics is associated with increased mortality in children with septic shock
16. Developing a counselling package for the mothers and the families for care of low birth babies between 1800 gm to 2499 gm
17. Developing a structured remedial intervention program for Indian school going children having Specific learning disorder with Dyslexia: A longitudinal intervention study
18. Development and Validation of a Questionnaire based tool to identify sleep problems in school going children and adolescents aged 2-18 years
19. Diagnostic accuracy of predictive algorithms in detecting retinopathy of prematurity
20. Efficacy of two different chlorhexidine gluconate preparations for skin antisepsis in neonates: a non-inferiority randomized trial
21. Etiological evaluation of nonimmune hydrops fetalis (NIHF)
22. Evaluation of metabolic abnormalities in children with nephrolithiasis
23. Evaluation of molecular alterations at 11p15.5 locus in Isolated Hemihyperplasia
24. Fentanyl versus ketamine for analgesia during laser treatment for retinopathy of prematurity (ROP) in preterm infants an interventional case series study
25. Fortification of expressed breast milk with preterm formula powder vs. human milk fortifier in preterm very low birth weight neonates: A randomized, non-inferiority trial
26. Functional characterization of anti-factor H autoantibodies in patients with hemolytic uremic syndrome
27. Incidence and risk factors of periventricular - intraventricular hemorrhage and periventricular leukomalacia in preterm neonates born before 32 weeks’ gestation or with birthweight less than 1500 gm: A Prospective cohort study
28. Inter-observer agreement between Primary Care Physicians and Pediatric Neurologists in classifying epilepsy among children aged one month to 18 years using AIIMS modified INDT EPI Tool according to ILAE 2017 classification scheme
29. Molecular & biochemical characterization of Hepatic Glycogenosis Type I & II
30. Mutation spectrum in TSC gene in Indian patients with Tuberous sclerosis
31. National Knowledge and training centre for neurodevelopment disorder affecting infants, children and adolescents from 1 month to 18 years of age and work on up gradation, developing innovations for website [www.pedneuroaiims.com](http://www.pedneuroaiims.com).

org ; developing e-learning modules, mobile apps and operationalizing interactive forum on the website ( UG Summer Fellowship: 2 students)

32. Plasma PCSK9 in children with steroid resistant nephrotic syndrome
33. Polyneuropathy in Critically Ill Mechanically Ventilated Children
34. Prevalence and Risk factors of ABPA in children with poorly controlled asthma
35. Prevalence of Non Alcoholic Fatty Liver Disease (NAFLD) in Children with Down Syndrome
36. Prevalence of sleep disordered breathing in Asthmatic children
37. Quality improvement initiative to promote potentially best practices in the first week of life in preterm neonates <32 weeks gestation: focus on prevention of bronchopulmonary dysplasia
38. Risk factors for mortality in children with severe dehydration and shock (completed)
39. Risk factors for sepsis induced myocardial dysfunction
40. Sepsis -3 vs. Goldstein definition in diagnosis of septic shock
41. Spectrum of Neurological Manifestations In Indian Patients With Gaucher Disease - A Prospective Study
42. Study of hematocrit profile in term and preterm at-risk infants during the initial 48 hours of life: A prospective Cohort study
43. To evaluate efficacy of Sensory Integration Therapy (SIT) reinforced with standard therapy in improving gross motor function in spastic cerebral palsy children aged  $\geq 3$  to 12 years with GMFM level I-III with sensory processing abnormalities
44. To generate Ultrasound muscle-based parameters for evaluation of Hypotonia in children aged 1 month to 18 years
45. To Study The Behavioral Problems, Psychiatric Co Morbidities, And Cognitive Functioning, In Children And Adolescents With Bronchial Asthma
46. To study the mutation spectrum & its correlation with histopathology, neuroimaging & biochemical metabolites in Indian patients with mitochondrial disorders
47. Urinary metabolomic profile of term healthy male neonates from first 24 to 72 hours of life

## **Collaborative projects**

### ***Ongoing***

1. A comparative study to evaluate the efficacy of Ibedone in comparison with placebo in Leber's Hereditary optic Neuropathy patients- A pilot study, RP Centre
2. A Multi-center, Open labelled Trial to evaluate the sensitivity and specificity of DSM IV TR and DSM 5 in diagnosis of Autism Spectrum Disorder, 5 sites across India
3. A phase 2 double arm randomized trial comparing conventional radiotherapy alone Vs hypofractionated radiotherapy with concurrent and adjuvant temozolomide in patients with diffuse intrinsic pontine glioma, Radiotherapy
4. Anti-complement factor H (FH) associated hemolytic uremic syndrome (HUS) in children: Immunological and genetic basis, and functional characterization of autoantibodies, Institute of Genomics & Integrative Biology, New Delhi
5. Collaborative study for Relapsed/Refractory Hodgkin Lymphoma, Indian Pediatric Oncology Group (InPoG)
6. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Community Ophthalmology
7. Cortical sources and connectivity in Autism spectrum disorder: A QEEG study, Physiology
8. Delhi Air Pollution: Health and Effects, University of Edinburgh, Informatics, University of Edinburgh, Cardiology, Imperial College, London, Institute of Occupational Medicine, Sri Ramachandra University, Chennai, Indian Institute of Technology Kanpur, Indian Institute of Technology Delhi, International Clinical Epidemiology Network, India, University College of Medical Sciences
9. Development of a high throughput genome editing pipeline based on based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction, IGIB, New Delhi
10. Efficacy, safety and tolerability of Modified Atkins Diet in Adolescents and Adults with Drug Resistance Epilepsy: A Randomized Controlled Trial, Neurology
11. Enhanced, personalized versus routine antenatal care in the amelioration of anemia in pregnancy in rural LMIC settings- the Comprehensive Anemia Program and Personalised Therapies (CAPPT) project, Obstetrics and Gynecology

12. Establishment of a genomic facility to develop, test and validate an informative, cost-effective and efficient panel of genetic markers for chronic pancreatitis, Gastroenterology
13. ICMR Young Diabetes registry, Endocrinology and Metabolism
14. Identification of novel driving tyrosine kinases in Indian pediatric Ph-like ALL, Lab Oncology
15. Impact of advanced paternal age and poor lifestyle on sperm epigenome: possible etiology in Autism Spectrum Disorder, Anatomy
16. Multicentric India left Task Force Project, CDER, AIIMS
17. Neurodevelopmental outcomes in children with cyanotic congenital heart disease following open heart surgery, Pediatric cardiology
18. Outcomes of primary Ranibizumab vs laser for treatment of zone 2 Type 1 ROP, Ophthalmology
19. Pain assessment in Childhood cancer assessment, College of Nursing
20. Pediatric Renal Biology Program: Research on nephrotic syndrome Institute of Genomics & Integrative Biology, New Delhi, Translational Health Sciences & Technology Institute, Govt. of India, Faridabad; Research and Referral Hospital, New Delhi, St. John's Medical College, Bengaluru, Christian medical College, Vellore
21. Pilot study of genetic variations among Indian children with vesicoureteral reflux, Institute of Genomics & Integrative Biology, New Delhi
22. Prospective Study to compare role of 18F-DOPA PET/CT and 131I-MIBG Scintigraphy in Neuroblastoma, Nuclear medicine
23. Role of FDG PET/CT in assessment of initial chemotherapy response in pediatric Langerhans cell histiocytosis, Nuclear medicine
24. Role of F-DOPA PET-CT in pediatric and adult patients with hyperinsulinemic hypoglycemia, Nuclear Medicine
25. The Indian Childhood Cancer Survivorship Study (C<sub>2</sub>S study), After treatment completion registry of childhood cancers: Multicentre study
26. Use of 'My Whole Child; Child Health and Development Interactive System', a web based platform for holistic evaluation and management of Indian children and adolescents upto 18 years of age; a tertiary centre pilot study, Chadis, USA
27. Utility of Contrast Enhanced Ultrasound (CEUS) and whole body MRI in response assessment in Juvenile Idiopathic arthritis, Radiodiagnosis
28. Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome, Institute of Genomics & Integrative Biology, New Delhi

### ***Completed***

1. Comparative proteomic profiling of PBMC isolated from FRDA patients and that in presence of different frataxin up-regulating therapeutics, Biochemistry
2. Correlation of fetal soft tissue thickness measured sonographically with neonatal body composition, Obstetrics and Gynecology
3. Emotion Recognition and Social Behaviour in children with Autism Spectrum Disorder: A study of Behavioural and Phenotypic Linkage, IIT, Kanpur
4. Establishing objective measures for identifying children with Autism Spectrum Disorders using eye-tracking technology in the UK and India (EIRA: Eye-tracking assessment for children with Autism), Birkbeck, University of London
5. Imaging of Infantile Brachial Plexopathy, Radiology
6. Interim assessment response evaluation of high grade lymphoma using texture analysis on F18 FDG PET/CT, Nuclear Medicine
7. International study on atypical hemolytic uremic syndrome, Laboratoire d'Immunologie, Ho<sup>^</sup>pital Europe<sup>^</sup>en Georges Pompidou, INSERM UMRS 872, Paris, France
8. Molecular biology of immature T-acute lymphoblastic leukemia, Lab Oncology
9. Pattern of CYP3A5 & MDR-1 single nucleotide polymorphism & its impact on individualization of Tacrolimus based immunosuppression in living Renal Allograft recipient, Nephrology
10. Prenatal screening initiative by dried blood spots: role for triaging and resource utilization, MAMC, New Delhi
11. Prognostic and surgical outcomes of cataract surgery in paediatric uveitis, Ophthalmology
12. Study of bone mass in Asian Indian Newborns, Endocrinology
13. Surgical outcomes of sutureless clear corneal microincision vitrectomy surgery in end stage 5 ROP, Ophthalmology

14. The pathways to cure for Autism Spectrum Disorders, Public Health Foundation of India (PHFI), New Delhi
15. The pattern of visual impairment in spectrum of hypoxic ischemic encephalopathy, Department of Ophthalmology, RP Centre
16. Understanding and improving the nonverbal biomarkers of object perception in autistic subjects, IIT Delhi

## PUBLICATIONS

**Journals: 162 Abstracts: 44 Chapters in Books: 22 Books: 5**

## PATIENT CARE

Name of Service	New Cases	Old Cases	Total Attendance
Paediatric General OPD	32994	81124	114118
Pediatric Neurology Clinic (PNC)	888	5683	6571
Paediatric Neuromuscular disease	208	1375	1583
Pediatric Gastroenterology Hepatology and Nutrition (PGC)	244	1862	2106
Paediatric Well Baby Clinic	512	08	520
Paediatric High Risk Neonatology Clinic (HRC)	315	1723	2038
Pediatric Renal Nephrology Clinic (RMC)	455	3488	3943
Paediatric Chest Clinic (PCC)	400	3422	3822
Paediatric Tuberculosis Clinic	186	1174	1360
Paediatric Rheumatology Clinic (PRC)	452	2981	3433
Paediatric Genetics and Birth Defects Clinic	3317	1214	4531
Paediatric Genetic Antenatal cases	2477	144	2621
Paediatric Oncology Clinic	317	2341	2658
Pediatric Cancer Survivors' Clinic (PCSC)	177	1318	1495
Pediatric Endocrine and Metabolism Clinic (PEC)	141	1053	1194
Child Development Clinic (CDC)	1107	2480	3587
Neurocysticercosis clinic (NCC)	194	1119	1313
Autism Clinic	470	2510	2980
Pediatric Psychology Clinic	442	185	627
Pediatric Myopathy Clinic	461	1871	2332
Grand Total			

In addition, Cystic fibrosis and Paediatric HIV services were provided in Paediatric Chest Clinic.

Kangaroo Mother Care unit is run along with follow-up services of normal and at-risk neonates.

**Physiotherapy Services** were provided to the patients in various clinics (Neurology, Myopathy, Genetics, High risk, Endocrinology, Development, Chest, Rheumatology) and seeking general OPD services.

**Total physiotherapy sessions provided during 2019-2020: 4550**

### Indoor services

- Indoor services include admission facilities in general wards, day care facility, neonatal units (NICUs A and B), Kangaroo Mother Care unit and Pediatric Intensive care facility.
- The Department operationalized an 8-bedded **High Dependency Unit** in children ward to cater to child patients

with life-support and other special needs. A special training program for the nurses of the HDU was held.

- Children requiring short procedures or interventions are admitted for a day in the Day Care Unit situated in the C5 ward.

### Total indoor admissions

Long admissions in Paediatric wards: 2861

Admission in day care facility: 16,600

Patient admitted in PICU

Admissions in NICU A+B: 612

### Specialized investigations

#### Endocrinology

Body composition analysis by PEAPOD: 385

#### ECLIA tests

1. Human Growth Hormone: 645	2. Insulin: 150
3. Vitamin B12: 165	4. Folic acid: 165
5. Ferritin: 65	6. HBsAg: 70
7. HCV: 70	8. PCT: 650
9. FT <sub>4</sub> : 20	10. Vitamin D: 50
11. Cortisol: 30	

#### Gastroenterology

Diagnostic Gastroscopy: 700	Endoscopic variceal ligation and sclerotherapy: 300
Endoscopic glue injection: 5	Endoscopic hemoclip application: 2
Foreign body removal: 15	Percutaneous endoscopy gastrostomy: 5
Colonoscopy: 120	Liver biopsy: 55

#### Genetics

<b>Cytogenetics Lab:</b>	Peripheral and cord blood cultures 398
Amniotic fluid cultures 233	Chorionic villi cultures 20
QF-PCR 583	

#### Molecular Lab

##### Routine tests carried out:

1. Beta Thalassemia ( $\beta$  Thal) mutation analysis carried out in - 201 families  
Prenatal diagnosis for  $\beta$  Thal offered to – 81 families
2. Spinal Muscular atrophy (SMA) mutation analysis carried out in - 141 cases  
Prenatal diagnosis for SMA offered to – 14 families
3. Duchene Muscular dystrophy (DMD) mutation analysis carried out in - 347 families  
Prenatal diagnosis for DMD offered to – 22 families
4. Fragile X screening carried out in – 345 families
5. Cystic fibrosis molecular analysis carried out in – 104 cases  
Prenatal diagnosis for Cystic fibrosis offered to -05 families
6. Achondroplasia mutation analysis carried out in – 18 cases  
Prenatal diagnosis for Achondroplasia offered to - 03 families

7. Non-syndromic hearing loss (Connexin 26) screening carried out in – 24 cases  
Prenatal diagnosis for Connexin 26 offered to - 03 families
8. Sex Chromatin related abnormalities in – 42 cases
9. Albinism Screening carried out in – 01 case  
Prenatal diagnosis for Achondroplasia offered to - 02 families
10. RETT Syndrome analysis carried out in –31 cases  
Prenatal diagnosis for RETT syndrome offered to - 03 families

**Tests carried out on Research basis:**

1. Prenatal diagnosis for BWS offered to – 01 family
2. Megalencephalic leukoencephalopathy (MLC) mutation analysis carried out in –07 cases
3. Prenatal diagnosis for Mitochondrial mutation analysis carried out in – 02 cases
4. Prenatal diagnosis for MPS (MPS-I) offered to - 01 family
5. Prenatal diagnosis for GSD offered to - 01 family
6. Prenatal diagnosis for Krabbe Disease offered to – 01 family
7. Prenatal diagnosis for APERT offered to – 01 family
8. Prenatal diagnosis for GA offered to - 01 family

**Biochemical Genetics Lab:**

1. **Antenatal Screening: 1654**
  1. Triple Marker - 65
  2. Dual Marker – 1589
2. **Enzyme Assays for Inborn Error of Metabolism: 667** (including Chitotriosidase)
  - Gaucher Disease: 67
  - Neimenn pick disease: 55
  - Hurler (MPS-I): 22
  - Hunter (MPS-II): 20
  - Sanfilippo (MPS III B, C, D): 16
  - Morquio A (MPS-IVA): 22
  - Morquio B (MPS-IV B): 11
  - GM1 Gangliosidosis: 33
  - Metachromatic leukodystrophy: 43
  - MPS-VI: 14
  - MPS VII: 2
  - Tay-Sach's: 35
  - Sandoff disease: 5
  - Mucopolidosis: 6
  - Krabbe's: 35
  - Neuronal Ceroid Lipofuscinosis: 42
  - Pompe: 32
  - Biotinidase Deficiency: 57
  - Galactosemia: 48
3. **Biomarkers for LSDs**
  - Chitotriosidase: 102
  - Urinary GAGs: 74
4. **Prenatal Diagnosis of Lysosomal storage disorders**
  - Non Immune Hydrops: 17
  - Other Lysosomal Storage disorders: 17
  - Gaucher Disease: 3
  - GM2 Gangliosidosis: 3
  - GM1 Gangliosidosis: 2
  - MPS IVA: 2
  - Others: 7 (MLD, MPSI, MPSII, MPSVI, NPD, Krabbes, NCL)
5. **Small Molecule Inborn Errors of Metabolism**
  - Blood Ammonia: 149
  - TLC: 98
  - HPLC: 63

## 6. Urine Chemical tests

Small Molecules: 96

Large Molecule (MPS, Oligosaccharide): 15

### Neonatology

Invasive blood pressure monitoring: 110

Targeted neonatal echocardiography: 120

Targeted neonatal ultrasonography: 120

High frequency ventilation: 34

Inhaled nitric oxide: 14

Total parenteral nutrition: 100

AABR: 200

Therapeutic hypothermia: 7

Arterial blood gas analysis: 300

Point of care glucose estimation: 800

Hematocrit: 450

Total serum bilirubin: 600

Gram staining: 300

Laser therapy for ROP: 390

### Nephrology

#### Special tests and procedures

Kidney transplants in children	14
Hemodialysis	1535
Acute peritoneal dialysis (including automated peritoneal dialysis)	64
Continuous ambulatory peritoneal dialysis	163
Plasmapheresis sessions	677
Continuous renal replacement therapy	13
Sustained low efficiency dialysis	27
Temporary hemodialysis catheter placement (internal jugular, femoral)	85
Renal biopsies	133
Ambulatory blood pressure monitoring	340
Monitored infusions (albumin, cyclophosphamide, rituximab)	1481
ELISA for antibodies to complement factor H	334
Surface CD46 expression	56

### Neurology

Total number of procedures done

- 1) EEG – 2207, Video EEG – 1637, Ambulatory EEG – 132 (Total EEG – 4076)
- 2) NCS and EMG – 295
- 3) RNST - 25
- 4) PSG – 150
- 5) Day Care Procedures: Lumbar Puncture – 176, Skin biopsy – 33, Nerve biopsy – 7, Muscle biopsy – 70
- 6) Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS PROGRAM)

Loading dose (4 doses fortnightly) given to SMA type 1- 2 patients: SMA type 2- 10 patients.

<b>Psychological and Developmental test</b>	
VSMS for SQ (for SQ, Cochlear Implant)	3600
Developmental Profile 3	4000
Childhood Behavior Checklist	6800
Malin's Intelligence Scale for Indian Children	4500
Wechsler Intelligence scale for children	40
House Tree Person test	1100
Developmental scale for Indian Infants (DASII)	570

Sensory Profile 2	280
DSM-5 for Autism Spectrum Disorder	1010
Childhood Autism Rating Scale	540
INCLIN tool for ASD	126
ISAA tool for ASD	126
DSM-5 for Attention Deficit Hyperactivity disorder	120
INCLIN tool ADHD	74
AIIMS modified tool for ADHD	74
CONNER's rating Scale for ADHD	95
Grade Level Assessment Device	300
NIMHANS battery for learning disorder	152
<b>Total Patients = 12,680</b>	
<b>Including ward and Emergency Patients: (13, 535)</b>	
<b>Intervention and Counseling</b>	
<b>Total Psychological intervention</b>	
Early stimulation therapy	1360
Behavioral Intervention	5600
Psychological & personality assessment using HTP (Functional)	740
Psychological counseling for Nocturnal Enuresis	65
Counseling for Tic disorder	52
Cognitive Behavior Therapy	1200
Parent's counseling in Ward	195
Parent's counseling in Emergency	35
<b>Certification</b>	
<b>Disability Certification</b>	
Patients evaluated for certification	<b>325</b>

### Oncology

S. No	Tests	Numbers
1	Pro BNP	175
3	URIC ACID	144
4	SGOT	84
5	SGPT	84
6	PHOSPHATE	24
7	MAGNESIUM	144
8	BILIRUBIN (DIRECT)	60
9	BILIRUBIN (TOTAL)	60
10	TROPONIN-I	175
11	TOTAL PROTEIN	24
12	ALBUMIN	24
13	CREATININE	24

14	UREA	24
15	POTASSIUM	24
16	Flowcytometry & MRD estimation for acute lymphoblastic leukemia	100
17	Hemogram I critical care lab	4000
18.	Bone marrow	700
19.	CSF/ITM	1100
20.	Biopsy	600
21.	PRP/PRBC transfusion	1200

### **Pulmonology, Intensive Care, Tuberculosis**

#### **Special lab tests**

1. High Speed Video Microscopy: 274
2. Transmission Electron Microscopy from nasal brush: 150
3. Mutations for PCD 150
4. Sweat chloride estimation: 631
5. Pediatric flexible bronchoscopy 321
6. EBUS (Endobronchial ultrasound) 43
7. Spirometry 1251
8. Infant PFT 368
9. Plethysmography 7
10. Impulse Oscillometry (IOS) 781
11. Fractional excretion of Nitric Oxide (FeNO): 671
12. Nasal Nitric Oxide (NO): 221
13. Total and specific IgE 192
14. Specific IgE against aspergillus 74
15. Specific IgG against aspegillus 71
16. Specific IgG against Lentil 12
17. Specific IgG against avian antigen 15
18. Exercise testing 72
19. 24 hours esophageal pH study 15
20. Cryo lung biopsy 2
21. Stool for Xpert ultra 36
22. Urine for LAM by fusiLAM 36
23. Rapid strip test for Dengue 101

#### **Rheumatology**

Telephonic services: 240

Collaborative Uvea-JIA clinic in partnership with Department of Ophthalmology (July 2019 Onwards) children screened: 430

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 05

Intra-articular steroid (IACS) administrations & US guided IACS:

- Joints injected: 279
- USG guided IACS injections: 14
- Diagnostic arthrocentesis: 06
- Diagnostic Skin biopsy: 04

Administration of Biological agents for various rheumatic disorder: 41

#### **Senior physiotherapist**

Performed 98 cardio-pulmonary exercise testing in Pediatric Medicine OPD

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Students/ Research Staff

- 1) First position in Neuropedicon Neurology Quiz, 28 July 2019 (Dr Prabhjot Kaur and Dr Juhi Gupta)
- 2) Dr Priyanka Madaan won the 2019 International Scholarship Award for her thesis titled “Neurocognitive outcomes and their Diffusion Tensor Imaging (DTI) correlates in children with Mild Traumatic Brain Injury (mTBI)”

**Dr Rajni Sharma** delivered a talk at Doordarshan on “Hypothyroidism” on DD News Total Health Programme on 7 July 2019; took part in Public lecture and panel discussion on “Obesity: a growing epidemic” organized by Department of Medicine at AIIMS on 16 October 2019.

**Professor Madhulika Kabra** was invited by the WHO for an Expert group meeting on Genomic & Genetic Disorders at Pretoria South Africa; was appointed as a Co- Chair for the ICMR Rare Disease Task Force

**Dr Madhumita Roy Chowdhury** secured a First prize for poster presentation in the Clinical Research & Basic Sciences Category at Sixth Annual Conference of the Society for Indian Academy of Medical Genetics & Indo-US symposium on Genetic Neuromuscular Disorders organized by NIMS, Hyderabad & CDFD Hyderabad, from 21st to 23rd November 2019.

**Dr Rashmi Shukla** was awarded the Short Term ICMR-DHR International Fellowship for Senior Biomedical Scientists 2019-2020.

**Professor Ashok Deorari:** West Zone Neocon 2019 Oration ‘Innovative solutions to RMCHA education’; West Bengal state NNF Prof Bagchi Oration: “Quality of Care”; Dronacharya Award for the best teacher at CME Excellence Summit and Awards; Special mention award #mBillionth2019 for the preterm care App developed for Best Practices in Preterm “Do No Harm”.

**Professor Ramesh Agarwal** acted as the Guest Editor to a supplement to Journal of Perinatology entitled “Goat lung surfactant for treatment of respiratory distress syndrome in preterm neonates in India”.

**Dr M. Jeeva Sankar** was Coordinator of the “Basic Course in Bio-medical Research”, an online course for post-graduate medical students and faculty of the country; course approved by Board of Governors - in supersession of Medical Council of India and conducted by NIE, ICMR; Member of the Technical Expert Committee (TEC) on Maternal and Child Health – Developmental and Disease Biology, Department of Biotechnology, Government of India; Expert and Member of the Project Monitoring Committee (PMC) of the BIRAC-DBT-BMGF Grand Challenges India for reviewing the progress of research projects; Member of the Working Committee of the ‘Clinical Research Unit (CRU)’, AIIMS, New Delhi, which shall provide resources and services to advance clinical research in the institute; Member of the ‘First Level Screening Committee’ under Grant-in-aid scheme of Department of Health Research, Ministry of Health and Family Welfare (MoHFW), Government of India for reviewing the research proposals on Child Health; Member of the Guideline Development Group (GDG) of the World Health Organization in Maternal and Perinatal Health; Member of the Centre Core Committee (C3) for the Maternal and Child Health program of the Knowledge Integration and Translational (KnIT) Platform, supported by BIRAC, Department of Biotechnology, Government of India; Global and national collaborator to the ‘Global Burden of Diseases, Injuries, and Risk Factors Study (GBD)’ – the largest effort to measure epidemiological levels and trends of disease burden worldwide – for Health Metrics and Evaluation (IHME) at the University of Washington; Member of the Technical Group overseeing the conduct of the ‘Fellowship in Clinical Research Methodology and Evidence Based Medicine’ course at AIIMS, New Delhi; Member of the Expert Consultation Group on ‘STG Development Manual’ that facilitates development of Standard Treatment Guidelines for the MoHFW, Government of India; Member of Editorial Group of ‘NNF – Clinical Practice Guidelines 2019’; involved in hand-holding neonatologists across the country to help develop the guidelines.

**Dr Anu Sachdeva** was Member of the Consultation Group on ‘STG Development Manual’ that facilitates development of Standard Treatment Guidelines for the MoHFW, Government of India; Member of Writing Group of ‘NNF – Clinical Practice Guidelines 2019’.

**Professor Arvind Bagga** received International Pediatric Nephrology Association Education award, 2019; Secretary General of Asian Pediatric Nephrology Association; Assistant Secretary, International Pediatric Nephrology Association; Editor, Asian Journal of Pediatric Nephrology; Editor, Cochrane Kidney and Transplant Group; Editorial Board, Pediatric Nephrology; Indian Journal of Pediatrics; Pediatrics & Child Health; World J Pediatrics; Member, Pediatric Review Group, Indian Council of Medical Research; Research Advisory Committee: Department of Biotechnology, Government of India; and All India Institute of Medical Sciences.

**Professor Pankaj Hari** was Council Member from India, to International Pediatric Nephrology Association; Member, Best Practices & Standards Committee, International Pediatric Nephrology Association; Member, Editorial Board, Asian Journal of

Pediatric Nephrology, Indian Journal of Trauma and Emergency Pediatrics, Journal of Progress in Pediatric Urology, International Journal of Nephrology Urology; Reviewer for Clinical Journal of American Society of Nephrology, British Medical Journal (Open), Pediatric Nephrology, Nephron, Kidney and Blood Pressure Research, Acta Paediatrica, Renal failure, Indian Pediatrics.

**Dr Aditi Sinha** received Dr. HB Dingley Memorial Award, for research in Pediatrics, Indian Council of Medical Research for the year 2018; Member, core group for IPNA Guidelines on management of steroid resistant nephrotic syndrome; Joint Secretary, Indian Society of Pediatric Nephrology; Member, Editorial Board, Pediatric Nephrology, Asian Journal of Pediatric Nephrology; Section Editor for Nephrology, Indian Journal of Pediatrics; Reviewer for Pediatric Nephrology, Indian Pediatrics, Indian Journal of Nephrology, Indian Journal of Pediatrics.

**Professor Sheffali Gulati** was awarded Atal Swasthya Bhushan Samman 2019 for her extraordinary services extended through clinical practice in Sevron Foundation on 21 December 2019 at NDMC Convention Centre, Sansad Marg, New Delhi; Award by Pediatric Neurology Chapter of IAP, in recognition of outstanding contribution in the field Pediatric Neurology and Commendable devotion and hard work to Pediatric Neurology Chapter of IAP during Neuropedicon 2019; Advisory Board Member, Academy of Pediatric Neurology, IAP 2019 onwards; Chairperson elect, Academy of Pediatric Neurology, IAP, March 2020; Patron 3rd International BMI Autism conference, Behavior Momentum India, February 2020; Only Asian Expert selected for Elicitation Board Expert Group for Autism Spectrum Disorder, France, January 2020; Felicitated for Championing Inclusion of Differently abled by Learning Ladder Family April 2019; Serving as Editorial Board Member (4); Reviewer for various International and National Journals (including BMJ open, Journal of Inherited Metabolic disease, American Journal of Medical Genetics, Journal of Child Neurology, Frontiers, Epileptic Disorders); Examiner and Reviewer of various theses of MD, DCH DM and PhD. Member of many International and National Professional bodies (23); Expert for various committees: Ministry of Health and Family Welfare: Rashtriya Bal Swasthya Karyakram; formulating guidelines for treatment of rare diseases. Consultation on Early Childhood Development: Journey of the First 1000 days, National trust: Autism; National Coordinator of master trainers in Autism tools; early intervention, Selected as representative of Ministry of Health and Family Welfare for reviewing National Trust Act Amendmen, Member of ICMR Project Review Group of Reproductive Biology, Maternal & Child Health, Member of DBT Technical Expert Committee (TEC) of Maternal and Child Health-Developmental and Disease Biology, Biotechnology Industry Research Assistance Council (BIRAC): Expert for evaluation of projects, National List of Essential Medicines (NLEM): member of the "Neurology/ Psychiatry Expert Group", Indian pharmacopeia mission: Expert of Subject review committee for 6th edition of National Formulary of India (NFI) 2019-2020, Member of MCI expert group for drafting DM (Pediatric Neurology curriculum), Teacher qualifications and Expert for Inspections of Medical colleges, including for DM pediatric Neurology, UGC expert for evaluating medical universities, selection for fellowships, travel grants, Member Neurology Expert Group to discuss the advisory and editorial board recommendations for STWs, and the Health Benefit Packages under the AB-PMJAY scheme in collaboration with the NHA, Ministry of Women and Child Development: Expert for Sensitizing the communities to the needs of persons with disabilities in Promoting Promising Dietary Practices: Social & Behavioral Change Communications (SBCC) strategies to advance "Jan Andolan" in PoshanAabhiyaan, Ministry of Social Justice and empowerment: Chairperson of subcommittee on Certification of Developmental Disorders including Autism; Member of National Expert Committees: for developing guidelines for assessment and certification of specified disabilities; Disabilities requiring high support; Identification of posts in government jobs for persons with disabilities, PH reservation in MCI and Combined Medical Services; sub committee on multiple disabilities; Expert group for finalizing training module for In-Service Training & Sensitization Programme, Rehabilitation Council of India; UNICEF: Global partnership on children with disability- ECD task force; NCERT: inclusion of children with special needs in mainstream schools, ECCE, Member of Expert committee on Education of children with special needs

**Dr. Biswaroop Chakrabarty** was part of Central Team of Experts deputed by MOHFW during AES outbreak in June 2019, Muzaffarpur, Bihar; Part of the High Powered National Consultation on AES in Bihar at ICMR Headquarters, New Delhi on 19 July 2019; Nominated as a member of the Anti-infectives expert group for revision of National list of Essential Medicine by Standing National Committee, Department of Health and Family Welfare (Drug Regulation System), MOHFW and attended the first meeting on 7 February 2020.

**Professor Rachna Seth** was Chairperson survivorship & late effects subcommittee of Indian Pediatric Oncology Group, the research body of pediatric hematology Oncology chapter, Indian Academy of Pediatrics; Continuing as member of Editorial board, Indian Pediatrics; Co-ordinator DM Program Pediatric Oncology, AIIMS; External examiner for DM Pediatric Oncology at TMH Mumbai & Kidwai memorial hospital, Bengaluru; Member Global Retinoblastoma Study Group; Ongoing First multicenter childhood cancer survivorship registry steered by AIIMS, Pediatric Oncology division, Dept. of Pediatric; Felicitated by Director, AIIMS at "World Blood Donor Day" on 14 June 2019; DM Pediatric Oncology residents presented cases at IJP Clinical grand round (September 2019) and IAP Delhi meeting (July 2019); Chairperson: CME in Pediatric Hematology Oncology, CME on pediatric leukemia and lymphoma, CME on brain tumors.

**Dr Aditya Gupta** was starting Allogenic Hematopoietic Stem Cell Transplant in the Division. Three allogenic HSCT have been done in the year 2019 and the total number of HSCT done is 15 (since 2017); Chairing a session on The best TKI in Pediatric CML; CME on Lymphomas and Leukemias; 9 February 2020. Sir Ganga Ram Hospital.

**Professor SK Kabra** delivered SMS Medical College seven decade celebration oration on “Innovative Approach for Identification and Management of a Rare Disease in Resource Poor Setting: Cystic Fibrosis a Prototype” at SMS Medical College, Jaipur on 25 January 2019; Late Prof A. C Baruah Oration on “Cystic fibrosis diagnosis & management” in Annual Conference of AIP Assam (ASPEDICON 2019) organized by IAP Tinsukia at Tinsukia on 29-30 November 2019; Member: Technical working group for updation of guidelines on Paediatric TB. Ministry of Health and Family welfare, central TB division. GOI; Member Technical working group on Latent TB Infection Management in India. Ministry of Health and Family welfare, central TB division. GOI; Chairperson: Subcommittee Latent TB Infection Management in India. Ministry of Health and Family welfare, central TB division. GOI.

**Dr KR Jat** was awarded Top Reviewer for Indian Pediatrics, 2019; Associate Editor: BMC Pediatrics; Reviewer for following journals: Cochrane Collaboration, Chest, Pediatrics, Pediatric Pulmonology, Indian Pediatrics, Allergy, asthma and clinical immunology, Pediatric Allergy, Immunology, and Pulmonology, Indian Journal of Pediatrics, Respiratory care, Indian J of Critical Care Medicine (IJCCM), Plos One, BMC infectious disease, BMJ Open. **Membership of scientific societies:** Member of PRESIDE (Pediatric Research and Education Society of India), Member of European Respiratory Society (ERS), Member of American Thoracic Society (ATS), Life member of Respiratory Chapter of Indian Academy of Pediatrics (IAP), Life Member of Indian Academy of Pediatrics (IAP), Life Member of Rheumatology Chapter, IAP, Life member of Indian Rheumatology Association (IRA), Life member of Indian Immunology Society (IIS), Instructor for Pediatric Advanced Life Support (PALS) and Basic Life Support (BLS), Trainer of Asthma Training Module (ATM), Respiratory Tract Infection-Group Education Module (RTI-GEM), and Pediatric Tuberculosis module.

**Dr Jhuma Shankar** was Organizing team of “Basic life support course for health care providers at AIIMS”- 11 August 2019; Organized “Advanced life support course at AIIMS-7th and 8 September 2019; Organizing team of “AIIMS Pediatric Pulmonology and Intensive Care Module 2019”- 20 July to 21st July 2019; Organised training program for doctors and nurses from Bihar for acute encephalitis syndrome for 2 batches (1-14 February and 7-21 March 2020); Faculty and resident were posted in Muzaffarpur, Bihar at Sri Krishna Medical College and Hospital, for the 2019 Acute Encephalitis Syndrome outbreak for 2 weeks for patient care, training, supervision and guideline development. We were involved in investigation of the epidemic, in making draft management protocol and are involved in Bihar governments Standard Operating Procedure development for AES in Muzaffarpur, Bihar.

**Dr Narendra Bagri** has Life membership of Indian Rheumatology Association (LM-1300) 2019; Membership of Pediatric Rheumatology European Society membership (PRESM2019-I/283) 2019; Nominated as medical member of NOC committee, Central Adoption Resource Authority (CARA), Ministry of Women & Child Development from 201; Participated in Health Camp organized by Samudayik Vikas Samiti at Pratapgarh, Uttar Pradesh on 7 December 2019; Contributed as medical experts from AIIMS, New Delhi to Muzaffarpur, Bihar to join the Central team of experts during the acute encephalopathy syndrome 2019.

## VISITING SCIENTIST

1. Professor Olaf Hiort (Professor of Pediatric Endocrinology at Lubeck University, Lubeck, Germany and European Lead of the Euro- Network for rare Diseases, and Dr. Ralf Werner, Geneticist at Lubeck University, Lubeck, German), visited the division of Pediatric Endocrinology from 30 November to 2 December 2019.
2. Dr Nicole Fleischer, Head of Applications & Research, FDNA Inc delivered a lecture on “Identifying facial phenotypes of genetic disorders using deep learning” on 13 November 2019.
3. Dr Inderneel Sahai (Chief Medical Officer of the New England Newborn Screening Program and Senior Attending in the Department of Genetics and Metabolism at Massachusetts General Hospital, Boston) took lectures on Metabolic myopathies and Newborn screening on 3 October 2019.
4. Dr Anibh Das (Head of Paediatric Metabolic Medicine at the Department of Paediatrics, Hannover Medical School) delivered lecture on Hepatorenal tyrosinaemia: diagnosis, treatment, outcome and monitoring’ on 25 September 2019.
5. Dr Sadiqua Anjum (DM Neonatology), Osmania Medical College, Hyderabad, Telangana from 1 January 2020 to 15 January 2020
6. Dr Karamalla Saddam Hussaain (DM Neonatology), Maulana Azad Medical College, New Delhi, India from 1 September 2019 to 15 September 2019
7. Dr Kaushiki Shankar (DM Neonatology), Maulana Azad Medical College, New Delhi, India from 1 October 2019 to 15 October 2019
8. Dr Parvati Chabd Dadwal, University of Queensland, Canada from 24 January 2019 to 23 February 2019

## 9.28. Paediatric Surgery

### Professor and Head

M Bajpai

### Professor

Sandeep Agarwala

M Srinivas (on deputation)

**Additional Professor**  
Shilpa Sharma (JPNATC)

### Associate Professors

Vishesh Jain  
Prabudh Goel

Anjan Dhua  
Devendra Kumar Yadav

### Assistant Professors

Ajay Verma

Aparajita Mitra (Contract)

### HIGHLIGHTS

The Department organized the 45th Annual Conference of the Indian Association of Pediatric Surgeons (IAPSCON 2019) along with the CME cum Live Operative Paediatric Urology workshop from 30 October to 3 November 2019. The event coincided with the Golden Jubilee celebrations of the establishment of the Department of Paediatric Surgery in the Institute. To commemorate the occasion, the event also witnessed the Meeting of the Alumni of the Department in the evening of 30 October 2019 and the First International Nursing CME and Module Development in Child Care. The events were attended by more than 300 delegates with widespread representation from all parts of India and abroad. The department introduced for the first time in the Annual Conference of IAPS features like Live telecast wordover and launched a smartphone application for the smartphone. An alumni meet was also held which was attended by more than 150 alumni from the Department scattered over the world. A “First Day Cover celebrating the Golden Jubilee of the Department of Paediatric Surgery” was released by the Department of Postal Services, Government of India. The Department launched the Journal of Progress in Paediatric Surgery at this conference.

The department is poised for expansion with faculty, space and staff in the upcoming maternal and child health centre, developing all sub-specialties and caring for children with serious malformations, advanced cancers, trauma and others.

### EDUCATION

#### *Undergraduate, postgraduate, paramedical teaching*

The department is actively involved in teaching and training of MCh Pediatric Surgery trainees, postgraduate, undergraduate, nursing students, BSc and MSc nursing students. A new and innovative idea to develop and improve teaching and academics in our department is creation of a google group called “Surgery-paedia”. Day to day in clinical practice and during seminar various doubts and queries are generated. The doubts and queries are allotted to residents who read about the query and post the answer in the google group for the benefit of everybody. The platform has been further enhanced by cataloguing the communications system wise for easier and faster search and retrieval.

#### **Short term training was provided to:**

- Dr Shipra Sharma, Medical Institute, Chattisgarh, 24 July 2019 - 23October 2019
- Dr Sandeep Kumar, Dr Ram Manohar Lohia Hospital, 1-31 October 2019
- Dr Addagatla Rajashekhar, Dr Ram Manohar Lohia Hospital, 1-30 November 2019
- Dr Ritesh Kumar, Dr Ram Manohar Lohia Hospital, 2-31December 2019

#### **CMEs/Workshops/Symposia/National and International Conferences**

- 45th Annual conference of the Indian Association of Pediatric Surgeons (IAPSCON) from 1 to 3 November 2019
- CME cum Live operative Pediatric Urology Workshop on 30 and 31 October 2019
- 1st International Nursing CME and Module Development in Child care on 1 and 2 November 2019
- Public Awareness Lecture series Program on Child Sexual Abuse on 12 November 2019

## Lectures delivered

**M Bajpai: 8**

**Vishesh Jain: 3**

**Devendra Kumar Yadav: 1**

**Sandeep Agarwala: 8**

**Anjan Dhua: 6**

**Ajay Verma: 1**

**Shilpa Sharma: 34**

**Prabudh Goel: 5**

### **M Bajpai**

1. Vesicoureteric reflux: Much ado about nothing, IPNA-AsPNA Junior Master Class and XI Annual Training Course in Pediatric Nephrology, 7 April 2019, AIIMS, New Delhi
2. Voiding Dysfunction, IPNA-AsPNA Junior Master Class and XI Annual Training Course in Pediatric Nephrology, 7 April 2019, AIIMS, New Delhi
3. CDH: The AIIMS experience, First National Meeting on Congenital Diaphragmatic Hernia 2019, 15 September 2019, Apollo Hospital, New Delhi
4. Paediatric Surgery: Revelations and Opportunities, Professor IC Pathak Oration CME, 7 October 2019, PGI, Chandigarh
5. Inaugural address, 45th Annual Conference of the Indian Association of Pediatric Surgeons (IAPSCON 2019), 30 October – 3 November 2019, AIIMS, New Delhi
6. Inaugural address, Golden Jubilee celebrations of the establishment of the Department of Paediatric Surgery in the Institute. Meeting of the Alumni of the Department, 30 October 2019, AIIMS, New Delhi
7. Inaugural address, CME cum Live Operative Paediatric Urology Workshop, 31 October 2019, AIIMS, New Delhi
8. Inaugural address, 1st International Nursing CME and Module Development in Child Care, 1 November 2019, AIIMS, New Delhi

### **Sandeep Agarwala**

1. Guest Lecture on Management of Vascular liver tumors in children, 4th Annual Pediatric Solid Tumor Workshop 2019, 27 and 28 April 2019, Tata Hospital, Mumbai
2. Management of Liver tumors other than Hepatoblastoma, 4th Annual Pediatric Solid Tumor Workshop 2019, 27 and 28 April 2019, Tata Hospital, Mumbai
3. Video presentation on colonic interposition for esophageal replacement- How it is done, Annual Meeting of the Delhi chapter of Pediatric Surgeons and CME on Pediatric Esophageal disorders, 21 and 22 September 2019, Army Hospital, R & R, New Delhi
4. Surgical technique, tips and pearls of EA-TEF- Scalpel to suture- The way I do it, Annual Meeting of the Delhi chapter of Pediatric Surgeons and CME on Pediatric Esophageal disorders, 21 and 22 September 2019, Army Hospital, R & R, New Delhi
5. Guest lecture on Hepatoblastoma, Preconference workshop and Annual Conference of Karnataka state chapter of IAPS in Bangalore, 30 November 2019, Bengaluru
6. Guest Lecture: Overview of management of soft tissue sarcomas, Masterclass in Sarcoma, 8 and 9 February 2020, JIPMER, Pondicherry
7. Hirschsprung's disease: Surgical approach: Video presentation, Annual Meeting of the Indian Association of Surgical Gastroenterology (IASG), 9 – 13 October 2019, AIIMS, New Delhi
8. Surgery for CDH: When, Where and Why, First National Meeting on Congenital Diaphragmatic Hernia 2019, 15 September 2019, Apollo Hospital, New Delhi

### **Shilpa Sharma**

1. Head Trauma. ATLS Provider Course, Dr RML Hospital, 24 May 2019, New Delhi
2. Disability Skills Station, ATLS Provider Course, Dr RML Hospital, 24 May 2019, New Delhi
3. Triage Scenarios, ATLS Provider Course, 24 May 2019, New Delhi
4. Initial Assessment Skills Stations, ATLS Provider Course, 25 May 2019, New Delhi
5. Moderator of Scientific Session VI on neonatal colorectal anomalies, Pediatric Colorectal club-26th International Meeting Belgrade (Serbia), 11 June 2019, Belgrade, Serbia
6. Shock assessment and management, ATLS Provider Course, 20 June 2019, New Delhi
7. Circulation Skills Stations, ATLS Provider Course, 20 June 2019, New Delhi
8. Pretest group discussion faculty, ATLS Provider Course, 20 June 2019, New Delhi
9. Geriatric Trauma, ATLS Provider Course, 21 June 2019, New Delhi
10. Triage Scenarios, ATLS Provider Course, 21 June 2019, New Delhi

11. Initial Assessment Skills Stations, ATLS Provider Course, 22 June 2019, New Delhi
12. Esophageal Atresia and Tracheo esophageal fistula. Is it time to change? The newer modalities. CME- Pediatric Esophageal Disorders., 21 and 22 September 2019, Army Hospital, R & R, New Delhi
13. Stem cell applications in Pediatric Surgery and Urology, 2nd Monthly clinical meeting 3 October 2019, Delhi
14. Moderated session on oral case presentations, 6th World Congress of Pediatric Surgery 30 October - 4 November 2019, Doha, Qatar
15. Introduction and Types of Child abuse, Public Awareness Lecture series on Child Abuse, 12 November 2019, New Delhi
16. Panel Discussion, Public Awareness Lecture series on Child Abuse, 12 November 2019, New Delhi
17. Strategies and interventions in managing surgical problems in children, 1st Annual National Conference pediatric and neonatal nurses forum, India PNNFICONF-2019, 21 November, 2019, Ludhiana
18. Stem cells in Neurological diseases. 5th International Regenerative Medicine Conclave, 23 November 2019, Delhi
19. Thoracic Trauma, ATLS Provider course, PGIMER, RML Hospital, 28 November 2019, New Delhi
20. Breathing Skill station, ATLS Provider Course, PGIMER, RML Hospital, 28 November 2019, New Delhi
21. Pretest group discussion faculty, ATLS Provider course, PGIMER, RML Hospital, 28 November 2019, New Delhi
22. Spine and Spinal cord Trauma, ATLS Provider course, PGIMER, RML Hospital, 29 November 2019, New Delhi
23. Initial Assessment Practice and Team, ATLS Provider course, PGIMER, RML Hospital, 29 November 2019, New Delhi
24. Triage Scenarios Discussion. ATLS Provider course, PGIMER, RML Hospital, 29 November 2019, New Delhi
25. Initial Assessment Skills Stations, ATLS Provider course, PGIMER, RML Hospital 30 November 2019, New Delhi
26. Introduction to the ATLS 10th Edition, Course on Forensic Examination in sexual Assault Cases, 20 and 21 December 2019, New Delhi
27. Surgical Strategies in Neuroblastoma, 6th Annual Conference of Society of Surgical Oncology, 21 December 2019, Mumbai
28. Thoracic Trauma, ATLS Provider Course, PGIMER, 20 February 2020, New Delhi
29. Breathing Skill station, ATLS Provider Course, PGIMER, 20 February 2020, New Delhi
30. Pretest group discussion faculty, ATLS Provider Course, PGIMER, 20 February 2020, New Delhi
31. Geriatric Trauma, ATLS Provider Course, PGIMER, 21 February 2020, New Delhi
32. Adjuncts skill station, ATLS Provider Course, PGIMER, 21 February 2020, New Delhi
33. Triage Scenarios Discussion, ATLS Provider Course, PGIMER, 21 February 2020, New Delhi
34. Laparoscopic Cholecystectomy - Where Can It Go Wrong, PESICON, Pune, 28 February 2020, Pune

#### **Vishesh Jain**

1. Cut it, wrap it.... how to deal with a lazy esophagus, CME- Pediatric esophageal disorders, 21 September 2019, Army Hospital (R&R), Delhi
2. Ethical issues in DSD and parental counselling, 1st International Nursing CME and Module Development in Child Care, 2 November 2019, AIIMS, Delhi
3. Avoiding and managing complications in difficult bronchoscopy and esophagoscopy, Annual conference of the Pediatric endoscopic surgeons of India (PESICON 2020), 28 February 2020, Pune

#### **Anjan Dhua**

1. Neural tube defects, Birth Defects awareness program for Health professionals, 20 April 2019, AIIMS, Delhi
2. This one or that one? The options, CME- Pediatric esophageal disorders, 21 September 2019, Army Hospital (R&R), Delhi
3. Clean intermittent catheterization- An important tool, 1st International Nursing CME and Module Development in Child Care, 2 November 2019, AIIMS, Delhi
4. What are disorders of sex differentiation? 1st International Nursing CME and Module Development in Child Care, 2 November 2019, AIIMS, Delhi
5. Role of UDS in PUV, Annual Meet of Delhi Chapter of IAPS, 1 December 2019, MAMC, Delhi
6. Challenging Pediatric Cases: Mock tumour board, AIIMS Radiology Course on Imaging of Chest Tumours, 1 December 2019, AIIMS, Delhi

### **Prabudh Goel**

1. Isoperistaltic Gastric tube for esophageal replacement, CME- Pediatric esophageal disorders, 21 September 2019, Army Hospital (R&R), Delhi
2. Approach to Common Fetal Anomalies (Panel discussion), AOGD- 2019, 28 and 29 September 2019, Delhi
3. Disorders of Sexual Differentiation, 1st International Nursing CME and Module Development in Child Care, 2 November 2019, AIIMS, Delhi
4. How do I do it: Gastric Neobladder, Live operative Pediatric Urology workshop, 30 and 31 October 2019, AIIMS, Delhi
5. Managing Sharp Airway Foreign Bodies, Annual conference of the Pediatric endoscopic surgeons of India (PESICON 2020), 28 February 2020, Pune

### **Devendra Kumar Yadav**

1. Penile lengthening in Exstrophy, Exstrophy Epispadias workshop, 4-6 April 2019, JIPMER, Puducherry

### **Ajay Verma**

1. Omission of care as an act of child abuse, Public Awareness Lecture series on Child Abuse, 12 November 2019, AIIMS, Delhi

### **Oral papers/posters presented**

1. Agarwala S, Jain V, Dhua A, Jana M, Kandasamy D, Kumar R, Bal CS, Bhatnagar V. Presentation management and outcome of children with ureteroceles, Annual Congress of Asia Pacific Association of Pediatric Urology (APAPU) in conjunction with Society of Pediatric Urology New Zealand and Australia, 8 – 10 November 2019, Perth, Australia
2. Anand S, Agarwala S, Dhua A, Jana M, Kandasamy D, Kumar R, Bal CS, Bhatnagar V. Experience of management of bilateral pelvi-ureteric junction obstruction (pujo) in children- can surgery be avoided on one side? Annual Congress of Asia Pacific Association of Pediatric Urology (APAPU) in conjunction with Society of Pediatric Urology New Zealand and Australia, 8 – 10 November 2019, Perth, Australia
3. Anand S, Bajpai M, Goel P. Short and Long-Term Results of Oesophageal Replacement with Iso-Peristaltic Gastric Tube, 45th Annual Conference of Indian Association of Pediatric Surgeons, 1-3 November 2019, New Delhi
4. Anand S, Bajpai M, Goel P. Squamous Metaplasia in Cutaneous Ureterostomies, 45th Annual Conference of Indian Association of Pediatric Surgeons, 1 – 3 November 2019, New Delhi
5. Anand S, Goel P, Bajpai M, Sharma K. Management of Intra-abdominal Tumors by Laparoscopic Approach, 45th Annual Conference of Indian Association of Pediatric Surgeons, 1-3 November 2019, New Delhi
6. Anand S, Goel P, Bajpai M. Laparoscopic Harvesting of Gastric Patch for Augmentation Gastrocystoplasty: A Hybrid Approach and its Implications for Laparoscopic Reconstruction of Gastric Neobladder, PESICON 2020, 28 February – 1 March 2020, Pune
7. Anand S, Goel P, Bajpai M. Posterior Urethral Valves (PUV): Case vignettes in Pediatric Endourology, PESICON 2020, 28 February – 1 March 2020, Pune
8. Anand S, Goel P, Bajpai M. Prospective Study to Evaluate the Feasibility of Laparoscopy in the Management of Pediatric Intra-Abdominal Solid Tumors, PESICON 2020, 28 February – 1 March 2020, Pune
9. Anand S, Goel P, Dhua AK, Bajpai M. Precocious puberty in Children with Hepatoblastoma - Systematic Review of Literature, 45th Annual Conference of Indian Association of Pediatric Surgeons, 1-3 November 2019, New Delhi
10. Anand S, Jain V, Bajpai M, Goel P, Dhua A, Yadav DK. Thoracoscopic management of missed tracheoesophageal fistula, PESICON 2020, 28 February – 1 March 2020, Pune
11. Anand S, Jain V, Dhua A, Mitra A, Murali D, Kandasamy D, Jana M, Kumar R, Bal CS, Bhatnagar V, Agarwala S. Comparison in outcomes of ectopic vs intravesical ureteroceles, IAPSCON-2019, 1-3 November 2019, Delhi
12. Anand S, Jain V, Dhua A, Mitra A, Murali D, Kandasamy D, Jana M, Kumar R, Bal CS, Bhatnagar V, Agarwala S.\* Outcome of Initial Endoscopic Management of Ureteroceles in a Tertiary Care Centre: An Experience of 25 Years, IAPSCON-2019, 1-3 November 2019, Delhi
13. Anand S, Jain V, Dhua A, Yadav DK, Agarwala S. Esophageal Button battery in the Pediatric Population: recent experience from a Tertiary care center, PESICON 2020, 28 February – 1 March 2020, Pune
14. Bajpai M, Goel P. Bajpai Single Port-Single Instrument- Lumboscopy Assisted Pyeloplasty (B.L.A.P.) – Technique and Results, IAPSCON-2019, 1-3 November 2019, New Delhi
15. Bakhshi S, Agarwala S, Dhua A, Jain V, Thulkar S, Jana M, Kandasamy D. Treatment and outcomes of Testicular malignant germ cell tumors (MGCT): A single Institution experience. Annual Congress of Asia Pacific Association

of Pediatric Urology (APAPU) in conjunction with Society of Pediatric Urology New Zealand and Australia, 8 – 10 November 2019, Perth, Australia

16. Bharadwaj A, Goel P, Bajpai M. Single Port Single Instrument Laparoscopic cholecystectomy by the C-“Less” Triangulation Maneuver – Targeting a Scarless Abdomen, PESICON 2020, 28 February – 1 March 2020, Pune
17. Bharadwaj A, Goel P, Bajpai M. Single-Port Single-Instrument Laparoscopic Cholecystectomy – Evolving experience of 6 years, IAPSCON-2019, 1-3 November 2019, New Delhi
18. Bharadwaj A, Verma A, Dhua AK, Goel P, Bajpai M. What is new in the latest PRETEXT Update?, IAPSCON-2019, 1-3 November 2019, New Delhi
19. Davera S, Bajpai M, Goel P. Penile Reconstruction with Abdominal and Scrotal Phalloplasty – Cosmesis is Function in Pediatric Age-Group, IAPSCON-2019, 1-3 November 2019, New Delhi
20. Davera S, Goel P, Bajpai M. Addressing the Unfavourable Anatomy in Long Gap Oesophageal Atresia: The Thoracoscopy Protocol, PESICON 2020, 28 February – 1 March 2020, Pune
21. Devadasan H, Agarwala S, Jain V, Dhua A, Parthasarthy D, Srinivas M, Bhatnagar V, Gupta DK, Bajpai M. Presentation and outcome of management of Achalasia Cardia in children, IAPSCON-2019, 1-3 November 2019, Delhi
22. Devadasan HK, Agarwala S, Bakhshi S, Devguru S, Jain V, Dhua A, Biswas A, Jana M, Kandasamy D, Bajpai M. An unusual left atrial recurrence Wilms tumor, Annual Conference of the EUPSA 2019, 12 -15 June 2019, Belgrade, Serbia
23. Devadasan HK, Agarwala S, Jain V, Dhua AK, Goel P, Yadav DK, Jana M, Parthasarthy D, Srinivas M, Bhatnagar V, Gupta DK, Bajpai M. Presentation and Outcome of Management of Achalasia Cardia in Children, IAPSCON-2019, 1-3 November 2019, New Delhi
24. Devadasan HK, Goel P, Bajpai M, Kalaivani M.\* Pediatric Penile Length Anthropometry Nomogram from India, IAPSCON-2019, 1-3 November 2019, New Delhi
25. Dhua AK, Goel P, Jain V, Yadav DK, Bajpai M, Jain D. Analysis of Top 10 Cited Articles Published in the Journal of Indian Association of Paediatric Surgeons (JIAPS) over a 10 Year Period, IAPSCON-2019, 1-3 November 2019, New Delhi
26. Dhua AK, Jain V, Yadav DK, Goel P, Bajpai M, Prasad G. Neurosurgical patty for creating extra-mucosal plane in Laparoscopic Heller’s cardiomyotomy-initial experience, PESICON 2020, 28 February – 1 March 2020, Pune
27. Dhua AK, Verma A, Goel P, Bhatnagar V, Kandasamy D, Sharma. Study of intrahepatic biliary architecture in patients for EHBA using MRCP, 56th Annual Congress of the Japanese Society of Pediatric Surgeons, 24 May 2019, Kurume City Plaza, Kurume, Japan
28. Goel P, Bajpai M, Anand R. Thoracoscopic Protocol to Esophageal Atresia with Unfavourable Anatomy: A novel approach to long gap esophageal atresia, IAPSCON-2019, 1-3 November 2019, New Delhi
29. Goel P, Bajpai M, Dhua AK, Verma A, Jain V, Yadav DK. Status of Pediatric Surgery under the Ayushman Bharat Yojana – Pradhan Mantri Jan Arogya Yojana (or the National Health Protection Mission), IAPSCON-2019, 1-3 November 2019, New Delhi
30. Goel P, Bajpai M, Kalaivani M. Caudal Block in Pediatric Patients: Prospective Study to evaluate vasodilatation or venous congestion, 56th Annual Congress of JSPS, 23-25 May 2019, Kurume, Japan
31. Goel P, Bajpai M, Kalaivani M. Measurement of the Stretched Penile Length by the Ruler Method: Estimation of Intra-Observer and Inter-Observer Variations and Standardization of Technique, 56th Annual Congress of JSPS, 23-25 May 2019, Kurume, Japan
32. Goel P, Bajpai M, Kalaivani M. Pediatric Penile Length Nomogram, 56th Annual Congress of JSPS, 23-25 May 2019, Kurume, Japan
33. Goel P, Bajpai M, Narsimhan P, Khanna P, Anand R, Kalaivani M. Role of Caudal Block in Vasodilatation and Its implications for Genital Surgeries, IAPSCON-2019, 1-3 November 2019, New Delhi
34. Goel P, Bajpai M. Bajpai’s Single Port-Single Instrument- Lumboscopy Assisted Pyeloplasty (BLAP) – Technique and Results, PESICON 2020, 28 February – 1 March 2020, Pune
35. Goel P, Bajpai M. Ropewalking the Sharp Aero-Digestive Foreign Bodies– ‘Kangaroo Technique’ to rescue the Endoscopist from Life-Threatening Emergencies, PESICON 2020, 28 February – 1 March 2020, Pune
36. Goel T, Mitra A, Goel P, Bajpai M. Sharp Foreign Bodies Of The Digestive Tract Tips And Tricks For Unpredictable Trajectories, IAPSCON-2019, 1-3 November 2019, New Delhi
37. Jain V, Dhua A, Mitra A, Murali D, Kandasamy D, Jana M, Kumar R, Bal CS, Bhatnagar V, Agarwala S. Outcome of initial endoscopic management of uretercoeles in a tertiary care centre: an experience of 25 years, 56th Annual Congress of the Japanese Society of Pediatric Surgeons, 24 May 2019, Kurume City Plaza, Kurume
38. Khanna K, Bajpai M, Goel P. Anogenital Distance and the Etiopathogenesis of Congenital Malformations in

39. Khanna K, Bajpai M, Goel P, Panda SS.\* Is Clitoroplasty required in all patients of congenital adrenal hyperplasia? IAPSCON-2019, 1-3 November 2019, New Delhi
40. Kumar V, Goel P, Bajpai M, Dhua AKD, Mitra A, Aggarwal R, Malhotra R. Complete Transaction of Duodenum after Blunt Abdominal Trauma – A Report of Experience in Two Cases, IAPSCON-2019, 1-3 November 2019, New Delhi
41. Mahajan D, Goel P, Bajpai M. When LESS is more: Re-Inventing the Use of Co-axial Scope in Pediatric Laparoscopy, PESICON 2020, 28 February – 1 March 2020, Pune
42. Mahajan D, Goel P, Dhua AKD, Bajpai M, Malhotra R. Patterns and Outcomes of Splenic Injury from Blunt Abdominal Trauma in Children- Preliminary Experience from the Trauma Centre of a Tertiary Care Hospital, IAPSCON-2019, 1-3 November 2019, New Delhi
43. Maheshwari P, Goel P, Murry LL, Mahajan D, Verma A, Bajpai M. Improvement in the Quality of Post-operative Discharge Instructions Following Day-care Surgery for Congenital Inguinal Hernia, Hydrocele and Undescended Testis by Integrating Quality Improvement Initiative with Clinical Care Delivery, IAPSCON-2019, 1-3 November 2019, New Delhi
44. Mitra A, Bajpai M, Goel P. Rising Disgruntlement against Healthcare Service Providers in India - Binary Perspectives, IAPSCON-2019, 1-3 November 2019, New Delhi
45. Nagendra MK, Jain V, Agarwala S, Sharma MC, Gupta S\*. Comparison of High spermatic vessel ligation and low spermatic vessel ligation in undescended model of Rat testis, IAPSCON-2019, 1-3 November 2019, Delhi
46. Nandan R, Bajpai M, Goel P. Dorso-Ventral Transfer of Preputial Tube (DVTPT) – a novel urethroplasty Technique for Single-Stage Fistula-Free Hypospadias Repair, IAPSCON-2019, 1-3 November 2019, New Delhi
47. Nandan R, Goel P, Bajpai M. Fogarty Catheter: An Indispensable Tool to Complement the Ingenuity of the Endoscopist for Extraction of Airway ‘Foreign Bodies with a hole’, PESICON, Pune, 28 February 2020, Pune
48. Nandan R, Goel P, Jain V, Bajpai M. Spleen Preserving Shunt in Children with Extra-hepatic Portal Vein Obstruction (EHPVO), IAPSCON-2019, 1-3 November 2019, New Delhi
49. Nandan R, Jain V, Agarwala S, Yadav DK, Das P. Interstitial cells of Cajal like cells in children with Pelviureteric junction obstruction- the missing link, IAPSCON-2019, 1-3 November 2019, Delhi
50. Nandan R, Yadav DK, Sharma S, Bajpai M. An ambispective evaluation of prognostic factors and long-term outcome in patients of Neuroblastoma, IAPSCON-2019, 1-3 November 2019, Delhi
51. Rahman AR, Gupta U, Agarwal S, Goel P. Diversity of Spectrum And Management of Animal Inflicted Injuries In Pediatric Age Group: A Prospective Study From A Pediatric Surgery Department Catering Primarily To The Rural Population, IAPSCON-2019, 1-3 November 2019, New Delhi
52. Sehgal M, Agarwala S, Jana M, Kandasamy D, Jain V, Dhua A, Goel P, Yadav DK, Srinivas M, Bhatnagar V, Bajpai M. Mesenchymal hamartoma of liver: Outcomes of surgical management, Annual Conference of the EUPSA 2019, 12-15 June, 2019, Belgrade, Serbia
53. Sehgal M, Agarwala S, Jana M, Kandasamy D, Jain V, Dhua AK, Goel P, Yadav DK, Srinivas M, Bhatnagar V, Bajpai M. Mesenchymal Hamartoma of Liver: Outcomes Of Surgical Management, IAPSCON-2019, 1-3 November 2019, New Delhi
54. Sehgal M, Goel P, Verma A, Bajpai M. Statistical Assessment of eFAST as a Screening Tool in Pediatric Blunt Abdominal Trauma Patients, IAPSCON-2019, 1-3 November 2019, New Delhi
55. Sharma K, Agarwala S, Bakhshi S, Dhua A, Jain V, Jana M, Kandasamy D, Bhatnagar V\*. Role of Diffusion weighted MRI in detection of Satellite lesions in Hepatoblastoma, IAPSCON-2019, 1-3 November 2019, Delhi
56. Sharma K, Anand S, Dhua AK, Goel P, Shankar J, Bajpai M, Das P. Rare Causes of Neonatal Intestinal Obstruction Prompt, Exploration Is The Key, IAPSCON-2019, 1-3 November 2019, New Delhi
57. Sharma K, Bajpai M, Goel P\*. Experience with Single-Stage Trans-Vestibular Foleys-Assisted Female Epispadias Repair and Bladder Neck Tightening – Furthering experience with our Cohort, IAPSCON-2019, 1-3 November 2019, New Delhi
58. Sharma K, Sharma S, Gupta DK, Kabra SK, Bajpai M. Long-term outcomes of esophageal replacement in children: Experience from a tertiary care center, 20th EUPSA CONGRESS, 12-15 June 2019, Belgrade, Serbia
59. Sharma S, Bhanot R, Yadav DK, Gupta DK. Long term outcome of Cloacal malformations, Pediatric Colorectal Club-26th International Meeting Belgrade (Serbia), 9-11 June 2019, Belgrade, Serbia
60. Sharma S, Gupta DK. Transrectal Approach for Excision of Vaginal germ Cell Tumour with Pedicled Rectal Mucosal Patch for Posterior Wall Vaginoplasty, Pediatric Colorectal Club-26th International Meeting Belgrade (Serbia), 9 - 11 June, 2019, Belgrade, Serbia

61. Sharma S, Jyotsna PV, Yadav DK, Srivastava A, Gupta DK. Male Gender Assignment in 46 XX, congenital adrenal hyperplasia, Pediatric Colorectal Club-26th International Meeting, 9 - 11 June 2019, Belgrade, Serbia
62. Singh A, Bajpai M, Goel P, Mitra A, Jain V, Kandasamy D. Puestow Procedure in Chronic Pancreatitis – An Institutional Experience, IAPSCON-2019, 1-3 November 2019, New Delhi
63. Singh A, Goel P, Bajpai M. Lumboscopic Pyelolithotomy & Ureterolithotomy, PESICON 2020, 28 February 1 March 2020, Pune
64. Singh A, Goel P, Verma A, Bajpai M. Utility of Involvement of Custom-Designed Smartphone Application and other modes of Digital Technology in the Organization of National Conference of Pediatric Surgery, IAPSCON-2019, 1-3 November 2019, New Delhi
65. Singh TR, Dhua A, Agarwala S. Triplication of ureter- A rare case report, IAPSCON-2019, 3 November 2019, AIIMS
66. Singh TR, Goel P, Varshney A, Bajpai M. Early Outcomes in Children with Anorectal Malformations following Single-Stage Abdomino-Perineal Pull-Through by the Hanging Bowel Technique, IAPSCON-2019, 1-3 November 2019, New Delhi
67. Singh V, Sharma S, Bajpai M. Assessment of long-term outcomes in males with disorders of sex development, IAPSCON-2019, 1-3 November 2019, AIIMS, New Delhi
68. Tomar S, Goel P, Bajpai M. Sirenomelia: A Case Report and Review of Literature, IAPSCON-2019, 1-3 November 2019, New Delhi
69. Tomar S, Goel P, Khanna K, Bajpai M. Conjoined Twins – Experience and Insights gained during Management of Eight Pairs from an Apex Institute, IAPSCON-2019, 1-3 November 2019, New Delhi
70. Tyagi S, Dhua AK, Goel P, Jain V, Yadav DK, Agarwala S, Bhatnagar V. Pediatric Abdominal Teratoma at unusual sites, IAPSCON-2019, 1-3 November 2019, New Delhi
71. Tyagi S, Goel P, Bajpai M. Pippe Salle Clitoroplasty in Congenital Adrenal Hyperplasia: Experience and Mid-term Results from an Apex Hospital, IAPSCON-2019, 1-3 November 2019, New Delhi
72. Varunkumar M, Mitra A, Jain V, Dhua A, Bakhshi S, Jana M, Kandasamy D, Biswas A, Bhatnagar V, Agarwala S. Functional Bladder outcomes in Patients with Bladder and Bladder/Prostate Rhabdomyosarcoma, IAPSCON-2019, 1-3 November 2019, Delhi
73. Yadav DK, Jain V, Goel P, Dhua A. Ipsilateral scrotal fullness- A surrogate indicator of testicle location in unilateral impalpable undescended testis, APAPU Conference, 8-10 November 2019, Perth, Australia
74. Yadav DK, Jana M, Devadasan H, Kandasamy D, Jain V, Goel Prabudh, Dhua A, Bajpai M. Inguinal hernia in a prepubertal female- Can high resolution ultrasonography replace karyotyping to rule out Androgen Insensitivity Syndrome in a limited resource scenario- A pilot study, APAPU Conference, 8-10 November 2019, Perth, Australia

\*Awarded Papers

## RESEARCH

### Funded projects

#### *Ongoing*

1. Biocompatible dressing for paediatric hypospadias repair, Shilpa Sharma, AIIMS-IIT Delhi, 2 years, 2019-2021, Rs 10 lakhs
2. Centre for advanced research in congenital uropathies & CKD, Minu Bajpai, AIIMS, 5 years, 2018, Rs 190 lakhs
3. Development of a portable rapidly adjustable camera holding device to minimize image tremor and fatigue of the camera holding assistant during minimally invasive surgery in children, Vishesh Jain, AIIMS-IIT Delhi, 2 years, 2020-2021, Rs 10 lakhs
4. Development of technology-based doctor patient interface to facilitate patient care and health research in paediatric urology, Prabudh Goel, ICMR, 3 years, 2019, Rs 130 lakhs
5. Electromotive administration of Intravesical Botulinum Toxin A in Pediatric Neurogenic Bladder, Shilpa Sharma, AIIMS, 2 years, 2019-2020, Rs 5 lakhs
6. Establishing Guidelines for Fetal Counseling for Surgical Congenital Anomalies, Shilpa Sharma, DBT, 4.5 years, 2014-20, Rs 48.36 lakhs
7. Reference range of serum alpha feto protein in children below 3 years of age, Devendra Kumar Yadav, AIIMS, 2 years, 2015-2020, Rs 2.3 lakhs

### **Completed**

8. Effect of Curcumin and its combination with Piperine in experimentally induced Liver fibrosis in rats: A comparative analysis., Shilpa Sharma, AIIMS, 2 years, 2016-2018, Rs 5 lakhs
9. Role of Bone marrow mononuclear cells and Renal Stem cells in renal preservation in Obstructive Renopathy—An Experimental study in mice, Shilpa Sharma, AIIMS, 2 years, 2013-2015, Rs 5 lakhs
10. Role of cortical transit time on MAG3 scintigraphy in children with PUJ obstruction, Vishesh Jain, AIIMS, 2 years, 2015-2019, Rs 1.65 lakhs

### **Departmental projects**

#### **Ongoing**

1. A comparative study of smooth muscle cell characteristics and myofibroblasts in processus vaginalis of pediatric inguinal hernia, hydrocele and undescended testis
2. A prospective study of the short term outcomes of operated cases of distal penile hypospadias in terms of immediate and early complications.
3. A study on differential expression of molecular markers in urine with respect to genetic propensity to congenital uropathies
4. Antegrade or retrograde insertion of transanastomotic feeding tube in primary repair of esophageal atresia with tracheoesophageal fistula on leak rate and wound infection
5. Assessment of intra-hepatic portal anatomy (left and right portal veins) and anatomical feasibility of Rex shunt surgery on computed tomography portography in pediatric patients with Extra-hepatic Portal Vein Obstruction
6. Assessment of renal function in children with unilateral non-syndromic Wilms' tumor: An ambispective control study
7. Comparison of Double "J" and Infant feeding tubes as stents in open Cohen's ureteric reimplantation -A Randomized Study
8. Differences in microvessel density and growth factor levels between inner and outer preputial skin in distal hypospadias
9. Early outcomes in children with anorectal malformations following single-staged abdomino-perineal pull through by hanging bowel technique: an ambispective cohort study
10. Evaluation of cardiotoxicity related to administration of Adriamycin in children with solid tumors
11. Hypospadias Outcomes Long-Term Database (HOLD): A Prospective Cohort Study
12. Long term outcomes of bladder functions in patients treated for posterior urethral valves
13. Longterm outcome of PSARP in Anorectal malformation
14. Neonatal Anogenital Distance Nomogram and its correlation with anthropometry for North Indian Population
15. Normative Assessment of Pediatric Penile Length in Indian Population
16. Normative values of renal length, parenchymal thickness and renal elastography in Indian Pediatric population
17. Outcome of treatment with ICE (Ifosphamide, carboplatin and etoposide) salvage regime in children with relapsed / recurrent solid tumors
18. Outcomes of non-operative management of Unilateral Pelvi-ureteric Junction Obstruction
19. Plasma GDNF Levels In Spina Bifida: Correlation With Neurological Impairment In Children
20. Profile of serum hepatotrophic factors, serum ammonia levels and quality of life in pts of EHPVO
21. Prospective study of treatment of children with Hepatoblastoma on treatment with Monotherapy and PLADO regime
22. Prospective study of treatment of children with Rhabdomyosarcoma on treatment with IRS-5 regimen
23. Prospective study of treatment of children with Wilms' tumor on treatment with modified NWT5-5 regimen
24. Prospective study on five drug regimen for the management of Clear Cell Sarcoma of the Kidney
25. Prospective Study to Evaluate the Trend of Serum Procalcitonin Levels in Surgical Neonates and Infants and its Correlation with Events during the Post-Operative Period
26. Prospective, Observational Study to evaluate the vasodilatory effect of caudal block in pediatric patients
27. Quality Improvement (QI) project to ensure compliance with administration of maintenance intravenous fluids to Paediatric Surgical patients called for day-care procedures in the pre-operative waiting period
28. Retrospective study of the factors that affect the long-term outcome of operated cases of hypospadias

29. Role of Plasma Renin Activity in predicting renal damage in patients with neurogenic bladder and its correlation with existing parameters of renal damage
30. Role of pulmonary metastatectomy in pediatric solid tumors
31. Role of Serum Matrix Metalloproteinase-7 levels in diagnosis and prognostication of infants with extra-hepatic biliary atresia
32. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study
33. Study to identify the genotype-phenotype correlation in testicular biosynthetic defects and 5- $\alpha$  reductase deficiency with respect to Disorders of Sex Development
34. To study the long-term effects of disease and its treatment in survivors of childhood solid tumors
35. Validation of Sliding Scale Penometer for Measurement of Stretched Penile Length in Pediatric Age-Groups

### ***Completed***

1. A study on the prevalence of polymorphism in nephrogenic genes in congenital uropathies and their influence on renal functional outcomes
2. Assessment of long term postoperative outcomes of anorectal function in patients with Hirschsprung's disease
3. Comparison of analgesic efficacy of ultrasound guided quadratus lumborum block versus erector spinae plane block in children undergoing open pyeloplasty: a randomized double blinded controlled study
4. Esophageal button battery in the pediatric population
5. Evaluation of interstitial cells of Cajal- like cells (ICC-LC) and histopathology in congenital pelviureteric junction obstruction and their correlation with intraoperative findings
6. Functional bladder outcomes in patients in patients with bladder/prostate rhabdomyosarcomas
7. Long term outcome of Disorders of Sexual Differentiation
8. Measurement of Stretched Penile Length by the Ruler Method: Estimation of Intra-observer and Inter-observer variations and standardization of the technique
9. MR evaluation of intra-hepatic biliary ductular architecture in patients of EHBA after Kasai portoenterostomy
10. Prognostic factors and outcomes in neuroblastoma in a developing country: An ambispective study
11. Sensitivity and specificity of focussed assessment with sonography for Trauma in determining paediatric solid organ injury following blunt trauma abdomen
12. Study of Immuno-histochemistry correlation of anti-TERT antibody and tumour behaviour in Hepatoblastoma- A pilot study
13. Study of temporal relationship between early markers of renal injury in children with congenital uropathies with and without genetic propensity to renal injury
14. Study on the prevalence of polymorphism in nephrogenic genes in congenital uropathies and their influence on renal functional outcomes
15. To compare aspartate aminotransferase to platelet ratio index, supersonic shear wave elastography and histopathology of the liver in patients of biliary atresia as tools to evaluate hepatic fibrosis
16. To study the temporal relationship between early markers of renal injury in children with congenital uropathies with and without genetic propensity to renal injury

### **Collaborative projects**

#### ***Ongoing***

1. Biofabrication of Skin Graft Substitutes using Functionalised Materials for Tissue Regeneration, Stem Cell Facility, CTVS
2. Efficacy of hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair- A preliminary study, Anaesthesia
3. Hepatic regenerative potential of exosomes derived from human Mesenchymal Stem Cells in liver injury model
4. Long term outcomes of bladder functions in patients treated for Posterior Urethral Valves, Radiology, Nuclear Medicine
5. Presentation, management and outcomes in children with adrenocortical tumors, Pathology and Biostatistics
6. Rare disease modelling using induced Pluripotent Stem Cell, Stem Cell Facility, CTVS

7. Role of MIBG therapy for advanced non-responsive and recurrent neuroblastoma, Nuclear Medicine, Stem Cell Facility, CTVS
8. Study of prognostic factors in thoracic PNET, Medical Oncology, Radiotherapy, Radiodiagnosis
9. To study the long-term effects of disease and its treatment in survivors of pediatric solid tumors, Medical Oncology, Reproductive Biology, Obstetrics and Gynecology, Cardiology
10. Understanding the therapeutic role of adult stem cell derived exosome in combating virus induced neurodegenerative disease

### **Completed**

1. Efficacy of two different Chlorhexidine gluconate preparations for skin antiseptics in neonates: A non-inferiority randomized trial, Paediatrics
2. Intra- and interobserver variability in the measurements of Cortical Transit Time following MAG-3 Scintigraphy in children with unilateral PUJ obstruction, Nuclear Medicine
3. Presentation, outcomes and management in children with ureterocoele, Nuclear Medicine
4. Role of cortical transit time on MAG3 scintigraphy in children with PUJ obstruction, Nuclear Medicine

### **PUBLICATIONS**

**Journals: 27**

**Abstracts: 24**

**Chapters in Books: 7**

### **PATIENT CARE**

#### **Out Patient Department**

Pediatric surgery outpatient department is run every day. In addition specialty clinics are also run to provide more focused attention to few conditions.

#### **Various specialty clinics run by the Department and faculty:**

- Antenatal Diagnosis
- Craniosynostosis
- Follow Up
- GI Hepatobiliary
- Hydrocephalus
- Intersex and Hypospadias
- Solid Tumor
- Thoracic Surgery
- Urology

#### **Facilities available**

- Intensive care unit for neonates
- High dependency area
- Computer based Urodynamic and uroflowmetry study
- Computer based Anorectal manometry
- Computer based Esophageal manometry
- 24 hours pH monitoring for Gastroesophageal reflux
- Impedence Manometry for Gastroesophageal reflux

#### **Community services**

- Weekly outpatient clinic and operative session at CRHSP, Ballabgarh

#### **Attendance in OPD and Specialty clinics**

OPD/Clinic	New Cases	Old Cases	Total
General	7664	18308	25972

Hydrocephalus	0	34	34
Urology	411	1971	2382
Intersex and urology	16	250	266
Tumor	24	498	522
Craniosynostosis	Nil	Nil	Nil
CRHSP, Ballabgarh	2207	Nil	2207

### Admissions

AB5 ward: 2481 (1101 Long admissions; 1163 short admissions and 118 long admission) AB5/ICU: 162

### Surgical procedures

#### Main OT

**Routine:** Major Procedures: 1202; Minor Procedures: 242

**Emergency:** Major Procedures: 343; Minor Procedures: 11

**OPD procedures:** 2884

Biopsies in OPD: 78

**CRHSP, Ballabgarh:** Cases operated: 82

Minor procedures: 166

### Special Investigations

Urodynamic study: 411

Uroflowmetry: 216

Anorectal manometry: 88

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor M Bajpai** received distinguished teacher award during the CME on Paediatric Surgery in R&R hospital: 21 and 22 September 2019; Professor-in-charge-International Cooperation, Domestic and International MoUs, 3 December 2019, AIIMS, New Delhi; Addressed Her Majesty, The Queen Sylvia of Sweden on Developing collaboration between Swedish Trade Commissioner's office in India and AIIMS, New Delhi, on behalf of All India Institute of Medical Sciences and in the capacity of Professor -in-charge-International Cooperation, Domestic & International MoUs, 3 December 2019, AIIMS, New Delhi; Co-Chair Working Group: Committee on Terms of Reference UCL Global Engagement Office, UK and AIIMS, New Delhi; Led by Director, AIIMS, represented AIIMS, New Delhi on the invitation of Ministry of Health and Welfare (MOHW), Taiwan, National Cheng Kung University (NCKU) and National Cheng Kung University Hospital (NCKUH), Taiwan from 8 – 12 April 2019; Chairman: Cafeteria management committee; As Professor-in-charge-International Cooperation, Domestic and International MoUs- Conducted 35 meetings with international delegates, heads of institutions, Deans, Vice-chancellors, Ambassadors of Governments, Trade Commissioners and representatives from Embassies; Organizing Chairman: 45th Annual Conference of the Indian Association of Pediatric Surgeons (IAPSCON 2019); Organizing Chairman: CME cum Live Operative Paediatric Urology workshop from 30 October – 3 November 2019; Organizing Chairman: Golden Jubilee celebrations of the establishment of the Department of Paediatric Surgery at AIIMS, New Delhi; Organized the Meeting of the Alumni of the Department in the evening of 30 October 2019; Organizing Chairman: First International Nursing CME and Module Development in Child Care; Designed LOGO on behalf of the Department and for the release of "First Day Cover celebrating the Golden Jubilee of the Department of Paediatric Surgery" by the Department of Postal Services, Government of India; Launched the Journal of Progress in Paediatric Surgery for the Department of Paediatric Surgery at the All India Institute of Medical Sciences, New Delhi during the IAPSCON 2019.

**Professor Sandeep Agarwala** was awarded the MS Ramakrishnan Oration 2019 of the Indian Association of Pediatric Surgeons; Executive Board Member for the Asian Association of Pediatric Surgeons; Section Editor for the Indian Journal of Pediatrics; Vice Chairman of the Resource Challenged Nations Study Group of SIOPEL; Chairman 62nd Annual Report Committee of AIIMS; Co-Chairman Faculty coordination committee for Pulse 2019, AIIMS; Secretary AIIMSONIANS- The Alumni Association of AIIMS; Member of Committee to consider PhD reforms at AIIMS; Chairman of Messes, shops and establishments committee of AIIMS; Hostel superintendent for AIIMS; Member, Committee for selection of Shri Mohan Lal Wig Medal for Clinical Research; Course instructor for Surgical Oncology Course, Conducted by International Society of Pediatric Surgical Oncology (IPSO), and the European Board of Examination, and European Society of Pediatric Surgery prior to Annual Congress of the European Society of Pediatric Surgery; Course instructor for Master class in Pediatric Surgical Oncology, Conducted by International Society of Pediatric Surgical Oncology (IPSO), and the European Board of Examination, and European Society of Pediatric Surgery.

**Dr Shilpa Sharma** was reelected Executive Body Member World Federation of Association of Pediatric Surgeons 2017-2019, 2020-2022; Executive Council Member of the International Society of Hypospadias and DSD 2018-2020; Chairman of the Delhi Chapter of Indian Association of Pediatric Surgery 2019-2021; Secretary of Research Section of Indian Association of Pediatric Surgery 2018-2020; Editorial Board Member of Pediatric Surgery International; Editorial Board Member of Annals of National Academy of Medical Sciences; Awarded membership of National Academy of Medical Sciences; Member Standing Selection Committee for faculty recruitment of AIIMS, Patna for 2019, 2020; Member, Institute Ethics Committee, Superspecialty Pediatric Hospital and Postgraduate Teaching Institute, Sector 30, Noida.

**Dr Vishesh Jain** was External member on the selection board for selection of Assistant Professor (Paediatric Surgery) held on 4 October 2019, ABVIMS, Dr RML hospital, New Delhi; received Best paper awards for 7 presentations over the last 1 year; Thesis received the UC Chakraborty Award for the best research by the Indian Association of Pediatric Surgeons; Joint Secretary of the 45th Annual Conference of the Indian Association of Pediatric Surgeons; received Travel scholarship by University Grants Commission for presenting a research paper in Japan in May 2019.

**Dr Anjan Dhua** is Member as external expert of Technical Specification Committee of Paediatric Surgery Dept. in ABVIMS, Dr RML Hospital, New Delhi; External member on the selection board for selection of Assistant Professor (Paediatric Surgery) held on 18 September 2019, ABVIMS, Dr. RML hospital, New Delhi; Chairperson in Morning session in “CME-Live operative pediatric urology workshop”, IAPSCON 2019, 30 October 2019, AIIMS; Chairperson of session “Basic sciences in pediatric solid tumors” on 21 December 2019, SOSCON- Mumbai; Chairperson of session “Panel discussion on solid tumour” on 21 December 2019, SOSCON- Mumbai; Nominated as departmental nodal officer for fire safety drills at AIIMS, Delhi; Member of Institute’s Annual Report Drafting Committee; Joint Secretary of the 45th Annual Conference of the Indian Association of Pediatric Surgeons.

**Dr Prabudh Goel** was awarded Fellowship of Indian Association of Pediatric Surgeons; awarded Fellowship of International Scientific Research Organization for Science, Engineering and Technology; honored with the Sushruta Medical Science Award for the year 2018-2019 in July 2019; conferred the Shiromani Award for Excellent and Honorary efforts in the field of Medical and Social Service in August 2019; Award of Excellence for Commendable Contribution in Field of Social Service, Science, Sports, Education, Law, Journalism, Environment and Society from the Advance Research Institute for Development of Social Science in September 2019; Award of Excellence for Committed, Dedicated and Meritorious Service to Teaching, Research, Sports, Environment, Media and Administrative Contribution in September 2019.

**Dr Ajay Verma** delivered a public lecture on child abuse on 12 November 2019.

#### VISITING SCIENTIST

1. Dr Sumit Dave, Associate Professor Surgery and Pediatrics, London Health Sciences Centre, Victoria Hospital, London, Ontario, Canada
2. Dr Andrew McNeely, BC Children Hospital, Vancouver, Canada
3. Dr Mohan S Gundeti, Chicago, USA

## 9.29. Pathology

### Professor and Head

Chitra Sarkar

### Professors

Manoj K Singh  
MC Sharma

Ruma Ray  
Venkateswaran K Iyer  
Vaishali Suri

AK Dinda  
Sandeep R Mathur

### Additional Professors

Sudheer Arava  
Deepali Jain

Geetika Singh

Asit Ranjan Mridha  
Prasenjit Das

### Associate Professors

RajniYadav  
Shipra Aggarwal

Seema Kaushal  
Saumya Ranjan Mallick

### Assistant Professors

Adarsh Barwad  
Madhu Rajeshwari

Prashant Ramtake  
Ruchi Rathore  
Kavneet Kaur

Aanchal Kakkar  
Aruna Nambiranjan

### Group A Officers

Himender Singh Tomar

Rajeshwar Khadia

## HIGHLIGHTS

In the year 2019-2020, Department of Pathology has been able to maintain high-level academics and efficient clinical services. The department is engaged in routine diagnostic reporting of Histopathology (total of 56000 cases) and Cytopathology cases (total of 27000 cases), teaching of undergraduate and postgraduate students, as well as high quality research in various areas of pathology.

New facilities have been added in the department related to molecular pathology and cytogenetic work-up, which include *in-situ* hybridization, capillary electrophoresis, real-time PCR etc. In addition, the department has established tissue microarray system and flow-cytometry set-up. The diagnostic immunohistochemical panel has been expanded and a total of 60000 slides have been stained and studied during this period. The Department is regularly providing reports for Her-2/neu amplification in breast cancers (total 120 cases) and *EGFR* gene mutation in lung cancer (total 450 cases) using molecular methods.

The Department faculty have received funding for 32 extramural projects and 18 intramural projects. A total of 197 papers have been published in peer reviewed national and international journals. The faculty of the Department have presented their research work at various national and international platforms and received awards individually or to their residents. Prof. Chitra Sarkar received the Lifetime Achievement Award from the Delhi Neurological Association for her contributions in Neuropathology. Professor AK Dinda has been nominated as Executive Council Member of Global Council of Regulatory Science Research at Global Summit on Regulatory Science 2019 (GSRS19), European Commission, Joint Research Centre Ispra, Italy. Dr Prasenjit Das has received Kunti Devi Mehrotra Award for Best Published Paper by the Indian Association of Pathologists & Microbiologists. The Department has organized one CME on Bone marrow biopsies, one annual conference of Delhi chapter of IAPM and three post-graduate teaching sessions for Delhi postgraduate students of Pathology. Dr MK Singh has been made the adaptation editor for Robbin's Textbook on Pathological basis of Disease with South Asia content (10th edn.)

Department has organized the visit of Dr Ian Cree who is World Health Organization (WHO) editor of blue books of classification of all tumors from International Agency for Research on Cancer (IARC), Lyon, France. Professor Chitra Sarkar has been nominated as a member of working committee of CIMPACT-NOW (Consortium to Inform Molecular and Practical Approaches to CNS tumor Taxonomy) under the aegis of WHO. Professor Chitra Sarkar has been invited to be a co-author in upcoming 2020 WHO classification of CNS tumors and Updates of CIMPACT-NOW. Professor MC Sharma and Dr Kavneet Kaur have also been invited co-author chapters in the upcoming 2020 WHO Classification of CNS Tumors. Dr Deepali Jain has been selected to editorial board position and author of upcoming 2020 WHO classification of tumors of Lung, Pleura, Thymus and Heart.

## EDUCATION

### Postgraduate

MD students: 31

Senior Residents: 19

PhD students: 10

### Short term training / Long term training.

1. Dr/Ms Neha Kumari completed ShortTerm Training, 1-30 April 2019
2. Dr Malvika Gaur Completed Short Term Observership, 25 March-11 April 2019
3. Dr Chettan Dass Completed Short Term observership, 1 March-31 May 2019
4. Dr/Ms Neha Garg completed Short Term Training, 5 July-5 November 2019
5. Dr Sarita Asotra completed her training, 30 September 2019 to 8 February 2020
6. Dr Asmeet Kaur completed Short Term Training, 30 September 2019 to 7 October 2019
7. Dr Archana Chirag Buch completed one month training, 13 May-13 June 2019
8. Dr Natasha Dogra is undergoing Long Term Training, 28 December 2018 to 27 December 2020

### CMEs /Workshop/Symposia/National and International Conferences

CME on Bone marrow Biopsy, 10 November 2019, AIIMS, New Delhi

### Lectures delivered

**Chitra Sarkar: 3**

**Mehar C Sharma: 10**

**Geetika Singh: 4**

**Sudheer Arava: 7**

**Saumya Ranjan Mallick: 5**

**Prashant Ramtake: 2**

**Manoj K. Singh: 2**

**Vaishali Suri: 3**

**Asit Ranjan Mridha: 5**

**Prasenjit Das: 8**

**Seema Kaushal: 7**

**Adarsh W. Barwad: 2**

**AK Dinda: 9**

**Sandeep Mathur: 6**

**Deepali Jain: 10**

**Rajni Yadav: 5**

**Shipra Agarwal: 2**

**Aanchal Kakkar: 4**

### Chitra Sarkar

1. Michaelangelo said—Ancora Imparo Sir Ganga Ram Hospital, Delhi 10 November 2019, Sir Ganga Ram Hospital, Delhi
2. CImpact-NOW (cImpact: The consortium to inform molecular and practical approaches to CNS tumor taxonomy) EBM 2020: Contemporary management in Neuro-Oncology, 28 February 2020, Tata Memorial Centre, Mumbai
3. Pathological Classification of Intracranial Germ Cell Tumors and its Clinical Implications ISNOCON, 5 April 2019, Bhopal

### Manoj K. Singh

1. Role of Virtual Teaching in medical teaching. The DTH / NPTEL – Medicine Workshop, IIT, Madras 29 April 2019, IIT, Madras
2. Role of Virtual Teaching in medical teaching. The DTH / NPTEL – Medicine Workshop, IIT, Madras 29 August 2019, IIT, Madras

### AK Dinda

1. Development of Indian Guideline for Nanopharmaceuticals: The Challenges. Global Summit on Regulatory Science 2019 (GSR19) – Keynote Address October 1, 2020 European Commission, Joint Research Centre Ispra, Italy
2. Artificial Intelligence and Digital Pathology: Basic consideration. CME on Artificial Intelligence in Pathology at APCON 2019 December 6, 2019 PGIMER Chandigarh
3. Nano in Medicine “New Dimensions in Nanoscience and Nanotechnology for Industry 4.0” at 11th Bengaluru India Nano Conference, 3 March 2020 Convention Hall – Lalit, Bangalore
4. Application of Nanotechnology in Medicine: Understanding the safety guideline for product development Inaugural workshop for the C-DNA (CeNSE DBT Nanobiotechnology Alliance), 4 and 5 November 2019 Centre for Nano Science and Engineering at IISc, Bangalore
5. IgA Nephropathy: The Diagnostic & Prognostic Challenges CME – Recent Advances in Diagnostic Pathology 2019, 29 June 2019, IPGIMER, Kolkata
6. Indian Society of Nanomedicine - Bridging the gap between Academia –Industry Nano Biotek 2019 & Global Bio India 2019, 21 – 23 November, Aerocity, Delhi
7. Understanding regulatory need; the challenge for nano-enabled product development Global Bio India 2019, 22 November, 2019, Aerocity, Delhi

8. Nano-Agri and Human Health Regulatory Regime in SMART Agriculture 2019, 7 November 2019, India Habitat Centre, Delhi
9. Nano-Bio Interface: The Challenges for Translation Symposium - Assam Technology University 2020, 27 February 2020, Assam Technology University, Guwahati

#### **Mehar C Sharma**

1. Interesting case presentation, Delhi Neurological Society Meeting, 7 March 2020, AIIMS, Delhi
2. Clinicopathological conference (CPC Epilepsy), ECON 2020, 19 January 2020, Ahmedabad, Gujarat
3. Histomorphological approach to mesenchymal tumours of oral & maxillofacial region, AIIMS oral pathology symposium, 6 January 2020, AIIMS, New Delhi
4. Biomarkers of clinical relevance, CNS tumours of clinical relevance, 11th Annual Conference of the Indian Society of Neuro-oncology, 5-9 April 2019, Jehan Numa Palace, Bhopal, Madhya Pradesh
5. Update in Embryonal tumors of the CNS, Annual CME in Pathology, 23 November 2019, Government Medical college, Amritsar, Punjab
6. Approach to muscle diseases, Annual CME in Pathology, 23 November 2019, Government Medical college, Amritsar, Punjab
7. Approach to sinonasal tumours, Annual CME in Pathology, 23 November 2019, Govt Medical college, Amritsar, Punjab
8. Approach to Posterior fossa midline tumours, Neurosurgery CME, 10 July 2019, AIIMS, Rishikesh, Uttarnchal
9. Clinicopathology conference (CPC Internal Medicine), 26 November 2019, AIIMS, Delhi
10. Prognostic stratification of posterior fossa ependymomas using H3K27me3 immunohistochemistry and fluorescence in-situ hybridization for chromosome 1q21, 48th Annual meeting of International Society of Pediatric Neurosurgeon, 4-8 October 2019, Birmingham, United Kingdom

#### **Vaishali Suri**

1. Utility of molecular markers/platforms for routine diagnostic work up of CNS tumors, 11th Annual Conference of Indian Society of Neuro-Oncology and preconference workshop, 4-7 April 2019, Jehan Numa Palace, Bhopal
2. Histopathology and clinically relevant molecular markers for Diffuse Midline Gliomas, 11th Annual Conference of Indian Society of Neuro-Oncology, 4-7 April 2019, Jehan Numa Palace, Bhopal
3. Pathology of low grade gliomas: the evolution, CME on pediatric brain tumours, 10 November 2019, Sir Ganga Ram Hospital, New Delhi

#### **Sandeep Mathur**

1. LBC of Squamous lesions of the cervix, CYTOCON 2019, 10 November 2019, PGIMER, Chandigarh
2. Interesting Case presentation in Fluid Cytology, CYTOCON 2019, 10 November 2019, PGIMER, Chandigarh
3. Pre-treatment Pathological Diagnosis in Breast Cancer: Message to Oncologists, Breast Cancer Updates 2019, 27 July 2019, AIIMS, Bhubaneswar
4. Medley of Challenging Cases in Gyn Pathology, UP PATHCON 2019, 16 November 2019, JNMC, Aligarh
5. Role of Ancillary testing in salivary gland cytology, CME: Salivary gland cytology, 15 February 2020, ABI-PGIMER RML, Delhi
6. Curioa et-exotica: Case Presentation, 25th AIPNA-ICP CME, 1 February 2020, Ahmedabad

#### **Geetika Singh**

1. Renal Immunohistology on paraffin sections: Strengths and limitations, World Congress of Nephrology 2019, 12-15 April 2019, Melbourne, Australia
2. Glomerulitis–A journey with Banff, CAST 2019–16th Congress of Asian Society of Transplantation, 2 October 2019, India Exposition Mart, Greater Noida
3. Recent advancements and challenges in histopathological techniques: Direct Immunofluorescence, NMLPW 2019 CME, 18 July 2019, AIIMS, New Delhi
4. Artificial Intelligence in Renal Pathology, Annual Delhi Nephrology Society update, 2 February 2020, India Habitat Centre, New Delhi

#### **Asit Ranjan Mridha**

1. Effect of Conventional drilling and Rotary Ultrasonic drilling on bone, Electron Microscopy & Allied analytical techniques (EMAAT-2019), 5-9 June 2019, Shimla

2. Molecular Updates on Bone tumours, CME on Bone and Soft tissue tumours and Renal Pathology, 19 and 20 October 2019, Silchar, Assam
3. Approach and case-based discussion of bone tumours, CME on Bone and Soft tissue tumours and Renal Pathology, 19 and 20 October 2019, Silchar, Assam
4. Approach and case-based discussion of soft tissue tumours, CME on Bone and Soft tissue tumours and Renal Pathology, 19 and 20 October 2019, Silchar, Assam
5. Slide Seminar on “Paediatric soft tissue tumours”, The 68th Annual national Conference of Indian Association of Pathologists and Microbiologists (IAPM) and International Academy of Pathology-Indian division (IAP-ID)-APCON 2019, 5-8 December 2019, Chandigarh

### **Deepali Jain**

1. ALK FISH testing Mini symposium, Stage IV Non-Small Cell Lung Cancer (NSCLC)–focus on ALK-ROS1 and IL Immunotherapy, 20 April 2019, Chandigarh
2. Indian Academy of Cytologists session on Image guided FNAC, FNA of mediastinum, 2 cases, International Congress of Cytology, 5-9 May 2019, Sydney, Australia
3. Indian Academy of Cytologists session on Image guided FNAC, Rapid on-site evaluation and triaging of samples, International Congress of Cytology, 5-9 May 2019, Sydney, Australia
4. Thyroid Asian FNA group, Cytology of Hurthle cell lesions, multi-institutional experience from Asian countries, International Congress of Cytology, 5-9 May 2019, Sydney, Australia
5. Molecular Symposium: IHC in non-cell block cytology, International Congress of Cytology, 5-9 May 2019, Sydney, Australia
6. Global Infections: Asian Perspective, Biennial Pulmonary Pathology Society meeting, 26-28 June 2019, Dubrovnik, Croatia
7. Discussant, Advances in diagnosis of common types of NSCLC World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
8. EBUS TBNA Sample processing and ROSE, Amrita Bronchology and Interventional Pulmonology 2019, 21 September 2019, Kochi,
9. Pearls, perils and pitfalls of respiratory effusion cytopathology, Cytocon 2019, 7 November 2019, Chandigarh
10. Year in review: Advances in liquid biopsy, National Lung Cancer Conference (NALCCON), December 2019, Lucknow

### **Sudheer Arava**

1. Thoracic masses, Pediatric radiology, 7-9 November 2019, AIIMS, New Delhi
2. CPC, AIIMS Pulmocrit, 7-8 March 2020, AIIMS, New Delhi
3. Panel discussion on ILD, AIIMS pulmonology course, 7 September 2019, AIIMS, New Delhi
4. Cardio live: Endomyocardial biopsy pathologists perspective in ISHLT, 1 and 2 October 2019, AIIMS, New Delhi
5. Histopathology of atherosclerosis, ISAR, 3 August 2019, AIIMS, New Delhi
6. Case presentation, ASI DSI, 15-17 November 2019, AIIMS, New Delhi
7. Verrucous hyperplasia, APCON 2019, 2-4 December 2019 PGI Chandigarh

### **Prasenjit Das**

1. Endoscopic diagnosis in Inflammatory bowel diseases, International CME: Update on Pathology of the GIT and Pancreas at AIIMS, Kochi, 13 and 14 July 2019, AIIMS, Kochi
2. Celiac disease and other intra-epithelial lymphocytosis, International CME: Update on Pathology of the GIT and Pancreas at AIIMS, Kochi, 13 and 14 July 2019, AIIMS, Kochi
3. Debate on ‘Histological utility of Liver fibrosis assessment’, 8th Ramalingaswami Oration and Hepatopathology Meeting at ILBS, New Delhi, 7 August 2019, ILBS, New Delhi
4. Update in Inflammatory bowel diseases, IAP-ID mid-year symposium on IBD. Talk on- Updates in Inflammatory bowel disease, 21 September 2019, KPC Medical College, Kolkata
5. Diagnostic dilemma in IBD, IAP-ID mid-year symposium on IBD. Talk on- Updates in Inflammatory bowel disease, 21 September 2019, KPC Medical College, Kolkata
6. Group discussion on vascular liver diseases and management, International CME on Liver Diseases, 4 October 2019, Seth GS Medical College & KEM Hospital, Mumbai

7. IgA/anti-tTG co-localization for identification of Celiac Associated Liver Diseases, International Symposium on Celiac Disease at Paris, France International Celiac Disease Symposium, 4 September 2019 Paris, France
8. Interpretation of endoscopic intestinal biopsies, 5 October 2019, TMH, Department of Pathology, Mumbai

#### **Rajni Yadav**

1. Moderator, Case Presentation Session, 8th Dr V Ramalingaswamy Oration and Hepatopathology Meeting, 7 and 8 August 2019, ILBS, Delhi
2. Speaker, AJCC update for Colorectal Cancer, Delhi IAPM Quarterly Meet, 31 August 2019, AIIMS, Delhi
3. Liver pathology: Hands on microscopy and Discussion session, AIIMS PG Teaching Program, 29 September 2019, AIIMS, Delhi
4. Slide Seminar, Non-Neoplastic diseases of liver, Liver Pathology: International Update 2019, 3-5 October 2019, Seth GSMC and KEM Hospital, Mumbai
5. GI pathology: Hands on microscopy and Discussion session, AIIMS PG Teaching Program, 2 February 2020, AIIMS, Delhi

#### **Saumya Ranjan Mallick**

1. CD4 positive T cell Lymphoma, VI EAFO Oncopathology Seminar Hematolymphoid Neoplasms, 16 and 17 May 2019, Russia
2. Diffuse Lymphoid Proliferation, VI EAFO Oncopathology Seminar "Hematolymphoid Neoplasm, 16 and 17 May 2019, Russia
3. T follicular Helper cell Lymphoma, APCON 2019, 6-8 December, PGIMER, Chandigarh
4. Principle and Applications of Fluorescent In-situ Hybridization Molecular Pathology Association of India Annual Conference (MPAICON 2019), 10-12 January 2020, Sri Ram Cancer Center, Mahatma Gandhi Medical College & Hospital, Jaipur
5. Indolent Lymphoma recent, Update MOSCON 2020, Molecular Oncology Society of India, 22 and 23 February 2020, Bihar

#### **Seema Kaushal**

1. Emerging renal and bladder tumor entities, Interactive microscopy workshop on pitfalls and pearls in urologic and gynaecologic pathology, 31 August 2019, Tata Medical Centre, Kolkata
2. Pathology of Bladder Tumors, Update on bladder tumors, CGR, 6 September 2019, AIIMS, New Delhi
3. Interesting Cases Symposium, First International Conference In Genitourinary Oncopathology, 9 November 2019, BIA Cancer Hospital and Research Institute, Hyderabad
4. Moderator, International Pathology Day Guest lectures by Head of WHO Classification of tumors (Dr Ian Cree) and Head of European Congress of Pathology (Dr Holger Moch), 13 November 2019, AIIMS, New Delhi
5. Pathology of Genitourinary System, 3rd session of AIIMS PG Teaching Program, 24 November 2019, AIIMS, New Delhi
6. Slide seminar on GU tumors, APCON 2019, 7 December 2019, PGIMER, Chandigarh
7. Bladder tumors symposium, Dialogues in urooncology: Urooncology Summit 2020, 21 February 2020, MP Urological hospital and Teaching Institute, Nadiad, Gujarat

#### **Shipra Agarwal**

1. Papillary thyroid carcinoma: What do you need to know as a pathologist (prognostic parameters) Delhi Chapter (Quarterly meet) of IAPM, 31 August 2019, New Delhi
2. AUS/FLUS in Indian experience with thyroid FNA, Global Asian Forum: Thyroid FNA Cytology in Asian Countries, 16 November 2019, Okayama, Japan

#### **Prashant Ramtane**

1. Talk, IAPM, Delhi Chapter, 31 August 2019, AIIMS, New Delhi
2. Case presentation CME on Bone marrow biopsy, 10 November 2019, AIIMS, New Delhi

#### **Adarsh W. Barwad**

1. Cinico-pathological conference, North Zone Indian society of Nephrology Congress, SGPGI Lucknow, 28 February to 1 March 2020, SGPGI Lucknow

## **Aanchal Kakkar**

1. Salivary Gland Cancer: Where are we now?, Quarterly Meeting of Delhi Chapter of IAPM, 31 August 2019, AIIMS, New Delhi
2. Pathology Aspects of Oral Cancer, International Conference on Oral Cancer and Reconstruction, 13 December 2019, U-Chicago Centre, New Delhi
3. Expanding Horizons of Epithelial Pathologies of Oral and Maxillofacial Region beyond Oral Squamous Cell Carcinoma, First AIIMS Oral Pathology Symposium, 6 January 2020, CDER, AIIMS, New Delhi
4. Interesting Cases, HEADS UP-International Update in Head and Neck Pathology and Computational Pathology 2020, 18 January 2020, Tata Medical Center, Kolkata

## **Oral papers/posters presented**

1. Agarwal S, Yadav D, Khandpur S, Ramam M, Arava S, Singh MK. Scalp biopsy in alopecia: transverse vs vertical section, XL Symposium of the ISDP, 20 September 2019, Lisbon, Portugal
2. Agrima Sharma, Suri VS, Sharma MC, Sarkar C. 'Clinicopathological evaluation of PD-L1 expression and cytotoxic T-lymphocyte infiltrates across intracranial molecular subgroups of ependymomas: are these tumors potential candidates for immune check-point blockade? European Association of Neurooncology, annual meeting (EANO-2019), 19-22 September 2019, Lyon Convention Center Lyon, France
3. Das P, Baloda V, Battu S, Sahoo R, Vishnubhatla S, Sharma A, et al. PD1, PD-L1 and Her2 neu expression in gall bladder adenocarcinomas and their prognostic significance, Annual Meeting of United States and Canadian Academy, 29 February - 4 March 2020, Los Angeles Convention Center, Los Angeles, USA
4. Das P, Battu S, Singh A, Datta Gupta S, Makharia GK. Exploration of intestinal stem cell niche in patients with celiac disease Annual Meeting of United States and Canadian Academy, 29 February- 4 March 2020, Los Angeles Convention Center, Los Angeles, USA
5. Das P, Gahlot G, Singh A, Baloda V, Verma AK, Khanna G, et al. Improved Light Microscopic And Computer-assisted Image Analysis Based Classifications for Assessment of Intestinal Mucosal Biopsies in Adults International Celiac Disease Symposium, 4 September 2019, Paris, France
6. Garg H, Kaushal S, Seth A. A case of chromophobe RCC with membranous glomerulopathy DSI-Urology Meet, 22 February 2020, AIIMS, New Delhi
7. Garg H, Kumar S, Kaushal S. IgG4 disease masquerading as testicular tumor' 27th Annual North Zone USICON, 15-17 November 2019, Greater Noida (First Prize as Best Free Poster Category)
8. Garg H, Singh P, Nayak B, Kaushal S. Cystitis cystica: Knowing the nature of unknown voiding dysfunction, 27th Annual North Zone USICON, 15-17 November 2019 Greater Noida (First Prize as Best Poster)
9. Grind staff E, Pambuccian S, Alshaikh S, Hiroshima K, Hjerpe A, Jain D, et al. Usage of Immunohistochemistry in Body Fluid Cytology: Variation Uncovered by an International Study of over 20,000 Cases from Seven Countries and Four Continents, USCAP 2020, 28 February to 5 March 2020, Los Angeles Convention Centre, USA
10. Guleria P, Malik PS, Barwad A, Mathur SR, Iyer VK, Jain D. Single Cell Pattern' of Adenocarcinoma Cells in Effusion Cytology: Morphologic Challenges of Lung Cancer, International Congress of Cytology, May 2019, Sydney, Australia
11. Jain D, Singh V, Malik P, Mohan A. Epidermal Growth Factor Receptor (EGFR), mutation spectrum in pulmonary adenocarcinomas: Indian experience World Conference on Lung Cancer, 7-10 September 2019 Barcelona, Spain
12. Jain S, Mallick S, Ramteke P, Agarwal M, Dhawan R, Saxena R. Nodal Erythroid Sarcoma a diagnostic enigma Hematocon 2019, 60th Annual Conference of Indian Society of Hematology and Blood Transfusion, 7-10 November, New Delhi
13. Jain S, Mallick S, Ramteke P, Gogia A, Bakhshi S, Sharma A. Panorama of Lymphoma in India: A tertiary care center review Hematocon 2019, 60th Annual Conference of Indian Society of Hematology and Blood Transfusion, 7-10 November, New Delhi
14. Jain S, Sakthivel P, Thakar A, Pramanik R, Biswas A, Sharma A, et al. Prognostic implications of Tumor infiltrating lymphocytes and Tumor associated macrophages in nasopharyngeal carcinoma HEADS UP- International Update in Head and Neck Pathology and Computational Pathology 2020, 18 January 2020, Tata Medical Center, Kolkata
15. Kakkar A, Roy D, Sarangi J, Sharma SC. Metastases to parotid gland: A challenging scenario 68th Annual National Conference of Indian Association of Pathologists and Microbiologists (IAPM) – APCON 2019, 6-8 December 2019, PGIMER, Chandigarh
16. Kaur K, Kakkar A, Mishra D, Arora H, Bhalla AS, Sharma SC, Sinonasal IgG4 related disease: A rare and emerging entity broadening the Differential Diagnoses in the Sinonasal Universe, HEADS UP- International Update in Head and Neck Pathology and Computational Pathology 2020, 18 January 2020, Tata Medical Center, Kolkata

17. Kaur K, Suri VS, Sharma MC, Sarkar C. Cost efficient test algorithm for molecular subgrouping of medulloblastomas for day-to-day practice in resource limited countries” Annual Meeting of European Association of Neuro-Oncology, 2019 (Eano, 2019), 19-22 September 2019, Lyon convention center, Lyon, France.
18. Kaur K, Suri VS, Sharma MC, Sarkar CS. Molecular and clinical characterisation of midline gliomas: Correlation with programmed death ligand 1 expression and tumor-infiltrating lymphocytes, 47th Annual Meeting of International Society for Pediatric Neurosurgery, 20-24 October 2019, Birmingham, UK
19. Kaushal S, Singh P, Sahoo RS, Nayak B, Seth A. Neuroendocrine Tumors of Prostate USCAP 2020, 2 March 2020, Convention Centre Los Angeles, USA
20. Kavneet Kaur, Suri VS, Sharma MC, Sarkar C. Analysis of tumor immune microenvironment and immune checkpoint modulators across infantile and pediatric pilocytic astrocytomas to elucidate the role of immunotherapy in these tumors” & Cost efficient test algorithm for molecular subgrouping of medulloblastomas for day-to-day practice in resource limited countries Annual Meeting of European Association of Neuro-Oncology, 2019 (Eano, 2019), 19-22 September 2019, Lyon convention center Lyon, France
21. Khandakar H, Pramanik R, Thakur R, Kakkar A, Sharma SC. Neuroendocrine carcinomas of the head and neck: A clinicopathological appraisal HEADS UP- International Update in Head and Neck Pathology and Computational Pathology 2020, 18 January 2020, Tata Medical Center, Kolkata
22. Kumar M, Kumari K, Barwad A, Kumar L, Bagchi S, Bhowmik D, et al. Rare and unique spectrum of MGRS from a tertiary health care centre, ISRTPCON2019 (Annual Conference of Indian society of renal and transplant pathology), 11-13 October 2019, SGPGI, Lucknow
23. Kumar M, Garg H, Sharma A, Kaushal S, Kumar R. Glucose- regulated protein 78 (GRP78) in renal cell carcinoma: A novel biomarker for predicting tumor behaviour 27th Annual North Zone USICON, 15-17 November 2019, Greater Noida (Best Paper-Marudhara Jodhpur Prize session, Annual USICON 2019)
24. Kumari K, Kaur C, Pramanik A, Mandage R, Dinda AK, Shankar J, et al. Renal detection of Plasmodium falciparum, Plasmodium vivax and Plasmodium Knowlesi in malaria associated acute kidney injury: A retrospective case control study IURP 2020, 15–16 February 2020, Lalpath labs, New Delhi
25. Kumari K, Philip N, Dinda AK, Barwad A, Bagchi S, Agarwal SK, et al. Focal segmental glomerulosclerosis: Ultrastructural evaluation and clinicopathological correlation ISRTPCON 2019 (Annual Conference of Indian society of renal and transplant pathology) 11-13 October 2019, SGPGI, Lucknow
26. Kumari K, Sharma SG, Kumar M, Swamy A, Bhowmik D, Dinda AK, et al. Thrombospondin type 1 positive Membranous nephropathy and chromophobe RCC: An unsolved story, IURP 2020, 15–16 February 2020, Lalpath labs, New Delhi
27. Lone WG, Bouska A, Herek TA, Amador C, Mallick S, Jia-yu Y, et al. Genome-Wide microRNA Expression Profiling in Molecular Subgroups of Peripheral T-Cell Lymphoma Identified Role of Mir-126 in T-Cell Lymphomagenesis 1st American Society of Hematology (ASH) Annual Meeting 7-10 December 2019, Orange County Convention Center, Orlando Florida, USA
28. Malik R, Maji P, Yadav R, Das P. Autoimmune hepatitis in children: Initial experience from an Indian tertiary pediatric centre ESPGHAN 2019, 5-8 June 2019, Glasgow, Scotland, UK
29. Mallick S, Panda A, Lone MR, Goswami A, Ramteke P, Sharma MC, et al. Clinicopathological Profile of Primary Double Expressor Lymphoma SOHO 2019 Society of Hematological Oncology, 11-14 September, Houston, Texas, USA
30. Mathur SR, Johnson A, Deo SVS, Gogia A, Kahol S, Jain D, et al. PDL1 Expression and Tumour Infiltrating Lymphocytes in Triple-Negative Breast Cancer and its Correlation with Clinicopathological features and response to chemotherapy USCAP 2020, 29 February to 5 March 2020, Convention Centre, Los Angeles, USA
31. Nakra T, Guleria P, Mathur SR, Iyer VK, Jain D. Insulinoma-Associated Protein 1 (INSM1): Immunocytochemistry on Cytology Smears in Small Cell Carcinoma of Lung International Congress of Cytology, May 2019, Sydney, Australia
32. Nakra T, Kumar M, Barwad A, Kumari K, Dinda AK, Bhowmik D, et al. Rare treatable causes of acute kidney injury: Description of two cases, ISRTPCON 2019 (Annual conference of Indian society of renal and transplant pathology) 11 to 13 October 2019, SGPGI, Lucknow
33. Nakra T, Roy M, Yadav R, Agarwala S, Khanna G, Jasim B, et al. Role of SALL4 immunocytochemistry in diagnosis and subtyping of hepatoblastoma on fine needle aspiration cytology, ICC 2019, 5-10 May 2019, Sydney, Australia
34. Nambirajan A, Parshad R, Goyal A, Mittal S, Jain D. SMARCA4-deficient thoracic malignancies: A unifying genetic aberration across tumors of divergent differentiation World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
35. Nambirajan A, Sharma P, Sharma M, Kumar S, Jain D. Primary endobronchial hyalinising clear cell carcinoma

- presenting in association with active pulmonary tuberculosis. World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
36. Nambirajan A, Suri VS, Sharma MC, Sarkar C, 'Reappraisal of CNS embryonal tumors, not otherwise specified and RELA fusion negative supratentorial ependymomas using immunohistochemistry and sequencing for BCOR' European Association of Neurooncology, Annual Meeting (EANO-2019), 19-22 September 2019, Lyon Convention Center Lyon, France
  37. Priyadarsani S, Kumari K, Barwad A, Bagchi S, Bagga A, Aggarwal SK, et al. Recurrent proliferative glomerulonephritis with IgG3 Lambda deposits post renal transplant—A case report, ISRTPCON 2019 (Annual Conference of Indian society of renal and transplant pathology), 11-13 October 2019, SGPGI Lucknow
  38. Priyadarsini, Yadav R, Malik R, Das P, Dattagupta S, Galactosemia: A case presentation, 8th Dr V Ramalingaswamy Oration and Hepatopathology Meeting, 7 August 2019, ILBS, Delhi
  39. Raj R, Sharma A, Barwad A, Bagchi S, Bagga A, Aggarwal SK, et al. Immunofluorescent staining for Galactose Deficient IgA1 in IgA Nephropathy associated with chronic liver disease ISRTPCON 2019 (Annual Conference of Indian society of renal and transplant pathology), 11 to 13 October 2019, SGPGI, Lucknow
  40. Rajeshwari, Kumari K, Barwad A, Bagga A, Dinda AK, Singh G. Renal involvement and role of renal biopsy in Fabry's disease: Case series from a tertiary care centre, ISRTPCON 2019 (Annual Conference of Indian society of renal and transplant pathology), 11-13 October 2019, SGPGI, Lucknow
  41. Roy D, Chatterjee P, Rastogi S, Thakar A, Kakkar A. Mucosal Melanomas: A Series of 28 cases in the Head and Neck HEADS UP- International Update in Head and Neck Pathology and Computational Pathology 2020, 18 January 2020, Tata Medical Center, Kolkata
  42. Roy D, Kakkar A, Jain D, Mathur SR, Iyer VK. Fine needle aspiration cytology of metastases to parotid gland, 49th Annual Conference of Indian Academy of Cytologists, 7-10 November 2019, Chandigarh, India
  43. Roy D, Kumar H, Sarangi J, Kakkar A, Jain D, Mathur SR, et al. Fine Needle aspiration cytology of retiform hemangioendothelioma: A maiden case report, VIIIth Annual Conference of Delhi Chapter of Indian Academy of Cytologists 21 September 2019, New Delhi, India (Best poster award)
  44. Saini S, Kaushal S, Seth A. TCRCC- A Case of Rare Renal Tumor DSI-Urology Meet, 22 February 2020, AIIMS, New Delhi
  45. Satapathy S, Singh V, Mallik PS, Tanwar P, Nambirajan A, Jain D. EGFR mutation testing on plasma and urine samples: A pilot study evaluating the value of liquid biopsy in lung cancer diagnosis and management NALCCON 2019, 14-15 December 2019, Shri Atal Bihari Vajpayee Scientific Convention Centre, Lucknow (First Runner up award)
  46. Sharma N, Madhusudan KS, Jain D, Yadav R, Mathur S, Bansal VK, et al. The role of fine needle aspiration cytology in the evaluation of gallbladder masses, polyps and wall thickening, ICC 2019, 5-10 May 2019, Sydney, Australia
  47. Shraddhanjali, Yadav R, Soneja M, Das P, Dattagupta S. Erythropoietic protoporphyria: A case presentation 8th Dr V Ramalingaswamy Oration and Hepatopathology Meeting, 7 August 2019, ILBS, Delhi
  48. Singh MK, Jayarajan R, Varshney S, Upadrasta S, Ranjan S, Yadav R, et al. A zebrafish model for non-alcoholic fatty liver disease reveals a new mechanism 4th Zebrafish for Personalized/Precision Medicine Conference 18-20 September, Toronto, Canada
  49. Singh P, Kaushal S, Manoj K, Seth A. Unusual presentation of AML Kidney DSI-Urology Meet, 22 February 2020, AIIMS, New Delhi
  50. Singh RP, Pandey PM, Mridha AR. Effect of conventional drilling and Rotary ultrasonic drilling on bone, Electron Microscopy & Allied analytical techniques (EMAAT-2019), 5-9 June 2019, Shimla
  51. Singh V, Katiyar A, Malik P, Mohan A, Singh H, Jain D. Wholeexome sequencing (WES) in non-small cell lung carcinoma (NSCLC): Identification of novel biomarkers, World Conference on Lung Cancer, 7-10 September 2019, Gran Via, Fira de Barcelona, Barcelona, Spain
  52. Singh V, Malik P, Tanwar P, Mohan A, Jain D. Liquid biopsy in the detection of EGFR activating and resistance mutations in advanced pulmonary adenocarcinoma World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
  53. Singh V, Mallik PS, Thulkar S, Mohan A, Nambirajan A, Jain D. Survival analysis of common and uncommon EGFR (Epidermal Growth Factor Receptor) mutations in non-small cell lung carcinoma (NSCLC) NALCCON 2019, 14-15 December 2019, Shri Atal Bihari Vajpayee Scientific Convention Centre, Lucknow (Young investigator award)
  54. Yadav D, Ramam M, Agarwal S, Thakur S. Lymphocyte-peppered sclerotic collagen: A novel histological clue in lichen sclerosus and morphea. First annual meeting of Asian society of Dermatopathology and Annual Meeting of Dermatopathology society of India, 16 November 2019, New Delhi (1st prize paper presentation)

55. Yadav R, Jassim M, Agarwala S, Iyer VK, Das P, Dattagupta S. Study of  $\beta$  catenin and AXIN2 expression in Hepatoblastoma and its impact on survival, Liver Pathology: International Update 2019, 3-5 October 2019, Mumbai Seth GSMC and KEM Hospital, Mumbai
56. Yadav R, Malik R, Sardana R, Das P, Gupta SD. Tufting enteropathy: An uncommon and often missed entity, An International CME on Pediatric Non-Neoplastic Lesions, 8-9 November 2019, TNMC and BYL Nair Charitable Hospital, Mumbai

## RESEARCH

### Funded projects

#### Ongoing

1. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma, Deepali Jain, Lady Tata Memorial Trust Young Researcher Award, 5 years, 2015-2020, Rs 29 lakhs
2. A multi-centric study to develop comprehensive molecular genetic panels for glioblastoma personalized therapy. Chitra Sarkar, DBT, 5 years, 2016-2021, Rs 50 lakhs (approx.)
3. A novel Immuno Nano Fluorescence Assay (INFA) system for noninvasive detection of prostate cancer using urine based protein biomarkers, PSA and MSMB, AK Dinda, DST, 3 years, 2018-2021, Rs 70.89 lakhs
4. Analysis of circulating DNA for BRAF (T1799A) mutation as a futuristic non-invasive tool for diagnosis of papillary thyroid cancer. Shipra Agarwal, ICMR, 3 years, 2018-2020, Rs 8.12 lakhs
5. Clinicopathological and serological assessment of adult-onset idiopathic inflammatory myopathies (IIM) aimed at improved characterization of sporadic inclusion body myositis, MC Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
6. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten -free diet, P Das, ICMR, 3 years, 2019-22, Rs 38.29 lakhs
7. Correlation of Immunologic Milieu and PD-L1 in Non-Small Cell Lung Carcinoma, Deepali Jain, AIIMS, 2 years, 2018-2020, Rs 8 lakhs
8. Development of Labyrinth based mechanical and fast isolation technique for identifying circulating tumor cells of colorectal carcinomas for metastasis evaluation, Asit Ranjan Mridha, DHR, 3 years, 2019-2022, Rs 30 lakhs
9. Development of minimal invasive novel injectable hydrogel and nano-carrier - hybrid system for localized targeted cancer therapy, AK Dinda, DHR, 3 years, 2018-2021, Rs 75.56 lakhs
10. Development of Rotary Ultrasonic Bone Drilling Machine Prototype, Asit Ranjan Mridha, SRISTI, Ahmedabad, Gujrat, 2 years, 2018-2020, Rs. 15 lakhs
11. DHR-ICMR Advance Medical Oncology Diagnostic Services (DIAMONDS) under HTA Inpiot research project, Chitra Sarkar, DHR-ICMR, 3 years, 2020-23, Rs 170 lakhs
12. Evaluation of Artificial Intelligence as a Diagnostic Tool for Automated Detection and Grading of Colorectal Cancer, Rajni Yadav, AIIMS-IIT Delhi, 2 years, 2018-2020, Rs 20 lakhs
13. Evaluation of EGFR mutations, HPV status and PD-L1 expression in pathogenesis of sinonasal squamous neoplasms, Aanchal Kakkar, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
14. Evaluation of Machine Learning Techniques including Deep Learning for Identification of Malignancy in Tissue Samples, Aanchal Kakkar, AIIMS-IITD collaborative research project, 2 years, 2018-2020, Rs 20 lakhs
15. Evaluation of molecular sub types of peripheral T cell lymphoma, S Mallick, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
16. Explainable Deep Learning for Automated Evaluation & Grading of Duodenal Biopsies, P Das, AIIMS-IIT Delhi Collaborative Research Project, 2 years, 2019-2021, Rs 10 lakhs
17. Identification of Comparative Genetic and Epigenetic Alterations of Various Proto-Oncogenes and Tumor Suppressor Genes, Implicated in Development of Aberrant Crypt Foci of Proximal Versus Distal Colon. P Das, DST under Women Scientist Scheme, 3 years, 2017-2020, Rs 27 lakhs
18. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Seema Kaushal, ICMR, 3 years, 2020-2023, Rs 25 lakhs
19. Immunohistochemical characterization of four common viruses in a clinically suspected cases of viral myocarditis, Sudheer Arava, AIIMS, 2 years, 2018-2019, Rs 10 lakhs
20. Immunomodulators in small cell lung cancer: Basis for implementation of cancer immunotherapy, Deepali Jain, DST, 3 years, 2019-2022, Rs 40 lakhs
21. Immunophenotypic profile of tumour infiltrating cells of the immune system & expression of PDL1 in triple negative/Her-2 neu positive breast cancer patients and their correlation with response to neoadjuvant chemotherapy, Sandeep R Mathur, DST, 3 years, 2017-2020, Rs 21 lakhs

22. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, V Suri, ICMR, 2019-2022, Rs 62 lakhs
23. JC Bose Research Fellowship, Chitra Sarkar, DST, 5 years 2016-2020, Rs 15 lakhs per year
24. miRNA as disease modifier in HLA-DQ2/DQ8 matched first-degree relatives of patients with celiac disease, P Das, DST, 3 years, 2018-2021, Rs 45 lakhs
25. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features, Sandeep R Mathur, AIIMS, 2 years, 2018-20, Rs 10 lakhs
26. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Aanchal Kakkar, SERB, 3 years, 2020-2023, Rs 47 lakhs
27. Molecular subtyping of Muscle Invasive Bladder Cancer on the basis of IHC markers, Seema Kaushal, AIIMS, 2 years, 2019-2021, Rs 4.9 lakhs per year
28. MUC1 Pulsed DC-derived exosomes for cancer immunotherapy, Adarsh Barwad, DBT, 3 years, 2019-2021, Rs 62.27 lakhs
29. NIRMAAN 3D-Novel minimally invasive Implants for Reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing, AK Dinda, DBT, 4 years, 2018-2022, Rs 64.34 lakhs
30. Normal superior and inferior parathyroid glands: Molecularly similar or dissimilar? Shipra Agarwal, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
31. Novel minimally invasive implants for Reconstructive surgery using Materials providing mechanical instruction and prepared by 3D printing, AK Dinda, DBT (Indo-Dutch), 3 years, 2018–2021, Rs 50.88 lakhs
32. Pharmacological effects vitamin D in diabetic cardiomyopathy via ACE2/Angiotensin (1-7)/Mas receptor axis in experimental diabetic rats, Asit Ranjan Mridha, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
33. Prognostic relevance of p53 mutation in advanced soft tissue sarcoma, Asit Ranjan Mridha, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
34. Proposal for Creating & Testing Virtual Teaching Modules (MOOCs) in various areas of Healthcare, Manoj Kumar Singh, Swayam & Swayam Prabha (Ministry of HRD), 3 years, 2018 -2021, Rs 3.15 lakhs
35. Ras Homolog Member A (RHOA) and Isocitrate Dehydrogenase (IDH2) mutations in Angioimmunoblastic T-cell lymphoma, S Mallick, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
36. Sequencing Target genes aimed at Neuromuscular disorders in India (STAND-INDIA), MC Sharma, ICMR, 3 years, 2018-2021, Rs 50 lakhs
37. Study of Clinical, Laboratory and Pathological Profile of Pediatric Patients with Persistent Cholestasis, Rajni Yadav, AIIMS, 2 years, 2018-2020, Rs 9.9 lakhs
38. Study of HPV association in Sino-nasal epithelial tumors, Deepali Jain, AIIMS, 2 years, 2018-2020, Rs 20 lakhs
39. Study of Urinary Exosome as a Predictive biomarker for podocytic injury in childhood idiopathic nephrotic syndrome, Geetika Singh, DBT, 3 years, 2018-2021, Rs 76.17 lakhs
40. Sudden cardiac death: Histopathological and molecular study to identify the course, Sudheer Arava, ICMR, 3 years, 2019-2021, Rs 69 lakhs
41. Surrogate molecular and Immunohistochemical markers to categorize the colorectal carcinomas as per the Comprehensive molecular subtypes and its clinical relevance, P Das, AIIMS, 2 years, 2019-21, Rs 10 lakhs
42. The Genetic Landscape of Alport Syndrome in India with Phenotypic Correlation, Geetika Singh, ICMR, 3 years, 2020-2023, Rs 80 lakhs
43. To evaluate the molecular subtypes of peripheral T Cell Lymphomas, S Mallick AIIMS, 2 years, 2019-20, Rs 10 lakhs
44. To evaluate the role of CMYC, BCL2, BCL6 AND Epstein Barr virus on survival in patients with refractory/relapsed primary diffuse large b cell lymphoma: An ambispective study, S Mallick, DST, 3 years, 2016-2019, Rs 30 lakhs
45. To evaluate the role of microenvironment clonality assay and 9P24 alteration in diagnosis and prognostication of refractory Hodgkin's Lymphoma, S Mallick, DST, 3 years, 2017-2020, Rs 35 lakhs
46. To evaluate the role of R2TP Complex as a novel regulator of PI3K/Akt/mTOR and AR signalling pathway in prostate cancer, Seema Kaushal, DHR, 3 years, 2020-2023, Rs 26 lakhs
47. Tumor Immune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, MC Sharma, ICMR, 3 years, 2020-2023, Rs 35 lakhs
48. Unraveling the role of miRNA clusters (C14MC & C19MC) in oligodendrogliomas: Study using genetic and functional approach with clinicopathological correlations, Chitra Sarkar, ICMR, 3 years, 2017-2020, Rs 10 lakhs per year

49. Unravelling the functional relevance of Snail paralogs in the pathogenesis of pediatric ependymomas, MC Sharma, DST, 3 years, 2018-2020, Rs 45 lakhs
50. Utility of newer immunohistochemistry markers in proper characterization of small B-cell non-Hodgkin's lymphomas, Prashant Ramteke, AIIMS, 2 years, 2017-2019, Rs 6.5 lakhs

### Completed

1. Analysis of NPHS1, NPHS2, WT1, ACTN4 and INF2 in non syndromic focal segmental glomerulosclerosis, Adarsh Barwad, AIIMS, 2 years, 2016-2018, Rs 10 lakhs
2. Association of BK Polyoma virus and urothelial carcinoma: A study in the Indian population, Geetika Singh, AIIMS, 1 year, 2012-2014, Rs 4.93 lakhs
3. Detection and comparison of EGFR mutations in matched tumor tissues and sera of patients with pulmonary adenocarcinoma, Deepali Jain, DBT, 3 years, 2016-2019, Rs 25 lakhs
4. Evaluation of HPV status and its correlation with AKT/ mTOR signaling pathway activation in oral and oropharyngeal squamous cell carcinomas, Aanchal Kakkar, AIIMS, 2 years, 2017-2019, Rs 8.8 lakhs
5. Gene expression analysis of oncogene transcript in Aberrant Crypt foci, in comparison to the normal colonic mucosa and colorectal carcinoma, from formalin fixed paraffin embedded tissue samples, P Das, DBT, 3 years, 2015-2019, Rs 25 lakhs
6. Intestinal stem cells in celiac disease, P Das, AIIMS, 1 year, 2018-2019, Rs 5 lakhs
7. Study of p 53 immunoexpression and Ki67 LI in patients with advanced soft tissue sarcoma, Asit Ranjan Mridha, AIIMS, 2 years, 2016-2019, Rs 10 lakhs
8. The Virtual Skills Laboratory, Manoj K Singh, Deity (Department of Electronics and Information Technology, 2 years, 2014-2018, Rs 262.5 lakhs

### Departmental projects

1. Analysis of EGFR downstream pathways in NSCLC and elucidating mechanisms for TKI resistance
2. Analysis of immune check point markers in gliomas
3. Clinico pathological Profile of Anaplastic Large cell lymphoma
4. Comparison of molecular and immune profile of Epithelioid GBMs and PXA
5. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients
6. Detection of human papilloma virus in sinonasal epithelial tumors
7. Differential expression of apoptosis related miRNA in diagnosis and Prognosis of Wilms Tumor and Neuroblastoma
8. EMT pathway in meningioma
9. Evaluation of chromatin remodeling, mTOR pathway and SSTR expression in pancreatic neuroendocrine neoplasms
10. Evaluation of EGFR mutations and AKT/ mTOR pathway in sinonasal squamous neoplasms
11. Evaluation of MSI and PDL1 Expression in Upper Tract Urothelial Carcinomas
12. Histological Analysis and Subcategorization of Progressive Familial Intrahepatic Cholestasis
13. Histopathological evaluation of surgically excised rheumatic heart valves
14. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features
15. Molecular profiling of Epithelioid Glioblastoma
16. Prognostic relevance of p53 mutation in patients with advanced soft tissue sarcoma
17. Programmed Death Ligand -1 Expression in Molecular subtypes of Muscle Invasive Bladder Cancer
18. Ras homolog gene family (RHOA) and Isocitrate dehydrogenase 2 (IDH2) mutation in Angioimmunoblastic T cell Lymphoma (AITL)
19. Study of EGFR-MAPK, NFKB and SHH pathway activation in corticotroph pituitary adenomas
20. Study of intra-tumoral heterogeneity in surgically resected gall bladder adenocarcinoma
21. Study of iron homeostasis in chronic kidney disease
22. Study of p53 immunoexpression and Ki67 LI in patients with advanced soft tissue sarcoma
23. Study of PD-L1 expression and correlation with mutational profiling in thyroid carcinomas.
24. Study of WNT and Sonic hedgehog signaling pathways in olfactory neuroblastoma
25. Study on the activation of lectin pathway of complement in membranoproliferative glomerulonephritis
26. Sudden cardiac death in young: An histopathological and molecular study to identify the cause

27. Utility of a Panel of Surrogate Immunohistochemical and Molecular Markers to Classify Human Colorectal Carcinomas according to the Consensus Molecular Subtypes and Clinical Correlation

### ***Completed***

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. An immunohistochemical and ultrastructural study of glomerular capillary endothelial injury in cellular rejection
3. Analysis of selected Transcription factors and Receptors in Primary Hyperparathyroidism.
4. Cell death Ligand 1 and its association with T regulatory cells In Non Small cell lung carcinoma: Use of cytology specimen.
5. Clinicopathological Profile of Diffuse Large B Cell Lymphoma
6. Clinical and Histopathological Analysis of Tonsils in Obstructive Airway Patients
7. Clinicopathological study of infant gliomas
8. Development of low cost functionalized biocompatible polymeric wound dressing
9. Development of targeted nanodrug delivery system for Rheumatoid Arthritis
10. DNA methylation array for molecular subgrouping of medulloblastomas (Dr Chitra Sarkar)
11. Expression of Her 2 neu stain in gall bladder carcinoma and its clinical impact
12. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
13. Expression of PD1, PD-L1 and CD8 cell markers in gall bladder carcinoma and their clinical impact
14. EZH2-WNT expression and correlation in tumor invasiveness, stem cell phenotype and progression in pituitary adenomas
15. Fibrillin 1 gene mutation and TGF beta in TAAA of non marfanoid individuals
16. Histological Features of acute on chronic failure on Tru-cut Liver Biopsies
17. Histopathological and electron microscopic changes in ligamentum flavum in patients with degenerative lumbar canal stenosis Study of p 53 immunoexpression and Ki67 LI in patients with advanced soft tissue sarcoma
18. Membranous Nephropathy: A study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation
19. PDL-1 expression and tumor infiltrating lymphocytes in triple negative breast cancer and its correlation with clinico-pathologic features and response to chemotherapy (MD Thesis)
20. Programmed Death Ligand-1 (PDL-1) and its Association With T Regulatory Cells in Non-small Cell Lung Carcinoma: Use Of Cytology Specimens
21. Study of galactose deficient IgA1 in glomerular diseases
22. Subtyping of primary muscle invasive bladder carcinoma into basal and luminal types on the basis of immunohistochemical markers
23. Targeted nanoparticle based drug delivery system for the treatment of Kalazar
24. Targeted sequencing of IDH negative gliomas
25. Utility of urinary circulating cell free DNA in EGFR mutation testing of pulmonary Adenocarcinoma

### **Collaborative projects**

#### ***Ongoing***

1. A prospective comparison of mri-inbore targeted biopsy with 12-core systematic transrectal ultrasound biopsy in the diagnosis of prostate cancer, Radiology
2. A prospective observational study comparing CT scan vs PET CT scan in carcinoma ovary for determining the pre operative disease burden and resectability, Surgical Oncology
3. A prospective study to evaluate the accuracy of axillary staging using ultrasound guided fine needle aspiration cytology (fnac) in early breast cancer patients, Surgical Oncology
4. A Study of Immune Pathways in the Pathogenesis of Chronic Pancreatitis, Gastroenterology
5. Artificial skin (Bio-inspired bi-layer polymeric hybrid scaffold) for burn injuries in trauma care (IMPRINT Project), Center for Biomedical Engineering, IIT, Delhi

6. Assessment of disease severity inpatients with epithelial ovarian cancer by EMT related protein expression and micro RNA 200a,b,c, Gyn &Obs
7. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis Pediatric Nephrology
8. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology
9. Bio statistical Aspects of Prognostic Factors Including Molecular Parameters in Breast Cancer Patients: An Epidemiological Appraisal, BRA-IRCH
10. Biomarkers based early diagnosis and understanding of breast cancer metastasis by infrared imaging, Biophysics
11. Brain metastasis in lung cancer, Medical oncology
12. BRCC3 expression as a prognostic marker in Oropharyngeal squamous cell carcinoma patients and its effects on radiotherapy resistance, Otorhinolaryngology
13. Cancer stem cells in Colon Carcinoma, Biochemistry
14. Cellular and Immunomodulatory Functions of Dipeptidylpeptidase III in Esophageal Cancer, Biochemistry
15. Circulating microRNAs as biomarkers for testicular germ cell tumors: A pilot study, Reproductive Biology
16. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis, Pulmonary Medicine
17. Comparative evaluation of miRNA in mediastinal sarcoidosis and tuberculosis, Pulmonary Medicine & Sleep Disorders
18. Comparison of cold cup versus bipolar biopsy specimens for bladder carcinoma, Urology
19. Comparison of standard 12 cores systematic TRUS guided biopsy and MRI-fusion biopsy in the detection of prostate cancer-a prospective randomized study, Urology
20. Correlation of barrel index determined by MRI in early cervical cancer with operability, lymph node status and local extension of disease, Gynaecology & Obstetrics
21. CT texture analysis of renal masses for prediction of histopathology, Radiology
22. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients, Cardiology
23. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology
24. Development of non-invasive diagnostic kit for ovarian cancer: A new walk on old path, Biophysics
25. Development of Rotary Ultrasonic Bone Drilling Machine Prototype, Mechanical Engineering, IIT, Delhi
26. Differences in the Microvessel Density and Growth Factors between the inner and outer preputial skin in Distal Hypospadias, Pediatric Surgery
27. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Microbiology
28. Estrogen Related Receptor gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid cancer, Medical Oncology Lab
29. Evaluation of anti-urolithiatic activity of herbal extracts in animal model, National Innovation Foundation, Ahmedabad
30. Evaluation of genetic profile of olfactory neuroblastomas, Otorhinolaryngology
31. Evaluation of immune checkpoint in tumor microenvironment of osteosarcoma, Orthopaedics
32. Evaluation of Immune escape mechanism in RCC, Biochemistry
33. Evaluation of Renal Cell Carcinoma with C11-Methionine PET/CT and comparison with 18 Flourodeoxyglucosw PET/CT, Nuclear Medicine
34. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Otorhinolaryngology
35. Exploring the phenotypic and functional role of  $\gamma\delta$  T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of PemphigusVulgaris, Pharmacology
36. Exploring the role of adipose tissue ABCA1 in determining serum HDL cholesterol, Biochemistry
37. Fat gene in gliomas, Biochemistry
38. FBXO4 as a novel Ubiquitin Ligase that targets cyclin D1 in pathogenesis of breast cancer, Biochemistry
39. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology
40. Genetic Study on Sertoli Cell Only Syndrome, Reproductive Biology

41. Human Papillomavirus status in Penile carcinoma in Indian patients: Incidence, type distribution and correlation with Clinico-pathological staging, Urology
42. Identification of Glucose related protein 78(GRP78) as a biomarker for tumor behavior in patients of renal cell carcinoma, Urology
43. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4) in Renal Cell Carcinoma for predicting tumour behaviour, Urology
44. Molecular and immune profile of midline gliomas, Neurosurgery
45. Molecular and immunological characterization of benign fibrous lesions affecting oral and maxillofacial region, Oral Pathology and Microbiology, CDER
46. MUC! Pulsed DC-derived exosomes for cancer immunotherapy, IIT, Delhi
47. Mycobacterium paratuberculosis in human Crohn's disease and Jone's disease: A multicenter Indian study, Gastroenterology
48. Optical Characterization of Breast cancer, Surgery
49. Pharmacological effects vitamin D in diabetic cardiomyopathy via ACE2/Angiotensin (1-7)/Mas receptor axis in experimental diabetic rats, Pharmacology
50. Phenotypic and molecular characterization of Th17 and Treg cells in renal cell carcinoma, Biochemistry
51. Potassium channel expression in the intestinal tissues of patients with ulcerative colitis correlates with disease severity and long term outcomes, Gastroenterology
52. Prevalence of Dermatitis Herpetiformis in patients with celiac disease Gastroenterology
53. Prevalence of refractory celiac disease: An Institutional study, Gastroenterology
54. Production of a crucial therapeutic protein for Trauma and Accident care in Escherichia Coli system (IMPRINT Project), The School of Biological Sciences, IIT, Delhi
55. Retrospective Analysis of Testicular Germ Cell tumours at IRCH, AIIMS, Medical Oncology
56. Role of B Cells in Urinary Bladder Carcinoma, Biochemistry
57. Role of circulating tumour cells and CXCR1 expression in patients with metastatic RCC, Urology
58. Role of micro RNA in identifying benign versus malignant variety of cystic neoplasm of pancreas, Gastroenterology
59. Role of MRI in evaluation of residual tumor burden following neoadjuvant chemotherapy in patients with breast cancer, Radiodiagnosis
60. Role of PAQosome Complex in the Regulation of Beta Oxidation during Prostate Cancer Progression, Biochemistry
61. Role of Phosphofructokinase-P (PFKP) in Breast cancer, Med Oncology BRA-IRCH
62. Role of Shearwave Elastography and Multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
63. Studies on the effect of Roxithromycin in an experimental model of prostatitis, Pharmacology
64. Study of Autophagy associated HMGB-1 and its related molecules in Urothelial Carcinoma of Bladder, Biochemistry
65. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine
66. Study of intestinal stem cell niche in celiac disease, Gastroenterology & RCB, Faridabad
67. Study of miRNA profile in Sertoli Only Syndrome (SCOS), Reproductive Biology
68. Study of miRNA-182 and miRNA-187 as potential biomarkers in prostate cancer patients and its correlation with serum PSA, Gleason score and staging of prostate cancer, Urology
69. Study of PKC signaling in Ovarian Serous Carcinoma, Med Oncology BRA-IRCH
70. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology
71. The clinicopathological evaluation of cholesteatoma aggressiveness, Otorhinolaryngology
72. The Role of <sup>68</sup>Ga-PSMA-PET/CT Scan as a single Staging Modality in Prostate Cancer, Nuclear Medicine
73. Thymic tumors and VATS Laparoscopic Surgery
74. To characterize immune landscape of SCLC in tumor and peripheral blood circulation, Pathology
75. To identify unique differential signatures for the diagnosis of stage-specific Non alcoholic fatty liver disease using the multi-omics approach: A pilot study, Gastroenterology
76. To study correlation of TIRADS and cytological grading with final histopathology in solitary thyroid nodule, Surgical disciplines

77. Use of Cancer Testis Antigen POTE-E in preoperativediagnosis of Epithelial Ovarian Tumors: A Pilot Study, Gyn &Obs
78. Utility of newer immunohistochemistry markers in proper characterization of small B- cell non-Hodgkin's lymphomas, Pathology
79. Utility of Radiolabeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nuclear Medicine

### **Completed**

1. A Comparative Evaluation of HPV E6/E7 mRNA Assay and High Risk HPV DNA Test for the Diagnosis of High Grade Cervical Intraepithelial Neoplasia, Gynaecology & Obstetrics
2. A pilot study to assess the therapeutic potential of Lu-177\_DKFZ\_PSMa 617 in Ga-68 PSMA HBED CC PET CT positive anaplastic thyroid carcinoma, Nuclear Medicine
3. Abnormalities in metabolic pathways in Celiac disease investigated by the metabolic profiling of small intestinal mucosa, blood plasma and urine by NMR spectroscopy, NMR
4. Assessment of the role of early dynamic PET/CT with 18F-Fluorocholine in differentiation of parathyroid lesions and lymph nodes in patients with primary hyperparathyroidism, Nuclear Medicine
5. Clinical Significance of Notch Pathway Associated microRNA-107 in Pancreatic Ductal Adenocarcinoma, Gastroenterology
6. Clinical Utility of cell-free DNA in intraoperative pleural lavage fluid and plasma for patients with resectable primary pulmonary malignancies – A pilot study, Surgical oncology
7. Comparison of 4D CT, 4D MRI and Fluorocholine PET in the Localisation of Parathyroid Lesions in Patients with Primary Hyperparathyroidism (HPT), Radiodiagnosis
8. Comparison of diagnostic yield using graded suction pressures during EBUS TBNA, Pulmonary Medicine & Sleep Disorders
9. Evaluation of Transient Elastography, Hepatic Iron Concentration by MRI T2\* Liver, Serum Liver Fibrosis Indexes versus Liver Biopsy in Thalassemia Major patients who are candidates for Hematopoietic Stem Cell Transplant (HSCT), A Comparative Pilot study, Hematology
10. Mesenchymal stem cells (MSCs) offer a drug tolerant and immune-privileged niche to Mycobacterium tuberculosis, Gastroenterology, AIIMS & IGIB, New Delhi
11. Microarray based Gene Expression Profiling of Advanced Gall Bladder Cancer: A Pilot Study, Medical Oncology
12. Minimally invasive autopsy (MIA) in the evaluation of fetal malformations and still births- A feasibility study for the development of a standard protocol for still birth evaluation, Pediatrics
13. Molecular classification of breast cancer using FDG PET CT, MRI and NMR: A pilot study, Surgery
14. REG4 expression in Pancreatic Ductal Adenocarcinoma can serve as a potential marker both for Diagnosis and Assessment of Prognosis, Gastroenterology
15. Role of hENT1, RRM1, RRM2, and ERCC1 expression in Advanced gall bladder Carcinoma treated with Gemcitabine-Platinum Doublet, Medical Oncology
16. Role of hENT1, RRM1, RRM2, and ERCC1 expression in Advanced gall bladder Carcinoma treated with Gemcitabine-Platinum Doublet, Medical Oncology
17. Role of HRCT in the diagnosis of apparently idiopathic interstitial lung diseases, Radiodiagnosis
18. Role of shearwaveelastography and multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
19. Role of sono-elastography in the assessment of uterine pathology, Radiodiagnosis
20. Scalp biopsy: A comparison of vertical and transverse sections in alopecia diagnosis, Dermatology
21. Sculpturing corneal constructs using micropatterned surface and decellularized cornea, Textile Engineering, IIT Delhi, Stem Cell Facility, RP Center
22. Study of predictors of diagnostic yield of various interventional pulmonology procedures for Lung Cancer, Pulmonary Medicine & Sleep Disorders
23. To Study Spectrum of Extra Small Intestinal Gastrointestinal Tract Involvement in Celiac Disease, Gastroenterology

### **PUBLICATIONS**

**Journals: 182**

**Abstracts: 28**

**Chapters in Books: 2**

**PATIENT CARE****Laboratory services****Surgical Pathology Laboratory**

Specimens processed	55,600	Special stains	38,100
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**Cytopathology Laboratory**

Total specimens	26719	FNAC (out patient)	10696
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Exfoliatives routine	13943	Cervical smears (PAP smears)	2080
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Autopsies performed	13	Electron microscopy	1505
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**Immunohistochemistry Laboratory**

Diagnostic	51268	Research	805
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**Neuropathology Laboratory**

Total Specimen	2106	Frozen Section	359
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**Immunohistochemistry**

Routine IHC	8375	Research IHC	5238
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Muscle IHC	1699		
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Total Muscle Received	291		
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Muscle Enzyme-histochemistry	658		
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**Fluorescence in situ hybridization**

Diagnostic	349	Routine	272
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**EM Facility**

Total muscle sample	288	Total nerve sample	37
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Immunoblot sample	55		
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**Tissue Culture Lab**

H&E Staining	9827	Special Stains	1320 + H-Pylori 6239
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Immunohistochemistry	4979	Frozen Sections	2380
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Unstained	3289	Coated slides	26295
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Research Block Cutting	2989		
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**Renal pathology services**

Urine sediment analysis	1860		
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Immunofluorescence of kidney biopsy	968		
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Electron microscopy of kidney biopsy	941		
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**Cardiac pathology****Specimens**

Routine	310	Research	163
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**Others works**

Immunohistochemistry	392 slides	H & E stain	305 slides
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Special stains	102 slides		
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Rapid processing of post-transplant biopsies	29 cases		
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Cutting of blocks (unstained sections)	631 slides		
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<b>Skin biopsy cutting</b>	<b>282 cases (each 6 slides) 1672</b>		
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<b>Renal biopsy cutting</b>	<b>580 cases (each 10 slides)</b>		
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<b>Frozen cutting</b>	<b>80 cases (each 3 slides)</b>		
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<b>Coated slides</b>	<b>2200 slides</b>		
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## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Resident Awards

**Best poster award** won by Roy D, Kumar H, Sarangi J, Kakkar A, Jain D, Mathur SR, Iyer VK, Dhar A, Fine Needle aspiration cytology of retiformhemangioendothelioma: a maiden case report. Eighth Annual Conference of Delhi Chapter of Indian Academy of Cytologists, 21st September 2019, New Delhi, India

**Best poster award** won by Roy D, Kakkar A, Jain D, Mathur SR, Iyer VK, Fine needle aspiration cytology of metastases to parotid gland, 49th Annual Conference of Indian Academy of Cytologists, 7-10 November 2019, Chandigarh, India  
Kumar M Awarded **First Prize as Best Research Paper - Marudhara Jodhpur Prize session at Annual USICON 2019**

**Young Investigator Award:** Varsha Singh PhD Student: National Lung Cancer Conference (NALCCON), KGMC, Lucknow for work entitled as 'Survival analysis of common and uncommon EGFR (Epidermal Growth Factor Receptor) mutations in non-small cell lung carcinoma (NSCLC), December 2019

**Runner up prize** for poster presentation to Dr Shraddhanjali Satapathy at National Lung Cancer Conference (NALCCON), KGMC, Lucknow for work entitled as 'EGFR mutation testing on plasma and urine samples: A pilot study evaluating the value of liquid biopsy in lung cancer diagnosis and management', December 2019

**Dr Satya Monga Award** (Dr Tripti Nakra) for published paper titled INSM1 is a robust nuclear immunostain for the diagnosis of small cell lung carcinoma in cytology smears, Cytocon, November 2019.

**Professor Chitra Sarkar** was Member of working committee of CIMPACT-NOW (Consortium to Inform Molecular and Practical Approaches to CNS tumor Taxonomy), Co-author in upcoming WHO classification of CNS tumors and updates of CIMPACT-NOW, Appointed as President, AIIMS, Kalyani by Ministry of Health & Family Welfare, Chairperson of the Committee constituted by Ministry of Health & FW to suggest recommendations regarding Bhopal Memorial Hospital and Research Centre (BMHRC), Member, Governing Body of Institute of Medical Sciences, Banaras Hindu University Member, THSTI Society Committee Nominated Member of DST-INSPIRE Fellowship Standing Committee Nominated Member of Expert Evaluation Committee of DST-INSPIRE Fellowship Chairperson, Women's grievance cell, AIIMS, Chairperson, Prevention of Sexual Harassment of Women at AIIMS, Coordinator for Memorandum of Understanding between AIIMS and other Institutions for collaborative research, Member of Nano Mission Council (NMC) of Department of Science and Technology, Government of India, Member, Apex Committee for North Eastern Region Biotechnology Programmes of Department of Biotechnology, Vice President of the International Society of Neuropathology, Secretary, Neuropathology Society of India, Selection committee member for Ranbaxy Awards, Member of Sectional committee (Health Sciences) of INSA, Member, Editorial Board of journal Neuropathology (published from Japan), Member, Assessment Committee for scientists' promotions of ICMR, Member of the Governing Body and Scientific Advisory Committee of National Brain Research Centre, Manesar, Member of the Scientific Advisory Committee of Institute of Pathology, New Delhi, Co-chairperson of Human Ethics Committee of National Institute of Immunology, New Delhi, Member, Oncology Sub-Committee of NCD-III, ICMR.

**Professor Manoj K Singh** Chaired Session 68th Annual Conference of Indian Association of Pathologists & Microbiologists & IAP-ID, 5 December 2019 to 8 December 2019, Department of Histopathology, PGIMER, Chandigarh.

**Professor AK Dinda** was nominated as Executive Council Member of Global Council of Regulatory Science Research at Global Summit on Regulatory Science 2019 (GSRs19), European Commission, Joint Research Centre Ispra, Italy.

**Professor Sandeep R Mathur** has been appointed as Secretary of the Delhi Chapter of Indian Academy of Cytologists for 3 years till 2020.

**Dr Deepali Jain** was Editorial Board Member World Health Organization Classification of Tumors Of Lung, Pleura, Thymus and Heart; Responsible author and Co-author of several chapters of World Health Organization Classification of Tumors Of Lung, Pleura, Thymus and Heart; Member Pathology Committee International Association for Study of Lung Cancer (IASLC), USA; 2019 PPS Travel award by Pulmonary Pathology Society USA, Dubrovnik, Croatia, June 2019; ICMR Travel Award 20<sup>th</sup> International Congress of Cytology, Sydney, Australia, May 2019; Chairperson Symposium on lung cancer AIIMS Pulmocrit 2019 March 2020 Delhi; Member Brain Storming Committee on COPD-DBT.

**Dr Seema Kausal** was nominated as Founder Executive Member of SGUP (Society of Genitourinary Pathologists) of India; paper entitled "Improved Correlation of Urinary Cytology Specimens by Implementation of the Paris System in biopsy proven Upper and Lower Urinary Tract Urothelial Carcinomas" was awarded as one of the top five papers in theme of Urine Cytology at International Conference of Cytology held at Sydney in May 2019; Chaired the session on "Common

Problems in Pathological Assessment of Testicular Tumors” Dialogues in urooncology: Urooncology Summit 2020, 22 February 2020, MP Urologiacal hospital and Teaching Institute Nadiad, Gujarat

**Dr Prasenjit Das** received Professor Kunti Devi Mahrotra Award for Published paper of the IAPM 2019-20 for Published paper of the APCON 2019, by the Indian Association of Pathologists & Microbiologists; Invited to present our research on patients with celiac disease and was a visiting Pathologist at the Beth Israel Deconess Medical Centre & Harvard Medical School, Boston, from 31 October -13 November 2019 under Celiac disease joint Research Network for excellence funded by Indo-US Science & Technology Forum (IUSSTF); invited to be the NationalEditorial Board Member, Indian Journal of Pathologists & Microbiologists from 1 January 2020.

**Dr Adarsh Barwad** Awarded Long term international fellowship for young scientist under ICMR/DHR 2019-2020 scheme at University of Pittsburgh PA, USA.

#### **VISITING SCIENTIST**

Dr Ian Cree MD WHO blue book editor IARC, Lyon, France

Dr HolgerMoch MD Professor of Pathology University of Zurich, Zurich, Switzerland

## 9.30. Pharmacology

	<b>Professor and Head</b> VL Kumar	
NR Biswas (on deputation) Jatinder Katyal	<b>Professors</b> SK Maulik Surender Singh Jagriti Bhatia	DS Arya KH Reeta
Pooja Gupta	<b>Associate Professors</b> Harlokesh Narayan Yadav	Sudhir Chandra Sarangi
	<b>Assistant Professor</b> NS Raj	
Sharda S Peshin (till 31 August 2019) Madhuri Gupta	<b>Scientists</b> Thomas Kaleekal Sunder Singh Samuel	Amita Srivastava Swati Sharma

### HIGHLIGHTS

“SYMP NPIC – 2019”: National symposium on Poisoning as a public health problem was organized on 26 April 2019 to mark the 25th year of establishment of National Poison Information Centre (NPIC).

### EDUCATION

The Department is engaged in the teaching programmes of BSc Nursing (Hons), BSc OT Technician, MBBS, MSc (Medical Pharmacology), MD, PhD and DM (Clinical Pharmacology) courses.

### CMEs/Workshops/Symposia/National and International Conferences Organized by department

Fifth Annual Conference of the Delhi Chapter of Indian Society for Atherosclerosis Research (ISAR-DCCON 2019), 3 August 2019, AIIMS, New Delhi.

### Lectures delivered

**VL Kumar: 1**

**Sharda Shah Peshin: 2**

**Pooja Gupta: 3**

**Thomas Kaleekal: 1**

**Harlokesh Narayan Yadav: 2**

**Amita Srivastava: 1**

### VL Kumar

1. Therapeutic potential of plant derived latex: A case study, 5th IUPHAR World Conference on the Pharmacology of Natural: Products & 51th Annual Conference of Indian Pharmacological Society, 5-7 December 2019, National Institute of Nutrition, Hyderabad

### Pooja Gupta

1. Writing an effective abstract, Publication skill development: An Indian Pharmacological Society Initiative, 7 July 2019, ESIC Medical College, Hyderabad
2. About India Alliance Fellowship, Grantsmanship Workshop Series, 6 November 2019, AIIMS, Delhi
3. Safety of Antidiabetic Drugs, National CME on New Therapeutic Strategies for Type-2 Diabetes, 30 November 2019, AMU, Aligarh

### Harlokesh Narayan Yadav

1. Recent Trend in radiopharmaceuticals in drug discovery, Himachal Pharmacy College, 12 -13 September 2019, Nalagarh, Himachal Pradesh
2. Conditioning of heart: Recent update, International Conference of Cardiovascular Science-2020, 21-23 February 2020, DIPSAR, New Delhi,

### **Sharda Shah Peshin**

1. Moderated a Panel Discussion, 'Toxicovigilance & Prevention', "SYMP NPIC – 2019" - National Symposium on Poisoning as a public health problem, 26 April 2019, AIIMS, New Delhi,
2. The NPIC at AIIMS, New Delhi: A snap shot, "SYMP NPIC – 2019" - National symposium on Poisoning as a public health problem, 26 April 2019, AIIMS, New Delhi,

### **Thomas Kaleekal**

1. Epidemiology and SWOT analysis of Poison Information Centre in Indian scenarios with experience and evidence relevant to National Poisons Information Centre (NPIC), AIIMS, New Delhi, 'SAVEETA TOXICON 2020' International Workshop on AHLS, Poisoning & Simulated Disaster Management, 3-6 March 2020, Saveeta Medical College, Chennai

### **Amita Srivastava**

1. Household Poisoning-a glimpse, Toxic Detective- Masterclass on Toxicology, Hands-on training and Simulation Workshop, organized by Indian Society of Toxicology in association with Department of Emergency, Medanta-The Medicity & Department of Forensic Science and Criminal Investigation, Legal Desire, 4 February 2020, Medanta-Medicity, Gurugram

### **Oral papers/posters presented**

1. Arya DS, Bhatia J. Amelioration of Myocardial Injury in Diabetic Rats By Kaempferol, 29th European Meeting on Hypertension and Cardiovascular Protection (ESH-2019), 21-24 June 2019, Milano Congressi, Milan, Italy
2. Bhargava P, Bhatia J, Arya DS. Cardioprotective Effect of Hesperidin in an Experimental Model of Cardiac Hypertrophy, 29th European Meeting on Hypertension and Cardiovascular Protection, 21-24 June 2019, MiCo Milano Congressi, Milan, Italy
3. Bhargava P, Bhatia J, Arya DS. Cardioprotective Effect of Hesperidin in an experimental model of Cardiac Hypertrophy 5th Annual Conference of Indian Society for Atherosclerosis Research, Delhi Chapter, 3 August 2019, AIIMS, New Delhi, (Young Investigator Award-First Prize in Basic category)
4. Bhargava P, Arya DS, Bhatia J. Cardioprotective Effect of Hesperidin in Experimentally Induced Cardiac Hypertrophy In Rats, 16th Annual Conference of the International Society for Heart Research (ISHR, 2019), 15-17 February 2019, Jaipur
5. Bhatia J, Khan S, Arya DS. Febuxostat attenuates cardiac ischemia reperfusion injury by modulating MAPK/NF- $\kappa$ B/TNF- $\alpha$  pathway, 29th European Meeting on Hypertension and Cardiovascular Protection, 21-24 June 2019, MiCo Milano Congressi, Milan, Italy
6. Bhatia J, Tomar A, Kaushik S, Khan S, Malik S, Nag TC, et al. Galangin pharmacologically modulates Cisplatin-induced nephrotoxicity by targeting MAPK pathway, 5th IUPHAR World Conference on the Pharmacology of Natural Products (WCP-NP) & 51st Annual Conference of the Indian Pharmacological Society (IPS), 5-7 December 2019, National Institute of Nutrition, Hyderabad.
7. Joshi B, Singh D, Wasan H, Sharma U, Jagannathan NR, Dinda AK, et al. Tideglusib exerts neuroprotective effect in brain ischemic reperfusion injury in rats, 5th European Stroke Organization Conference (ESOC-2019), 22-24 May 2019, MiCo Milano Congressi, Milan, Italy
8. Kaushik S, Tomar A, Arya DS, Bhatia J. Sesamol modulates mechanistic pathways in a dose dependent manner in bleomycin-induced pulmonary toxicity in rats, 5th IUPHAR World Conference on the Pharmacology of Natural Products (WCP-NP) & 51st Annual Conference of Indian Pharmacological Society(IPS), 5-7 December 2019, National Institute of Nutrition, Hyderabad, Telangana, India, Hyderabad (IPS-CON – Best Poster Presentation Award (PC Dandiya Prize)
9. Kumar R, Arora R, Sarangi SC, Ganeshan NS, Kaleekal T, Gupta YK. Pharmacodynamic and pharmacokinetic interaction of hydroalcoholic leaf extract of Centella asiatica with valproate and phenytoin in experimental model of epilepsy in rats, 5th IUPHAR World Conference on the Pharmacology of Natural Products (WCP-NP) & 51st Annual Conference of Indian Pharmacological Society (IPS), 5 – 7 December 2019, ICMR – National Institute of Nutrition, Hyderabad
10. Rashid H, Katyal J, Tripathi M, Sood M, Gupta YK. Validation of the Indian version of Neurological Disorders Depression Inventory for Epilepsy (NDDI-E), 33rd International Epilepsy Congress, 22-26 June 2019, Convention Centre, Bangkok, Thailand
11. Rashid H, Katyal J, Tripathi M, Sood M, Gupta YK. Depression and Suicidal Ideation in Persons with Epilepsy: A Prospective Observational Study, 33rd International Epilepsy Congress, 22-26 June 2019, Convention Centre, Bangkok, Thailand

12. Rashid H, Katyal J, Tripathi M, Sood M, Gupta YK. Depression in persons with epilepsy on antiepileptic drugs and their correlation with serum brain-derived neurotrophic factor (BDNF) levels, 21st Joint Annual Conference of Indian Epilepsy Society and Indian Epilepsy Association (ECON 2020), 17-19 January 2020, Ashram Road, Ahmedabad
13. Reeta KH, Singh D, Sharma U, Jagannathan NR, Gupta YK. Monomethylfumarate exerts neuroprotection in experimental model of stroke by its anti-inflammatory and antioxidant properties, 14th World Congress on Inflammation, 15-19 September 2019, International Conference Centre, Sydney, Australia
14. Reeta KH, Singh D, Wasan H. Involvement of apoptosis related proteins in the neuro-protective effect of dihydromyricetin in transient focal ischemia reperfusion injury in rats, 24th World Congress of Neurology, 27-31 October 2019, World Trade Centre, Dubai, United Arab Emirates
15. Samuel SS. Menace of Chemical Terror Attacks in India in the Last Five Decades, International Conference on Medical & Health Sciences by Research forum, 29-30 January 2020, Karol Bagh, New Delhi.
16. Sarangi SC, Pattnaik SS, Katyal J, Kaleekal T, Dinda AK. Effect of Ocimum sanctum on Kindling Model of Epilepsy in Comparison to Levetiracetam, 33rd International Epilepsy Congress, 22-26 June 2019, Convention Centre, Bangkok
17. Sarangi SC, Kaur N, Tripathi M. Quality of Life and Cost of Treatment Assessment in Persons With Epilepsy on Monotherapy of Conventional and Newer AEDs, 33rd International Epilepsy Congress, 22-26 June 2019, Convention Centre, Bangkok
18. Sarangi SC, Dash Y. Impact of Climate Change on Non-Communicable Diseases like
19. Depression in India, AGU Fall Meeting 2019, 9-13 December 2019, Moscone convention center, San Francisco, CA, USA
20. Singh D, Wasan H, Joshi B, Prakash R, Sharma U, Jagannathan NR, Dinda AK, Reeta KH. Temporal expression profile of heme oxygenase-1 after cerebral ischemia reperfusion injury in rats, 5th European Stroke Organization Conference (ESOC-2019), 22-24 May 2019, MiCo Milano Congressi, Milan, Italy
21. Singh D, Wasan H, Sharma U, Dinda AK, Reeta KH. Dihydromyricetin exerts neuroprotection in ischemia reperfusion induced neuronal damage by inhibiting apoptosis and astrogliosis, International Society of Neurochemistry, American Society for Neurochemistry Meeting 2019, 4-8 August 2019, Palais des congrès de Montréal, Montreal, QC, Canada
22. Singh D, Verma V, Reeta KH. Sinaptic acid mitigates intracerebroventricular streptozotocin induced oxidative stress and neuro-inflammatory changes in rats, 24th World Congress of Neurology, 27-31 October 2019, World Trade Centre, Dubai, United Arab Emirates
23. Sopory P, Reeta KH. Study of pyrrolidine dithiocarbamate on experimental models of Alzheimer's disease in rats, Experimental Biology 2019 (American Society of Pharmacology and Experimental Therapeutics), 6-9 April 2019, Orange County Convention Centre, Orlando, Florida, USA.
24. Vangaveti S, Das P, Kumar VL. Hepatoprotective and nephroprotective effects of silymarin in a rat model of cyclosporine-induced organ damage, 5th IUPHAR World Conference on the Pharmacology of Natural Products (WCP-NP) & 51st Annual Conference of Indian Pharmacological Society (IPS), 5-7 December 2019, National Institute of Nutrition, Hyderabad
25. Wasan H, Singh D, Joshi B, Sharma U, Jagannathan NR, Dinda AK, Reeta KH. Evaluation of neuroprotective effects of dihydromyricetin in experimental model of ischemic stroke, 5th European Stroke Organization Conference (ESOC-2019), 22-24 May 2019, MiCo Milano Congressi, Milan, Italy
26. Wasan H, Singh D, Joshi B, Sharma U, Jagannathan NR, Reeta KH. Evaluation of neuroprotective effects of safinamide in experimental model of ischemic stroke, 24th World Congress of Neurology, 27-31 October 2019, World Trade Centre, Dubai, United Arab Emirates

## RESEARCH

### Funded projects

#### *Ongoing*

1. Ameliorative potential of Vinpocetin in Streptozotocin induced diabetic cardiomyopathy in Wistar rats, Harlokesh Narayan Yadav, ICMR, 3 years, 2019-2022, Rs 16.80 lakhs
2. Anti-inflammatory strategy in the treatment of pulmonary Artery Hypertension: an Experimental study, SK Maulik, ICMR, 3 years, 2017-2020, Rs 30 lakhs
3. Depression in persons with epilepsy (PWE): Correlation with Serum biomarkers and CYP2C19 polymorphism, a pilot study, Jatinder Katyal, AIIMS, New Delhi, 2 years, 2018-2020, Rs 7.87 lakhs

4. Development of Solid Lipid Nanoparticles for oral delivery of Liraglutide, an anti-diabetic drug, Harlokesh Narayan Yadav, DBT, 2 years, 2018-2020, Rs 14.75 lakhs
5. Early biomarkers for chemotherapy induced cardiotoxicity in patients with hematological malignancies, Shalini Rawal (Pooja Gupta-Mentor WOS-B), DST, 3 years, 2019-2022, Rs 30.24 lakhs
6. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, SC Sarangi, ICMR, 3 years, 2019-2022, Rs 29.03 lakhs
7. Effect of antiepileptic drug monotherapy with Levetiracetam and Valproate on metabolic status in women with epilepsy, SC Sarangi, AIIMS, New Delhi, 2 years, 2018-2020, Rs 5 lakhs
8. Effect of Sildenafil monotherapy versus vitamin and Sildenafil combination in experimental model of pulmonary hypertension in rats, Harlokesh Narayan Yadav, AIIMS, New Delhi, 2 years, 2019-2020, Rs 10 lakhs
9. Evaluation of effect of Asiaticoside & Medecassoside on pharmacodynamics and pharmacokinetics of azathioprine in rat model of colitis, Thomas Kaleekal, AIIMS, New Delhi, 2 years, 2019-2021, Rs 4.9 lakhs (for first year)
10. Evaluation of Fumaric Acid Esters (FAEs) in Experimental Model of Stroke in Rats, KH Reeta, DBT, 3.5 years, 2015-2019, Rs 57.54 lakhs
11. Evaluation of Safinamide in Experimental Model of Stroke and Post Stroke Seizure Behaviour in Rats, KH Reeta, DST, 3 years, 2018-2021, Rs 27.61 lakhs
12. Genomic and Biochemical Correlation of "Prakriti" Stratified Patients diagnosed with Coronary Artery Disease (CAD): An Integrative Approach towards Personalized CAD Management, Pamila Dua (Dr KH Reeta-Guide), DST (Women Scientist), 3 years, 2019-2022, Rs 31.21 lakhs
13. ICMR Task force Centre on Rational use of drugs, Pooja Gupta, ICMR, 3 years, 2019-2022, Rs 15.75 lakhs
14. Modulation of AMPA receptor: Effect on post-stroke damage after focal cerebral ischemia reperfusion injury in rats, KH Reeta, ICMR, 3 years, 2019-2022, Rs 51.40 lakhs
15. Pharmacodynamic and pharmacokinetic interactions of the ayurvedic formulation (BGR-34) with Glibenclamide in experimental model of diabetes in rats, SC Sarangi, AIMIL Pharmaceuticals, New Delhi, 3 years, 2018-2021, Rs 21.01 lakhs
16. Pharmacological and Molecular approaches to investigate the effect of Adhato dasavica in experimental model of bleomycin induced pulmonary fibrosis, Jagriti Bhatia, Central council for research in Unani medicine, Department of AYUSH, 3 years, 2018-2021, Rs 55.42 lakhs
17. Pharmacological effects of Vitamin D in diabetic cardiomyopathy via ACE-2/Angiotensin (1-7)/Mas receptors axis in experimental diabetic rats, Harlokesh Narayan Yadav, AIIMS, New Delhi, 2 years, 2018-2020, Rs 20 lakhs
18. Pharmacological screening of Homeopathic drugs used in rheumatoid arthritis, Surender Singh, AYUSH, 2 years, 2017-2019, Rs 27.56 lakhs
19. Role of GSK3 $\beta$  in modulating autophagy and apoptosis in permanent and transient model of ischemic stroke in rats, Devendra Singh (Dr KH Reeta - Guide), ICMR (RA), 3 years, 2019-2022, Rs 21.58 lakhs
20. Surface engineered Silver (Ag) nanoparticles and Peptide conjugate for angiogenesis based animal wound management, Harlokesh Narayan Yadav, DBT, 3 years, 2018-2021, Rs 87.36 lakhs
21. Targeted Co-delivery of P53 modulator and anti-cancer drugs to achieve synergistic effect for cancer therapeutics, Harlokesh Narayan Yadav, DST, 3 years, 2016-2021, Rs 35 lakhs
22. To evaluate the effect of topical urea in secondary prophylaxis of hand foot skin reaction in cancer patients undergoing sunitinib chemotherapy, Pooja Gupta, AIIMS, New Delhi, 1 year, 2019-20, Rs 5 lakhs
23. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Pooja Gupta, DST, 3 years, 2017-2020, Rs 25.31 lakhs

### ***Completed***

1. Evaluation of the nephroprotective effect of Berberine and Diadzein in Cisplatin induced nephrotoxicity in rats, Jagriti Bhatia, DBT, 3 years, 2015-2019, Rs 24.99 lakhs
2. Formulation and evaluation of lipid based nanoparticles of Epalrestat in experimental diabetic neuropathic pain in Wistar rats, Harlokesh Narayan Yadav, AIIMS, New Delhi, 2 years, 2017-2019, Rs 5 lakhs
3. Nano-Berberine for Protection against Chemotherapy Induced Cardiotoxicity in vitro, Pooja Gupta, AIIMS, New Delhi, 1 year, 2018-2019, Rs 5 lakhs
4. Role of brain derived neurotrophic factor (BDNF) as a potential biomarker in seizure related cardiac abnormalities, Jatinder Katyal, DST (SERB), 2 years, 2017-2019, Rs 22.03 lakhs

## **Departmental projects**

### ***Ongoing***

1. Ameliorative potential of Vit. D in experimental diabetic cardiomyopathy in rats
2. An evaluation of cognitive impairment in persons with epilepsy(PWE) on Levetiracetam versus Sodium Valproate monotherapy
3. Berberine nanoparticles for protection against 5-Fluorouracil induced Cardiotoxicity – an in vitro and in vivo study
4. Comparison of effect of antidepressants on neurodegeneration in patients with depression
5. CYP2C19 polymorphism in Persons with Epilepsy on Levetiracetam
6. Depression in persons with epilepsy(PWE): Correlation of Serum BDNF and Zinc levels
7. Effect of add on zinc with Levetiracetam in seizure induced depression in rats
8. Effect of Benidipine alone and in combination with Bosentan and Sildenafil in Monocrotaline induced pulmonary arterial hypertension in rats
9. Effect of Vit. D on Monocrotaline induced pulmonary hypertension in rats
10. Evaluation of effect of oral hypoglycaemic agents on cognitive function in young and middle-aged type 2 diabetes mellitus patients.
11. Markers of Chemotherapy-induced Cardiotoxicity in Hematological Malignancy Patients Receiving Doxorubicin-containing Regimens
12. Open-label placebo versus double-blind placebo treatment for experimentally induced pain in healthy volunteers: A pilot study
13. Pharmacological and molecular characterization of the cardioprotective effect of Teriflunomide in experimental models of myocardial infarction and diabetic I/R-injury in rat heart
14. Pharmacological studies delineate the effect of Nilotinib in experimental models of Non Alcoholic Fatty Liver Disease (NAFLD)
15. Prescribing Pattern in Advanced Non-small Cell Lung Cancer (NSCLC) at IRCH, AIIMS with Quality of Life and Cost Analysis
16. Randomized placebo controlled crossover study to evaluate the effect of single dose of paracetamol on the psychomotor skills, cognitive and decision making capabilities in healthy volunteers
17. Studies on the effect of Artesunate in experimental model of sepsis
18. Studies on the effect of Roxithromycin in an experimental model of prostatitis
19. Studies on the effect of Roxithromycin in experimental model of sepsis
20. To evaluate the effect of Abatacept on Carbon Tetrachloride induced hepatotoxicity
21. To study the effect of Sesamol in Bleomycin induced pulmonary toxicity in rats
22. VEGF-A as a biomarker for diagnosis and therapeutic monitoring in patients with extra-pulmonary tuberculosis: A pilot study

### ***Completed***

1. A pilot study exploring glucose regulated protein-78 (grp78) as a biomarker of responsiveness to Bortezomib based regimen in patients with multiple myeloma
2. A randomized double blind cross-over study to assess the effect of regular and decaffeinated coffee on psychomotor performance in healthy volunteers during post-lunch period
3. Comparison of newer and conventional antiepileptic drugs in focal and generalized seizures in terms of quality of life and cost of treatment
4. Development of nanoparticles based oral formulation of Liraglutide and evaluation of its effect in high fat diet induced obesity in mice.
5. Effect of antiepileptic drugs on physical activity, reproductive endocrine health and quality of life in women with epilepsy
6. Effect of Ascorbic acid supplementation on pulmonary functions in persons of age  $\geq 35$  years: A Randomized Controlled Pilot Study
7. Effect of H. pylori eradication therapy in patients with non-alcoholic fatty liver disease (NAFLD) on liver fat: A Randomized Controlled Pilot Study
8. Effect of U-50488, a kappa opioid receptor (KOR) agonist and IRL-1620, an endothelin B (ETB) receptor agonist on epileptogenesis and cardiac changes in rat lithium pilocarpine (LiP) seizure model.
9. Factors associated with seizure recurrence in persons with epilepsy undergoing anti-epileptic drug tapering: A

prospective observational Study

10. Formulation of oral Liraglutide polymeric nanoparticles and evaluation of its hypoglycemic activity in experimentally induced diabetes mellitus in Wistar rats

### **Collaborative projects**

#### ***Ongoing***

1. A randomized Randomized controlled Controlled pilot Pilot Trial to compare the efficacy of Rituximab infusion versus intravenous Dexamethasone Pulse therapy in Pemphigus vulgaris and its correlation with phenotypic and functional determinants of B and T cells, Dermatology
2. Effectiveness of Cranberry Extract Mouth- Rinse compared to Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children-A Randomized Controlled Trial, Department of Pedodontics and Preventive Dentistry, CDER
3. High resolution Genomic screening using SNP Microarray to find out Genomic Causes in Idiopathic Sertoli Cell Only Syndrome (SCOS) cases, Reproductive Biology

#### ***Completed***

1. A study to determine the association of trace elements and heavy metals with lung cancer and their correlation with smoking, Medical Oncology, IRCH
2. Comparative evaluation of Simvastatin gel and diode laser for pulpotomy in primary molars: single blind, phase 2 randomized trial, Pediatric Dentistry, CDER

### **PUBLICATIONS**

**Journals: 31**

**Abstracts: 16**

### **PATIENT CARE**

#### **National Poisons Information Centre (NPIC)**

The National Poisons Information Centre (NPIC) in the Department of Pharmacology has completed 25 years of service in imparting information on management of poisonings. It plays a vital role in providing relevant information on management of poisonings. Round the clock service rendered by NPIC is availed by treating physicians, government agencies, NGOs, and general public from all over the country. 8126 calls were received by NPIC from 1st April 2019 to 31st March 2020.

#### **Month-wise calls received by NPIC**

<b>Month</b>	<b>Number of Calls</b>
Apr-19	659
May-19	737
Jun-19	646
Jul-19	684
Aug-19	622
Sep-19	621
Oct-19	638
Nov-19	572
Dec-19	750
Jan-20	731
Feb-20	746
Mar-20	720
<b>TOTAL</b>	<b>8126</b>

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor VL Kumar** was Chairperson in Session I, Common Poisons: Issues and perspectives, in “SYMP NPIC – 2019” - National Symposium on Poisoning as a Public Health Problem, organized by National Poisons Information Centre, Department of Pharmacology, AIIMS, on 26 April 2019 at AIIMS, New Delhi

**Professor KH Reeta** was on Specialist Board in specialty Pharmacology, National Board of Examinations, March 2019 onwards; Expert Member, 1st Biomedical and Health Sciences (Core Research Grant) Project Advisory Committee Meeting, Science and Engineering Research Board, Department of Science and Technology, Government of India; Member, Subject Expert Committee, CDSCO

**Dr Pooja Gupta** is Co-Ordinator for ADR monitoring centre (ADR-AMC) under Pharmacovigilance Programme of India (PvPI) and Medical Device Monitoring Centre (MDMC) for Materiovigilance Program of India (MvPI) by Ministry of Health and Family Welfare, Government of India.

**Dr Sudhir Sarangi**, obtained Certificate of Achievement for poster presentation at 33rd International Epilepsy Congress, 2019 held at Bangkok, Member of Institute Ethics Subcommittee for monitoring of adverse events in clinical trials at AIIMS, New Delhi; Subject expert for Standing National Committee on Medicine (SNCM) for revision of National List of Essential medicines (NLEM) 2015 organized by ICMR, New Delhi; Subject expert for 4th Meeting of Subject Review Committee for revision of National Formulary of India organized by Indian Pharmacopoeia Commission, MoHFW, Govt of India on 15 November 2019 at Translational Health Science and Technology Institute (THSTI), Faridabad.

**Dr Thomas Kaleekal** was Chairperson in Session III, on ‘Technological advancements in application of LCMS/MS in unknown poison identification’ and Demonstration of Micromedex databases, in “SYMP NPIC – 2019” - National Symposium on Poisoning as a Public Health Problem, organized by National Poisons Information Centre, Department of Pharmacology, AIIMS, on 26 April 2019 at AIIMS, New Delhi.

**Dr Amita Srivastava** received IAMLE fellowship in 10th International conference on legal medicine, medical negligence and litigation in medical practice and 10th International conference on current trends in forensic sciences, forensic medicine and technology (IAMLE 2019) held on 12-15 September 2019 at Kathmandu, Nepal (SAARC);, Chairperson in Session III, on ‘Technological advancements in application of LCMS/MS in unknown poison identification’ and Demonstration of Micromedex databases, in “SYMP NPIC – 2019” - National Symposium on Poisoning as a Public Health Problem, organized by National Poisons Information Centre, Department of Pharmacology, AIIMS, on 26 April 2019 at AIIMS, New Delhi; Chairperson in session on ‘Forensic Pharmacology’, in the 10th International conference on legal medicine, medical negligence and litigation in medical practice and 10th International conference on current trends in forensic sciences, forensic medicine and technology (IAMLE 2019), on 12-15 September 2019 at Kathmandu, Nepal.



## 9.31. Physical Medicine and Rehabilitation

### Professor and Head

U Singh

Sanjay Wadhwa

### Professors

SL Yadav

Gita Handa

### Associate Professor

Srikumar V

### Assistant Professor

Asem Rangita Chanu

### Superintendent Physiotherapist

Mrs Smita Das

### Senior Physiotherapist

Mr OP Yadav

### Superintendent Occupational Therapist

Mr Raman Kumar Singh

### Senior Occupational Therapist

Mrs Lily Farhat Parveen

### Senior Technical Officer

Mr Ajay Babbar

### HIGHLIGHTS

Many faculties and residents of the department attended the 14th Annual Conference of Indraprastha Association of Rehabilitation Medicine “Delhi PMR Conference 2019” at ABVIMS and Dr RML Hospital, New Delhi on 30 November and 1 December 2019 on the theme —Critical care rehabilitation: New Horizon in PMR. The event was attended by eminent faculties from Delhi and rest of India who shared their experiences and enriched the knowledge.

### EDUCATION

Undergraduate teachings for the VIII Semester and VI Semester were undertaken by the department. Eleven postgraduate students are doing MD (PMR). PMR DNB Students from RG Kar Medical College (Kolkata) visited our department as part of their teaching/training program. Postgraduate and fellowship training for Palliative Care and Onco-Anesthesiology, Pediatric Neurology and Pain Fellows was conducted in the department. One surgeon from the Army Medical Corps started his Long Term Training in our department.

### CMEs, National and International Conferences

#### Lectures delivered

**U Singh: 5**

**Sanjay Wadhwa: 13**

**Gita Handa: 4**

**Srikumar V: 9**

**Hafis Rahman: 1**

#### U Singh

1. Problem of high prevalence of osteoporosis and morphometric vertebral fractures in Indian males aged 60 years and above: Should age for screening be lowered, International spine and spinal injuries conference, 13 October 2019, New Delhi
2. Panelist during the panel discussion: SCI specific web portal to achieve favorable community health outcomes, International spine and spinal injuries conference, 13 October 2019, New Delhi
3. Management of prolapse intervertebral disc, International spine and spinal injuries conference, 13 October 2019, New Delhi
4. Management issues in Physical Medicine and Rehabilitation. Training course on hospital management for Senior Medical Officers of Border Security Force, Organized by NIHFV, 17 October 2019, New Delhi
5. Panelist and Chairperson during the Panel Discussion on Platelet Rich Plasma, IPARM CME on Regenerative Medicine and Rehabilitation, 15 February 2020, New Delhi

### **Sanjay Wadhwa**

1. WHO Disability Action Plan, Indian Federation of Neuro-Rehabilitation Conference, IFNRCON 2019, 20 April 2019, Mumbai
2. How to improve Neurorehabilitation Services in India? Indian Federation of Neuro-Rehabilitation Conference, IFNRCON 2019, 20 April 2019, Mumbai
3. ICF- Background, Aims, Application and Properties, Basic Training Programme on International Classification of Functioning, Disability and Health (ICF) of FIC for Training of Trainers (TOT), 3 July 2019, Mohali
4. ICF- Overview of Components and Definitions, Basic Training Programme on International Classification of Functioning, Disability and Health (ICF) of FIC for Training of Trainers (TOT), 3 July 2019, Mohali
5. PMR Ayushman Bharat Packages, Panel Discussion during National Mid-Term CME Programme of IAPMR, 21 September 2019, Rishikesh
6. PMR in Meningomyelocele, National PMR Refresher Course, 11 October 2019, Jaipur
7. Technical aspects: Locomotor disability in LMN disorders, 27th Annual Conference of the Indian Academy of Neurology (IANCON-2019), 4 October 2019, Hyderabad
8. Traumatic Brain Injury: Rehabilitation is Need of the Hour, 27th Annual Conference of the Indian Academy of Neurology (IANCON-2019), 4 October 2019, Hyderabad
9. Improvement of Gait in Stroke, 48th Annual Conference of IAPMR, IAPMRCON 2020, 17 January 2020, Kozhikode, Kerala
10. Beyond Disability, Towards Empowerment, 48th Annual Conference of IAPMR, IAPMRCON 2020, 18 January 2020, Kozhikode, Kerala
11. Assessment Guidelines for Locomotor Disabilities, National-Level Video Conference on Disability Evaluation Guidelines - Clarifications, 17 February 2020, Delhi
12. Spinal Cord Injuries and its Rehabilitation, CME on “Challenges and Scope of Rehabilitation”, 28 February 2020, Raipur
13. Role of PMR Specialists in the Future of Healthcare, Round Table Conference on “Professionals and Future of Healthcare”, 1 March 2020, New Delhi

### **Gita Handa**

1. “Pressure Sore management: Mobilization or bed rest” - Panelist, ISSICON -2019, 12 October 2019, New Delhi
2. Rehab surgery interface: Do we have the ideal synergy - Moderator, ISSICON 2019, 13 October 2019, New Delhi
3. Spinal Cord Society Best Poster Award -Judge, ISSICON 2019, 13 October 2019, New Delhi
4. Disability Competencies in UG curriculum: The way forward - Moderator, Delhi PMRC on 2019, 30 November 2019, New Delhi

### **Srikumar V**

1. Motor Neuron Disease - Rehabilitation, 7th Annual National Conference of Indian Federation of Neurorehabilitation, 20 April 2019, Mumbai
2. Panelist: Do spine bio-mechanical alterations due to lumbar fixations translate to adjacent segment disease?, 3rd International Conference on Clinical Orthopaedics and Spine Biomechanics, 27 and 28 April 2019, New Delhi
3. Panelist: Effect of prosthesis on gait parameters, 3rd International Conference on Clinical Orthopaedics and Spine Biomechanics, 27 and 28 April 2019, New Delhi
4. Imaging in Trauma – TBI & SCI, Annual Midterm CME of Indian Association of Physical Medicine and Rehabilitation, 20-22 September 2019, Rishikesh
5. Neurogenic Bowel, National PMR Refresher Course, 10 October 2019, Jaipur
6. Wheelchair Prescription, National PMR Refresher Course, 10 October 2019, Jaipur
7. Moderator: Pressure Sore management - Mobilization or bed rest, International Spine and Spinal Injuries Conference 2019, 12-14 October 2019, New Delhi
8. Panelist: Rehab surgery interface: Do we have the ideal synergy, International Spine and Spinal Injuries Conference 2019, 12-14 October 2019, New Delhi
9. Rehabilitation of Upper Extremity in Stroke: Current Concepts, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala

## Hafis Rahman

1. Introduction to regenerative medicine and Role of PRP in MSK rehabilitation, IPARM CME: Regenerative medicine and rehabilitation, 15 February 2020, New Delhi

## Oral Papers/Posters Presented

1. Arya S, Bhatia R, Nanda S, Yadav RK, Srikumar V. Effect of yoga on pain, functional disability and corticomotor excitability in chronic low back pain patients, 12th European Congress on Integrative Medicine, 13-15 September 2019, Barcelona, Spain
2. Benny R, Srikumar V, Chanu AR, Singh U, Devasenathipathy K, Raghavendra L. A Randomized Controlled Trial to compare the effect of single dose platelet rich plasma and corticosteroid injection in patients with carpal tunnel syndrome, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala
3. Handa G. Advances in Prosthesis and Orthosis for Trauma cases, IAPMR Mid Term CME, 21 September 2019, AIIMS, Rishikesh
4. Haneena F, Yadav SL, Singh U, Nehra A, Srikumar V, Chanu AR. A cross sectional study to evaluate the relation of gross motor function and hand function with intelligence in children with cerebral palsy, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala  
**(Dr Sanath Kumar Memorial Best Poster for PGT)**
5. Mallik KC. Rehabilitation of spinal cord injury associated with metabolic syndrome and cardiac autonomic dysfunction in a young male: A case report, 5th Annual Conference of Indian Society for Atherosclerosis Research-Delhi Chapter, 3rd August 2019, New Delhi
6. Mallik KC. Ultrasound guided Erector Spinae Block for Acute and Chronic Back pain: A Novel Technique, Clinical meet of IPARM- Delhi Chapter of PMR, 10 August 2019, New Delhi
7. Neyaz O, Srikumar V, Equebal A, Biswas A. Change in urodynamic pattern and incidence of urinary tract infection in patients with traumatic spinal cord injury practicing clean self-intermittent catheterization, International Spine and Spinal Injuries Conference 2019, 12-14 October 2019, New Delhi
8. Parihar R, Handa G, Srikumar V, Devasenathipathy K. A Randomized Controlled Trial to compare effect of ultrasound guided corticosteroid injection versus conservative treatment on pain, function and ultrasonographic features of common extensor tendons in patients with lateral epicondylitis, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala
9. Sahu S, Srikumar V, Chanu AR, Singh U. A Randomized Control Trial to compare effectiveness of electrical stimulation of foot and oxybutynin in overactive bladder in persons with spinal cord injury, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala
10. Swarnakar R, Wadhwa S, Srikumar V, Goyal V, Sreenivas V. PARK-EASE trial: A Randomized Controlled Trial to study the efficacy of exercises in early-stage Parkinson's disease, 2019 International Congress of Parkinson's Disease and Movement Disorders, 25 September 2019, Nice, France
11. Swarnakar R, Wadhwa S, Srikumar V, Goyal V, Sreenivas V. PARK-EASE Trial: A Randomized Controlled Trial to study the efficacy of exercises in early stage Parkinson's Disease, 2nd National Biomedical Research Competition (NBRCOM-2019), at PGIMER, Chandigarh, 17 November 2019, PGIMER, Chandigarh, India
12. Swarnakar R, Wadhwa S, Srikumar V, Goyal V, Sreenivas V. Effects of exercises on motor and non-motor symptoms in early-stage Parkinson's Disease: Results from the PARK-EASE trial, Delhi PMRC on 2019, 30 November 2019-1 December 2019, ABVIMS and Dr RML Hospital, New Delhi, India
13. Swarnakar R, Wadhwa S, Srikumar V, Goyal V, Sreenivas V. A Randomized Controlled Trial to study the efficacy of exercises in early stage Parkinson's disease, 48th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 January 2020, Kozhikode, Kerala
14. Swarnakar R, Rahman H, Srikumar V. A Pilot Observational Study of Hirayama Disease: Clinico-radiological features and Long Neck Hypothesis, 48th Annual National Conference of IAPMR – IAPMRCON 2020, 17-19 January 2020, Kozhikode, Kerala
15. Vasudeva A, Sahu S, Chanu AR, Yadav SL. Assessment of pain and structure after an intra-articular injection of adalimumab in osteoarthritis of the knee: A case report, IPARM Clinical Meet, 10 August 2019, AIIMS, New Delhi
16. Yadav SL. Disability Care in the Country, Continuing Rehabilitation Education 2019 with the theme "Principles of Amputee Rehabilitation: Current Perspective, 11 and 12 May 2019, Artificial Limb Centre, Pune.
17. Yadav SL, Vasudeva A, Choudhary A. A Randomized Controlled Trial to compare the effect of Zoledronic Acid versus a structured exercise program in primary osteoporosis, 13th International Society of Physical & Rehabilitation Medicine World Congress (ISPRM2019), 9-13 June 2019, Kobe, Japan

18. Yadav SL. Congenital Limb Deformity, PMR Refresher Course, 10-12 October 2019, Jaipur
19. 19. Yadav SL. Research in PMR: Opportunities and Challenges (Presidential Oration), 48th National Conference of Indian Association of Physical Medicine and Rehabilitation, 17 January 2020, Calicut
20. 20. Yadav SL. Surgical Considerations in Prosthesis: Recent Advances, 25th National Conference of Orthotics and Prosthetics Association of India, 7-9 February 2020, Bhubaneswar
21. 21. Yadav SL, Vasudeva A, Sahu S. A Randomized Controlled Trial to compare the efficacy of intra-articular Hylouronic Acid in primary osteoarthritis of the knee, 14th International Society of Physical and Rehabilitation Medicine World Congress (ISPRM2020), 4-9 March 2020, Orlando, USA
22. 22. Saxena S, Yadav SL. Quantitative analysis of effect of footwear modifications in osteoarthritis knee on radiological and gait parameters, 17th International Society for Prosthetics and Orthotics World Congress, 6-8 October 2019, Kobe, Japan
23. 23. Yadav SL. Principles of Amputee Rehabilitation: Current Perspective, Continuing Rehabilitation Education 2019, 11 and 12 May 2020, ALC, Pune

## RESEARCH

### Funded projects

#### *Ongoing*

1. Smart dynamic fabric actuator for prolonged standing professionals for management of chronic leg pain, Srikumar Venkataraman, AIIMS-IIT Delhi Collaborative Research Project, 2 years, 2018-2020, Rs 10 lakhs

#### *Completed*

1. Development and Testing of custom 3D printed foot orthotics using foot images from Smartphone for various foot problems, Gita Handa, BIRAC (DBT), 1.5 years, 2017-2019, Rs 12 lakhs

### Departmental projects

#### *Ongoing*

1. A cross sectional study to observe the prosthetic usage and functional status of upper limb amputees
2. A cross-sectional study to assess balance impairment and risk of fall in patients with Ankylosing Spondylitis.
3. A randomized controlled trial to compare effectiveness of smart dynamic fabric actuator with exercises in chronic musculoskeletal leg pain associated with prolonged standing
4. A Randomized Controlled Trial to Effect of Intra – Articular Adalimumab versus Intra – Articular Hyaluronic Acid in Patients with Primary Osteoarthritis of the Knee
5. Comparing Change in Disease Activity with Exercise Tolerance in Persons with Ankylosing Spondylitis on Adalimumab Therapy – An Observational Pilot Study
6. Comparing Change in Disease Activity with posture and balance in Persons with Ankylosing Spondylitis on Adalimumab Therapy – An Observational Pilot Study
7. Comparison of hamstring extensibility of patients having chronic nonspecific low back pain with healthy controls
8. Damper control in Lower Limb Prosthesis
9. Effect of Transcranial Magnetic Stimulation on Pain Modulation Status in Fibromyalgia Patients
10. Evaluation of efficacy of sensory integration therapy as an adjunct to standard care versus standard care alone in improving gross motor skills in children with cerebral palsy GMFCS I-III with sensory processing abnormalities: A single blinded randomized study
11. Hirayama Disease: Clinicoradiological features and long neck hypothesis
12. Incidence of recurrence of pressure injury in spinal cord injury patients
13. Post traumatic growth and its association with functioning and quality of life in patients with spinal cord injury.
14. Randomized Controlled Trial to compare the impact of exercises and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia.
15. The International Spinal Cord Society (ISCoS) Database Project
16. Work-related low back pain among health care professionals of AIIMS, New Delhi: a cross-sectional study

### ***Completed***

1. A Randomized Controlled Trial randomized control trial to compare effect of ultrasound guided corticosteroid injection versus conservative treatment on pain, function and ultrasonographic features of common extensor tendons in patients with lateral epicondylitis
2. Prevalence of Bifid Median Nerve in Carpal Tunnel Syndrome: A Case Control study
3. Lipofibromatous hamartoma of median nerve presenting as carpal tunnel syndrome
4. Pectoralis major tear: a rare cause for shoulder pain
5. Sacral osteomyelitis in a diabetic patient masquerading as coccydynia
6. A Randomized Controlled Trial to Compare the Effect of Zoledronic Acid versus a Structured Exercise Programme in Primary Osteoporosis
7. A Randomized Controlled Trial randomized control trial to compare the effect of single dose platelet rich plasma and corticosteroid injection in patients with carpal tunnel syndrome
8. A Randomized Controlled Trial randomized control trial to compare effect of platelet rich plasma and dextrose prolotherapy in patients of chronic plantar fasciitis
9. A cross sectional study to evaluate the correlation of gross motor, hand function, caregiver reported quality of life with intelligence in children with cerebral palsy
10. A Randomized Controlled Trial randomized control trial to compare effectiveness of electrical stimulation of foot and oxybutynin in overactive bladder in persons with spinal cord injury
11. PARK EASE Trial: A randomized controlled trial to study the efficacy of exercises in early stage Parkinson's disease
12. A Randomized Controlled Trial to Compare the Effect of Intra - Articular Adalimumab versus Intra - Articular Hyaluronic Acid in Primary Osteoarthritis of the Knee
13. Rehabilitation medical professional's perceptions on spirituality and health
14. Needs and experiences of patients with chronic pain in spiritual care and rehabilitation

### **Collaborative projects**

#### ***Ongoing***

1. A Study of Pain Status and Motor Cortex Excitability in Chronic Low Back Pain patients: Effect of Transcranial Magnetic Stimulation, Physiology
2. Design of Artificial Hand with Artificial Fingers. In collaboration with North Eastern Hill University, Shillong, NEHU, Shillong
3. Design, development and validation of ergonomically enhanced surgical instruments, Surgery
4. Detection of pressure points on residual limbs in transtibial amputees using thermal imaging, Biomedical Engineering/ IIT-D
5. Effect of yoga on pain and corticomotor excitability in chronic low back pain, Physiology
6. Electrophysiological analysis of cognitive load during locomotion and balancing and to investigate the improvement in gait and balance in lower limb amputees after using tactile feedback, Biomedical Engineering, AIIMS/IIT Delhi
7. Force Myography (FMG) driven affordable active lower limb prosthesis for resource-limited countries, IIT Delhi, University of Oregon, USA
8. Randomised control trial to compare the impact of progressive resistive exercise and nutritional interventions in skeletal muscle mass and function in obese patients with sarcopenia, Medicine
9. Synergy based Adaptive Prosthesis for Transfemoral Amputee. (Under ICMR), IIT, Delhi.

#### ***Completed***

1. Effect of motor imagery on corticomotor excitability and pain status in Rheumatoid Arthritis, Physiology
2. Evaluation of Pulmonary Function in Ankylosing Spondylitis, Physiology

## PATIENT CARE

<b>New Patients</b>	
OPD (Physician Consultations)	10939
New Registrations (P&O Workshop)	2615
<b>Total New Cases</b>	<b>13554</b>

<b>Old Cases</b>	
OPD (Physician Consultations)	24917
P & O Workshop	5678
Disability Evaluation Clinic	92
Railway Concession Certificates	159
OPD visits (PT Section)	18674
OPD visit (OT Section)	17156
OPD visit (MSW)	4669
Foot Clinic	101
EMG/NCV Lab Procedures	34
Diagnostic Ultrasound and interventional procedures	2517
Minor OT procedures	5010
<b>Total old cases</b>	<b>79007</b>

### Special Clinics of the department:

1. Musculoskeletal ultrasound guided interventions
2. Custom molded insoles in Foot Clinic
3. Wheelchair prescription and checkout clinic for customized wheelchair delivery as per WHO guidelines
4. Musculo-skeletal laboratory: Computerized evaluation and exercise equipment
5. Foot lab/Clinic
6. Disability Evaluation Clinic.
7. Brace Check-Out Clinic: Checking prosthetic and orthotic devices made in our workshop before final delivery to the patients.
8. Case Conference: Discussion of long-term rehabilitation patients for goal setting and treatment evaluation.
9. Gym Round Clinic: Evaluation of the therapy of the indoor patients admitted under PMR.

### Community Services

**Patient Care:** The departmental Faculty and Resident Doctors are periodically involved in Rural Camps in Mathura for the welfare of the persons with disability.

**Mass Media: Public Awareness Lectures and TV Health Programmes:** Dr Sanjay Wadhwa, Professor and Dr SL Yadav, Professor have participated a number of talks/programs on the TV/Radio for public health awareness and issues related to Disability.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor U Singh** is Member, Academic Committee, National Institute for the Orthopaedically Handicapped, Kolkata; Expert for the Research Degree Committee in MYAS-GNDU, Amritsar; Emeritus Editor, Indian Journal of Physical Medicine and Rehabilitation; Editorial Board Member, Spinal Cord Series and Cases, Journal of International Spinal Cord Society (ISCoS), UK; Consulting Editor and Reviewer, Journal of Rehabilitation Council of India Locomotor and Associated Disabilities; Reviewer, Annals of Indian Academy of Neurology; Reviewer, Indian Journal of Neuro-surgery; Reviewer, Journal of Spinal Cord Medicine; Reviewer, Journal of American Academy of Physical Medicine and Rehabilitation; Reviewer, Leprosy Review; Editorial Board Member, Indian Journal of Physiotherapy and Occupations Therapy; Honorary member of the editorial board for the International Journal of BioSciences and Technology (IJBST); Senior Editor: Astro-

cyte, Multispecialty Journal by National Board of Examinations, New Delhi, from December 2013; Chairman, Scientific Session 1, IPARM, Clinical Meeting, AIIMS, New Delhi, 10 August 2019; Chairperson and Judge for best paper award, Scientific Session XVIII. International spine and spinal injuries conference, New Delhi, 13 October 2019; Awarded second prize for Hindi Dictation Competition for the year 2018-19 during the Hindi Fortnight, organized by AIIMS, New Delhi, 14 September 2019.

**Professor Sanjay Wadhwa** is Convenor, International Standards Organization. Technical Committee 173, Working Group 12 (ISO/TC173/WG12); Chairman, Sectional Committee (MHD09) of Bureau of Indian Standards (BIS) till 2023; President of the Indian Association of Physical Medicine & Rehabilitation (IAPMR) w.e.f. 1 April 2019 for a 2 years term (2019-2021); Vice-President of the National Academy of Medical Sciences (NAMS) till June 2021; Member of Governing Council of the National Academy of Medical Sciences (NAMS) till June 2021; Member of the Medical and Hospital Division Council of Bureau of Indian Standards (BIS) till 2023; Member, Disability Committee, Medical Council of India; Member, Project Review Committee on Disability, ICMR; Member, Project Review Committee on Geriatrics, ICMR; Organized, as Programme Officer, a Training Workshop on Disability Assessment Guidelines for Ten Medical Colleges/Institutions designated for Issuing Disability Certificates for NEET UG Examination, on 1 June 2019 in the Seminar Room, Department of Anatomy at AIIMS, New Delhi. It was requested by the MCI (Board of Governors); Organized a Meeting of Sub-Committee under IAPMR for Drafting PMR related Benefit Packages under Aayushman Bharat Pradhan Mantri Jan Aarogya Yojana on 6 June 2019 in the Department of PMR at AIIMS, New Delhi; Organized a Lecture-cum-Demonstration for PG Students on “Vestibular Rehabilitation” by Dr Puneet Dhaliwal, PhD (PT) on 15 October 2019 in the Department at AIIMS, New Delhi; Organized Nation-wide Consultations for evolving Consensus and Drafting the PMR related Benefit Packages under Aayushman Bharat Pradhan Mantri Jan Aarogya Yojana. Submitted on behalf of IAPMR the Draft Document to the CEO, PM-JAY, Government of India on 12 March 2020; Participated as an Expert during a TV Programme Total Health on DD News on “How to Stay Fit During the Nation-Wide Lockdown on account of Coronavirus Infection/COVID-19” on 29 March 2020; Participated as an Expert during a TV Programme on DD News to Raise Awareness on the occasion of “International Day of Persons with Disabilities” on 3 December 2019; Participated as an Expert during Programme on Lok Sabha Television (LSTV) on “Spinal Cord Injuries” on 6 September 2019; Participated as an Expert during an important Programme ‘Sports 360’, on Doordarshan on “Sports Injuries” on 16 November 2019; Participated in the “SCI Rally to Raise Awareness About Issues Related to Spinal Cord Injuries” at Raj Path, India Gate on 7 September 2019.

**Professor SL Yadav** did Research in PMR: Opportunities and Challenges (Presidential Oration) during 48th National Conference of Indian Association of Physical Medicine and Rehabilitation, 17 January 2020, Calicut, Kerala; Fellowship of IAMLE (Indian Association of Medicolegal Experts) for the Year 2019; UGC (Ministry of Human Resource Development, Government of India) appointed as a mentor in the EEC efforts to help the, IOE Institutions in their journey the World ranking ladder.

**Dr Srikumar V** is Reviewer, SN Comprehensive Clinical Medicine, Springer Publications; Member, Development Group, Traumatic Brain Injury – Package of Rehabilitation Interventions, World Health Organization (WHO), Geneva; Member, Technical Committee, Wearable Electronic Devices and Technologies (LTD-33), Bureau of Indian Standards, Ministry of Consumer Affairs, GOI; Resource Person, CME on Spinal Cord Injury – Tamil Nadu Chapter of Indian Association of Physical Medicine and Rehabilitation, Govt. Institute of Rehabilitation Medicine, 2 February 2020, Chennai; Chairperson, Session on Alternative therapies and Recent Trends, International Spine and Spinal Injuries Conference 2019, 12-14 October 2019, New Delhi; Chairperson, PGT Award Paper Session, 48<sup>th</sup> Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 16-19 Jan 2020, Kozhikode; Chairperson, Civil Services Examination - 2019 Medical Board for Person’s with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; External Examiner, MD (Physical Medicine and Rehabilitation) Thesis Evaluation, 13 February 2020, SMS Medical College, Jaipur; Non-examiner coordinator, Practical Examination, Diplomate of National Board (Physical Medicine and Rehabilitation), 27 September 2019, AIIMS, New Delhi; Nodal officer, Indents of Machinery and equipment under plan and GeM, Department of PMR; Treasurer, Indian Association of Physical Medicine and Rehabilitation; Joint Secretary, Indraprastha Association of Rehabilitation Medicine.

**Dr Asem Rangita Chanu** is Reviewer, Journal of Medical Society; Chairperson, Civil Services Examination - 2019 Medical Board for Person’s with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; Content Provider from PMR for AIIMS website; Chief Guide in PG Thesis – A Cross Sectional Study to Observe the Prosthetic Usage and Functional Status of Upper Amputees; Member of Doctoral Committee for PhD student (Dr Souvik Manna) in Community Ophthalmology - Community based assessment of disability among adult population of Delhi using WHO-ICF.

## **Resident Doctors**

1. Our Department Poster on 'Basics and Advances in Rehabilitation & Breaking Barriers in Rehabilitation' was put up during the 64th Institute Day Exhibition-2019 of AIIMS, New Delhi.
2. Dr Hafis Rahman (SR), Dr Krishna B (JR) were awarded 1st place in quiz conducted at the 14th Annual Conference of IPARM titled Delhi PMR Con 2019.
3. Dr Ansarul Haq Miyan and Dr Aravind PR (JRs) were awarded 2nd place in quiz conducted at the 14th Annual Conference of IPARM titled Delhi PMR Conference 2019.
4. Dr Fatima Haneena P (JR), won Dr Sanat Kumar Sarkar Memorial Medal for best post-graduate poster presentation in 48th Annual National Conference held at Kozhikode, Kerala on 18 January 2020.
5. Dr Kanhu Charan Mallik (SR) was awarded IFNR Young Fellowship award during the IFRCON-2019 for the essay on the topic 'Vision Neurorehabilitation-2025'.
6. Dr Kanhu Charan Mallik (SR) was awarded Young Investigator Award (Consolation) in Clinical research in ISAR-DCCON 2019, organized by the Department of Pharmacology, AIIMS, New Delhi.
7. Dr Raunak Kumar (SR) was awarded 2nd prize (silver) at VMMC & SJH for academic performance in PG batch MD PMR On Occasion of Bhagwan Mahaveer Janam Jayanti Mahotsav, 16 April 2019.
8. Dr Raktim Swarnakar (JR) received MDS (Movement Disorder Society) Congress 2019 Travel Grant Award for presenting poster in the International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019 in Nice, France
9. Dr Raktim Swarnakar (JR) received Mrs Dwarka Prasad Trust Travel Grant Award for the session October 2019-March 2020 for attending and presenting paper at 2nd National Biomedical Research Competition (NBRCom-2019), at PGIMER, Chandigarh on 17th November 2019.

#### **VISITING SCIENTISTS**

1. Dr Darren J Player, Lecturer in Musculoskeletal Bioengineering, Division of Surgery and Interventional Science, Faculty of Medical Science, University College London, United Kingdom.
2. Raj Mitra, MD, The Senator Robert J Dole, Professor and Chairman, Department of Rehabilitation Medicine, The University of Kansas Medical Center, United States of America.

## 9.32. Physiology

**Professor and Head**  
Kishore Kumar Deepak

Hrudananda Mallick	<b>Professors</b>	Kanwal Preet Kochhar
Ratna Sharma	Debabrata Ghosh	Suman Jain
Ashok Kumar Jaryal	Nalin Mehta	Anjana Talwar
	Raj Kumar Yadav	

**Additional Professors**

Asmita Patil		Renu Bhatia
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**Associate Professors**

Simran Kaur		Prashant Tulsidas Tayade
Dinu Santha Chandran		Nasreen Akhtar

**Assistant Professors**

Ritesh Kumar Netam		Akanksha Singh
Geetanjali Gokarn Bade		Suriya Prakash Muthukrishnan

### HIGHLIGHTS

The Department of Physiology has been involved in undergraduate and postgraduate teaching in addition to the doctoral program. The faculty also undertook to train manpower for undergraduate, postgraduate teaching and research techniques in-house by holding workshops and symposia at AIIMS and other institutions. A number of extramural and intramural research projects were taken up by the faculty in various areas such as neurophysiology (including autonomic nervous system), cellular and molecular physiology, nutrition, vascular physiology, reproduction, respiration, sleep, cognition, transcranial magnetic stimulation and yoga. The research outcomes were presented in various national and international scientific forums and published in indexed journals. On the basis of its original research, the department has provided significant support in patient care by utilizing cutting-edge technologies in autonomic and vascular function assessments, pain management, intraoperative monitoring during corrective surgeries, and yogic intervention. Several awards and honors have been received by faculty members and the students of the department in appreciation of their innovative contributions in research and medical education. The department organized “Techniques in Physiological Sciences - Advanced Workshop”, the workshop for SAARC Nations from 12 to 15 December 2019 and shared their expertise with the scientists abroad (Picture 1). The department also organized 37th Annual Meeting of Indian Academy of Neurosciences from 18 to 21 November 2019 and was a grand success (Picture 2). Neuroscientists -School Children Meet was organized by the Department to stimulate research interests in young Indian minds on 18 November 2019 (Picture 3). As a significant recognition, seven research paper presentations were invited from our Space and Environmental Physiology lab by Human Space Program, 2020 organized under the aegis of ISRO in January 2020.



**Photograph 1:** Inaugural Ceremony of Techniques in Physiological Sciences - Advanced Workshop (12 December 2019) organized by Department of Physiology

Left to right: Dr R Bhatia, Professor HN Mallick, Professor R Guleria, Professor KK Deepak



**Photograph 2:** Inaugural Ceremony of 37th Annual Conference of Indian Academy of Neurosciences (18 November 2019), organized by Departments of Physiology and Anatomy

Left to right: Professor S Jain, Professor KK Deepak, Professor P Seth, Professor SB Singh, Professor PN Tandon (Guest of Honor), Professor R Guleria (Chief Guest), Professor MK Thakur, Professor VK Khanna, Professor TS Roy, Professor S Kaur.



**Photograph 3:** Neuroscientists -School Children Meet held at Jawaharlal Auditorium on 18 November 2019, organized by Departments of Physiology and Anatomy  
 Left to right: Professor HWM Steinbusch, Professor SB Singh, Professor P Seth, Professor KK Deepak, Professor R Sircar, Professor PK Seth, Professor S Jain, Professor TS Roy

## EDUCATION

1. **Undergraduate teaching:** Lecture 200 hours and Practical 240 hours, UG students: Total number of students: 107
2. **Postgraduate teaching:** Total Number of PG students:
  - a. MSc students: 10
  - b. MD students: 19
  - c. PhD scholars: 27
3. **Nursing and allied courses:** Total number of students:155
4. **Short Term Training in the Department of Physiology:**
  - a. Two BSc students from Hansraj College, University of Delhi from 9 March 2020 to 18 March 2020
  - b. One faculty from GMC, Guntur from 13 August 2019 to 27 August 2019
  - c. One MSc student from School of Studies in Neuroscience, Jiwaji University, Gwalior from 3 June 2019 to 30 July 2019
  - d. Two Faculty from Gadag Institute of Medical Sciences, Gadag from 15 July 2019 to 27 July 2019
  - e. One student from University College of Science and Technology, Kolkata from 15 November 2019 to 30 November 2019
  - f. One BS-MS student from IISER, Mohali from 15 June 2019 to 31 July 2019
  - g. One senior resident from VMMC & Safdarjung Hospital, Delhi from 17 February 2020 to 16 March 2020
  - h. One student from HNB Garhwal University, Uttarakhand from 1 June 2019 to 31 July 2019
  - i. One BPTH student from MGM Allied Health Sciences Institute, Indore from 1 May 2019 to 15 June 2019
  - j. Two students from DIPSAR, Delhi from 19 June 2019 to 19 July 2019
  - k. Two students from BR Ambedkar Centre for Biomedical Research, University of Delhi from 15. June 2019 to 15 July 2019

## CMEs/Workshops/Symposia/National and International Conferences

1. Techniques in Physiological Sciences - Advanced Workshop: Workshop for SAARC Nations, 12-15 December 2019, AIIMS, New Delhi
2. Twenty seventh Annual Meeting of Indian Academy of Neurosciences, Theme: “Neuron to Behavior”, 18-21 November 2019, AIIMS, New Delhi
3. Satellite Workshop on Techniques and Protocols to study space Physiology and their earth applications as part of 8th Congress of Federation of Indian Physiological Societies (FIPS Congress) – 2019, 26 September 2019, AIIMS, New Delhi
4. Workshop on “Autonomic function Testing” during National Conference and hands on workshop on noninvasive assessment of neural and vascular functions in diabetes, 16 May 2019, Nashik
5. Workshop on “Autonomic function Testing” during National CME cum Workshop on Autonomic Neurosciences, 12 April 2019, Gadag, Karnataka
6. Workshop on “Autonomic function Testing” during CME on Basics and future trends in Autonomic Function Testing’ at Gandhi Medical College, 15 February 2020, Bhopal
7. Workshop on “Autonomic function Testing” during 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), Guahati Medical College, 27 November 2019, Guwahati
8. Workshop on “Autonomic function Testing” during CME and Workshop on Autonomic Neurosciences, Guntur medical College, Dr NTR University of Health Sciences, 13 October 2019, Guntur
9. Fourth National Medical Laboratory Professionals Week 2019 (NMLPW), 22 July 2019, Department of Physiology, AIIMS, New Delhi
10. Second IAPEN Clinical Nutrition Update Symposium Series-2019 themed around “Surgical Nutrition”, 22 May 2019, AIIMS, New Delhi
11. Symposium on “Quantitative EEG as a neuroimaging tool for understanding cognition” at the 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 26–29 September 2019, ESIC Medical College and Hospital, Faridabad
12. Symposium on “Capturing Neural Activity to Assess Cognition” at the 27th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, AIIMS, New Delhi
13. Workshop on ‘QEEG: A tool to assess cognition’ at the 27th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, AIIMS, New Delhi
14. Workshop on Cognitive Function Tests and QEEG, Techniques in Physiological Sciences - Advanced Workshop, 12-15 December 2019, AIIMS, New Delhi
15. Workshop on Methodological basis of Expression Microarray and Functional Genomics, Techniques in Physiological Sciences - Advanced Workshop, 12-15 December 2019, AIIMS, New Delhi
16. Neuroscientists -School children meet, 18 November 2019, AIIMS, New Delhi
17. Workshop on Pain assessment in humans and animals, Techniques in Physiological Sciences - Advanced Workshop, 12-15 December 2019, AIIMS, New Delhi
18. Symposium cum workshop: ‘Innovations in digital learning & Teaching Physiology’ under the aegis of Association of Physiologists and Pharmacologists of India (APPI), Delhi Chapter, 24 June 2019, AIIMS, New Delhi
19. Symposium on ‘Recent updates in Mind, Body, Medicine’, 28 November 2019, APPICON 2019, Guahati Medical College, Guwahati
20. Workshop on Transcranial magnetic stimulation for Pain management, Techniques in Physiological Sciences - Advanced Workshop, 12-15 December 2019, AIIMS, New Delhi
21. Pre-Conference workshop at 8th International Conference of Physical Therapy, 19 December 2019, JPNTC and AIIMS, New Delhi
22. Intensive Sleep Technology Workshop, 14-19 April 2019, AIIMS, New Delhi
23. Polysomnography workshop, Techniques in Physiological Sciences - Advanced Workshop, 12-15 December 2019, AIIMS, New Delhi
24. Polysomnography Workshop, 28 November 2019, APPICON 2019, Guwahati Medical College, Guwahati

## Lectures delivered at CME/ National and International Conferences

**Kishore Kumar Deepak: 26**

**Ratna Sharma: 5**

**Raj Kumar Yadav: 3**

**Debabrata Ghosh: 4**

**Nalin Mehta: 15**

**Anjana Talwar: 7**

**Kanwal Preet Kochhar: 2**

**Suman Jain: 5**

**Asmita Patil: 6**

**Renu Bhatia: 5**  
**Dinu S Chandran: 4**  
**Ritesh Kumar Netam: 1**  
**Suriya Prakash Muthukrishnan: 5**

**Simran Kaur: 4**  
**Nasreen Akhtar: 5**  
**Geetanjali Gokarn Bade: 6**

**Prashant Tayade: 3**  
**Akanksha Singh: 4**

#### **Kishore Kumar Deepak**

1. How to convert our challenges into opportunities, State chapter of Association of Physiologist & Pharmacologist of India (UP-UK APPICON 2019), 6 April 2019, Greater Noida
2. Assessment of syncope and differentials for postural tachycardia syndrome, National CME cum workshop on autonomic neurosciences, 12 April 2019, Gadag
3. The future prospects for Physiologists, Local chapter of Association of Physiologist & Pharmacologist of India Meeting, 26 April 2019, Manipur
4. Assessment of autonomic functions in diabetes, National conference and hands on workshop on non-invasive assessment of neural & vascular functions in diabetes, 16 May 2019, Nashik
5. Yoga for health and disease , Yoga Mahotsav, Ministry of AYUSH, 2 June 2019, New Delhi
6. Autonomic functions in health & disease , Vascular physiology, physiological techniques and medical education quadrilateral physiology conference, 21 June 2019, Graz, Austria
7. Electrophysiology: Basics of all electrophysiological tests and procedures, role of tests in patient care etc, Capacity building initiative for hospital electrocardiography/ electrophysiology technical staff, AIIMS, New Delhi, 17 September 2019, New Delhi
8. Techniques and protocols to study space physiology & their earth applications, Satellite Workshop, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress2019), 26 September 2019, New Delhi
9. Setting of clinical physiology and hospital services: Advantages, challenges and future directions, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 28 September 2019, Faridabad
10. Integration and innovation in physiology, CME and workshop on autonomic neurosciences, 13 October 2019, Guntur
11. Physiologic basis of Obstructive Sleep Apnea (OSA), CME on sleep medicine, 20 October 2019, Guwahati
12. Yoga for performance improvement in different operational environmental conditions, Continuing Education Program (CEP), DIPAS, DRDO, 23 October 2019, New Delhi
13. Value of autonomic function tests, Association of Physiologists and Pharmacologists of India (Local Chapter meeting), 11 November 2019, Gwalior
14. Yoga as medicine: underlying mechanisms, Fifth International Yoga Conference (IYC) on ‘Yoga for heart care’, 16 November 2019, Mysuru
15. Cerebellar and brainstem mediated autonomic regulation: An emergent prospective of central autonomic network, 37th Annual Conference of Indian Academy of Neurosciences (IAN 2019), 18-21 November 2019, New Delhi
16. Post-graduate medical education: Newer MD physiology practicals, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 27 November 2019, Guwahati
17. AFT Lab – The story from inception to country-wide establishment, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 29 November 2019, Guwahati
18. Techniques of autonomic function testing, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12 and 13 December 2019, New Delhi
19. Yoga for astronauts: The challenges, solutions and protocol, 23rd INCOFVRA (International Conference of Frontiers in Yoga Research and its Applications), 5 January 2020, Bengaluru
20. Evaluation of adrenergic and cardio-vagal function: HRV & BRS, Clinical autonomic quantitation workshop, 9 January 2020, New Delhi
21. Autonomic function testing – Relevance to sports physiologists, National workshop in sports physiology, 10 January 2020, Wardha
22. Validation of head down tilt microgravity experiment on earth, Human Space Program 2020 (HSP 2020) (An ISRO-AAI & IAA joint conf), 24 January 2020, Bengaluru
23. Yoga practitioners are better tolerant to LBNP-40 mmHg during slow breathing compared to Naive to yoga group, Human Space Program 2020 (HSP 2020) (An ISRO-AAI & IAA joint conf), 24 January 2020, Bengaluru,
24. AFT lab: An establishment *from inception to country-wide*, CME on basics and future trends in autonomic function testing, 15 February 2020, Bhopal

25. MD Physiology: Introspection and new directions, I APPI Physiology Leaders' Summit, 25 February 2020, Goa
26. Clinical application of autonomic function testing: Indian perspective, Local chapter Meeting, Association of Physiologists and Pharmacologists of India, 26 February 2020, Goa

#### **Debabrata Ghosh**

1. To investigate epigenetic landscape in endometriosis and its links to stress, BRICS symposium on integrative physiology of stress, 23 September 2019, St. Petersburg, Russia
2. Integrative physiology of stress-induced disorders in female reproduction, International conference on integrative stress physiology, 24 September 2019, St. Petersburg, Russia
3. Foreword on the IUPS Hands-on Workshop on Medical Education Techniques, Hands-on workshop on medical teaching methodologies: IUPS initiative, 5 November 2019, Gangtok
4. Chairperson's address in the Panel Discussion on Competency based Medical Education, Hands-on Workshop on Medical Teaching Methodologies: IUPS initiative, 7 November 2019, Gangtok

#### **Kanwal Preet Kochhar**

1. Enhanced social cognition and motor cognition improves functional outcomes in extreme environments, International workshop on social network of animals in extreme environment with special reference to penguins, 22-24 April 2019, Port Blair
2. Psychosocial skills to cope with stigma and stress in digital age, 26th National Conference on Indian Association for Social Psychiatry 2019, 29 November–1 December 2019, Bhubaneswar

#### **Ratna Sharma**

1. Stress management and conflict resolution, Workshops on "Mental health at workplace", 18 September -11 December 2019, New Delhi
2. "Neuroimaging through QEEG to understand cortical functions" and "Neuroimaging through QEEG: Success so far", 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 26–29 September 2019, Faridabad
3. QEEG: An emerging tool to capture neural sources of cognition, 27th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
4. Quantitative EEG as a neuroimaging tool for understanding cognition, Cognitive Neuroscience Society of India (CNSI-2020) Conference, 20-22 January 2020, Gandhinagar
5. Seminar as a teaching tool in post graduate teaching, APPI Physiology Leaders' Summit, 25 and 26 February 2020, Goa

#### **Nalin Mehta**

1. Bioethics in healthcare & research, State chapter of Association of Physiologist & Pharmacologist of India (UP-UK APPICON 2019), 5 and 6 April 2019, Greater Noida
2. Ethical review of research protocols, 4th Capacity building CME cum Workshop on GCP guidelines and role of ethics in research, 23 May 2019, Rohtak
3. Submission of research protocols to institutional ethics committee: Common errors and issues, Capacity building CME cum Workshop on GCP guidelines and role of ethics in research, 23 May 2019, Rohtak
4. Ethical issues in biomedical research, Round table conference on importance of research methodology and ethics, 5-7 August 2019, Pune
5. How to write a research grant proposal, Round Table Conference on Importance of Research Methodology and Ethics, 5-7 August 2019, Pune
6. Concept of professionalism and ethics, Foundation Course for MBBS 2019, admission batch, Dr BSA Medical College, 27 August 2019, New Delhi
7. Bioethics: History and relevance, continuing dental education program on "Ethics and Biomedical Research Series 1.0", 6 November 2019, New Delhi
8. Research involving vulnerable population, Continuing dental education program on "Ethics and Biomedical Research Series 1.0", 6 November 2019, New Delhi
9. Benefit – risk analysis, continuing dental education program on "Ethics and Biomedical Research Series 1.0", 6 November 2019, New Delhi

10. How to prevent lifestyle diseases, Emerging technologies & innovation in healthcare in India - Open Technology Festival – 2019, 6 and 7 December 2019, New Delhi
11. Do we really practice what we preach in medical education? Medical Education Conference 2020, 23–25 January 2020, Bhubaneswar
12. Ethical issues in research involving animals, 1st APPI Physiology Leader's Summit, 25 and 26 February 2020, Goa
13. Ethics of biomedical research, One-week short term course on plagiarism & ethical issues in research work, 3–9 March 2020, Amritsar
14. Writing a research grant proposal , One-week short term course on plagiarism & ethical issues in research work, 3 –9 March 2020, Amritsar
15. Academic fraud and plagiarism, One-week short term course on plagiarism & ethical issues in research work, 3–9 March 2020, Amritsar

#### **Suman Jain**

1. Potential of iron oxide nanoparticles to induce neuroregeneration in spinal cord injury, International Brain Research Organization School, 22 April - 6 May 2019, Trivandrum
2. Nanotechnology and magnetic field stimulation for recovery in spinal cord injury, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 27-29 September 2019, Faridabad
3. Nanotechnology and transcranial magnetic stimulation for functional recovery in Parkinson's disease, 33rd Annual Conference of Society of Neurochemistry, 10-12 October 2019, New Delhi
4. Panel discussant on challenges in neuroscience research and funding opportunities, 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi
5. Teachers/educators role in creating educational equity and ethics in science, National conference on women in science education, 6 and 7 March 2020, Bengaluru

#### **Raj Kumar Yadav**

1. Yoga-based intervention for management of obesity and glaucoma , National Yoga Seminar 2019, 16 May 2019, New Delhi
2. Evidence-based Mind-Body-Medicine, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 28 November 2019, Guwahati
3. Mind- Body- Medicine: recent trends, Evidence-based non-invasive therapies: Futuristic medicine, 19 November 2019, Greater Noida

#### **Anjana Talwar**

1. Exhaled nitric oxide: How to do and interpretation, Advanced Lung Function Testing Workshop, 28 July 2019, Noida
2. Sputum evaluation for inflammatory cells, School Course on severe asthma, 18 August 2019, Noida
3. What goes wrong in OSA: Pathophysiology and risk factors, National Sleep Medicine Course, 7 September 2019, Chennai
4. Physiology of exercise in patients with respiratory diseases, 22st NAPCON 2019; Workshop-pulmonary rehabilitation, 21 November 2019, Kochi
5. Assessment of exercise testing: CPET and 6MWT, 21st NAPCON 2019; Workshop-pulmonary rehabilitation, 21 November 2019, Kochi
6. Pulmonary function testing by spirometry, impulse oscillometry and diffusing capacity of lungs, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi
7. Real time data acquisition during incremental exercise, exercise and physical activity: Recent trends and future challenges, 28 February 2020, New Delhi

#### **Asmita Patil**

1. Use of physiograph in research and education, CME in Kriya Sharir by AYUSH, CBPACS, 8 May 2019, New Delhi
2. Use of ECG in education and research, CME in Kriya Sharir by AYUSH, CBPACS, 9 May 2019, New Delhi

3. Health and Hygiene , Health and Wellness Workshop, 3 July 2019, New Delhi
4. Adolescence and puberty, Health and Wellness Workshop, 1 October 2019, New Delhi
5. Application of expression microarray in research, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12 December 2019, New Delhi
6. Women leaders in science education -India perspective, Women leaders in science education (WISE), 7 March 2020, Bengaluru

#### **Renu Bhatia**

1. Strategies for pain modulation: Brain stimulation, State chapter of Association of Physiologist & Pharmacologist of India (UP-UK APPICON 2019), 5 April 2019, Greater Noida
2. Pain assessment in animals and humans, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12 December 2019, New Delhi
3. Transcranial magnetic stimulation for pain management, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 14 December 2019, New Delhi
4. Brain stimulation for chronic pain, VIII International conference of physical therapy, 22 December 2019, New Delhi
5. Transcranial magnetic stimulation, Pre-conference workshop of 8th International Conference of physical therapy, 19 December 2019, New Delhi

#### **Simran Kaur**

1. Neuroimaging of cognition in health, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 26–29 September 2019, Faridabad
2. Introduction to microteaching, Microteaching Workshop, AIIMS, Delhi, 23 October 2019, New Delhi
3. QEEG: A tool to assess cognition: Introduction to cognitive physiology, 27th Annual Meeting of Indian Academy of Neurosciences, 18 November 2019, New Delhi
4. Introduction to cognitive function tests, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi

#### **Prashant Tayade**

1. QEEG: What is the future?, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 26–29 September 2019, Faridabad
2. Introduction to QEEG, 27th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
3. Introduction to QEEG, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi

#### **Dinu S Chandran**

1. Introduction to case-based learning, Hands-on workshop on medical teaching methodologies: IUPS initiative, 5 November 2019, Gangtok
2. Role of vascular function tests as ancillary tools for comprehensive evaluation of autonomic dysregulation, 65th Annual National Conference of Association of Physiologists and Pharmacologists of India, APPICON- 2019, 29 November 2019, Guwahati
3. Assessment of heart rate variability, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12–15 December 2019, New Delhi
4. Introduction to non-invasive assessment of vascular function, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12–15 December 2019, New Delhi

#### **Nasreen Akhtar**

1. Principles of polysomnography, Intensive sleep tech workshop, 18 April 2019, New Delhi
2. Conventions hypnotics in management of insomnia, National Sleep Medicine Course, 7 September 2019, Chennai
3. Effect of endocannabinoids on sleep wakefulness, 65th Annual National Conference of Association of Physiologists and Pharmacologists of India, APPICON- 2019, 27 November 2019, Guwahati

4. Introduction to polysomnography, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi
5. Recording of EEG, sleep lab and sleep apnoea, Sleep physiology, University College of medical Sciences, 2 March 2020, New Delhi

#### **Akanksha Singh**

1. Intraoperative neurophysiological monitoring, Neurotrauma- 2019, Preconference Workshop, 22 August 2019, Agra
2. Intraoperative neurophysiological monitoring, Extension lecture , 14 September 2019, Aligarh
3. Intraoperative neurophysiological monitoring, Neuro-spine 2019, Preconference Workshop, 20 September 2019, Kathmandu, Nepal
4. Intraoperative neurophysiological monitoring – (Case discussion), Neuroanaesthesia update 2019- Intraoperative Neurophysiology (IONP) Workshop, 18 October 2019, New Delhi

#### **Ritesh Kumar Netam**

1. Techniques and application of GI manometry and electro-gastrography, 65th Annual National Conference of Association of Physiologists and Pharmacologists of India, APPICON- 2019, 29 November 2019, Guwahati

#### **Geetanjali Gokarn Bade**

1. Exhaled nitric oxide: How to do and interpretation, Advanced lung function testing Workshop, 28 July 2019, Noida
2. Sputum evaluation for inflammatory cells, School Course on Severe Asthma , 18 August 2019, Noida
3. Physiology of exercise in patients with respiratory diseases, 21st NAPCON 2019; Workshop-pulmonary rehabilitation, 21 November 2019, Kochi
4. Assessment of exercise testing: CPET and 6 MWT, 21st NAPCON 2019; Workshop-pulmonary rehabilitation, 21 November 2019, Kochi
5. Pulmonary function testing by spirometry, impulse oscillometry and diffusing capacity of lungs, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi
6. Real time data acquisition during incremental exercise, Exercise and physical activity: Recent trends and future challenges, 28 February 2020, New Delhi

#### **Suriya Prakash Muthukrishnan**

1. Processing & analysis of electrophysiological signals and task designing through MATLAB and E-Prime, CME cum workshop on processing and analysis of electrophysiological signals and task designing using MATLAB and E-prime, 30 and 31 March 2019, Rishikesh
2. Neuroimaging of cognition in neurodegenerative and psychiatric disorders, VIII Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 26–29 September 2019, Faridabad
3. Flipped Class Room (FCR), Hands-on workshop on medical teaching methodologies”, an International Union of Physiological Sciences (IUPS) initiative, 5-7 November 2019, Gangtok
4. Time frequency analysis, source localization, X27th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
5. EEG analysis strategies, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations, 12-15 December 2019, New Delhi

#### **Oral/Poster presentations**

1. Afreen N, Chandran D, Jaryal A, Deepak KK, Roy S. Graded cuff compression protocol to induce retrograde shear produces proportionate increment in regional arterial compliance in human peripheral artery, Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY – 19), 10–12 October 2019, Budapest, Hungary
2. Aggarwal K, Akhtar N, Mallick HN. High risk of sleep apnoea is associated with acute stress in young adults, World Sleep Congress, 22-25 September 2019, Vancouver, Canada

3. Aggarwal K, Akhtar N, Mallick HN. Social jet lag, screen time, physical activity and sleep quality in Indian young adults, World Sleep Congress, 22-25 September 2019, Vancouver, Canada
4. Ahmad A, Muthukrishnan SP, Prakash SK, Tayade P, Chakrabarty B, Gulati S, Sharma R. Decreased power and connectivity in Autism spectrum disorder: An EEG biomarker, AIIMS First Annual Research Day , 25 and 26 March 2019, New Delhi
5. Arya A, Arya S, Kumar U, Bhatia R. Effect of motor imagery on corticomotor excitability in rheumatoid arthritis patients: A case control study, 37th Annual meeting of Indian Academy of Neurosciences, 19 - 21 November 2019, New Delhi
6. Arya A, Arya S, Kumar U, Srikumar V, Bhatia R. Corticomotor excitability in rheumatoid arthritis patients: a case control study, VIII Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 27-29 September 2019, Faridabad
7. Arya S, Nanda S, Srikumar V, Yadav R, Bhatia R. Effect of yoga on pain, functional disability and corticomotor excitability in chronic low back pain patients, 12th European Congress of Integrative Medicine, 13-16 September 2019, Barcelona, Spain
8. Bade G, Sampath M, Madan K, Talwar A. Exhaled biomarkers of oxidative stress in chronic obstructive pulmonary diseases, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 28 September 2019, Faridabad
9. Badhwar S, Chandran D, Jaryal A, Narang R, Patel C, Deepak KK. \* Oscillatory flow patterns in peripheral conduit artery are related to central arterial stiffness in healthy subjects, Annual Conference of Association for Research into Arterial Structure and Physiology (ARTERY – 19), 10–12 October 2019, Budapest, Hungary
10. Badhwar S, Chandran D, Jaryal A, Narang R, Patel C, Deepak KK. Differential association of central and peripheral arterial compliance with resting and recruitable endothelial function in healthy human subjects, Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY – 19), 10-12 October 2019, Budapest, Hungary
11. Banodhe GK, Sharma H, Deepak KK. Isometric handgrip exercise blunts DBP baroreflex sensitivity during oscillatory lower body negative pressure in parasympathetic frequency band, IAA-ISRO-AAI (HSP 2020), 23 January 2020, Bengaluru
12. Batabyal T, Muthukrishnan SP, Leon C, Sagar R, Tayade P, Sharma R, Kaur S. Hyperactivation of inferior frontal gyrus inhibits hyperactivity in ADHD: A quantitative EEG study, Neuroscience 2019, 49th Annual Meeting of Society for Neuroscience (SfN), 19-23 October 2019, Chicago IL, USA
13. Bhatnagar A, Deepak KK, Netam R, Roy A. Cage development for microgravity studies in rats, IAA-ISRO-AAI (HSP 2020), 24 January 2020, Bengaluru
14. Boligaria A, Deepak KK, Jaryal AK, Narang R. Yoga practitioners are better tolerant to LBNP-40 mmHg during slow breathing compared to naive to yoga group, IAA-ISRO-AAI (HSP 2020), 24 January 2020, Bengaluru
15. Bose S, Jain S. Effect of low intensity magnetic field stimulation in the management of a clinically relevant rat model of Parkinson's disease, XXXVII Annual Meeting of Indian Academy of Neurosciences, 18 -21 November 2019, New Delhi
16. Chacko SG, Ahuja N, Tayade P, Kaur S, Sharma R. Neuro-feedback training improves the accuracy of Brain-Computer Interface, 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi
17. Chacko SG, Tayade P, Kaur S, Sharma R. QEEG of motor imagery – Control of prosthetic limb, Indo-European workshop next generation physiology for healthy lifestyle, 31 January and 1 February 2019, New Delhi
18. Chakraborty A, Sharma MC, Jain S. \*Effect of magnetic field stimulation on soleus muscle excitability and contractility in spinal cord transected rats, XXXVII Annual Meeting of Indian Academy of Neuroscience, 18-21 November 2019, New Delhi
19. Chakraborty A, Sharma MC, Jain S. Effect of magnetic field exposure on Hoffman's reflex in spinal cord transected adult rats, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 26–30 November 2019, Guwahati
20. Chakraborty A, Sharma MC, Jain S. Functional and morphological study of antigravity muscle in spinal cord transected rats: Effect of electromagnetic field exposure, IV IBRO/APRC Chandigarh Associate Neuroscience School, 10–16 November 2019, Chandigarh
21. Deepak KK. 30 years of Autonomic function lab at AIIMS, ND: The paths ahead, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 26-30 November 2019, Guwahati
22. Garima S, Arya S, Gupta S, Bhatia R. Effect of repetitive transcranial magnetic stimulation on the pain and thermal sensitivity in Myofascial Pain Dysfunction Syndrome (MPDS), 12<sup>th</sup> European Congress of Integrative Medicine, 12-16 September 2019, Barcelona, Spain

23. Joseph J, Chandran DS, Kiran R, Abhidev V, Sivaprakasam M. Image-free technique for flow mediated dilation using ARTSENS ® Pen, XLI Engineering in Medicine & Biology (EMB) Conference, 23–27 July 2019, Berlin, Germany
24. Karaddi V, Roy A, Chittora R, Jain S. Effect of magnetic field stimulation on neurogenesis and cognitive function in streptozotocin induced rat model of Alzheimer’s disease, 37th Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
25. Leon C, Batabyal T, Tayade P, Sagar R, Sharma R, Kaur S. Altered parieto-temporal EEG microstates– an endophenotypic marker in ADHD, 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi
26. Magan D, Yadav RK, Deepak KK. Neurophysiological correlates of meditation: a comparative study based on electroencephalography and biomarkers in long-term and short-term meditators, 27th Annual meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
27. Muthukrishnan SP, Soni S, Sharma R. Brain networks communicate through theta oscillations to encode high load in a visuospatial working memory task: An EEG connectivity study, Neuroscience 2019, 49th Annual Meeting of Society for Neuroscience (SfN), 19-23 October 2019, Chicago IL, USA
28. Pal A, Kaur S, Tayade P, Goyal V, Sharma R. Connectivity in Default mode networks during arithmetic task in Parkinson’ disease, 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi
29. Rengarajan P, Chandran DS, Prasher B, Jaryal AK, Deepak KK. A study on Sub-Endocardial Viability Ratio (SEVR) in Prakriti classified healthy individuals using applanation tonometer, LXV Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 26-30 November 2019, Guwahati
30. Roy A, Nag TC, Katyal J, Jain S. Effect of low frequency magnetic field stimulation on learning and memory impairment in streptozotocin induced rat model of Alzheimer’s disease, 37<sup>th</sup> Annual Meeting of Indian Academy of Neurosciences, 18-21 November 2019, New Delhi
31. Saini M, Samanchi R, Kaur S, Sharma R, Tayade P. \* Cortical sources of verbal “OM” chanting and listening to “OM” chanting: A quantitative EEG study, II National Biomedical Research Competition (NBRCom-2019), 17 November 2019, Chandigarh
32. Saini M, Samanchi R, Muthukrishnan SP, Kaur S, Sharma R, Tayade P. Cortical sources of verbal “OM” chanting: A qEEG study, AIIMS First Annual Research Day, 25 and 26 March 2019, New Delhi
33. Samanchi R, Muthukrishnan SP, Dada T, Sihota R, Kaur S, Sharma R. \* Pre-stimulus alpha power in verbal visual Sternberg task: An EEG based state marker of primary angle closure glaucoma, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 29 September 2019, Faridabad
34. Samanchi R, Muthukrishnan SP, Dada T, Sihota R, Kaur S, Sharma R. Altered cortical activity during visual working memory: A QEEG marker of neurodegeneration in primary open angle glaucoma, 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi
35. Samanchi R, Muthukrishnan SP, Soni S, Dada T, Sihota R, Kaur S, Tayade P, Sharma R. Altered cortical activity in glaucoma during resting condition as assessed by EEG microstates and their cortical sources, AIIMS First Annual Research Day , 25 and 26 March 2019, New Delhi
36. Sen S, Chandran DS, Jaryal AK, Deepak KK. Differential Low Flow Mediated Constriction (LFMC) responses in radial and brachial arteries of healthy human adults, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 29 September 2019, Faridabad (**Award for the best post graduate thesis paper**)
37. Sharma A, Chandran DS, Jaryal AK, Deepak KK. Flow mediated slowing of brachio-radial pulse wave velocity during reactive hyperemia in forearm, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 28 September 2019, Faridabad
38. Sharma P, Yadav RK, Khadgawat R. Gene expression of stress, inflammation, and ageing in obese Indians following yoga- based intervention, International Conference on natural products and human health, 28 and 29 February 2020, New Delhi
39. Sharma P, Yadav RK, Khadgawat R. Yoga based lifestyle intervention modulates cardinal biomarkers of ageing like telomerase enzyme and hTERT gene in Indian obese subjects, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 27 November 2019, Guwahati
40. Shivangi, Yadav K, Chandran DS, Jaryal AK, Deepak KK. Comparison of heart rate variability in head down tilt versus lower body pressure weightlessness simulation models in healthy human subjects, IAA-ISRO-AAI (HSP 2020), 22 January 2020, Bengaluru
41. Singh A, Srivastav S, Yadav K, Chandran D, Jaryal AK, Deepak KK. Neurohormonal responses to oscillatory lower body negative pressure in healthy subjects, IAA-ISRO-AAI (HSP 2020), 22 January 2020, Bengaluru
42. Soni S, Moran R, Vanes L, Mouchlianitis E, Wigton RL, White TP, Sharma R, Shergill S. Hyperactivation of left medial frontal and cingulate gyrus mediates sound-induced flash illusion in non-affective psychosis, Congress of

Schizophrenia International Research Society (SIRS 2019), 10-14 April 2019, Orlando, Florida, USA

43. Soni S, Muthukrishnan SP, Samanchi R, Sood M, Kaur S, Sharma R. Pre-trial and pre-response EEG microstates in schizophrenia: An endophenotypic marker, AIIMS First Annual Research Day, 25 and 26 March 2019, New Delhi
44. Soni S, Muthukrishnan SP, Sood M, Kaur S, Sharma R. Altered parahippocampal gyrus activation and its connectivity with resting-state network areas in Schizophrenia: A QEEG Study, II National Biomedical Research Competition (NBRCOM-2019), 17 November 2019, Chandigarh (**Award for best presentation**)
45. Soni S, Muthukrishnan SP, Sood M, Kaur S, Sharma R. Altered parahippocampal gyrus activation and its connectivity with resting-state network areas in Schizophrenia: A QEEG study, Congress of Schizophrenia International Research Society (SIRS 2019), 10-14 April 2019, Orlando, Florida, USA
46. Tanwar S, Kumar U, Dada R, Bhatia R. Repetitive transcranial magnetic stimulation in reducing chronic widespread pain and associated symptoms in fibromyalgia syndrome, State chapter of Association of Physiologist & Pharmacologist of India (UP-UK APPICON 2019), 5-6 April 2019, Greater Noida
47. Tanwar S, Mattoo B, Kumar U, Bhatia R. Repetitive transcranial magnetic stimulation in reducing chronic widespread pain and associated symptoms in fibromyalgia syndrome, National conference on multidisciplinary approach in Sciences: Present trends and future prospects (NCMAS-2019), 8 November 2019, Panipat
48. Tanwar S, Mattoo B, Kumar U, Bhatia R. Repetitive transcranial magnetic stimulation of dorsolateral prefrontal cortex reduces pain and associated symptoms in fibromyalgia syndrome, International summit on women in STEM, 23 and 24 February 2020, New Delhi
49. Tiwari V, Nanda S, Kumar U, Bhatia R. Pain induced cognitive impairment in female patients of fibromyalgia syndrome, LXV Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 28-30 November 2019, Guwahati
50. Trivedi A, Ghosh D, Guleria R, Bade G, Talwar A. Assessment of submaximal exercise capacity among COPD patients: Indian perspective, 8th Congress of Federation of Indian Physiological Societies (FIPS Congress 2019), 28 September 2019, Faridabad
51. Vishwajeet, Singh D, Deepak KK. Modelling and simulation of carotid artery blood flow in microgravity, IAA-ISRO-AAI (HSP 2020), 24 January 2020, Bengaluru
52. Vishwajeet, Singh D, Deepak KK. Validation of head down tilt microgravity experiment on earth., IAA-ISRO-AAI (HSP 2020), 24 January 2020, Bengaluru
53. Yadav K, Singh A, Chandran DS, Jaryal AK, Poonam C, Deepak KK. The physiological response to non-hypotensive hypovolemia is initiated by cardiopulmonary receptors and neuro-mechanical decoupling of baroreceptors, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019), 26-30 November 2019, Guwahati
54. Yadav RK, Pragya P, Khadgawat R, Pandey RM. Vitamin D supplementation, disposition index in non-diabetics with obesity: Double-blind trial, Obesity Week 2019, 3-7 November 2019, Las Vegas, USA
55. Zacharia A, Ahuja N, Kaur S, Sharma R. Prestimulus activation of right lingual gyrus leads to negative congruent perception during binocular rivalry, International Society of Research on Emotion (ISRE) conference, 10-13 July 2019, Amsterdam, Netherlands
56. Zacharia A, Chacko SG, Kaur S, Sharma R. The functional significance of Delta oscillations in differentiating between congruent and incongruent object-context association during visual processing, XXXVII Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. A novel combinatorial approach for neuroregeneration in an in-vivo spinal cord injured rat model: neurotrophic factors coated iron oxide nanoparticles impregnated in a biocompatible hydrogel system, Suman Jain, DST, 3 years, 2017-2020, Rs 32.24 lakhs
2. A study of EEG microstates and source connectivity as state and trait markers in schizophrenia with depression, Ratna Sharma, ICMR, 3 years, 2018-2021, Rs20.73 lakhs
3. Characterization of thermosensitive neurons of preoptic area, Nasreen Akhtar, AIIMS, 2 years, 2018-2020, Rs 9.97 lakhs
4. Clinical research to assess efficacy of repetitive transcranial magnetic stimulation along with implantation of neurotrophic coated nanoparticles in complete spinal cord injury patients, Suman Jain, DBT, 3 years, 2020-2023, Rs 88.35 lakhs

5. Correlation of cortical sources and brain iron during rest and visuospatial working memory in Attention deficit hyperactive disorder, Simran Kaur, DHR, 2.5 years, 2017-2020, Rs 17.74 lakhs
6. EEG microstates and phase synchrony correlates of cognitive deficits in Parkinson's Disease, Ratna Sharma, ICMR, 4 years, 2016-2020, Rs 17.44 lakhs
7. EEG microstates as a biomarker in addictive disorders, Simran Kaur, AIIMS, 2 years, 2019-2021, Rs 8.05 lakhs
8. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Geetanjali Gokarn Bade, AIIMS, 2 years, 2019-2021, Rs 2 lakhs
9. Effect of chronic exposure to low intensity magnetic field on streptozotocin induced synaptic dysfunction and amyloid precursor protein processing in rats, Suman Jain, ICMR, 3 years, 2019-2022, Rs 13.20 lakhs
10. Effect of extremely low frequency magnetic field on neuroregeneration in severely injured spinal cord in rat model, Suman Jain, ICMR, 3 years, 2017-2020, Rs 12.50 lakhs
11. Effect of functional magnetic resonance imaging neurofeedback-guided motor imagery training on corticomotor excitability and pain status in rheumatoid arthritis, Renu Bhatia, ICMR, 3 years, 2019-2022, Rs 26 lakhs
12. Effect of Probiotic supplementation on Cognition and Motor symptoms in patients with Fluctuating Parkinson's Disease, KP Kochhar, DST, 3 years, 2019-2022, Rs 53.94 Lakhs
13. Effect of repetitive transcranial magnetic stimulation on pain status and corticomotor excitability in chronic low back pain patients, Renu Bhatia, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
14. Effect of yoga on pain status and corticomotor excitability in chronic low back pain patients, Renu Bhatia, DST, 3 years, 2017-2020, Rs 22.63 lakhs
15. Effect of yogic intervention on pain status in fibromyalgia patients, Renu Bhatia, DST, 3 years, 2019-2022, Rs 56 lakhs
16. Efficacy of a yoga-meditation based lifestyle intervention in patients with obesity and major depressive disorder: A randomized controlled trial, Raj Kumar Yadav, DST, 3 years, Rs 79 lakhs
17. Formulation of phantom brain to establish dosimetry of magnetic fields following repetitive transcranial magnetic field stimulation, Suman Jain, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
18. Functional and morphological study of antigravity muscle in spinal cord transected rats: combinatorial effect of electromagnetic field exposure and iron oxide nanoparticle implantation, Suman Jain, ICMR, 3 years, 2019-2022, Rs 13.20 lakhs
19. Gender differences in phase relationship between circadian rhythm and sleep: a spindle architecture and spectral analysis study, Nasreen Akhtar, AIIMS, 1 year, 2019-2020, Rs 1.98 lakhs
20. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Anjana Talwar, AIIMS, 2 years, 2018-2020, Rs 20 lakhs
21. Molecular basis of estrogenism in endometriosis, Debabrata Ghosh, SERB, 5 years, 2016 - 2020, Rs 49.72 lakhs
22. Neurohormonal response to mild haemorrhage using the model of blood donation, Akanksha, AIIMS, 2 years, 2018-2020, Rs 9 lakhs
23. Neuromodulation of cortical excitability and plasticity by low frequency repetitive transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients, Suman Jain, ICMR, 3 years, 2019-2022, Rs 51.35 lakhs
24. Prognostic value of endothelial dysfunction and arterial stiffness for major adverse cardiovascular events in patients with Non-ST elevation Acute coronary syndromes, Dinu S Chandran, AIIMS, 2 years, 2019-2021, Rs 9.92 lakhs
25. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Simran Kaur, CSRI, DST, 1.5 years, 2017-2020, Rs 11.97 lakhs
26. QEEG correlates of default mode network activity and its correlation with cognitive deficits in multiple system atrophy-parkinsonian type and multiple system atrophy -cerebellar ataxia type, Ratna Sharma, ICMR, 3 years, 2019-2022, Rs 21.58 lakhs
27. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Geetanjali Gokarn Bade, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
28. Study of EEG microstates in Om chanting, Prashant Tayade, AIIMS, 1 year, 2019-2020, Rs 4.63 lakhs
29. To investigate the biochemical and functional alterations by novel diagnostic tool GluCEST and prevention of progression of Alzheimer's disease by non-invasive Magnetic field stimulation therapy in streptozotocin (STZ) induced rat model, Suman Jain, ICMR, 3 years, 2019-2022, Rs 21.58 lakhs
30. To study effect of exposure to diesel biodiesel and biodiesel blend fuel-engine exhaust on testicular morphology and spermatogenesis in male Wistar rats, Asmita Patil, AIIMS-IIT, 3 years, 2019-2021, Rs 10 lakhs
31. To study the relationship between resting retrograde shear and atherogenic profile in peripheral, central and coronary arteries in patients of myocardial infarction, Dinu S Chandran, ICMR, 3 years, 2018-2020, Rs

10.68 lakhs (Funded for SRF position)

32. Transcriptomic landscaping for endometriosis from genome-wide analysis (GWA) of expression arrays, Debabrata Ghosh, DST, 5 years, 2015-2020, Rs 47.37 lakhs

### **Completed**

1. Acute effects of slow breathing on cardiovascular variability during head up tilt, head down tilt and lower body negative pressure in naïve healthy subjects and trained yoga practitioners, KK Deepak, AYUSH, 3 years, 2016-2019, Rs 66.76 lakhs
2. Circadian rhythm disruption, social jet lag and sleep disorders in urban young adults, Nasreen Akhtar, ICMR -STS Award, 1 year, 2019
3. Comparison of inflammatory and oxidative stress markers in exhaled breathcondensates of smoker COPD and biomass smoke exposed COPD, Geetanjali Gokarn Bade, AIIMS, 2 years, 2017-2019, Rs 7.32 lakhs
4. Continuous noninvasive blood pressure waveform measuring device for cardiovascular health, Dinu S Chandran, BIRAC, 1.5 years, 2018-2019, Rs 5.88 lakhs
5. Development and validation of peripheral arterial applanation tonometer to derive altered shear profile in conduit arteries, Dinu S Chandran, AIIMS, 1 year, 2018-2019, Rs 4.50 lakhs
6. Effect of hypothalamic inflammation on glucose sensing neurons in arcuate Nucleus in high fat diet induced obesity rat model, Ritesh Kumar Netam, AIIMS, 3 years, 2017-2020, Rs 10 lakhs
7. QEEG based neural correlates of perceptual dominance, Simran Kaur, AIIMS, 3 years, 2016-2018, Rs 6.62 lakhs

### **Departmental projects**

#### **Ongoing**

1. A morphological and functional study on intracerebroventricular streptozotocin induced rat model of Alzheimer's disease: effect of magnetic field stimulation
2. A study of cortical connectivity and EEG sources in Autism spectrum disorder
3. A study of endothelial function and gene expression in healthy individuals, and their correlation with various somatotype classifications
4. A study of pain status and corticomotor excitability in chronic low back pain patients: Effect of transcranial magnetic stimulation
5. A study of pulmonary functions and inflammatory biomarkers in post-pulmonary tuberculosis sequelae patients
6. Acute cardio-autonomic responses to graded head down tilt in long term Sirsasana Yoga practitioners
7. Cortical reorganization in complete spinal cord injured rats: Effect of superparamagnetic nanoparticles and low intensity magnetic field exposure
8. Default mode network in major depressive disorder: A Quantitative EEG study
9. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder
10. EEG Microstates in major depressive disorder
11. Effect of countermeasure gravity loading body gear on antigravity muscle activity and autonomic function
12. Effect of deep hypothermia on nerve conduction in humans
13. Effect of electrolytic and neurotoxic lesion of VLPO on sleep and wakefulness in rats
14. Effect of graded lower body positive pressure on dynamic cerebral autoregulation
15. Effect of head down tilt on phasic events during sleep in healthy adult subjects
16. Effect of sympatho-inhibitory manoeuvres on resting retrograde shear in brachial artery of middle aged and elderly human subjects
17. Effect of yoga on pain and corticomotor excitability in chronic low back pain
18. Effective brain connectivity in visual object recognition
19. Effects of short-term yoga-based lifestyle intervention on hypothyroidism: A Randomized Controlled Trial
20. Emotional interference in opioid addiction: A QEEG study
21. Evaluation of autonomic function in different types of achalasia patients diagnosed by high resolution manometry

22. Evaluation of protein expression of microchimeric Y-Chromosome in ovarian endometriosis
23. Evaluation of pulmonary functions in ankylosing spondylitis
24. Genomic expression and protein profile correlates of peripheral blood mononuclear cells in obesity after yoga-based lifestyle intervention
25. Hemodynamic correlates of retrograde shear augmentation in brachial artery by lower body negative pressure (LBNP)
26. Immunophenotyping and functional characterization of peripheral T regulatory cells in COPD
27. Muscle regeneration in complete spinal cord injury: Effect of iron oxide nanoparticle implantation along with magnetic field exposure in rats
28. Neuromuscular changes in sleep and sleep deprivation
29. Neuroregeneration following implantation of iron oxide nanoparticle along with magnetic field exposure in spinal cord injured rats
30. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker
31. Quantitative EEG correlates of single nostril breathing
32. Study on association between pain and neurotrophins in ovarian endometriosis
33. To investigate the arterial wall mechanics of low flow mediated constriction
34. To study the effect of simulated microgravity on the baroreflex sensitivity and carotid artery structure in rats
35. To study the mechanism of altered spontaneous baroreflex sensitivity during blood donation
36. To study the neural correlates of local sleep and its association with cognition: A QEEG study
37. To study the role of vascular function and pain sensitivity in post myocardial patients
38. To study the vascular mechanisms contributing to augmentation of brachial artery retrograde shear in response to graded cuff pressure over forearm

### ***Completed***

1. A neoplastic potential of endometrial stromal cells in endometriosis
2. A study of offset analgesia in trigeminal neuralgia
3. A study of transcriptomic landscape of ovarian endometriosis
4. Acute effects of slow breathing on cardiovascular variability during head up tilt, head down tilt and lower body negative pressure in naïve subjects and trained yoga practitioners
5. Brain computer interface based on EEG data of motor imagery
6. Cortical sources of working memory in opioid addicted patients: A Quantitative EEG study
7. Default mode network of addictive disorders- A quantitative EEG study
8. Effect of Angiotensin converting enzyme inhibitor on autonomic vascular & endothelial function in diabetics with newly diagnosed hypertensive
9. Effect of physiological challenges on regional brain temperature in Rats
10. Effect of short-term Yoga-based lifestyle intervention on stress, airway resistance and inflammation in bronchial asthma patients: A randomized controlled trial
11. Effect of static handgrip exercise on frequency dependence of baroreflex sensitivity
12. Effect of vitamin D supplementation on pancreatic beta cell functions in obese Indian subjects: A Randomized Controlled Trial
13. Endometrial telomerase reverse transcriptase protein expression in ovarian endometriosis
14. Evaluation of autonomic functions in patients of spinocerebellar ataxia types 1, 2 and 3 & comparison with morphological changes in brain
15. Evaluation of autonomic tone, vascular and endothelial function in myocardial on Infraction patients undergoing yoga best cardiac rehabilitation
16. Flow mediated slowing of pulse wave velocity during reactive hyperemia as a measure of endothelial function
17. Molecular basis of estrogenism in endometriosis
18. Neural correlates of cognitive performance in glaucoma: A quantitative EEG study
19. Neural processing of congruency and affective valence during binocular rivalry: A QEEG study
20. Polysomnographic studies of the effect of pranayamas on various physiological functions

21. Quantitative EEG correlates of emotion induced changes in cognitive performance in healthy volunteers
22. Quantitative EEG correlates of visuo-spatial working memory in Schizophrenia
23. Role of mediodorsal thalamic nuclei in sleep
24. Role of the lateral septal nuclei in sleep in Rats
25. The effect of motor imagery on pain status and corticomotor excitability in rheumatoid arthritis patients
26. To study radial artery low flow mediated constriction in response to shear modulation by graded supra-systolic occlusion
27. To study the electrophysiological signatures of arousal from sleep in adult human subjects
28. To study the therapeutic effect of superparamagnetic iron oxide nanoparticles implantation and magnetic field stimulation on motor, cognitive in a 6-OHDA rat model of Parkinson's Disease
29. To study the vascular mechanisms contributing to augmentation of brachial artery retrograde shear in response to graded cuff pressure over forearm
30. Understanding the pathophysiology of endometriosis by protein profiling and its correlation with stress

## **Collaborative projects**

### ***Ongoing***

1. A Cross Sectional Study to assess the Severity of Chronic Pruritus and its effect on Quality of life using the 12 Item Pruritus Severity Scale and the 5-D Itch Scale, Dermatology and Venereology
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG, Surgery
3. A randomized controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis, Gastroenterology and Human Nutrition
4. A randomized sham-controlled trial of targeted low frequency repetitive transcranial magnetic stimulation therapy in childhood and adolescent with focal onset refractory epilepsy, Pediatrics
5. A randomized, double-blind, placebo-controlled, split-head trial to study the effects of autologous platelet-rich plasma on hair growth and lesional T-helper and T-regulatory cells expression markers in alopecia areata, Dermatology and Venerology
6. A study for determination of allocentric neural navigation process schematic utilizing dynamic optic array for prospective control, Psychiatry
7. A study of autonomic functions in adolescents with specific learning disorder (dyslexia) with and without ADHD, Psychiatry
8. A study of brain activation using functional near infrared spectroscopy and quantitative electroencephalographic spectral analysis in depression, negative and positive schizophrenia, Psychiatry
9. A study of the functional brain activation and electro-physiological spectral analysis in catatonia, Psychiatry
10. Analysis of anti-neurotoxicity of amyloid beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting lipoxygeanse, Biophysics
11. Change in Sleep pattern, perceived stress and coping strategies at the end of first year among first year medical undergraduate students: A prospective study, Medicine
12. Comparative assessment of cognition, default mode networks and analysis of psychosocial behavior and lifestyle, between obese and post-bariatric surgery groups of patients, Surgery
13. Comparative study of effects of lignocaine vs dexmedetomidine administration on the incidence of Postoperative cognitive dysfunction in the elderly, Anesthesiology, Pain Medicine and Critical Care
14. Cortical excitability in children with electrical status epilepticus in sleep compared to non-epileptic healthy children using Transcranial magnetic stimulation, Pediatrics
15. Delhi glaucoma epidemiology study, RPC for ophthalmic Sciences
16. Development of countermeasure gravity loading bodysuit and its potential association with cardiovascular and muscular system, Dr BR Ambedkar National Institute of Technology, Jalandhar
17. DTI, fMRI and qEEG correlates of cognition and behaviour in children and adolescents with well controlled nonlesional epilepsy: An observational study, Pediatric Neurology
18. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Pulmonary, critical care and sleep medicine

19. Effect of repetitive magnetic field stimulation on neurogenesis in streptozotocin induced rat model of Alzheimer's disease, Biotechnology
20. Effect of Suryanamaskara practice on physiological variables: A pilot study, Centre for Integrative Medicine and Research
21. Effect of vitamin D on monocrotaline induced pulmonary artery hypertension in rats, Pharmacology
22. Effect of yoga based lifestyle intervention on biomarkers of cellular aging in patients with depression, Anatomy
23. Effect of yoga on maternal and perinatal outcome in pregnancy, Obstetrics and Gynecology
24. Efficacy of a family based comprehensive yoga program for weight reduction among overweight children and adolescents, Pediatrics
25. Endometrial neurotrophic factors and nerve fibres in endometriosis-associated pain, Obstetrics & Gynecology
26. Endothelial dysfunction in young patients with non-alcoholic fatty liver disease, Medicine
27. Evaluation of effect of mindfulness based stress reduction on optic disc perfusion using OCT-angiography in glaucoma patients: A Randomized Controlled Trial, RPC for ophthalmic Sciences
28. Evaluation of immediate and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite- A prospective clinical study, Centre for Dental Education and Research
29. Evaluation of pulmonary functions in ankylosing spondylitis, Physical Medicine and Rehabilitation
30. Evaluation of repetitive transcranial magnetic stimulation as an adjunct to modified constraint induced movement therapy in improving upper limb function in children with hemiparetic cerebral palsy aged 5–18 years - A Randomized Controlled Trial, Pediatrics
31. Evaluation of the effect of mind fullness based stress reduction in patients with advanced glaucoma, Ophthalmology
32. Exploring graphene functionalized 3D scaffolds for enhanced neuronal differentiation of human mesenchymal stem cells and use in rat Parkinson's disease model, Stem Cell facility, IRCH
33. Identification of biomarkers in Parkinson's disease using NMR, NMR
34. Immunophenotyping and functional characterization of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Pulmonary, critical care and sleep medicine
35. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients, Surgical disciplines
36. Impact of yoga and meditation on epigenetic profile in rheumatoid arthritis, Anatomy
37. Investigation of heart-brain interactions during internally operative versus externally operative attention regulatory mechanisms, Dr BR Ambedkar National Institute of Technology, Jalandhar
38. Is central sensitization is a characteristic feature of chronic nonspecific neck arm pain? - a comparison with fibromyalgia and healthy individuals, Neurosurgery
39. Isolation and molecular characterization of colorectal cancer stem cells, Biochemistry
40. Longitudinal changes in EMG activity of masseter and temporalis muscles of patients undergoing temporomandibular joint replacement, Centre for Dental Education and Research
41. Neurobiological basis of early life stress induced aggressive behavior, Institute of Genomics and Integrative Biology, Delhi
42. Nutritional profile and lifestyle of Indian women (18-40 years) with infertility, Lady Irwin College, Delhi University
43. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Pulmonary, critical care and sleep medicine
44. Repetitive transcranial magnetic stimulation to the inferior parietal lobule in task specific focal hand dystonia: A randomized cross over blinded outcome assessment study, Neurology
45. Role of cytokine levels in recurrent pregnancy loss and effect of progesterone on cytokine levels, Obstetrics & Gynecology
46. Role of Regulatory T Cells in COPD, Pulmonary Medicine
47. Role of selective neuropeptides in the spinal cord of morphine treated rats, Anatomy
48. Role of Yoga based intervention as an adjunct in improving quality of life of glaucoma patients, RPC for ophthalmic Sciences
49. Sternocleidomastoid and trapezius muscle activity before and after twin block therapy in skeletal class ii growing patients, Centre for Dental Education and Research
50. Study of clock genes in rat model of mania-like behavior, Neurology

51. Study of cognitive function in patients with chronic kidney disease and the effect of renal transplantation, Nephrology
52. The neurophysiological effect of pranayama in comparison to slow breathing, Centre for integrative medicine and Research
53. The study of synaptic plasticity in rat model of chronic post-surgical pain, Anatomy
54. To evaluate combination of biochemical endothelial markers and arterial stiffness in prediction of preeclampsia, Obstetrics and Gynecology
55. To evaluate neck muscles activity after mandibular postural changes in growing class II High angle patients with twin block therapy-An EMG study, Centre for Dental Education and Research
56. To study the changes in Bereitschafts potentials or movement related cortical potentials in fibromyalgia syndrome, Psychiatry, PMR
57. To study the effect of collagen-based scaffoldson the functional recovery in complete spinal cord injured rats, NIPER, Ahmedabad
58. To study the effectiveness of repetitive transcranial magnetic stimulation (rTMS) on activities of daily living, behavioral and cognitive ability (A-B-C) of Parkinson disease patients, Neuropsychology
59. Unique aspects of idiopathic hypoparathyroidism, Endocrinology and Metabolism

### **Completed**

1. A cross sectional study to assess autonomic nervous system imbalance and its correlation with cutaneous manifestation in patients with systemic sclerosis, Dermatology and Venereology
2. A pilot study for development of visual cue-induced craving paradigm for alcohol dependence and its QEEG correlates, Psychiatry
3. A pilot study of the role of intercessory prayer in determining the outcome after severe traumatic brain injury, Department of Neurosurgery, RML, New Delhi; Neurosurgery, AIIMS, New Delhi
4. A study of autonomic functions in adolescents with specific learning disorder (dyslexia) with and without comorbid ADHD, Psychiatry
5. A study of impulse oscillometry in sarcoidosis, Pulmonary Medicine
6. A study of respiratory impedance, resistance and reactance in interstitial lung disease, Pulmonary Medicine
7. An exploratory study with a purpose of finding a relationship between stress and pain perception/ modulation in context of presence or absence of anxiety, Department of Psychology, University of Delhi
8. Assessment of autonomic function across frailty status in Indian elderly, Geriatric Medicine
9. Association of lean mass, muscle strength and physical performance with diabetes and metabolic parameters, Medicine
10. Blood heavy metal levels and quantitative EEG correlates in children with autism, Pediatrics
11. Cardiac autonomic tone and reactivity in patients with alcohol use disorders undergoing treatment of acute withdrawal symptoms, Psychiatry and NDDTC
12. Central serous chorio-retinopathy and meditation: Functional and morphological outcome study, RPC for Ophthalmic Sciences
13. Characterization of dynamic interaction between cardiovascular and respiratory signal during autonomic stimulation, Dr BR Ambedkar National Institute of Technology, Jalandhar
14. Comparison of inflammatory and oxidative stress markers in exhaled breath condensates of smoker COPD and biomass smoke exposed COPD, Pulmonary, critical care and sleep medicine
15. Comparison of one session vs four session formats of journal clubs in postgraduate teaching, VMMC and Safdarjung Hospital, New Delhi
16. Comparison of propofol and ketofol on transcranial motor evoked potentials in patients undergoing thoracolumbar spine surgery, Neuro-anaesthesiology and Critical Care
17. Differential pre frontal cortex (PFC) activation for Attention Deficit Hyperactive Disorder (ADHD) patients and control group in response to emotional stimuli: A Functional Near Infrared Spectroscopy (fNIRS) study, Department of Psychology, University of Delhi
18. Effect of Yoga-based intervention on intraocular pressure, quality of life, inflammatory markers and gene expression profile in glaucoma patients: A Randomized Controlled Trial, RPC for Ophthalmic Sciences
19. Endothelial dysfunction in young patients with non-alcoholic fatty liver disease, Medicine
20. Evaluation of effect of mindfulness-based stress reduction in patients with primary open angle glaucoma, RPC

for Ophthalmic Sciences

21. Feasibility of introducing structured yoga programme and its effect on stress and perceived well-being on new medical undergraduate students of AIIMS, New Delhi, Centre for Community Medicine
22. Impact of nutritional and lifestyle modification in subjects with BMI 25-29.9 kg/m<sup>2</sup> vs 30-34.9 kg/m<sup>2</sup> and to assess the effect of bariatric surgery in BMI  $\geq$ 35 kg/m<sup>2</sup>, Surgical Disciplines
23. Polyneuropathy in critically ill mechanically ventilated children, Pediatrics
24. Study of autonomic function in children and adolescents with specific learning disability, Psychiatry
25. Study of potential modulator targeting pathways involved in the hyperphosphorylation of tau in Alzheimer disease, Biophysics
26. The study of the effect of static magnetic field exposure on red blood cells and blood flow in humans, Biomedical Engineering, IIT Delhi

## PUBLICATIONS

**Journals: 41**

**Abstracts: 14**

**Chapters in Books: 2**

## PATIENT CARE

**Autonomic Function lab and Vascular Function lab** provide diagnostic facility for referred patients. The labs provide routine test of autonomic reactivity along with autonomic tone quantification. A total number of 1038 of humans have been tested for autonomic function test this year, which included 1011 patients and 27 healthy subjects.

**Gastrointestinal Physiology** provided diagnostic facility (upper GI manometry) for 55 referred patients from Gastroenterology and Surgery.

**Intraoperative Neurophysiology** intraoperative neuro-monitoring support was provided to 350 patients from departments of neurosurgery, 100 from orthopedics, 10 from trauma center, 5 from CTVS, and 1 from pediatric surgery.

**Integral Health Clinic (IHC)** is a facility for mind, medicine & meditation integration, primarily for health promotional activities. IHC is an outpatient facility which is used not only for therapeutic gains but also as part of a developing health consciousness. As a de-stressor facility, the IHC is a supportive facility to de-stress AIIMS employees including faculty, students, residents and staff. A total of 619 subjects were enrolled at IHC for short-term yoga-based intervention, and a total of 4532 subjects (on daily basis/ day-wise) were trained & benefited at IHC during the year 2019 -2020. This includes patients of chronic diseases (like diabetes type 2, obesity, hypothyroidism, cardiovascular diseases, chronic depression, etc) and, referred patients from different departments of AIIMS (R.P.C. for ophthalmic sciences, Endocrinology & Metabolism, Psychiatry, Orthopedics, etc.)

**Respiratory Physiology lab** provided 20 cardiopulmonary exercise testing (CPET) for pre-operative assessment of patients for Lung resection.

**Pain Research and TMS laboratory** 886 rTMS (Repetitive Transcranial Magnetic Stimulation) sessions given at Motor cortex/ Dorsolateral Prefrontal cortex, 480 supervised Yoga sessions with flexibility assessment and 44 motor imagery sessions to chronic pain patients were given. Pain and Somatosensory assessment of 108 chronic pain patients and 20 healthy volunteers were done. EMG recordings of pericranial and cervical muscles done for 35 patients. Corticomotor excitability measurement and evaluation of 70 chronic pain patients and 40 healthy volunteers was also conducted. Quantitative sensory testing was performed for 53 patients. The chronic pain patients included patients with chronic low back pain, fibromyalgia, rheumatoid arthritis, chronic neck and shoulder pain, chronic pruritus, hypothyroidism and young children undergoing orthodontic therapy. Patients were referred from various clinical departments of AIIMS namely Rheumatology, Physical Medicine and Rehabilitation, Orthopedics, Neurosurgery, Oral and maxillofacial surgery, Orthodontics, Dermatology, Endocrinology, Anesthesiology and Neurology.

## Social Outreach Programmes

Media coverage (Television):

1. Internet (YouTube), Exercise and Brain Health, <https://youtu.be/IqcTCT71wXk>; Medical experts: Prof. KK Deepak, Dr Geetanjali Bade, Dr H Barun Sharma, Gagan Banodhe, 4 August 2018, Accessible on the internet
2. Television, DD News: Fit India Mission Prof. KK Deepak, 1 April 2018, 7.30 pm to 8.00 pm, 10.30 pm-11 pm
3. Television, DD NEWS channel live show 'TOTAL HEALTH' on "Prevention of diseases by Yoga"; Medical expert: Prof. Raj Kumar Yadav, 1 April 2019, 8.30 am to 9.30 am
4. Television, DD NEWS channel live program "Total health" on Yoga, medicine & health; Medical expert: Professor Raj Kumar Yadav, 16 June 2019, 8.30 am to 9.30 am
5. Television, DD NEWS channel program "Yoga Parv" on Yoga & medicine; Medical expert: Professor Raj Kumar Yadav, 20 June 2019, 3.30 pm to 4.30 pm

6. Television, DD National Channel live program “Yogatsav” on ‘Yoga International Day’; Medical expert: Professor Raj Kumar Yadav, 21 June 2019, 11 to 11.45 pm
7. Television, DD NEWS (Both Hindi & English news) program ‘FIT INDIA’; Medical expert: Prof. Raj Kumar Yadav, 29 August 2019, 8 pm to 9 pm (Hindi) 9 pm to 10 pm (English)

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor KK Deepak** is the Executive Editor, Indian Journal of Physiology and Pharmacology (IJPP) 2017-2020; Chairman, Committee for the development of age appropriate fitness protocols, Ministry of Youth Affairs and Sports, Department of Sports (Fit India Cell, FIT India Mission), GOI; Chairman, Committee to finalize tender document and monitor all further process for tender hiring of agency/consulted/service provider for computer-based test online examination for various examinations, Examination Section, AIIMS, New Delhi; Chairman, Negotiation Committee, AIIMS, New Delhi; Member, Store Purchase Committee, AIIMS New Delhi; Member, Board of studies of the Department of paramedical sciences, School of Nursing sciences and Allied health, Jamia Hamdard, Delhi; Member, Board of studies for PhD program of the Guru Govind Singh University (2019); Chairman, Committee for management system for Examination Section, AIIMS New Delhi; Member, Selection committee “Khelo India”, Ministry of Sports and Youth Affairs, GOI; Member, Biomedical Device and Technology Development (BDTD) Expert Advisory Group (EAG) DST, GOI; Member of Initial Screening Committee (ISC), Technology Development Board, Govt. of India; Expert member of Executive Board of DRDO; Member of NRDC National Innovation Awards, National Societal Innovation Awards & National Budding Innovators Awards 2019; Co-chair, 37th Annual conference of Indian Academy of Neurosciences (November, IAN 2019); Organizing Secretary, Techniques in Physiological Sciences - Advanced Workshop, 2019: Workshop for SAARC Nations; Member, Expert Committee for standardization of curriculum and admission qualifications for various courses in the Universities identified for funding, Ministry of Sports & Youth Affairs, GOI (2019); External expert in the meeting of Personal Promotion Assessment Board” for promotion of faculty member at department of Physiology, IGIMS, Patna; Member in Program Advisory Group of the Technology Enabling Centre of University of Hyderabad (TEC-UoH), Department of Science and Technology (DST), Govt. of India; National advisor, VIII Congress of Federation of Indian Physiological Societies (FIPS Congress – 2019) held at ESIC Medical College and Hospital, Faridabad; Convener of the Symposium: Cerebellar and brainstem mediated autonomic Modulation, 37th Annual Conference of Indian Academy of Neurosciences (November, IAN 2019); Served as panelist for interaction with more than 500 School children during 37th Annual Conference of Indian Academy of Neurosciences (IAN 2019) held at AIIMS, New Delhi; National advisor, 65th Annual Conference of Association of Physiologist & Pharmacologist of India (APPICON 2019); Executive Member, Association of Physiologist & Pharmacologist of India; Member PG committee of Medical Council of India; Member, Initial Screening Committee (ISC) Meeting for National Award-2020 applications, Technology Development Board, Department of Science & Technology, GOI.

**Professor Kanwal Preet Kochhar** was Chairperson, 4th National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation (rTMS) organized by Department of Psychiatry, AIIMS, New Delhi held on 12-14 December 2019; Special Guest in IAN-2019 37th Annual Meet of Indian Academy of Neurosciences “Neuron to Behaviour” was held on 18th to 21st November 2019 organized by Department of Physiology & Anatomy; Speaker in FIPS Congress-2019 was held Workshop on 26 September 2019 and Conference on 27-29 September 2019 organized by Department of Physiology, ESIC Medical College & Hospital, NH-3, NIT Faridabad; Speaker in the CME entitled “Global Trends in Neuropsychophysiology Research” Workshop on “Clinical Electro-diagnostic Tools for Teaching and Research organized by the Department of Physiology, Maulana Azad Medical College, Delhi on 16 September 2019; Technical Subject Expert for the area of preventive and promotive healthcare services for the body and mind and Coping Skills and Stress Management in a Video Conference on 18th April 2019 at the office of Directorate General, Ministry of Home Affairs, RK Puram.

**Professor Nalin Mehta** was Honorary Advisor to the General Secretary and Board of Governors in supersession to the Medical Council of India; Member, UG expert Committee appointed by the Board of Governors in Supersession of MCI; Member, Selection Committee for Faculty at Guru Nanak Dev University (GNDU), Amritsar, Punjab; Member Research Ethics Board, Regional Institute of Medical Sciences (RIMS), Imphal, Manipur; External Expert Member, Standing Selection Committee for Selection of Faculty (Physiology), AIIMS, Jodhpur; External Member, Board of Studies, for Undergraduate courses, AIIMS, Bhubaneswar.

**Professor Suman Jain** was Vice President of Indian Academy of Neurosciences; Member of IUPS-IUPHAR committee by INSA; Secretary of Delhi-NCR Chapter of Indian Academy of Neurosciences; Subject Expert of Physiology by Standing Selection Committee of JIPMER Pondicherry for appointment to regular faculty posts and assessment promotions; Member of “Project Review Committee-Basic Sciences” by competent authority, AIIMS New Delhi; Member of committee constituted for appointment of Nurses officer for temporary post at AIIMS, New Delhi; Member for counseling of Non-Academic Junior residents, AIIMS Delhi; Judge to evaluate posters of PhD and Postdoc students during Research Day at AIIMS Delhi; Technical expert for purchase of Transcranial Magnetic Stimulation for Centre of advance research and excellence on Neuromodulation and Mental Health of ICMR; External Expert by Vice Chancellor, Bharathiar University for Doctoral Research Committee of PhD student at Defense Institute of Physiology and Allied Sciences, Delhi; External

Expert of Research Advisory Committee of PhD scholar by NIRMA University, Ahmedabad; Adjunct faculty to National Brain Research Centre, Manesar, Haryana and Dept. of Biotechnology, AIIMS, New Delhi.

**Professor Raj Kumar Yadav** was Member Editorial board: Annals of yoga and physical therapy; Editor: International Journal of clinical and experimental physiology; Deputy Hostel Superintendent, AIIMS, New Delhi; Finance Secretary, TIPS 2019, Techniques in Physiological Sciences for SAARC nations, AIIMS, New Delhi, December 2019; General Secretary: FAIIMS: Faculty Association of AIIMS, New Delhi (Till January 2020); Secretary, Association of Physiologists & Pharmacologists of India (APPI), Delhi chapter; Secretary, Faculty Club, AIIMS, New Delhi; Member, Committee to formalize Scientific Cadre, AIIMS, New Delhi; Member, AIIMS Students Benevolent Fund Committee for UG students; Member, Oversight Committee, AIIMS Power Grid Vishram Sadan, JPNA Trauma Centre, AIIMS, New Delhi (Since May 2018); Wellness program for Post Graduate Trainees: as speaker & resource faculty at Ramalingaswami Board Room, AIIMS, New Delhi, 2019 (multiple sessions); Chaired a Scientific Session during 'Evidence-Based Non-invasive Therapies: Futuristic Medicine' At Govt Institute of Medical Sciences, Greater Noida; 19 November 2019; Guest of Honour, Secretary, APPI, Delhi chapter, AIIMS, New Delhi, 24 June, 2019.

**Dr Renu Bhatia** was a Member of International Association for Study of Pain (IASP), a Member of AIIMS UG Curriculum organizing group and Member of Women in Brain Stimulation.

**Dr Suriya Prakash M** received "Young Researcher Award" for the Poster presentation (Medical Sciences category) with 2nd Cash prize of Rs.15000/- for the research work titled "The Potential of EEG-Derived Resting-State Functional Cortical Connectivity as a Diagnostic Biomarker for Alzheimer's disease and Mild Cognitive Impairment" at 2nd National Biomedical Research Competition (NBRCOM-2019), 17 November 2019, PGIMER, Chandigarh. He is Member, Committee for MBBS Curricular Reforms, AIIMS, New Delhi And was awarded travel support of Rs. 99661/- by Science & Engineering Research Board (SERB) for presenting research work titled "Brain networks communicate through theta oscillations to encode high load in a visuospatial working memory task: An EEG connectivity study" at Neuroscience 2019, 49th Annual Meeting of Society for Neuroscience, 19-23 October 2019, Chicago IL, USA

**Dr Akansha Singh** was Joint Secretary-Finance, TIPS 2019 (Techniques in Physiological Sciences) for SAARC nations, AIIMS, New Delhi, December 2019.

#### **VISITING SCIENTISTS**

Dr Elad Fein, CEO iFEEL, Israel on Heart Rate variability in Department of Physiology on 9 December 2019.



## 9.33. Plastic, Reconstructive and Burns Surgery

### Professor and Head

Maneesh Singhal

### Assistant Professors

Raja Tiwari  
Rajkumar Manas

Shashank Chauhan  
Rakesh Dawar

### HIGHLIGHTS

The Department was established in July 2015. Presently, the department has 5 faculty members, 15 MCh senior residents, 2 non-academic senior residents and 5 non-academic junior residents. The monthly inflow in out-patient department as well as admissions has steadily increased over the past one year. We have specialized clinics in hand, cleft, and Dermatotomy. We provide services for creation of arteriovenous fistulas and reconstruction of various defects in collaboration with Oncosurgery, Neurosurgery, Cardiothoracic surgery, Orthopedic, Pediatric surgery, General surgery, Ocular surgery teams and various other departments. At Jai Prakash Narayan Apex Trauma Center, we are providing the complete spectrum of post-traumatic reconstructive surgeries including microvascular surgery and replantation, along with a special clinic for evaluation and management of patients with brachial plexus injuries. The department has conducted various national and international cadaveric courses and hands-on workshops on reconstructive flap cover surgeries. We also run an OPD at Ballabgarh, Haryana for outreach to the rural population. There have been multiple presentations by our faculty and residents at various national and international conferences. Department has successfully conducted the MCh exams of seven candidates.

### Infrastructure Development

Establishment of Burn and Plastic block. The future endeavors of the department include starting of a state-of-the-art Center for Burn Care and Reconstructive Surgery, a dedicated skin bank, and a composite tissue allotransplantation program for hand and face transplant.



### CMEs/Workshops/Symposia/National and International Conferences

#### Organized by the Department

1. ISVCA 2019, 28 and 29 September 2019, New Delhi
2. Masterclass in craniomaxillofacial reconstruction, 17 October 2019 at AIIMS, New Delhi
3. Cadaveric Dissection Course for Filler and BOTOX, ACS(I)CON 2019, New Delhi
4. Cadaveric Dissection Course for Skin grafts and Flaps, at ACS(I)CON 2019, New Delhi
5. Member of expert group, Development of First Aid for the Community, a WHO project in association with the Ministry of Health & Family Welfare, Government of India
6. Organized CMETi: Workshop on wound care and Pressure sore prevention, 21 January 2019, at AIIMS, New Delhi
7. Organized CMETi: Workshop on wound care and pressure sore prevention, 3 March 2019 at AIIMS, New Delhi

**Lectures Delivered****Maneesh Singhal: 7****Raja Tiwari: 7****Raj Kumar Manas: 8****Shashank Chauhan: 6****Maneesh Singhal**

1. Surgical Management of Cleft Lip and Palate CDER CDE series 20 August 2019, AIIMS, New Delhi
2. Protocol for Tendon Repairs of Forearm, INCPT, 22 September 2019, AIIMS, New Delhi
3. THERMAL INJURIES Interactive Discussion, ATLS, 29 November 2019, Dr RML Hospital, New Delhi
4. Planning of plastic surgery in separation of Craniopagus twins. APSICON, 14 December 2019, SOA, Bhubaneswar
5. Planning for Emergency Department & Mass Causality Incident, Triage, fatality management in hospital IPHACON, 28 February 2020, NIHF, New Delhi
6. Initial assessment and approach First Aid training utilizing the First Aid Module for Community, 12, 13 and 16 March 2020, Rural Health Training Centre (RHTC) Najafgarh, New Delhi
7. Course Director General principles and overview Wound Care & amp; Pressure Sore Prevention, 21 January 2020, AIIMS, New Delhi

**Raja Tiwari**

1. Moderator and co-organizer of CME Masterclass in craniomaxillofacial reconstruction, 17 October 2019, New Delhi
2. Moderator and co-organizer of Cadaver workshop on Vascularised composite all transplantation, ISVCA 2019, 28 and 29 September 2019, New Delhi
3. A comparative analysis of different cartilage grafts used for secondary correction of nasal deformities in cleft lip and palate patients APSICON 2019, 15 December 2019, Bhubaneswar
4. Faculty, Chairperson and speaker- Advances in Microsurgery CME- Basic and Recent Trends in Plastic Surgery, 12 October 2019, Rewa
5. Scalp Replantation: Tips and trick, APSI: Delhi Chapter, 12 January 2019, New Delhi
6. Management of Acute and Chronic Wounds CMETi: Workshop on wound care and Pressure sore prevention, 21 January 2019, New Delhi
7. Basic principles of wound healing CMETi: Workshop on wound care, 3 March 2019, New Delhi

**Raj Kumar Manas**

1. Tips and Tricks for combined use of Groin and Hypogastric Flap for aesthetic reconstruction of Hands ISSH 2019, Annual Conference of Indian Society of Surgery of Hands, 15 September 2019, Puri, Odisha
2. Recent Management of Post Burn Sequelae, APSICON 2019, Association of Plastic Surgeons of India Meeting, 15 December 2019, SOA University, Bhubaneswar
3. Our 5 years of experiences of Burns Prevention Programme NABICON 2019, Annual Meeting of National Academy of Burns-India, 23 February 2020, Shimla
4. Challenges of Nerve Graft in Nerve Gap WSRM 2019, 10th Congress of World Society of Reconstructive Microsurgery, 13 June 2019, Palazzo della cultura e dei congressi Bologna, Italy
5. Tips and Tricks for combined use of Groin and Hypogastric Flap for aesthetic reconstruction of Hands, ISSHCON 2019, Annual Conference of Indian Society of Surgery of Hand, 15 June 2019, Odisha
6. Recent Management of Post Burn Sequelae, APSICON 2019, Association of Plastic Surgeons of India Meeting, 15 December 2019, SOA University, Bhubaneswar
7. Our 5 years of experiences of Burns Prevention Programme, NABICON 2019, Annual Meeting of National Academy of Burns-India, 23 February 2019, Shimla
8. Our experiences of nerve reconstruction, ISPNS 2020, Annual Meeting of Indian Society of Peripheral Nerve Surgeons, 29 February 2020, Ganga Hospital, Coimbatore

**Shashank Chauhan**

1. How to decide on reconstruction of tongue and buccal mucosa defects: Introduction to regional and free flaps International Head & Neck Dissection Course, 28 March 2019, AIIMS Cadaveric Surgical Skills Training (ACSST), Jai Prakash Narayan Apex Trauma Centre (JPNATC), New Delhi
2. Panel Discussion and Consensus Statement on "Setting up a burn unit" – Physical Planning NABICON 2019, 3 March 2019, Kumbh Tent City, Allahabad (Prayagraj)

3. Surgical Anatomy of lip and palate in cleft IOS PG Students Convention 2019, 21 February 2019, ITS Dental College, Greater Noida
4. Principles of Primary Lip and Palate Surgeries IOS PG Students Convention 2019, 21 February 2019, ITS Dental College, Greater Noida
5. Skin flaps in Conjoined twins separation, 1st International Conference on Conjoint Twins (ICC), 15 February 2019, AIIMS, New Delhi
6. Total scalp avulsion: A two and half years' experience at our newly started Plastic surgery department, APRASOCON, 12 January 2019 AIIMS, Bhubaneswar, Odisha

#### **Oral Papers/Posters presented: 12**

1. Chauhan S, Tiwari R, Gupta D, Sabapathy SR, Venkataramani H, Singhal M. Skin flaps in Conjoined Twins Separation, Presented at the 1st International Conference on Conjoint Twins at AIIMS, New Delhi from 14 to 15 February 2019
2. Chauhan S, Tiwari R, Gupta D, Sabapathy SR, Venkatramani H, Singhal M. Plastic & Reconstructive Surgery Aspects in Craniopagus Separation Surgery: Indian Experience. Presented at the 25th Congress of the Asian Association of Pediatric Surgeons, APS 2018, 29 November–3 December 2018, Dubai, UAE.
3. Kashyap N, Singhal M, Chauhan S. Reliability of outcomes with Liposuction Assisted Subcutaneous Mastectomy in Gynecomastia. Presented at the Association of Plastic Surgeons of India Conference, APSICON 2018, 21-25 November 2018, Lucknow, UP, India
4. Manas RK. Challenges of Nerve Graft in Nerve Gap WSRM 2019, 10th Congress of World Society of Reconstructive Microsurgery, 13 June 2019, Palazzo della cultura e dei congressi, Bologna, Italy
5. Manas RK. Our 5 years of experiences of Burns Prevention Programme, NABICON 2019, Annual Meeting of National Academy of Burns-India, 23-February 2020, Kandaghat, Shimla
6. Manas RK. Our experiences of nerve reconstruction, ISPNS 2020, Annual Meeting of Indian Society of Peripheral nerve surgeons, 29 February 2020, Ganga Hospital, Coimbatore
7. Manas RK. Recent Management of Post Burn Sequelae, APSICON 2019, Association of Plastic Surgeons of India Meeting, 15 December 2019, SOA University, Bhubaneswar
8. Manas RK. Tips and Tricks for combined use of Groin and Hypogastric Flap for aesthetic reconstruction of Hands: ISSHCON 2019, Annual Conference of Indian Society of Surgery of Hand, 15 June 2019, Puri, Odisha
9. Naalla R, Tiwari R, Chauhan S, Singhal M. Microsurgical Salvage of Lower Extremities Following Gustilo-Anderson Grade IIIb Open Tibial Fractures- An Analysis of Functional Outcome at 14th Congress of the European Federation of Societies for Microsurgery held on 5-8 May 2018 in Belgrade, Serbia
10. Saha S, Singhal M, Chauhan S, Tiwari R, Dave A. Aesthetics in breast reconstruction for Poland's syndrome: What we can achieve? Presented at BRASCON, 2 February 2018, Lucknow, UP
11. Tiwari R, Dawar R. Radical Release and Reconstruction of Severe Post Burn Elbow & Knee Flexion Contractures in Young Adults: Our Experience, APSICON 2019, 12-15 December 2019, Bhubaneswar, Orissa
12. Tiwari R, Dawar R. Selecting the Right Flap for Lower Extremity Free Tissue Transfer. A Comparative Analysis of Clinical Outcomes With Six Different Free Flaps: APSICON 2019, 12-15 December 2019, Bhubaneswar, Orissa

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Role of Microdialysis in post-operative assessment of Microvascular free flaps, Shashank Chauhan, AIIMS, 2 years, 2018-2020, Rs 4.95 lakhs
2. Pilot Study on utility of Robotic surgery for Brachial plexus reconstruction, Raja Tiwari, AIIMS, 2 years, 2020-2022, Rs 29.5 lakhs

#### ***Completed***

1. Controlled Clinical trial to assess the effectiveness of topical application of C1 herbal oil on split thickness skin graft donor. (Phase I), Maneesh Singhal, Ministry of AYUSH, 4 years, 2014–2018, Rs 17.22 lakhs
2. Developing First Aid Module for Community, Maneesh Singhal, WHO & Ministry of Health and Family Welfare, Govt of India, 6 months, 2018, Rs 6.1 lakhs

## Departmental Projects

### *Ongoing*

1. A prospective study to evaluate the efficacy of Fluorescent angiography in detection of nipple Areolar perfusion in patients undergoing reduction Mammoplasty
2. Outcomes after breast cancer treatment: An International perspective
3. Epidemiology of hand injuries in single centre JPNATC AIIMS, Retrospective and prospective study
4. Effectiveness of a regular training program on microsurgery skills in plastic surgery residents.
5. Prognostic factors associated with outcome in patients who were treated for spaghetti wrist injuries
6. To study the clinical and electrophysiological outcomes of using Platelet-rich plasma in acute peripheral nerve injury repair
7. Analysis of factors affecting survival of digital replant
- 8.

### *Completed*

1. Liposuction assisted subcutaneous mastectomy
2. Soft tissue profile of patients with cleft lip and palate in the Indian population
3. Evaluation of the suitability and outcome of Profunda artery perforator flap for different defects

## Collaborative Research

### *Ongoing*

1. Cleft lip and palate anomaly in India: Clinical profile risk factors and current status of treatment: A hospital-based study, Centre for Dental Education & Research

### *Completed*

1. A Clinical Study on the investigation of caries risk in children with cleft lip and palate (CL/P) and non-cleft control, Centre for Dental Education & Research

## PATIENT CARE

Facilities available in the department

### a) Inpatient patient care facilities:

- Hyperbaric Oxygen therapy facility
- Microvascular facility
- Hand and congenital anomalies surgery facility
- Craniofacial and cleft surgery
- Aesthetic surgery
- Head and neck reconstruction
- Trunk and extremity reconstruction

### b) Clinics:

- Combined Cleft clinic
- Hand clinic
- Brachial Plexus Clinic
- Combined leprosy Clinic

### c) Community Service/Camps:

- Organised a “**Burn Prevention Awareness and primary Aid Programme**” at CHRPC, Ballabgarh and AIIMS New Delhi Trauma Centre in which we delivered a public lecture on burn prevention, firecrackers and other types of burns and first aid management. About 100 patients and patient’s relatives attended the programme in the OPD premises and were educated on prevention of burns
- Plastic Surgery OPD services at CHRPS, Ballabgarh, Haryana every Tuesday

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Maneesh Singhal** was awarded ICMR-DHR International Fellowships for Senior Indian Biomedical Scientist 2019-20; Expert committee members on Video Spots on Burn Injuries under NPPMBI, Ministry of Health and Family Welfare, Government of India; Expert committee members on IEC development for awareness and prevention of Burn Injuries under NPPMBI, Ministry of Health and Family Welfare, Government of India; Expert committee members on awareness and prevention of Drowning under Ministry of Health and Family Welfare, Government of India; Central expert for monitoring for Trauma Care Facilities and Burn Units of Chandigarh and Odisha; Ad-hoc committee members for giving suggestions and monitoring infrastructure development of AIIMS, Raebareli; Invited member for Education Working Group, International Federation of Red Cross and Red Crescent Societies; ISTACT consensus meeting, Consensus meeting on ISTAC Guidelines for the management of Solid organ injuries to be held on 18 and 19 January, 2020 at DELNET, Vasant Kunj, New Delhi; Member of the INDICEFT task force, ICMR, New Delhi; Nominated by Ministry as expert for National Workshop on Highway Accidents & Emergency Medical Management India International Centre, New Delhi: 28 February 2020; Member of project sanctioning committee, Central Sector Scheme for up gradation to Centre of Excellence (COE), Ministry of AYUSH; Member of Constitution committee to revise the strategy of implementation of Trauma & Burn Programme at National Level; Expert group Member for development of Guidelines for management of Cleft Anomalies in India, ICMR, New Delhi; Faculty for ATLS course, 28-30 November ABVIMS & Dr RML Hospital, New Delhi; Chairperson for Session VI of NANOBIOTECK - 2019, 21-23 November 2019, Aerocity, Delhi; Member, Committee for MBBS curricular reforms at AIIMS, New Delhi; Member, Institute ethics Committee for MBBS curricular reforms at AIIMS, New Delhi; Member of Faculty selections panel at SSCI&H, Lucknow; Expert Group Meeting for developing National Guidelines on Patient Safety, MOHFW, New Delhi; Advisory committee member of 100 Bedded General Hospital at RHTC, Najafgarh; Expert member for Medical Device Division, Central Drugs Standard Control Organisation DGHS, Ministry of Health & Family Welfare, New Delhi-110002; Examiner for national board of examination for DNB, Plastic surgery.

**Dr Raja Tiwari** was First Indian to be awarded Fellowship in Advanced Reconstructive Microsurgery from Royal Melbourne Hospital, Australia. Fellowship duration 6 months from 1 April 2019 to 30 September 2020; Chairperson: CME-Basic and Recent Trends in Plastic Surgery, 12 October 2019, Rewa, MP; Moderator and co-organiser in masterclass craniomaxillofacial reconstruction in jai Prakash Narayan Trauma Centre, Delhi, 17 October 2019.

**Dr Rakesh Dawar** was invited faculty and chairperson, 12-15 September 2019, Puri, Odisha India; Co-organiser in masterclass craniomaxillofacial reconstruction in Jai Prakash Narayan Trauma Centre, Delhi, 17 October 2019.

**Dr Raj Kumar Manas** was invited faculty and chairperson in NABICON 2019 and elected as Executive Member of NABI, National Academy of Burns-India during the meeting held in Kandaghat; Invited faculty and chairperson and Judge for best poster presentation in ISSH 2019, Annual Conference of Indian Society of Surgery of Hand held in Puri; Invited faculty and chairperson in ISVCA 2019, International Congress of International Society of Vascularised Composite tissue allotransplantation, moderated the session on research and experimental vascularised allo-transplantation, held in New Delhi.

**Dr Shashank Chauhan** was judge of Competitive Paper Session, APRASOCON 2019, 13 January 2019, Bhubaneswar.





### *Clinical posting*

First year – 8 months in psychiatry ward and one month in psychiatry OPD

Second year – 3-4 months in psychiatry ward

### *Thesis work*

Conduct their thesis work in psychiatry OPD and ward

### **Training of Junior Residents posted from other departments**

Junior residents from Departments of Medicine, Geriatric Medicine, Emergency Medicine and Palliative Medicine, and DM trainees in Neurology are posted to department of psychiatry for a period of 2-4 weeks for training in psychiatry

### **MD (Psychiatry) and PhD Teaching**

- Seminar once a week
- Case Conference once a week
- Journal discussion once a week
- Thesis protocol and midterm presentation once a week
- Tutorials once a week
- Psychotherapy supervision for postgraduate psychiatry and doctoral level clinical psychology students
- Supervision of Consultation-Liaison training for junior residents in psychiatry

### **CMEs/Workshops/Symposia/National and International Conferences**

- National CME on Strengthening Home-based Care for Severe Mental Disorders in Low Resource Settings at **Conference Hall, AIIMS, New Delhi**, 27th April 2019
- Mental Health Fiesta 2019 in JLN Auditorium AIIMS New Delhi, 4th October 2019
- 21st Annual Conference of the International Society of Addiction Medicine, New Delhi, 13-16 November 2019
- Fourth National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation at Ramalingaswamy Board Room & TMS Lab, AIIMS, New Delhi, 12–14 December 2019.

### **Lectures Delivered**

**Rakesh Kumar Chadda: 12**

**Nand Kumar: 9**

**Raman Deep: 4**

**Bichitra Patra: 3**

**Barre Vijay Prasad: 3**

**Pratap Sharan: 11**

**Mamta Sood: 6**

**Koushik Sinha Deb: 12**

**Gagan Hans: 7**

**Renu Sharma: 4**

**Rajesh Sagar: 51**

**Sujata Satapathy: 2**

**Rohit Verma: 11**

**Vaibhav Patil: 4**

### **Rakesh Kumar Chadda**

1. Youth and Mental Health: Challenges Ahead, CME of Punjab & Chandigarh Psychiatric Society 11 May 2019, PIMS, Jalandhar, Punjab
2. Family Interventions with Substance Use Disorders, Annual Meeting of American Psychiatric Association 18-22 May 2019, San Francisco, USA
3. Schizophrenia: There is a Hope, 2nd National Conference on Schizophrenia Day, 24 and 25 May 2019, PGIMER-RML Hospital, New Delhi
4. Home Based Models of Care for Schizophrenia in General Hospital Settings, Schizophrenia Day CME of IAPP, 26 May 2019, New Delhi
5. Coping with Workplace Stress in Healthcare Settings, National Seminar on Mental Health at Work Place, 1 and 2 June 2019, PGIMS, Rohtak
6. UG Psychiatry Training: AIIMS Model, National Workshop on 'Competency Based Undergraduate Psychiatry Curriculum, 23 and 24 September 2019, AIIMS, Rishikesh
7. Teaching Social Determinants of Health in Undergraduate and Graduate Medical Curriculum, World Congress of Social Psychiatry 25-28 October 2019, Bucharest, Romania
8. Borderline Personality Disorders: Evolution of the Concept, World Congress of Social Psychiatry, 25-28 October 2019, Bucharest, Romania
9. Consultation Liaison Addiction Psychiatry: Needs and Challenges, Annual Meeting of International Society of

Addiction Medicine, 13-16 November 2019, New Delhi

10. Managing Drug Use in the Society, What Social Psychiatry has to Offer? -Magnitude of the Problem, Annual Meeting of International Society of Addiction Medicine, 13-16 November 2019, New Delhi
11. Social Psychiatry in Contemporary Clinical Practice, Kolkata Mental Health Fair, 10 January 2020, IOP, IPGIMER, Kolkata
12. Panel Discussion on INCB 2019 Report, Launch of Report of International Narcotic Control Board, 27 February 2020, New Delhi

### **Pratap Sharan**

1. Overview of mental health at workplace Mental Health at Workplace, 10 April 2019, AIIMS, New Delhi
2. Wellness and services for residents (5 lectures), Workshops titled "Issues of Mental Health and Counselling", 11 April 2019; 8 August 2019; 24 October 2019; 14 February 2020 and 7 March 2020, AIIMS, New Delhi
3. Wellness and services for students CREST Workshop for 1st year MBBS students: Bringing Wellness to AIIMS Undergraduate Community, 15 July 2019, AIIMS, New Delhi
4. Understanding mental health problems (8 lectures) Mental Health at Workplace, 7 August 2019; 18 September 2019; 9 October 2019; 23 October 2019; 13 November 2019; 27 November 2019; 11 December 2019 and 28 January 2020, AIIMS, New Delhi
5. Client centred therapy, Indian Psychiatric Society National Symposium on Psychotherapy, 4 August 2019, Gujarat Institute of Mental Health Ahmedabad
6. Mental Health Among Students, TV Show, 27 September 2019, Vigyan Prasar, DST, NOIDA
7. Depression Module, National Expert Consultation Meet for PHFI Certificate Course on Common Mental Disorders, 2 and 3 November 2019, New Delhi
8. Need for curricular change at AIIMS Orientation Workshop on MBBS Curricular Reforms at AIIMS, 26 November 2019, AIIMS, New Delhi
9. Levels of Integration Orientation Workshop on MBBS Curricular Reforms at AIIMS, 26 November 2019, AIIMS, New Delhi
10. General Objectives Orientation Workshop on MBBS Curricular Reforms at AIIMS, 26 November 2019, AIIMS, New Delhi
11. Relationships and distortions, Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi

### **Rajesh Sagar**

1. Suicide prevention and policy-A south Asian perspective, International Society for Autism Research (INSAR) Autism and Suicide Research Priority Setting Workshop funded by the INSAR, in association with the James Lind Alliance, Autistica and University of Nottingham, 4 April 2019, Nottingham, UK
2. Research Priorities for Mental Health in India, Newcastle University and Northumberland Tyne and Wear NHS Foundation Trust, 8 April 2019, Newcastle, UK
3. Global and National initiatives on Mental Health, Invited speaker organized by Newcastle University and Northumberland Tyne and Wear NHS Foundation Trust, 8 April 2019, Newcastle, UK
4. Child sexual abuse-Indian scenario, National CME cum Workshop on Prevention of Child sexual Abuse Jointly organized by Dept of Psychiatry, KIMS and IPS Odisha State Branch, 13 April 2019, KIMS Auditorium, KIIT University, Bhubaneswar
5. Workshop on CSA National CME cum Workshop on Prevention of Child sexual Abuse Jointly organized by Dept of Psychiatry, KIMS and IPS Odisha State Branch, 13 April 2019 KIMS Auditorium, KIIT University, Bhubaneswar
6. Research Priorities for Mental Health in India for Indo-Sweden collaboration ICMR-FORTE collaboration and expert member of Indo-Sweden Team, 23 April 2019 Goteborg, Sweden
7. Autism Spectrum Disorder Guest Speaker for CME organized by North DMC Medical College & Hindu Rao Hospital, Delhi, 26 April 2019, North DMC Medical College & Hindu Rao Hospital, Delhi
8. Multiple sclerosis and depression, Public Lecture and Panel Discussion on Multiple Sclerosis: Invisible MS (Neglected Symptoms) on the occasion of World MS (Multiple Sclerosis) Day, 2019, 30 May 2019, JLN Auditorium, AIIMS, New Delhi
9. Disability certification for intellectual disability and mental illness, Conference/Workshop for national institutions identified for issue of disability certificates as per amended regulations supported by BOG (MCI) and AIIMS, 1 June 2019, AIIMS, New Delhi

10. Understanding differences between Mental illness, Disability, Mental retardation. Orientation on Mental Healthcare Act, organized by Delhi Judicial Academy for sensitizing Judicial Officers of DHJS, DJS and other stakeholders including Jail Superintendents, Police Officials, 1 June 2019, Delhi Judiciary Academy, Delhi
11. Capacity to make treatment decisions, Duties of nominated representatives, Rights of mentally ill persons to confidentiality of treatment. Orientation on Mental Healthcare Act, organized by Delhi Judicial Academy for sensitizing Judicial Officers of DHJS, DJS and other stakeholders including Jail Superintendents, Police Officials, 1 June 2019, Delhi Judiciary Academy, Delhi
12. Cyber Threat and Laws-how to protect our children? -Enhancing psychological resilience CME on Recent Advances in Psychiatry-Delhi Psychiatric Society (DPS) 7 July 2019, New Delhi
13. Speaker for panel in Book Launch “Conquering Pain: How to prevent it, treat it and lead a better life” Harper Collins publisher authored by Mary Abraham and Vandana V Prakash, oxford book store, 19 July 2019, New Delhi
14. IPD practice post Mental Health Care Act (MHCA) 12th annual CME “DEVACON 2019” organized by Indian Psychiatry Society-MHCA Task force, Behavioral & Neuroscience Academy of India (BANAI) and Deva Institute of Healthcare & Research, 28 July 2019, Varanasi, India
15. Speaker in panel on Access to mental healthcare-integration of mental health services into general healthcare services National level Review Meeting on Mental Health by National Human Rights Commission (NHRC), 7 August 2019, IIC, New Delhi
16. In Current Scenario, Why Doctors dealing Psychiatry should be aware of new Act? MHCA CME by Moradabad Neurosciences Association, 11 August 2019, Ram Nagar
17. Why research? How to frame an appropriate research question? CME-workshop 2019 on “Scientific Writing and Research Methodology” -organized by Indian Psychiatric Society – Rajasthan, 17 August 2019, Kumbhalgarh, Rajasthan
18. Mental health well-being-need of the hour Rotary Club of Delhi South West, 23 August 2020, Ethiopian embassy
19. School Mental Health Programme in India: Implementations and Barriers (web lecture), National Seminar on School of Mental Health Programme: Implementation and Barriers (CRE Accredited), 1 September 2019, Central Institute of Psychiatry (CIP), Ranchi, Jharkhand.
20. Research targeting the prevention and management of multimorbidity, Workshop on the prevention and management of multimorbidity in the sub-Saharan Africa region organized by Academy of Medical Sciences, UK and the Academy of Science of South Africa, 6 September 2019, Johannesburg, South Africa
21. Depression and Anxiety in mothers in the Community, Influence of Culture on Perinatal Psychology Organized by Spazio Iris-Research And Intervention Institute For Health, Milan, 10 September 2019, Milan, Italy
22. Alexithymia and Depression-Is there a Relationship? Speaker in symposium “Reappraisal of Alexithymia in current clinical practice”, 25th World Congress of the International College of Psychosomatic Medicine (ICPM) 12 September 2019, Florence, Italy
23. Case presentation 4 - the womb and the wheelchair - the dissociation in postpartum in 25th World Congress of the International College of Psychosomatic Medicine (ICPM), 12 September 2019, Florence, Italy
24. Evaluation of District Mental Health Programme National consultation on Assessment of quality and best practices under District Mental Health Programme - supported by WHO, country office, Ministry of health & FW, 23 September 2019 DELNET, New Delhi
25. Development of Assessment Tool for Evaluation of DMHP - an overview, National consultation on Assessment of quality and best practices under District Mental Health Programme-supported by WHO, country office, Ministry of health & FW, 23 September 2019, DELNET, New Delhi
26. Speaker in panel on Superheroes Wear Kindness: Fighting Battles Against Bullying Mental Health Fiesta 2019, 6th Annual Mental Health conference-organized by Mental Health Foundation (India) on occasion of world mental health week, 4 October 2019 AIIMS, New Delhi
27. Panel on research priorities in Child and Adolescent Mental Health in South Asian region, NEESAMA (North East England South Asia Mental health Alliance) Meeting- supported by Newcastle University and Northumberland Tyne and Wear NHS Foundation Trust, UK and Bangladesh Protibondhi Foundation Clinical Neurosciences Centre, 21 October 2019, Dhaka, Bangladesh
28. Role of Mental Health Professionals in the Multidisciplinary Management of Disorders of Sex Development, AIIMS Workshop and Brainstorming Meeting on Improving Diagnosis and Management of Disorders of Sex Development in Northern India, 2 November 2019, AIIMS, New Delhi
29. Digital World And Developing Brain- Benefits, 15th Biennial National Conference of Indian Association of Child and Adolescent Mental Health (IACAMCON-19), 8 November 2019, Chandigarh
30. Child and Adolescent Mental Health -need to focus on preventive strategies, 15th Biennial National Conference of Indian Association of Child and Adolescent Mental Health (IACAMCON-19), 9 November 2019, Chandigarh

31. Psychiatric Disability among Children-An overview Symposium on Psychiatric Disability among Children, 15th Biennial National Conference of Indian Association of Child and Adolescent Mental Health (IACAMCON-19), 9 November 2019, Chandigarh
32. Substance use in externalizing disorders in adolescence - An overview Symposium on Substance use in externalizing disorders in adolescents, 21st Annual Meeting of the International Society of Addiction Medicine (ISAM 2019), 14 November 2019, New Delhi
33. Understanding differences between Mental illness, Disability, Mental retardation, Orientation on Mental Healthcare Act, organized by Delhi Judicial Academy for sensitizing Judicial Officers of DHJS, DJS and other stakeholders including Jail Superintendents, Police Officials 16 November 2019, Delhi Judiciary Academy, Delhi
34. Capacity to make treatment decisions, Duties of nominated representatives, Rights of mentally ill persons to confidentiality of treatment Orientation on Mental Healthcare Act, organized by Delhi Judicial Academy for sensitizing Judicial Officers of DHJS, DJS and other stakeholders including Jail Superintendents, Police Officials, 16 November 2019, Delhi Judiciary Academy, Delhi
35. Administration of INCLIN tool for autism (web lecture) 26th National Conference of Indian Association for Social Psychiatry (NCIASP) 1 December 2019, Bhubaneswar
36. Speaker in panel on Law and women's mental health 3rd National Symposium on Women's Mental Health organized by Indian Psychiatry Society, 8 December 2019, IHC, New Delhi
37. Mental disorders in the states of India, 1990-2017, Dissemination of India State-Level Mental Disorders Paper India State-Level Disease Burden Initiative by ICMR, DHR, PHFI & IHME, 23 December 2019, ICMR Headquarter, New Delhi
38. Stress Management 4th Foundation Training Programme (FTP) for General Duty Medical Officers (GDMOs) under Central Health Services (CHS) under MoHFW, 24 December 2019, NIHF, New Delhi
39. Reframing the scope of NCD action to prioritize-mental health Third National Civil Society Consultation on Non-Communicable Diseases Theme: Meaningful involvement of People Living with NCDs (PLWNCs) and Youth Organized by HRIDAY (Healthy India Alliance/India NCD Alliance), 27 December 2019, IIC, Delhi
40. Early Indicators of Abuse 1st National ToT on "Psychological Trauma Assessment & Intervention in Child Abuse" organized by NCPCR & AIIMS, 7 January 2020, AIIMS, New Delhi
41. Ethics and Guidelines 1st National ToT on "Psychological Trauma Assessment and Intervention in Child Abuse" organized by NCPCR and AIIMS, 11 January 2020, AIIMS, New Delhi
42. Speaker in panel on Suicide!! Are we able to prevent?? 29th Annual Conference of Delhi Psychiatric Society (DPS), 12 January 2020, New Delhi
43. Rehabilitation of older and special needs OAS children-panel discussion, National Consultation on Child Adoption in India-Major gaps and proposed adoption reform organized by Central Adoption Resource Authority (CARA), Ministry of Women and Child Development, 14 January 2020, New Delhi
44. Mental Health of School Going Children and adolescents: Need for Promotive and Preventive Focus, Symposium on Mental Health Promotion and Prevention in school setting: Are we prepared for tomorrow in 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS), 24 January 2020, Kolkata
45. Overview and need of evaluation of DMHP Symposium on Assessment of Quality and Best Practices under District Mental Health Program in 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS), 25 January 2020, Kolkata
46. The burden and patterns of mental health problems in children, Session 1-From surviving to thriving: The threats to India's children
47. - Annual Conference on "Neurons to Neighbourhood - The science of mental health and its implications for India" organized by Sun Pharma Science Foundation, 27 January 2020, IHC, New Delhi
48. Psychological trauma counselling for violence affected women (and children) National Consultation with NCW/ SCWs, NCPCR/ SCPCRs-session on "Creating eco-system for safety and confidence for women and children" organized by the Ministry of Women and Child Development, 27 January 2020, New Delhi
49. Speaker on panel on mental health legislation India-Scotland mental Health conclave 2020 organized by IHBAS & DPS, 29 January 2020, Delhi
50. Why Research? How to Frame a research question CME on Research in Psychiatry on Golden Jubilee of IPS-Gujarat State branch, 9 February 2020, GIMH, Ahmedabad
51. Managing Examination Stress Pariksha parv 2.0, Facebook/twitter/youtube Live streaming organized by NCPCR, 14 February 2020, NCPCR office, New Delhi
52. Polycystic Ovary Syndrome - Psychiatric aspects and Quality of life, Expert Group Meeting for Brainstorming on Polycystic Ovary Syndrome (PCOS): Phase II & III-supported by ICMR, 1 March 2020, ICMR, New Delhi

### **Nand Kumar**

1. Technology Interventions for Intellectual Disabilities Workshop by (The Help Age India), 9 April 2019, India International Centre, New Delhi
2. Unmet needs in depression CME organized by Department of Psychiatry, SMS Medical College and Psychiatric Centre, Jaipur 21 April 2019, Tonk Road Durgapura Jaipur.
3. Assessment of a patient with Severe Mental Disorder for Home-based Care in Low-resource Settings National CME on Strengthening Home-based care for Severe Mental Disorder in General Hospital Settings, 27 April 2019, Conference Hall, AIIMS, New Delhi
4. Prison radicalization, Invited talk in National Security Strategies, 3rd conference, 28 June 2019, Vigyan Bhawan, Delhi
5. Emerging Neuromodulation Modalities in the Management of Psychiatric Disorders, East zone PG CME, 13 July 2019, Jamshedpur, Jharkhand
6. International Summit on MAOIs- Focus on Tranylpromine” CME organised by the CME foundation of India, 25 August 2019, Mumbai
7. The utility of rTMS in Psychiatric Disorders National CME organized by PGIMER, Chandigarh, 15 September 2019, PGIMER, Chandigarh
8. Practice of Neuromodulation in Psychiatry: The road ahead, 72nd Annual National Conference of Indian Psychiatric Society, (ANCIPS) 2020, 22 January 2020, Kolkata
9. How to set up an rTMS service? Indian experience of rTMS happening Institute of Mental health, Singapore rTMS Certification Course, 15 November 2019, Singapore

### **Mamta Sood**

1. Workplace Mental Health for Health Professionals: Some Facts and some Findings on Nurses Two-day National Seminar: Mental Health at Work Place, 2 June 2019, Institute of Mental Health, Pt. BD Sharma University of Health Sciences, Rohtak
2. Management of legal, ethical and psychological issues in disaster 12 Days Training of Trainers (ToT) Course on “District Preparedness for Public Health Emergencies Management” for Senior Faculties of Partner Institutions from 10 to 22 June 2019 at NIHF, 17 June 2019, NIHF, New Delhi
3. CSA impacts and disabled children CSA impacts and disability issues: Beyond medical diagnosis- Integration of psychosocial perspectives in rehabilitation and reintegration of CSA, 21 December 2019, National Institute of Empowerment of People with Multiple Disability, Chennai
4. Self-awareness & Empathy Soft Skills in Nursing, 10 February 2020, CMET, AIIMS, New Delhi
5. Interpersonal Communication- Principles & Process Interpersonal Communication in Health Care, 21 February 2020, CMET, AIIMS, New Delhi
6. Examination Stress Pariksha Parv, 10 Feb to 31 March 2020, 28 February 2020 NCPCR, New Delhi

### **Sujata Satapathy**

1. Biological, lifestyle and medication factors: (In Symposium titled: Assessment and Management of a Patient with Severe Mental Disorder for Home-based Care in Low-resource Settings) National CME on Strengthening Home-based care for Severe Mental Disorders in General Hospital Settings, organized by Indian Association for Social Psychiatry (IASP) and Department of Psychiatry, AIIMS, 27 April 2019, AIIMS Conference Hall, New Delhi
2. Substance Use Disorders in Bipolar Disorders: In Symposium titled: Substance Use Disorders in Severe Mental Disorders” 21st Annual Conference of International Society of Addiction Medicine (ISAM), 13-16 November 2019, Aerocity, New Delhi

### **Raman Deep**

1. Management of a Patient with Severe Mental Disorder for Home-based Care in Low-resource Settings National CME on Strengthening Home-based care for Severe Mental Disorders in General Hospital Settings, 27 April 2019, AIIMS, New Delhi
2. Substance use disorders in Severe mental disorders: An Overview Annual Meeting of International Society of Addiction Medicine, 13-16 November 2019, New Delhi
3. Managing Drug Use in the Society, What Social Psychiatry has to Offer? Role of social psychiatry in long term care of substance use disorders Annual Meeting of International Society of Addiction Medicine, 13-16 November 2019, New Delhi
4. Warwick India Canada (WIC) NIHR psychosis research group at AIIMS centre: Strengthening management

### **Koushik Sinha Deb**

1. Principles of Mental Health Promotion in Workplace “Workplace Mental Health” - Nursing in Service Education Unit, AIIMS, 10 April 2019, 7 August 2019, 18 September 2019, 23 October 2019, 13 November 2019, 27 November 2019 and 28 January 2020, AIIMS, New Delhi
2. Depression, burnout and suicide - Safety nets & life-work balance, Wellness Program for Post-Graduate Trainees, 11 April 2019 and 8 August 2019, AIIMS, New Delhi
3. Stress and Eating: Psychological Issues, (IAPEN) Clinical Nutrition Update Symposium Series-2019 - “Surgical Nutrition” 22 May 2019, AIIMS, Delhi
4. Depression and Suicide, CREST - Workshop for 1st year MBBS students, 15 July 2019, AIIMS, New Delhi
5. Depression, Suicide and Neglect in Cancer “Onco-Emergency Summit 2019”, 9 November 2019, AIIMS, New Delhi
6. Tele-Medicine in Addiction Psychiatry: Current Use and Potential Applications 21st Annual Meeting of the International Society of Addiction Medicine (ISAM-2019), 13-16 November 2019, New Delhi
7. The Virtual, the Digital and the Real - Social Psychiatry in Digital Age 26th National Conference of Indian Association for Social Psychiatry (NCIASP) 29 November to 1 December 2019, AIIMS, Bhubaneswar, Orissa
8. Effective Communication in Clinical Situation NURSICON-2019 “Patient’s safety: everyone’s concern”, 10 December 2019, AIIMS, New Delhi
9. Introduction to Mental Disorders Certificate Course in Common Mental Disorders (CCCMD): PHFI & AIIMS 19 January, 2020 AIIMS, New Delhi
10. Smartphone Apps for Mental Health: Overview, challenges and recommendations for the next generation psychiatrist 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS) 2020, 22- 25 January 2020, Kolkata, West Bengal
11. Digital Psychiatry, Challenges, risks & opportunities Global Mental Health & Digital Psychiatry, 6 February 2020, AIIMS, Bhopal
12. Verbal and non-verbal communication and the role of listening “Enhancing soft skills for Nursing Personnel”, 21 February 2020, AIIMS, New Delhi

### **Rohit Verma**

1. Neural substrates of biological motion governing adaptive social cognition in animals and humans, International workshop on Social Network of Animals in extreme environment of Antarctica with special reference to Penguins including field studies 22-24 April 2019, Port Blair, Andaman & Nicobar Islands, India
2. Workshop for Assessment and Management of a Patient with Severe Mental Disorder for Home-based Care in Low-resource Settings, Strengthening Home-based Care for Severe Mental Disorders in Low Resource Settings, 27 April 2019, AIIMS, New Delhi
3. Brain mapping using diffuse optical topography in cognitive neurosciences EEG analysis and allied technologies, 1-5 July 2019, IIT, New Delhi
4. rTMS: Principles and Practical Aspects National CME on Brain Stimulation and Electroconvulsive Therapy in Psychiatric Disorders, 15 September 2019, PGIMER, Chandigarh
5. The utility of rTMS in psychiatric disorders National CME on Brain Stimulation and Electroconvulsive Therapy in Psychiatric Disorders, 15 September 2019, PGIMER, Chandigarh
6. Role of Non-Invasive Brain Stimulation in Substance Use Disorders XXI Annual Conference of the International Society of Addiction Medicine, 13-16 November 2019, New Delhi
7. Substance use disorders in severe mental disorders 21st Annual Conference of the International Society of Addiction Medicine, 13-16 November 2019, New Delhi
8. Functional Near Infra-Red Spectroscopy: Utility and Future 37th Annual Conference of Indian Academy of Neurosciences, 19-21 November 2019, AIIMS, New Delhi
9. Suicidal behavior in current scenario 26th National Conference of Indian Association for Social Psychiatry, 29 November– 1 December 2019, Bhubaneswar, Orissa
10. Neuro-navigation in rTMS 4th National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation, 12-14 December 2019, AIIMS, New Delhi
11. Hands-on Training Workshop 4th National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation, 12-14 December 2019, AIIMS, New Delhi

### **Bichitra Patra**

1. Legal Aspects: Indian context as a part of Symposium titled “Psychiatric Disability among Children” 15th Biennial National Conference of Indian Association for Child and Adolescent Mental Health (IACAM), 9 November 2019, Chandigarh
2. Suicidal behavior in adolescent population as a part of Symposium titled “Suicidal behavior in current scenario” 26th National Conference of Indian association for Social Psychiatry 2019 at Bhubaneswar, 1 December 2019, Bhubaneswar, Odisha
3. Methodology (WHO Quality Rights) and Odisha state findings: As a part of Symposium titled “Assessment of quality and best practices under District Mental Health Program” 72nd Annual National Conference of Indian Psychiatric Society, 25 January 2020, Kolkata

### **Gagan Hans**

1. Innovation in the care of SMDs: Young Mental Health Professionals Strengthening Home-based care for Severe Mental Disorders in General Hospital Settings, 27 April 2019, Conference Hall, AIIMS, New Delhi
2. Test anxiety, stress and coping Orientation for 1st Semester MBBS students, 9 September 2019, AIIMS Raebareli, Uttar Pradesh
3. Let there be time... Work-life balance, time management Wellness Program for Post-Graduate Trainees, 24 October 2019, Dr Ramalinga Swamy Board Room, AIIMS, New Delhi
4. Management of Addictive Disorders in India: current status 21st Annual Conference of the International Society of Addiction Medicine, 2019, 14 November 2019, New Delhi
5. Domestic Violence and Mental Health in Digital Age National Conference of Indian Association for Social Psychiatry 2019, 30 November 2019 Bhubaneswar, Odisha
6. Neuroimaging in Psychiatry: Past, present and future, The 72nd Annual National Conference of Indian Psychiatric Society, 2020, 24 January 2020, Kolkata, West Bengal
7. Conflict within health care system, Workshop on Communication Skills for Nurses, 21 February 2020, MS Seminar Room, AIIMS, New Delhi

### **Vaibhav Patil**

1. Oral communication 21st Annual Conference of the International Society of Addiction Medicine, 2019, 16 November 2019, New Delhi
2. Domestic Violence and Mental Health in Digital Age, National Conference of Indian Association for Social Psychiatry 2019, 30 November 2019, Bhubaneswar, Odisha
3. Suicidal behaviour in current scenario National Conference of Indian Association for Social Psychiatry 2019, 1 December 2019, Bhubaneswar, Odisha
4. Neuroimaging in Psychiatry: Past, present and future, The 72nd Annual National Conference of Indian Psychiatric Society, 2020, 24 January 2020, Kolkata, West Bengal

### **Barre Vijay Prasad**

1. Psychological consequences of Cleft lip and palate among children and their parents National Training Program in Cleft and Craniofacial orthodontics 21 August 2019, Conference Hall, Trauma Center, AIIMS, New Delhi
2. 5 Days training program (Lectures throughout 5 days on different topics) “Training of trainers program for Trauma assessment and Intervention for child abuse” 7-11 January 2020, Board Room, CDER, AIIMS, New Delhi
3. Enhancing Communication skills with children and adolescents training workshop for junior nursing officers, 21 February 2020 Board Room, MS Office, New Delhi

### **Renu Sharma**

1. Assessing the Impact of Abuse on Children, 1st National Training of Trainer’s Program on Psychological Trauma Assessment and Intervention in Child Abuse, 8 January 2020, AIIMS, New Delhi
2. Etiology of Child Abuse, 1st National Training of Trainer’s Program on Psychological Trauma Assessment and Intervention in Child Abuse, 8 January 2020, AIIMS, New Delhi
3. Introduction to Psychological Intervention for Child Abuse 1st National Training of Trainer’s Program on Psychological Trauma Assessment and Intervention in Child Abuse, 10 January 2020, AIIMS, New Delhi
4. Interpersonal Communication: Principle and Processes Workshop on Communication Skills for Nurses, 21 February 2020, AIIMS, New Delhi

## Oral Papers/Posters Presented

1. Ahmad A, Salve H, Nongkynrih B, Sagar R, Krishnan A. Common mental disorders among adolescents in an urban area of Delhi: 64th Annual National Conference of Indian Public Health Association; 29 February to 2 March 2020, New Delhi
2. Ahmad A, Salve HR, Nongkynrih B, Sagar R, Anand K. Mental Health Literacy Among Adolescents Using A Scale Based Measure, 47th Annual National conference of Indian Association of Preventive & Social Medicine (IAPSMCON 2020), 28-30 January 2020, Chennai
3. Ali M, Chwastiak L, Subramani P, Emmert-Fees K, Patel S, Mohan A, et al. Effects of Integrating Depression and Diabetes Treatment (INDEPENDENT) in India: A Randomized Controlled Trial, International Diabetes Federation, IDF Congress 2019, 2-4 December 2019, Busan, South Korea
4. Batabyal T, Muthukrishnan SP, Leon C, Sagar R, Tayade P, Sharma R, et al. Hyperactivation of inferior frontal gyrus inhibits hyperactivity in ADHD: A quantitative EEG study Neuroscience 2019, 49th Annual Meeting of Society for Neuroscience (SfN), 19-23 October 2019, Chicago, IL, USA
5. Chattopadhyay A, Ganesh R, Deb KS. Is Nalbuphine Use Beneficial or Harmful: A Narrative Review XXI Annual Meeting of the International Society of Addiction Medicine (ISAM-2019), 13 to 16 November 2019, AIIMS
6. Chattopadhyay A, Ganesh R, Sagar R. Paediatric Factitious Bleeding Disorder: A Case Series, 72nd Annual National Conference of Indian Psychiatric Society 2020, 23 January 2020, Kolkata
7. Choudhary V, Satapathy S, Sagar R. Developing Recovery Model Focused on Post-Traumatic Growth in Children and Adolescents with History of Sexual Trauma in India, IACAPAP Helmut Remschmidt Research Seminar program, 20 September 2019, Singapore
8. Choudhary V, Sathapathy S, Sagar R. Recovery Model Focused on Post-Traumatic Growth in Children and Adolescents with History of Sexual Trauma Helmut Remschmidt Research Seminar 2019 (as Pre-conference for International Association for Child and Adolescent Psychiatry and Allied Professions- IACAPAP, 2020), 28 August 2019, Singapore
9. Deb KS. Healing the healer - A ten-year journey of supporting a medical student with bipolar disorder, 26th National Conference of Indian Association for Social Psychiatry (NCIASP), 29 November to 1 December 2019 AIIMS, Bhubaneswar, Orissa
10. Emmert-Fees KMF, Patel SA, Subramani P, Mohan V, Chwastiak L, Venkat Narayan KM, et al. Cost-Effectiveness of A Collaborative Care Intervention for Diabetes Co-Morbid Depression in India: Analysis of the Integrating Depression and Diabetes Treatment (Independent) Trial, 16th -International Diabetes Epidemiology Group (IDEG-2019) Conference, 29 November-2 December 2019 , Seoul, South Korea
11. Gudwani S, Kumaran, SS, Sagar R, Behari M, Mehta M, Narang V, et al. Dual-route mechanism for pictorial visual perception in developmental dyslexia International Society for Magnetic Resonance in Medicine (ISMRM) 26th Annual Meeting & Exhibition, 13 to 16 May 2019 Montréal, Canada
12. Gupta T, Mehta M, Sagar R, Jain V. Neuro-cognitive profile of Indian overweight/ obese children: A case-control study National Annual Conference of Indian Association of Clinical Psychologists (NACIACP) 2020, 22 March 2020, Chandigarh
13. Gyawali S, Mohan SK, Ganesh R, Rajhans P, Deb KS. Advance Directives in Mental Health Care 19th WPA World Congress on Psychiatry, 21-24 August 2019, Lisbon, Portugal
14. Gyawali S, Singh S, Mohan SK, Gupta S, Singh S, Deb KS, et al. Religious and Spiritual Faith - The Conundrum of Psychopathology 19th WPA World Congress on Psychiatry, 21-24 August 2019, Lisbon, Portugal
15. Hans G, Sharma U, Patil V, Ganesh R, Sharan P. H1-MR spectroscopy-based evaluation of metabolic abnormalities in right dorsolateral prefrontal cortex in patients with obsessive compulsive disorder- a pilot study, 19th WPA World Congress of Psychiatry, 21 – 24 August 2019, Lisbon, Portugal
16. Jaswant J, Pakhre A, Deb KS, Chadda RK, Sharma R. Diagnostic and therapeutic challenges in a patient with dissociative aphonia with epilepsy versus psychogenic nonepileptic seizures, 26th National Conference of Indian Association for Social Psychiatry (NCIASP), 29 November to 1 December 2019, AIIMS, Bhubaneswar, Orissa
17. Kaushal T, Satapathy S, Chadda R, Bakhshi S, Sagar R. Neuro-cognitive functioning, behaviour and quality of life in children with acute lymphoblastic leukemia in maintenance phase: Role of post-traumatic stress, National Annual Conference of Indian Association of Clinical Psychologists (NACIACP) 2020, 22 March 2020, Chandigarh
18. Khatri G, Mir N, Sagar R, Sagar S. Depression, Anxiety and Stress among lower limb Amputation in Males vs Females at level-I Trauma Centre, National Annual Conference of Indian Association of Clinical Psychologists (NACIACP) 2020, 21 March 2020, Chandigarh
19. Leon C, Batabyal T, Tayade P, Sagar R, Sharma R, Kaur S. Altered parieto- temporal EEG microstates– An endophenotypic marker in ADHD 37th Annual Meeting of Indian Academy of Neurosciences, 19-21 November 2019, AIIMS, New Delhi

20. Mathur R, Jhanjee S, Sagar R, Patra BN, Sarkar S. Tobacco use in children and adolescents with ADHD, 15th Biennial Conference of Indian Association for Child and Adolescent Mental Health Conference, 9 November 2019, Chandigarh, India
21. Mittal S, Ganesh R, Singh M, Patra BN, Sagar R. A Case Report, 72nd Annual National Conference of Indian Psychiatric Society 2020, 23 January 2020, Kolkata
22. Pakhre A, Deb KS. Virtual Reality based Interventions as a novel tool for psychosocial rehabilitation in psychiatric disorders: Current State of Research Evidence and Scope for future, 6th National Conference of World Association for Psychosocial Rehabilitation (Indian Chapter), 18 and 19 May 2019, Department of Psychiatry, GMCH-Chandigarh, India
23. Rajkumar S, Sagar R, Deepak KK, Bhargava R, Patra BN. 2020\*\*\*(award), Prefrontal Cortical Activity In Children With ADHD: A Functional Near Infrared Spectroscopy (fNIRS) Study 72nd Annual National Conference of Indian Psychiatric Society 2020, 23 January 2020, Kolkata
24. Rajkumar S, Verma R, Kumar N. Neuromodulation: The future of de-addiction? – A Narrative Review National Annual Conference of Indian Association of Clinical Psychologists-2020, 22 February 2020
25. Sagar R, Chatterjee B, Goyal N, Sahu A. Mental Health Promotion and Prevention in school setting: Are we prepared for tomorrow? 72nd Annual National Conference of Indian Psychiatric Society 2020, 25 January 2020, Kolkata
26. Sagar R, Mir M, Sagar S, Sharma U, Mir N. Impact of Yoga Therapy on psychopathology and behaviour of patients undergoing lower limb amputation following trauma: An RCT from a tertiary care trauma center Symposium on Advanced Wound Care Fall Meeting (SAWC Fall), 12 to 14 October 2019, Las Vegas Nevada, USA
27. Sagar R, Patra BN, Salve H, Pakhre A. Methodology (WHO Quality Rights) & Odisha state findings: As a part of Symposium titled “Assessment of quality and best practices under District Mental Health Program” 72nd Annual National Conference of Indian Psychiatric Society, 25 January 2020, Kolkata (WB), India
28. Sagar R, Patra BN, Sen MS, Mathur R. Symposium titled “Psychiatric Disability among Children” 15th Biennial National Conference of Indian Association for Child and Adolescent Mental Health (IACAM), 9 November 2019, Chandigarh, India
29. Sagar R, Salve H, Patra BN, Pakhre A. Assessment of Quality and Best Practices under District Mental Health Program. 72nd Annual National Conference of Indian Psychiatric Society 2020, 23 January 2020, Kolkata
30. Sagar R, Talwar S, Tripathi M, Verma R. Utility of Cognitive Assessment System-II on Individuals with and without Mild Cognitive Impairment National Annual Conference of Indian Association of Clinical Psychologists (NACIACP) 2020, 22 March 2020, Chandigarh
31. Sagar, Patra BN, Chatterjee B, Rajhans P. Substance use in externalizing disorders in adolescence Annual Meeting of the International Society of Addiction Meeting, 13 to 16 November 2019, New Delhi
32. Sarkhel S, Menon V, Deb KS, Smartphone Apps for Mental Health: Overview, challenges and recommendations for the next generation psychiatrist, 72nd Annual National Conference of Indian Psychiatric Society, (ANCIPS 2020), 22-25 January 2020, Kolkata, West Bengal
33. Satapathy S. Conducted a Half-day Workshop on CBT based Trauma Management/TFCBT State Level 3-day Conference on CBT & Beyond- Organized by from 13 to 15 September 2019, Institute of Psychiatry, Kolkata
34. Satapathy S. Half-day Workshop on Trauma-Focused CBT for Children and Adolescents 5-day Training Programme on CBT for School Teachers: Organized by Department of School Education, Haryana from 25-29 November 2019, 27 November 2019 SCERT, Gurugram
35. Satapathy S, Kochhar KP. Visual Screening, Mental Health Assessment, and Counselling on Mental Health Promotion and Reduction of Stigma 2-days workshop SSB Prevention and Promotion Wellness Project Initiatives, 6 and 7 March 2020, SSB HQ, Srinagar
36. Satapathy S. Organized and Conducted a 5-day National ToT for Counselors on Psychological Trauma Assessment and Intervention in Child Abuse, 5-day National ToT for Counselors on Psychological Trauma Assessment and Intervention in Child Abuse, 7-11 January 2020, CDER, AIIMS, New Delhi
37. Sharan P, Mahapatra A, Gupta A. History of Policies on Mental Health in Independent India Conference on History of Medicine in Theory and Practice: Health Care in India, 18 and 19 February 2020, Vidyasagar University, Midnapore, West Bengal
38. Sharan P, Sagar R, Shashikant, Mishra A, Bhargava R. Basic Methodology of Panic and Anxiety National Indian Questionnaire (PANIQ) study, 72nd Annual National Conference of Indian Psychiatric Society, 22-25 January 2020, Kolkata
39. Sharan P, Sagar R, Shashikant, Mishra A, Bhargava R. Development of Panic and Anxiety National Indian Questionnaire (PANIQ): Overview 26th National Conference of the Indian Association for Social Psychiatry, 30 November - 1 December 2019, AIIMS, Bhubaneswar

40. Sharan P. An overview of curriculum development AIIMS-WHO Expert Group Meeting to Review Undergraduate Medical Curriculum to Strengthen Comprehensive Abortion Care, 23 and 24 December 2019, New Delhi
41. Sharan P. Classification of Disorders due to Substance Use and Addictive Behaviours in ICD-11: Overview 21st Annual Meeting of The International Society of Addiction Medicine, 13-16 November 2019, New Delhi
42. Sharan P. How can we stop our youth killing themselves? Sun Pharma Science Foundation Annual Conference on “Neurons to Neighbourhood - the science of mental health and its implications for India”, 27 January 2020, IHC, Delhi
43. Sharan P. Migration and mental health in India, Resilient Future India Initiative (RFII): Mumbai meetings, 16 and 17 December 2019, TISS & IIT, Mumbai
44. Sharan P. Migration and mental health, Resilient Future India Initiative (RFII): London meetings, 2-4 July 2019, Queens College, London, UK
45. Sharan P. Role of academic centers in “Community mental health in contemporary society of 21st century” 26th National Conference of the Indian Association for Social Psychiatry, 30 November - 1 December 2019, AIIMS Bhubaneswar
46. Singh V, Kumar S, Verma R. Is a picture worth a thousand words for everyone? Testing modality and sex-specificity in valence-asymmetry hypothesis 37th Annual Conference of Indian Academy of Neurosciences, 19– 21 November 2019, AIIMS, New Delhi
47. Talwar S, Sagar R. Brief Psychotherapy for Chronic Medical Illness-A Narrative Review, International Training Conference on Brief Psychotherapies, 13 December 2019, Kozikode
48. Tolahunase M, Sagar R, Dada R, Molecular and clinical indicators of improved neuroplasticity by yoga: A Randomized Clinical Trial in major depressive disorder. Annual meeting of International Association of Yoga Therapy, 19-21 October 2019, Kripalu, USA

## RESEARCH

### Funded Projects

#### *Ongoing*

1. A study of acute and longitudinal effects of brain stimulation in treatment of depression and schizophrenia, Rohit Verma, AIIMS, 1 year, 2018-2020, Rs 10 lakhs
2. Assessment of Clinical profile, mitochondrial DNA 10398, peripheral glucose utilization (HOMA<sub>IR</sub>) and inflammation (TNF- $\alpha$ ) in Matrilineal Bipolar Disorder Raman Deep, AIIMS, 2019-2021, 2 years, Rs 3.9 lakhs
3. Assessment of emotional and behavioral problems and quality of life among children and adolescents with cleft lip and palate, Rajesh Sagar, ICMR, 2 years, 2020-2021, Rs 39.89 lakhs
4. Assessment of quality and best practices under District Mental Health Programme Rajesh Sagar, WHO-Country and Ministry of Health and Family Welfare, 6 months, 2019–2020, Rs 9.94 lakhs
5. Biomarkers of Lithium response in Bipolar disorder: Assessment of the clinical markers, peripheral blood based markers and gray matter volume in individuals with bipolar disorder on long-term lithium prophylaxis, Raman Deep, DST: ECRA, 3 years, 2018-2021, Rs 24 lakh (approx)
6. Center for Advance Research and Excellence (CARE) in Neuromodulation on Mental Health, Nand Kumar, ICMR, 5 years, 2019, Rs 450 lakhs
7. Clinical Study, translation, cross-cultural adaptation and development of norms of Cognitive Assessment system (COGNISTAT) for persons from Northern India Rajesh Sagar, Cognitive Health Rehabilitation System LLP, 2 years, 2018-2020, Rs 7.92 lakhs
8. Cognitive and Psycho-Physiological Effects of AIIMS Cognitive Training Toolkit (CTT) and Computer Based Cognitive Training (PSS CogRehab) on Children with ADHD aged 6-11 years: A Randomized Control Pilot Study, Sujata Satapathy, DST/CSRI, 3 years, 2019-2022, Rs 53 lakhs
9. Deliberate self-harm in adolescents: A school-based study, Bichitra Nanda Patra, ICMR, 2 years, 2019-2021, Rs 27 lakhs
10. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, RK Chadda, Department of Revenue, Govt of India, 3 years, 2017-2020, Rs 651 lakhs
11. Development of Panic and Anxiety Indian Questionnaire (PANIQ) Pratap Sharan, ICMR 3 years, 2018-2020, Rs 180 lakhs
12. Diffuse optical tomography based cortical analysis for evaluating auditory semantic and prosodic content, language acquisition and facial identification as determinants of emotion recognition in schizophrenia, Rohit Verma, DST CSRI, 3 years, 2018-2021, Rs 51.98 lakhs

13. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Gagan Hans, AIIMS, 2 years, 2019-2020, Rs 3.6 lakhs
14. Impact of Post-Partum Depression and Anxiety on Infant Growth and Development: A Community Cohort Study Rajesh Sagar, 3 years, 2016-2019, Rs 8.57 lakhs
15. NIHR Global Health Research Group on Psychosis Outcomes: Protocol based assessment and management of First Episode Psychosis (AIIMS Centre), Mamta Sood, National Institute of Health Research, UK, 3 years, 2017-2020, Rs 106 lakhs
16. NIHR Global Health Research Group on Psychosis Outcomes: The Warwick-India-Canada {WIC} Network, RK Chadda, National Institute of Health Research, UK 3 years, 2017-2020, GBP 269,146
17. Psychiatric morbidity and its early antecedents in the New Delhi Birth Cohort, Rajesh Sagar, QED and WHO-SEARO, 3 years, 2018-2020, Rs 8.67 lakhs
18. Psychosocial Dynamics of Pregnancy Loss: Development of a Multidimensional Scale and Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Sujata Satapathy, ICMR, 3 years, 2019-2022, Rs 59 lakhs
19. To develop audio-visual and digital content on Bio-Psycho and Socio-cultural model for students of VI to VIII to improve their resilience, Mental Health and overall health, Nand Kumar, AAI, 2 years, 2019, Rs 98 lakhs
20. Validation and Standardization of Indicators/Markers of Penetrative CSA in Children's Draw-A-Person-Test (DAPT), Sujata Satapathy, NCPCR, 6 months, 2020, Rs 3.99 lakhs

### ***Completed***

1. Feasibility and Efficacy Testing of Newly Developed AIIMS CTT (Non-computer based Cognitive Training Intervention Kit) for 6-11 years Old Children with ADHD, Sujata Satapathy, AIIMS, 2 years, 2018-2020, Rs 3.6 lakhs
2. H1-MR spectroscopy-based evaluation of metabolic abnormalities in right dorsolateral prefrontal cortex in patients with obsessive compulsive disorder- a pilot study, Gagan Hans, AIIMS, 2 years, 2017-2019, Rs 0.9 lakhs
3. Psycho-social outcome and Cognitive functions in Bipolar disorder: - A longitudinal study, Rajesh Sagar, DST, 3 years, 2016-2019, Rs 28.53 lakhs
4. To study the effect of high-frequency Repetitive Transcranial Magnetic Stimulation (rTMS) in cognitive function and predominately negative symptoms in people suffering from Schizophrenia in Randomized Sham Controlled Double Blind Trial, Nand Kumar, DST, 3 years, 2015-2019, Rs 50.56 lakhs

### **Departmental Projects**

#### ***Ongoing***

1. A Cross-Sectional Study of Childhood Adversity, Perceived Parenting, Perceived Social Support, and Psychological Health among Treatment Seeking Adults suffering from Common Mental Disorders
2. A Cross-Sectional Study of Childhood Adversity, Perceived Parenting, Perceived Social Support and Psychological Wellbeing among Treatment Seeking Adults suffering from Common Mental Disorders and Healthy Controls
3. A pilot randomized controlled trial of targeted prefrontal cortex modulation with anodal transcranial direct current stimulation (tDCS) for examining task dependent effect on executive functioning
4. A randomized controlled single blind trial of ketamine versus modified electroconvulsive therapy to improve neuropsychological and clinical outcomes in treatment resistant depression
5. A Study of Autonomic Functions in Adolescents with Specific learning disorder (Dyslexia) with and without Comorbid ADHD
6. A Study of Serum Brain-Derived Neurotrophic Factor levels in Patients of Schizophrenia on Clozapine therapy and its Association with Clinical Profile
7. Assessing factors affecting treatment response to antidepressant medications in Indian patients with non-psychotic depression – A longitudinal follow-up study.
8. Assessment of clinical characteristics of suicide attempters among remitted patients with recurrent mood disorders: A descriptive study
9. Assessment of Treatment Response, Inflammatory Cytokine (TNF- $\alpha$ ) And MtDNA 10398a/G Polymorphism in Familial Bipolar Disorder (BD) I
10. Behavioral effects of transcranial direct current stimulation (tDCS) induced dorsolateral prefrontal cortex plasticity

in alcohol dependence

11. Effectiveness of Nurse LED Intervention on Self Care Behaviour, Psychological symptoms and quality of life among kidney transplant recipients in a Selected Tertiary Care Hospital of New Delhi
12. Effects of brain stimulation in treatment of depression: A diffuse optical tomography study of acute and longitudinal effects on brain function
13. Medical co-morbidities in bipolar affective disorder and its correlates
14. Metacognitive therapy in depressive disorders
15. Preliminary assessment of the therapeutic efficacy of intermittent theta-burst magnetic stimulation (iTBS) in treatment resistant depression: A double-blind sham-controlled study
16. Preliminary assessment of the tolerability and efficacy of intermittent theta-burst magnetic stimulation (iTBS) on negative symptoms and cognitive functioning in schizophrenia
17. Psycho-behavioural and Cognitive Functioning of Children with Acute Lymphoblastic Leukaemia: Development and Feasibility of Composite Psychological Intervention Module
18. Psychological Trauma Resilience in Children and Adolescents: Development and Psychometric Properties of a Multidimensional Scale
19. Repetitive transcranial magnetic stimulation in medication non-responsive obsessive compulsive disorder: A randomized double blind parallel group sham controlled trial to compare different sites of stimulation
20. Study of immunological, oxidative markers and cognitive function in ADHD

### ***Completed***

1. A comparative study of serum brain-derived neurotrophic factor levels in patients with alcohol dependence, depression and co-morbid alcohol dependence and depression
2. A descriptive study of anxiety and depression following myocardial infarction
3. A pilot randomized controlled trial of targeted prefrontal cortex modulation with bilateral transcranial direct current stimulation (tDCS) for reducing craving in patients with opioid dependence
4. A randomized trial of add on effect of repetitive transcranial magnetic stimulation (rTMS) in non-responding obsessive compulsive disorder patients
5. Assessment of Gray Matter Volume and White Matter Integrity in patients with suicidality in Bipolar Disorder type I
6. Child Sexual Abuse: Development of Multidimensional scale and Psychological Trauma Focused Intervention Module
7. Development of Home-based Intervention for Specific Learning Disorder
8. Neuro-physiological and neuro-cognitive markers of prefrontal functioning as predictors of treatment response in first episode psychosis
9. Psychiatric morbidity, quality of sleep, and mental adjustment style among adult myeloma patients in active treatment and maintenance phase
10. Repetitive transcranial magnetic stimulation in medication non-responsive obsessive-compulsive disorder: A randomized double-blind parallel group sham-controlled trial to compare different sites of stimulation
11. Study on role of intensive physiotherapy and trans cranial magnetic stimulation (TMS) in stroke recovery and the correlation of growth factors with intervention and recovery
12. Substance use Disorders in Children and Adolescents with ADHD
13. To assess the effect of repetitive transcranial magnetic stimulation (rTMS) on cognitive functioning in patients with moderate TBI
14. Transcranial direct current stimulation (tDCS) in treatment resistant obsessive –compulsive disorder: An open label trial

### **Collaborative Projects**

#### ***Ongoing***

1. A comparative study to assess the impact of nature based Virtual Reality intervention on physiological parameters in caregivers of individuals suffering from severe mental illness. College of Nursing
2. A Cross Sectional study to assess the severity of chronic pruritus and its effect on quality of life using the 12 item pruritus severity scale and the 5-d itch scale, Dermatology

3. A hermeneutic phenomenological study on experiences of patients post heart transplantation at AIIMS New Delhi, College of Nursing
4. A pilot multicentre open label parallel arm RCT evaluating whether yoga can delay initiation of insulin therapy in patients with type 2 diabetes mellitus with suboptimal glycemic control on near maximal oral drugs and/or who may require insulin therapy in near future, Endocrinology
5. A Prospective study on the effect of prenatal and postnatal yoga on weight gain in pregnancy and postpartum period, psychological stress, quality of life, pulmonary functions in pregnancy and its association with pregnancy outcome, Gyne & Obs
6. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface energy EMG, Surgical Disciplines
7. A quasi experimental study to assess the effectiveness of structured group counseling among caregivers of heart failure patients on selected outcomes in cardiology unit at AIIMS, New Delhi, College of Nursing
8. A randomised, two arm, comparative, clinical study to evaluate the effectiveness of early integrated palliative care versus routine oncological care in advanced sarcoma patients in tertiary care centre in India, Medical Oncology, IRCH
9. A Randomized Control Trial to study the impact of Yoga Intervention in lower limb amputees following trauma in relation to postsurgical outcome, behavior and quality of life at Level-I, Trauma Surgery-JPNATC
10. A study of allocentric neural navigation process schematic utilizing dynamic optic array for prospective control, Physiology
11. A Study of serum biomarkers of kynurenine pathway in major depressive disorder (MDD), Anatomy
12. A study to assess the factors influencing delay in treatment seeking in patients of common mental disorders, College of Nursing
13. A Translational randomized trial of yoga-based lifestyle intervention for major depressive disorder (MDD) management in India and analyzing biomarkers of cellular aging associated with it, Anatomy
14. AADAR-Dementia Science Program (DSP), NBRC, INCLEN & premier institutions
15. Adolescents' Resilience and Treatment Needs for Mental health in Indian Slums (ARTEMIS), George Institute of Global Health, New Delhi
16. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury, Lab Medicine, JPNATC
17. An Exploratory Study to Evaluate Surgical Outcome and Financial Burden in Patients Treated with 3D Printing Technology Assisted Surgery versus Conventional Surgery for Facial Fractures at Level 1 Trauma Centre, AIIMS, New Delhi, Trauma Surgery, JPNATC
18. An open-label 3 arm RCT to evaluate the effect of different modalities of lifestyle intervention on HbA1C in individuals with type 2 DM on half maximal dose of 2 or more oral anti-hyperglycemic drugs for at least 3 months, CIMR
19. Analyzing EEG data for hearing impaired persons Department of Computer Science, Indraprastha Institute of Information Technology, Delhi
20. Assessment of Cognitive, Neuroanatomical and Neurofunctional abnormalities in adults with Type 1 Diabetes, Endocrinology
21. Assessment of distress, anxiety and depression symptoms amongst patients of suspected familial cancer visiting the IRCH genetic clinic for counselling and analysis of the effect of genetic counselling on them: A prospective cohort study, Medical Oncology, IRCH
22. Assessment of Emotional and Behavioral Problems and Quality of life among Children with Cleft lip and palate, Centre for Dental Education and Research
23. Assessment of Sexual Health of cancer patients undergoing chemotherapy and their knowledge and attitude regarding sexual health and intimacy. Medical Oncology, IRCH
24. Association of Common Mental Disorders with Diabetes Mellitus - A Community based Case-control Study in north India, Community Medicine
25. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status, Pharmacology
26. Burden and associated factors of chronic multimorbidity among adults (>30 years) in rural Ballabgarh, North India, Community Medicine
27. Center for Advance Research & Excellence (CARE) in Neuroassistive technologies in stroke recovery. IIT, New Delhi

28. Cleft Lip and Palate anomaly in India; Clinical profile Risk factors and current status of treatment: A hospital-based study-Main phase, Centre for Dental and Educational Research
29. Comparative study of cortical activation using fMRI and fNIRS across cognitive tasks in patients with depression, NMR
30. Comparison of “Multigene hereditary panel testing” profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: A prospective study in North Indian population, Medical Oncology, IRCH
31. Comparison of effect of antidepressants on neurodegeneration in patients with depression, Pharmacology
32. Comparison of Insulin Resistance as Marker of Psychological Morbidity (perceived stress, depression and anxiety) and Quality of Life (QOL) Between PCOS and non-PCOS Infertile women- A case control study, Obstetrics & Gynaecology
33. Comparison of outcomes in post cochlear implantation children with and without congenital inner ear malformation, Otorhinolaryngology
34. Convergent validation of proposed behavioural indicators of intellectual and adaptive behaviour functioning for ICD-11, University of Ottawa & World Health Organization, Geneva, Switzerland
35. Correlation between preoperative CSF melatonin levels and post-operative delirium in geriatric hip fractures, Orthopaedics
36. Correlation of cortical sources and brain iron during rest and visuospatial working memory in Attention deficit hyperactive disorder, Physiology
37. Development and Assessment of Efficacy and Acceptability of Comprehensive Treatment Module in the management of Patients with Medically Unexplained Physical Symptoms, Medicine
38. Development and Validation of Comprehensive Psychological Autopsy, Forensic Sciences and Toxicology
39. DTI, fMRI and qEEG correlates of cognition and behaviour in children and adolescents with well controlled non-lesional epilepsy: An observational study, Pediatric Neurology
40. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Physiology
41. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, Pharmacology
42. Effect of integrated Yoga on ART outcomes and Psychological stress in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Obstetrics & Gynaecology
43. Effect of Mindfulness Based Stress Reduction (MBSR) on optic disc perfusion using oct angiography in glaucoma patients: A randomized controlled trial, Dr Rajendra Prasad Centre for Ophthalmic Sciences
44. Effect of paravertebral anaesthesia on quality of life scores and circulating tumour cells in breast cancer patients, Anaesthesia
45. Effect of Structured Yoga Program on Stress and Professional Quality of Life among Selected Nursing Staff in a Tertiary Care Hospital of Delhi - A Small Scale Phase-II Trial, CCM
46. Effect of structured yoga programme on stress and professional quality of life among selected nursing staff in tertiary care hospital of Delhi: A small scale phase 2 trial, CIMR
47. Effect of Yoga on psychological, cognitive and glycemic control in patients with T2DM and Depression: Two arm parallel Randomized controlled trial, Endocrinology
48. Effect of yoga on Psychological, cognitive and glycemic control in patients with T2DM: Two arm Randomized control trial, CIMR
49. Effect of yoga on stress and psychological wellbeing in ICU nurses: A RCT, CIMR
50. Effect of yoga therapy on QoL in laparoscopic Incisional hernia repair, Surgical Disciplines
51. Effect of yoga therapy on Quality of life in patients undergoing laparoscopic incisional hernia and ventral hernia repair- a randomized control trial, Surgical Disciplines
52. Effects of environmental and occupational noise on cognition, NMR
53. Efficacy of a Family based comprehensive Yoga Program for weight reduction among over- weight Children and Adolescents Pediatrics, AYUSH
54. Efficacy of Yoga on Symptom Severity and Quality of Life of Patients Suffering from Pain Predominant Medically Unexplained Physical Symptoms (MUPS), Medicine
55. Evaluation of brain behaviour relationship associated with cognitive deficit in early-onset schizophrenia (EOS) using multi-model MRI, NMR
56. Evaluation of prevalence, regional phenotypic variation, comorbidities, risk factors and the variations in response

- to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A multicenter study across India, Endocrinology
57. Evaluation of Risk Factors Causing Residual Refractive Error in Corneal Refractive Surgery, RP Centre
  58. Evaluation of role of oral eplerenone as an adjunct to reduce fluence photodynamic therapy in Central Serous Chorioretinopathy: An open label randomized control trial, Ophthalmology
  59. Feasibility of Introducing Yoga and Its Effect on Stress and Perceived Well-Being on New Medical Under Graduate Students of AIIMS, New Delhi, CCM
  60. Feasibility of Introducing Yoga and its effect on Stress and Psychological Well-Being on First and Second Year Under Graduate Nursing Students of AIIMS, New Delhi, CIMR
  61. Financing of expenditure on mental illness-a case study, IGNOU, Delhi
  62. Genetic association of cytokines with suicidal behavior in Indian population, Forensic Medicine & Toxicology
  63. Genetic expression of monoaminergic neurotransmission related polymorphisms and their association with antidepressant response in Indian patients suffering from depression, Pharmacology
  64. Incidence and Severity of Psycho-social and somatic disorders in survivors of childhood solid malignant tumors. Pediatric-Oncology
  65. Interventions for stigma in persons with epilepsy in India funded by institute, CIMR
  66. Long term outcome of patients with walled off necrosis/pseudocyst of pancreas in terms of recurrence of pancreatitis, fluid collection and functional consequences following internal drainage by laparoscopic or endoscopic method, Surgical Disciplines
  67. Mapping functional and biochemical correlates in brain of Parkinson's Patient with Mild Cognitive Impairment, NMR
  68. Mental Health Risk Factors among Older Adolescents living in Urban Slums: An Intervention to Improve Resilience (ANUMATI), George Institute of Global Health
  69. Morphological, functional, Biochemical and Behavioral evaluation post – EMF radiation, NMR
  70. Neural correlates of obsessive-compulsive disorder and its washing subtype: A cross-sectional fMRI study, Nuclear Magnetic Resonance
  71. Neurocognitive rehabilitation modules for patients with schizophrenia, Neuropsychology, CN Centre
  72. Neuropsychological Basis of Decision Making: Testing Lateralization of Cognitive Function in Medial Temporal Lobe Epilepsy, Neurology & Department of Psychology. Indian Institute of Technology, Delhi
  73. Optimizing diet and insulin regimes in children with Type 1 Diabetes in low- resource settings, Pediatrics
  74. Prevalence and factors affecting Preoperative anxiety, depression, and distress in cancer patients: A prospective cross-sectional study, Onco-Anesthesia and Palliative Medicine, IRCH
  75. Prevalence of mental health problems (anxiety, depression and stress reactions) in mothers of preterm infants admitted to NICU- A cross sectional study, Obstetrics and Gynecology
  76. Prospective randomized controlled trial comparing the effects of intraoperative dexmedetomidine and lignocaine administration over the incidence of post-operative cognitive decline in elderly, Anaesthesiology
  77. Psychiatric morbidity in HIV/TB co-infection, Medicine & Microbiology
  78. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Physiology
  79. Quality of life following BCS and mastectomy along with sentinel node biopsy in operable breast cancer, Surgery
  80. Reconstruction of Post-Traumatic Facial Defects using Adipose Tissue Derived Mesenchymal Stem Cells Seeded on 3D Printed Hydroxyapatite Scaffold guided by CAD Models in Zygomatico- orbito maxillary complex fractures, Trauma surgery
  81. Role of Frontal Asymmetry in Valence and Decision Processing in Select Clinical Disorder Department of Psychology, Indian Institute of Technology, Delhi
  82. Severity and pattern of early childhood caries and parental stress among pre-school children and its association with various behavioral factors- A hospital based study. Centre for Dental Education and Research
  83. Study of cortical sources of EEG and brain iron levels during rest and visuospatial working memory in Attention deficit hyperactivity disorder (ADHD), Physiology
  84. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate TBI induced cognitive impairment, Lab Medicine
  85. Systematic Medical Appraisal, Referral and Treatment (SMART) Mental Health Programme for Wellcome Trust-DBT Alliance Fellowship George Institute of Global Health, New Delhi

86. The feasibility and efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult patients treated for Cyanotic Congenital Heart Disease (CCHD) more than a year ago: A randomized controlled trial, Cardiology
87. The Integrative Systematic Palliative Care (ISPC) vs Standard Oncology Care in Advanced Non-Small Cell Lung Cancer at A Tertiary Care Centre In India: A Prospective Randomized Controlled Trial, Onco-Anesthesia and Palliative Medicine, IRCH
88. The Psychometric Properties of Family Vitiligo Impact Scale: A Quality of Life Scale for Family Members of Patients with Vitiligo, Dermatology
89. To compare different cochlear implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound sensorineural hearing loss patients at least 3 years after cochlear implantation, Otorhinolaryngology
90. To determine the association between decreased cerebral blood flow in the prefrontal cortex intraoperatively and incidence of postoperative emergence delirium in children (2-5 years) induced and maintained with sevoflurane: An fNIRS based observational study, Anaesthesiology
91. To develop a technology driven intervention of Psychological First Aid (PFA) model for Mental Health Challenges. Mental Health Foundation (India)
92. To develop an Oral Health Toolkit for Paediatric Oncology Patients (OHTPOP) and compare its effectiveness for a better oral health status and lesser oral complications versus standard of care , Centre of Dental Education and Research
93. To evaluate Results of Soft Tissue Reconstruction and Augmentation with Structural Fat Grafting in Patients with Post Traumatic Facial Disfigurement, Trauma Surgery, JPNATC
94. To study effects of antidepressant drugs in mild and moderate depression in patients with epilepsy- A randomized controlled trial, Neurology
95. To study the impact of Yoga on pulmonary functions, immune response and quality of life in chest trauma patients at level-I trauma Centre, Trauma Surgery, JPNATC
96. To study the prevalence and the risk factors of psychiatric morbidity and sleep problems in pediatric Acute Lymphoblastic Leukemia survivors, Pediatrics
97. To test effects of breath-focus on lateralized cognitive and affective processing in Generalized Anxiety Disorder (GAD) patients, Physiology & Department of Psychology. Indian Institute of Technology, Delhi
98. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment, Laboratory Medicine, JPNATC
99. Two Arm Parallel Open-Label Randomized Controlled Add on trial to investigate the efficacy of Shirodhara (Ayurvedic Oil-Dropping Treatment) in the subjects with Chronic Insomnia Disorder, CIMR

### **Completed**

1. A comparative study of neurochemical alteration on H1 MRS in schizophrenia, obsessive compulsive disorder and schizophrenia with obsessive compulsive symptoms, NMR
2. A Prospective study Comparing outcomes and quality of life after Laparoscopic donor nephrectomy Versus open donor nephrectomy, Surgical disciplines
3. A Study to Assess Parenting Stress and Psychological Health of Women Having Single-Parenting Experience in Delhi- NCR, College of Nursing
4. A study to assess the effectiveness of caregiver- training programme on knowledge in managing aggressive patients at home, College of Nursing
5. A Three Arm Randomized Controlled Study to Compare Sexual Functions Following Open Mesh Hernioplasty, Laparoscopic Totally Extra Peritoneal (TEP) and Trans Abdominal Pre-Peritoneal (TAPP) Repair of Groin Hernia, Surgical Disciplines
6. Assessment of Mental health services in district Faridabad, Haryana-a mixed method study, Community Medicine
7. Association Between Parental Growth Patterns and Chronic Disease Risk in their Children-An Intergenerational Study in the New Delhi Birth Cohort, Public Health Foundation of India
8. Central serous chorioretinopathy and Meditation: Functional and Morphological outcome study, Ophthalmology
9. Collaborative Care for Depression and Diabetes in India, Endocrinology
10. Common mental disorders and related Mental health Literacy among adolescents in an urban area of Delhi, Community Medicine
11. Comparison of Quality of Life after Single Stage Vs Two Stage Management of Patients With Concomitant

- Gall Stones and Common Bile Duct Stones: A Prospective Randomized Control Trial. Department of Surgical Disciplines
12. Depressive Disorders Amongst Adolescents in Rural Ballabgarh: A community based study, CCM
  13. Effect of 30 minutes of YOGA and Meditation and Life Style Modification in comparison to standard treatment on person with mild to moderate depressive disorders, Mental Health Foundation (India)
  14. Effect of cognitive and emotional stress in patients of multisomatoform disorder: A fMRI-based case-control study, Nuclear Magnetic Resonance
  15. Effect of EMF radiation due to mobile phone use on sleep and neurocognitive functions: A molecular approach, Medicine
  16. Effect of Virtual Reality Therapy (VRT) in improving Balance and Quality of life in Lower limb amputation, Trauma Centre
  17. Effects of a Preoperative Carbohydrate Drink on Postoperative Vomiting in Paediatric Strabismus Surgery: A Randomized Controlled Observer Blinded Trial, RPC, Anesthesiology
  18. Effects of yoga based lifestyle interventions on biomarkers of cellular aging in patients with depression. Laboratory for Molecular Reproduction and Genetics
  19. Evaluation of eating disorders and their effect on metabolic parameters and glycemic control in adult patients with diabetes mellitus type 2, Endocrinology
  20. Impact of Behavior and Temperament on Food intake and Diet Quality of Adolescents studying in public Schools of Delhi. Delhi University
  21. IPS Multi-centric study for long term course and outcome of Bipolar disorder. PGIMER, Chandigarh
  22. New Delhi Birth Cohort – Follow-up studies to Assess Association of Early Life Growth Patterns on Lung function, Cardio metabolic risk factors and Mental Health in a Family Cohort, Public Health Foundation of India
  23. Prevalence of common mental disorders among pregnant women in rural Ballabgarh, Haryana, Community Medicine
  24. Primary Versus Delayed Primary Closure in patients undergoing lower limb amputation following trauma: A Randomized control study, Trauma Surgery
  25. Prospective pilot study evaluating incidence of postoperative cognitive decline in older adults comparing Isoflurane and Desflurane, Anesthesiology
  26. Prospective Randomized Controlled Study Comparing Long term outcome, chronic pain, quality of life and cost effectiveness following Laparoscopic Repair of Incision and ventral hernias with different techniques of Mesh Fixation- a pilot study, Surgical disciplines
  27. Prospective Randomized Controlled Study to Compare the Outcome of Standard Four Port Laparoscopic Cholecystectomy with Single Incision Laparoscopic Cholecystectomy in patients with Gall Stone Disease, Surgical disciplines
  28. Psychosocial stress and lipid profile as predictors of adverse pregnancy outcomes, Obstetrics & Gynaecology
  29. Qualitative study exploring perspectives on the International Classification of Diseases (11th revision); Using lived experience to improve mental health Diagnosis in India. World Health Organization, Geneva, Switzerland
  30. Study of clock genes in rat model of mania-like behavior, Neuro-chemistry
  31. To correlate Functional Near Infra-Red Spectroscopy measurement of Auditory Cortex Activation with Auditory Verbal Outcome in prelingual profound sensorineural hearing loss patients after Cochlear Implantation, Otorhinolaryngology
  32. To study clinical and immunological parameters in predicting short term outcomes in polytrauma patients admitted to Trauma Surgery, Trauma Surgery
  33. To study management, outcomes and quality of life in patients with pelvic fracture at level 1 trauma Center, Trauma Surgery
  34. To study the effect of mobile phones on well-being, sleep and cognitive function, Medicine
  35. To study the effect of Yoga on Pulmonary functions, Respiratory muscle strength and endurance, Chest wall mobility, Inflammatory markers and Quality of life in blunt chest trauma patients and their correlation with Thoracic Trauma Severity Score at level-I trauma centre, Trauma Surgery
  36. Toxicological Analysis and distribution pattern of alcohol and different drugs in various biological samples and their neurobiological effects in suicidal deaths, Forensic Medicine
  37. Utility on novel Coated Platelets as a marker for early prognostication of neurocognitive impairment following traumatic injury, Lab medicine, JPNATC

## PATIENT CARE

- **Special Clinics**

- Psychosomatic Clinic: Once in a week
- Common Mental Disorders Clinic: Once in a week
- Child and Adolescent Psychiatric specialty services
- Severe Mental Disorders Clinic: Once in a week
- Brain Stimulation /TMS clinic on Thursday once in a week
- Neuropsychiatry OPD in C N Centre on Tuesday. Once in a week.
- Psychiatry services at CRHSP, Ballabgarh
- Dual Diagnosis Clinic: Once in a week

## Consultation liaison services

- **COVID-19 Services**

In the wake of ongoing COVID 19 Pandemic, the department of psychiatry has done following activities:

- Development of public health educational material on mental health issues related to the pandemic were developed. For lay public, The posters on “Coping with stress during the 2019-nCoV outbreak” and “Helping children cope with stress during 2019-nCov outbreak” by WHO were translated into various Indian languages (Hindi, Punjabi, Gujarati, Marathi, Bengali, Kannada, Telugu, Tamil, Malayalam, Odia and Manipuri), after taking due permission from the WHO.
- Development of guidance notes for healthcare workers at our hospital giving general instructions about how to identify stress in them and to cope with it. Focus on basics of stress management was done. We also prepared short video clips on the subject and these were put on social media and the Institute’s website. A tele helpline was also created for the in-house employees.
- Development of guidance notes both in English and Hindi for the persons in quarantine or put in isolation using resource materials from the relevant literature, adapting it to local needs.
- Development of guidance notes for physicians and mental health professionals.
- Teleconsultation facility for persons with mental health problems already under AIIMS psychiatry follow up was established on 28th March 2020 as outpatient services were closed on 24th March 2020. We have dedicated 3 phones for tele consultation. All the patients who have taken appointment from, are called by a psychiatrist to confirm about their current mental health status and need for a fresh prescription. In patients needing any modification, the patient is asked to send the old prescription electronically and a fresh prescription is issued and sent electronically. Till March 2020, 238 patients were offered services.

- **Facilities in Department (Special Labs)**

- Upgradation of Brain Mapping Lab facility – added wireless fNIRS system to the existing static fNIRS & QEEG system for development of a state-of-the-art facility for brain mapping
- Upgradation of MECT facility – Improved data collection/digitalization in functioning of ECT; Added computerized cognitive testing; Added utility of Ketamine use for increasing ECT effectiveness
- Initiation of Ketamine Clinic – Initiated the utility of ketamine as an anti-depressive agent for use in at-risk suicidal patients and treatment resistant depressive individuals
- Initiated High-definition Transcranial Electrical Stimulation – Initiated the HD-tDCS, tACS & tRNS facility as a neuromodulation facility
- Advanced signal analysis of Electroencephalography – In collaboration with Department of Computer Sciences, IIT, Delhi

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Kumar Chadda** delivered VN Bagadia Oration, Social Psychiatry: Essence of Psychiatry- Delivered at KEM Hospital, Mumbai, 20th November 2019; Elected Secretary General, World Association of Social Psychiatry (2019-2022); Organizing Chairperson, 21st Annual Conference of International Society of Addiction Medicine, 13-16 November 2019; Chair, Awards Committee, Indian Association for Social Psychiatry, Chair, Indian Psychiatric Society Sub Committee on Psychotherapy; Member, Editorial Board, BJ Psych International; Member, Editorial Board, World Social Psychiatry; Member, Selection Committee, PGIMER, Chandigarh; AIIMS, Jodhpur; KGMU, Lucknow; UHS, Rohtak.

**Professor Pratap Sharan** is Professor-in-Charge of Student Welfare at AIIMS; Member of the International Advisory Group for Training and Implementation for ICD-11 Mental, Behavioural and Neurodevelopmental Disorders (2018 – onwards); Vice President of the Indian Association for Social Psychiatry (IASP, 2018-2020); Vice President of the Society for Promotion of Research on Mental Health; Co-Chair for PG Psychiatric Education Subcommittee for Indian Psychiatric Society (2017-2021); Senior Editor of Journal for Eating Disorders; Associate Editor of the National Medical Journal of India; Member

of the Editorial Board of the following journals: Indian Journal of Psychiatry, Indian Journal of Social Psychiatry, Journal of Indian Association for Child and Adolescent Mental Health, and Journal of Mental Health and Human Behaviour. He is also the Ombudsman for the Indian Journal of Social Psychiatry; Member, Advisory Committee of the ICMR – DHR for the developments of Standard Treatment Workflows; Chief coordinator for the Committee for MBBS curricular reforms at AIIMS; Member of AIIMS Project Review Committee (Clinical Sciences) and AIIMS Ethics Committee; Member of the Research Advisory Committee of the **George Institute for Global Health, India**; **Resource person for the Resilient Futures India Initiative** of the Queen Mary University of London; National Expert for Mental Health Capacity Building Programme of the Public Health Foundation of India; Expert member, National Steering Committee (India) for ‘Research Priorities & Agenda Setting for Migration and Health in South Asia for 2020-2030’; Expert member, Committee of “End of Life Care Policy” at AIIMS; Member, Selection Committee at Jawaharlal Nehru Institute of Postgraduate Medical Education and Research, Puducherry; Pt. BD Sharma University of Health Sciences, Rohtak & Kalpana Chawla Govt. Medical College, Karnal; and various AIIMS; Reviewer for National Institute for Health Research, UK, Medical Research Council, UK, Wellcome Trust, UK and the Indian Council of Medical Research; Completed a Johns Hopkins Online Course on Medical Education Curriculum Development; Peer reviewer for the following journals: Plos One, BMJ Open, Psychological Medicine, Psychiatry Research, BMC Psychiatry, BMC Psychology, Epidemiology and Psychiatric Sciences, Journal of Affective Disorders, World Social Psychiatry, Asian Journal of Psychiatry, the Primary Care Companion for CNS Disorders, Indian Journal of Medical Research, National Medical Journal of India, Indian Journal of Psychiatry, and Indian Journal of Social Psychiatry

**Professor Rajesh Sagar** received PPA Oration award in 15th **Biennial National Conference of Indian Association of Child and Adolescent Mental Health (IACAMCON-19)**, 9 November 2019 at Chandigarh; Received the distinguished Alumnus Award-2019 for Clinical, Academic and Research activities by Maulana Azad Medical College (MAMC), New Delhi at 61st College Annual Day & Convocation, 26 February 2020; Received felicitation award by DGHS, Ministry of Health & Family Welfare, Govt. of India on occasion of the National Doctors’ Day (1st **July 2019**) at Nirman Bhawan, New Delhi; Received ‘THE HEALING AWARD’ for long outstanding and brilliant contribution in providing a healing touch to those suffering from mental disorders in ‘The Positivity Awards-2019’ organized by the Brain Behaviour Research Foundation of India, at Constitution Club of India, New Delhi on 21 December 2019; Received Fellowship of Royal College of Physicians of Edinburgh, FRCP (Edin.) 2019; Luke Clack Young Scientist Award for the paper “Tobacco use in children and adolescents with ADHD” presented at 15th Biennial conference of Indian Association for Child and Adolescent Mental health conference held at Chandigarh, India in November 2019; Professor M Murugappan Award for the poster “Prefrontal Cortical Activity with ADHD” presented at the 72nd Annual national conference of Indian Psychiatric society held at Kolkata in January 2020; Best Paper award at International Training Conference on Brief Psychotherapies, IMHANS, Kozhikode (2019); Best Poster Award at National Annual Conference of Indian Association of Clinical Psychologists (NACIACP), 2020, Punjab University, Chandigarh (2020); Chair, **the Global Disease Burden (GBD) India of Mental Health Expert Group for India State-Level Disease Burden Initiative by ICMR, PHFI, IHME(USA)**; Honorary Professor by department of Psychiatry, University of Melbourne, Melbourne, Australia; Member, Central Mental Health Authority (Regulatory body under Mental Healthcare Act, Govt. of India); Member of Ethics Committee of Central Council of Homeopathy Research (CCRH), Ministry of AYUSH, Government of India; Honorary Advisor for mental health to Directorate General of Health Services, Ministry of Health & Family Welfare, Govt. of India, 2013 and continuing; Co-Chairman, Journal Committee of Indian Psychiatry Society, 2019; Expert Member of Project Review Committee for woman health, mental health of ICMR, CCRH, DBT; Expert member of Signal Review Panel of National Coordination Centre-Pharmacovigilance Programme of India. Indian Pharmacopoeia Commission; Expert Member of the Institutional Ethics Committee of the Public Health Foundation of India (PHFI-IEC); Invited as expert in Doordarshan, DD News, DD National, DD Kisan, Loksabha TV, Rajya sabha TV and Radio program, FM Rainbow, All India Radio; Expert member and advisor in Ministry of Health & FW for various activities such as contributed in development of format to collect information from States/UT about rehabilitation of patients with psychiatric illness under direction of Hon’ble Supreme Court, Expert member of committee for revision of the existing District Mental Health Programme Guidelines-Dte GHS, Ministry of Health & Family Welfare, meeting on 10 May 2019, nominated for meeting in NCBC on 5 July 2019, Expert member of group to finalize the CMHA Regulations as per Mental Healthcare Act-2017-meeting on 21 March 2020; Hosted & coordinated the International meet on WHO’s Schedule for Clinical Assessment in Neuropsychiatry (SCAN) Advisor group at AIIMS, 24-26 February 2020, AIIMS, New Delhi.

**Professor Nand Kumar** was nominated as Chairperson, *Physical Treatment - Sub Committee by Indian Psychiatry Society (IPS) From 14th March 2020 till now*; Member, screening committee meeting of TIDE (Technological intervention of elderly and disable, Dept of science and technology on 29 and 30 January 2020 in Delhi; Organising secretary, 4th National CME on “TMS: Global Medical Revolution” being organized by the Department of Psychiatry, All India Institute of Medical Sciences (AIIMS), New Delhi on 12 to 14 December 2019; Organizing chairperson for Mental Health Fiesta on 10 October 2019, Organized jointly by registered, not for profit organization MHFI and Department of Psychiatry AIIMS, New Delhi.

**Professor Mamta Sood** is Secretary General, Indian Association for Social Psychiatry; Organizing Secretary, National CME on Strengthening Home-based care for Severe Mental Disorders in General Hospital Settings.

**Dr Koushik Sinha Deb** received 2019: Balint Award - 26th National Conference of Indian Association for Social Psychiatry (NCIASP); 2020-2021: Chairperson, Website Committee, Indian Psychiatric Society.

**Dr Rohit Verma** is Assistant Editor of the Journal – “Asian Journal of Cognitive Neurology”; Secretary General & Founder Member of Neuromodulation Society (India).

**Dr Bichitra Nanda Patra** received Luke Clack Young Scientist Award for the paper “Tobacco use in children and adolescents with ADHD” presented at 15th Biennial conference of Indian Association for Child and Adolescent Mental health conference held at Chandigarh, India in November 2019; Dr VK Varma Award for the paper “Initial treatment dropout in patients with substance use disorders attending a tertiary care de-addiction centre in north India” at the annual national conference of Indian Association for Social Psychiatry held at Bhubaneswar, Odisha, India in November-December 2019; Professor M Murugappan Poster Session–II Award for the poster “Prefrontal Cortical Activity with ADHD” presented at the 72nd Annual National Conference of Indian Psychiatric society held at Kolkata in January 2020.

**Dr Gagan Hans** was awarded AIIMS Intramural Project grant for the year 2019-2020 for the project in collaboration with the Department of NMR, AIIMS; Served as Peer Reviewer for the Journal of Mental Health and Human Behavior and Clinical Case Reports.

**Dr Renu Sharma** is Member, Medical Board for Autism Spectrum Disorder in Department of Psychiatry, AIIMS, New Delhi in accordance with Ministry of Social Justice and Empowerment.

**Dr Vandana Chowdhary** was nominated for Helmut Remschmidt Research Seminar (HRRS) 2019 residential research training of IACAPAP held from 25 to 30 August 2019 at Singapore to discuss “*Developing Research and Collaborations in Child & Adolescent Mental Health in Asia*”.



## 9.35. Pulmonary Medicine and Sleep Disorders

**Professor and Head**  
Anant Mohan

**Professor and Director, AIIMS**  
Randeep Guleria

**Associate Professors**

Karan Madan

Vijay Hadda

**Assistant Professors**

Pawan Tiwari

Saurabh Mittal

**Scientist-I**

Sneh Arora

A Surendranath

### HIGHLIGHTS

Department organized an annual conference on Pulmonary, Critical Care & Sleep Medicine “PULMOCRIT 2020”. The conference consisted of 2 days AIIMS-CHEST Workshop on Sleep Medicine and 2 days of update on Pulmonary, Critical Care and Sleep Medicine. For the workshop there were 3 faculties who came from the United States of America and close to 30 Indian faculties contributed and gave hands-on training to the participants. Despite the Covid-19 scare, our workshop was full and attended by 100 Physicians. There was positive response from the participants. Similarly, for 2 days long update there were close to 400 attendees from whole country and neighboring countries also.



During the academic session, Smt Rajbir Kaur Interventional Bronchoscopy and Pulmonology Laboratory, a “State of the Art” interventional pulmonology suite has also been inaugurated by Honourable Director and is functional since 31 July 2019. The suite is fully equipped with advanced bronchoscopic sampling techniques (TBAN, EBUS, Radial- EBUS, Lung Point), therapeutics in pulmonology (airway stenting, debulking) and medical thoracoscopy. The suite is equipped with anesthesia station to do any diagnostic or therapeutic procedure here.





## EDUCATION

### CMEs/Workshops/Symposia/National and International Conferences

1. **AIIMS PULMOCRIT 2020: UPDATE in Pulmonary, Critical Care and International Workshop on Sleep Medicine** from 5 to 8 March 2020.
2. **Establishing diagnosis of ILD: A Multi-disciplinary approach (AIIMS Pulmonology Course 2019 (APC))** September 2019, AIIMS

### Lectures delivered

**Anant Mohan: 26**

**Karan Madan: 17**

**Vijay Hadda: 17**

**Saurabh Mittal/Pawan Tiwari: 5**

### Anant Mohan

1. Interventional Pulmonology: ABCD (Airway, Bleeding/ Blood pressure, Complications /counselling, Do's & Don't's), Interventional Pulmonary League, 1 June 2019, Mumbai
2. Infections transmitted at Bronchoscopy and Thoracoscopy, Interventional Pulmonary League, 1 June 2019, Mumbai
3. Pleuroscopy Masterclass: Approach to recurrent Pneumothorax and Povidone Iodine & Talc, Interventional Pulmonary League, 1 June, 2019, Mumbai
4. Interventional Pulmonology in ICU & Lung Transplantation Step by Step on Bronchoscopy in Hemoptysis, Interventional Pulmonary League, 1 June 2019, Mumbai
5. Technical and patient factors affecting Nebulizer Performance, RESPIRATORY UPDATE, 5 May 2019, GUWAHATI
6. Optimizing Antimicrobial Therapy of Sepsis and Septic Shock: Focus on Antibiotic Combination Therapy, RESPIRATORY UPDATE, 5 May 2019, GUWAHATI
7. Diagnosis and Management on Pharmacotherapy of asthma, Workshop on Respiratory Allergy, 9 May 2019, VPCI, Delhi
8. Asthma and Pulmonary embolism, PACS, 17-18 August 2019, Metro Hospital, Noida
9. VBN workshop, RESPICON, 30 – 31 August 2019, Jaipur Golden Hospital, Delhi
10. Inhaler devices usage, Pulmonary CME, 31 August 2019, Delhi
11. Management of lung cancer, HERMES, 13 September 2019, BHU, Varanasi
12. Update in treating lung cancer, PG Pulmonary Update, 15 September 2019, Safdarjung, Delhi
13. Panel discussion, Thoracic Surgery CME, 22 September 2019, AIIMS
14. Bronchoscopy in ICU, Haryana Pulmocon, 29 September 2019, Olympus Centre, Gurgaon
15. Lung transplant symposium, Annual Transplant conference, 2 October 2019, Delhi
16. Therapeutic bronchoscopy, RAJAPICON, 11 October 2019, Jaisalmer
17. Lung cancer panel moderator, PGI Update, 14 October 2019, PGIMER, Chandigarh

18. Biologics in asthma, National Asthma and Allergy Conference, 8 November 2019, NITRD, Delhi
19. Recent advances in TB., Guest lecture, 14 November 2019, Base Hospital, Delhi
20. Bronchoscopy Workshop, NAPCON, 19 November 2019, Medical College, Kochi
21. Panel discussion on Lung Cancer., Thoracic Radiology Update, 1 December 2019, AIIMS
22. Rehabilitation in COPD, Pulmonary Update, 8 December 2019, VP Chest Institute, Delhi
23. Clinical and Radiological differences between SCLC and NSCLC, NALLCON, 15 December 2019, Lucknow
24. Equipment, Technique of EBUS, EBUS Workshop, 22 December 2019, Olympus Centre, Gurugram
25. Lung Cancer case-based discussion, Safdarjung hospital Annual CME, 12 January 2020, Safdarjung Hospital, Delhi
26. Impact of education and Technology on Health, FIP MHFDC under PMMMMNMTT, 9 July 2019, Hansraj College, Delhi University, Delhi

### **Vijay Hadda**

1. Introduction: Mechanics of respiration, Basic physiology, Basic concept of NIV, NIV Workshop: Basic concepts, 21 July 2019, GMC, Patiala,
2. Develop a systematic approach to ABG analysis, NIV Workshop: Basic concepts, 21 July 2019, GMC, Patiala,
3. Targeted therapy for Sarcoidosis, PACS, 2019, 18 July 2019, Hyatt Regency, New Delhi
4. Medical Thoracoscopy: similarity & differences, Respicon, 2019, 31 August 2019, Jaipur Golden Hospital, New Delhi
5. Establishing diagnosis of ILD: A Multi-disciplinary approach, AIIMS Pulmonology Course, 2019, 07 September 2019, AIIMS, New Delhi
6. Approaching OHS, PG Pulmonary Update -2019, 15 September 2019, VMMC & Safdarjung Hospital, New Delhi
7. Panel discussion on inflammatory lung diseases, Contemporary Practices in Surgery “Symposium in Thoracic Surgery”, 22 September 2019, AIIMS, New Delhi
8. Workshop: Respiratory failure and assisted ventilation, NAPCON 2019, 21-24 November 2019, Kochi
9. Panel: Antibiotic Prescription in ICU, NAPCON 2019, 21-24 November 2019, Kochi
10. Bronchoscopic Lung volume reduction, NAPCON 2019, 21-24 November 2019, Kochi
11. Panelist: What the surgeon needs to know: Case based discussion, AIIMS, Radiology Course, 1 December 2019, AIIMS, New Delhi
12. Air Pollution, National Conference on Higher Education and Sustainable Development Goals (HESDG-2019), National Conference on Higher Education and Sustainable Development Goals (HESDG-2019), 6-7 December 2019, Government College, Kaladera, Jaipur
13. Workshop: Mechanical ventilation, PG Update 2019, 18 February 2020, AIIMS, Kochi
14. Mechanical ventilation-Trouble shooting and weaning, PG Update 2019, 17 February 2020, AIIMS, Kochi
15. Guidelines on PCT Use, Criticare 2020, 28 February-1 March 2020, International Convention Center, Hyderabad
16. HFNC, Criticare 2020, 28 February-1 March 2020, International Convention Center, Hyderabad
17. HFNC Current status, National Conference on Higher Education and Sustainable Development Goals (HESDG-2019), Pulmocrit 2020, 2 February 2020, AIIMS, New Delhi

### **Karan Madan**

1. Virtual Bronchoscopic Navigation, RCH-ADT 2019, 3 April 2019, Coimbatore
2. Cryobiopsy: Basics to advances, lets hear it from the experts, RCH-ADT 2019, 3 April 2019, Coimbatore
3. Bronchial Thermoplasty, Haryana Pulmocon, 6 April 2019, Gurgaon
4. Cryo TBLB and interesting cases, Hands on Workshop on Cryo Application in Pulmonology, 21 April 2019, Dehradun
5. Cryo-TBLB Hands on Session, Hands on Workshop on Cryo Application in Pulmonology, 21 April 2019, Dehradun
6. Rigid bronchoscopic instruments; How to select the right barrel & telescope; Technique, CME on Stepwise Approach to International Pulmonology, 31 May 2019
7. Metallic airway stents: When and How?, CME on Stepwise Approach to International Pulmonology, 31 May 2019
8. Technique: Electrocautery or Argon plasma Coagulation, CME on Stepwise Approach to International Pulmonology, 31 May 2019
9. EBUS-TBNA, CME and hands on workshop on Advanced interventional pulmonology, 7 July 2019, Hyderabad

10. Interventional Pulmonology - Year in Review, Best of Chest - Greatest of the latest - 2018-2019, 11 August 2019, Lucknow
11. Interesting cases in respiratory medicine, 1st East Zone conference of IACM, 14 September 2019, Agartala
12. Mapping the Mediastinum: Relevance - A case based discussion, Amrita Bronchology and Interventional Pulmonary conference (ABIP-2019), 21 September 2019, Kochi
13. Learning curve and training, EBUS and other IP programs, sustainability of practice, EBUS-TBNA workshop, Amrita Bronchology and Interventional Pulmonary conference (ABIP-2019), 21 September 2019, Kochi
14. Clinicians perspective on diagnosis of Lung Cancer, 33rd Annual Update on Pulmonary and Critical Care Medicine, 13 October 2019, Chandigarh
15. Bronchoscopic LVRS, Napcon 2019, 21 November 2019, Kochi
16. MDT: Case based discussion of pulmonary nodules, AIIMS Radiology Course on Imaging of Chest Tumours, 30 November 2019, Delhi
17. A case of central airway obstruction, 2nd PCS case-based discussion, 12 January 2020, Delhi

### **Saurabh Mittal/Pawan Tiwari**

1. ERA Consortium, Asian Respiratory Summit, 22-23 February 2020, Nepal, Kathmandu
2. Pulmonary Diseases, 20th National Conference, 19 November 2019, Ahmedabad
3. MRCP (UK) Training, PASS THE PACES, 14-17 February 2020, Kochi, Kerala
4. AIIMS CONFIP-2019, AIIMS CONFIP, 7 December 2019, AIIMS, Rishikesh, Uttarakhand
5. World Sleep Congress, Presentation - A Comparison of a wrist worn postable device (WatchPAT) with in lab polysomnography for the diagnosis of obstructive sleep apnea, 19-27 September 2019, Vancouver, Canada

### **Oral papers/posters presented**

1. Hadda V, Kumar R, Madan K, Tiwari P, Mittal S, Mohan A, et al. Comparison of clinical profile of patients with ALK-positive and EGFR-positive non-small cell lung adenocarcinoma in an Indian population., ATS 2019, 17-22 May 2019, Kay-Bailey Hutchison Convention Center, Dallas, USA, Texas, Dallas
2. Hadda V, Shah TH, Khilnani GC, Madan K, Tiwari P, Mittal S, [et al.](#) Neurally Adjusted Ventilatory Assist (NAVA) Versus Non-Invasive Pressure Support Ventilation (NIV-PSV) in COPD Exacerbation (NAVA-NICE): A Randomized Trial, ATS 2019, 17-22 May 2019, Kay-Bailey Hutchison Convention Center, Dallas, USA, Texas, Dallas
3. Hadda V, Doddamani S, Madan K, Mittal S, Tiwari P, Mohan A, et al. Efficacy of intrabronchial voriconazole instillation for inoperable pulmonary aspergilloma: A randomized controlled trial, APSR 2019, 14-18 November 2019, National Convention Center, Hanoi, Vietnam, Hanoi
4. Madan K, Mittal S, Kumar U, Guleria R, Mohan A, Bhalla AS, et al. Bronchoalveolar lavage fluid cytokines in the assessment of interstitial lung disease in systemic sclerosis: a prospective study, ERS International Congress, 29 September 2019, Madrid, Spain,
5. Mittal S. A Comparison of a wrist worn postable device (WatchPAT) with in lab polysomnography for the diagnosis of obstructive sleep apnea, Vancouver, 19-27 September 2019, Canada

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. Determination of plasma drug levels of Anti-Tubercular drugs in patients with Extra-Pulmonary Tuberculosis (Lymph nodes and pleural effusion) and its association with treatment outcomes, Anant Mohan, RNTCP (Delhi), 2 years, 2019-2021, Rs. 2.72 lakhs
2. Comprehensive Assessment of Clinical outcomes following a hospital based structured pulmonary rehabilitation program in patients with moderate severe COPD and strategies for field-level implementation, Anant Mohan, ICMR, 3 years, 2018-2021, Rs. 38 lakhs
3. Randomized double blind placebo controlled clinical study of ayurvedic coded drug "Ayush – A" in the management of bronchial asthma (tamaka shwasa), Anant Mohan, Ministry of Ayush, 2020, Rs. 60.4 lakhs
4. MicroRNAs in exhaled breath condensate and bronchial brushings as Biomarkers for Early Diagnosis of lung cancer, Anant Mohan, DBT, 3 years, 2019-2022, Rs. 180 lakhs

5. Application of the Sciences of Breathomics in Respiratory Diseases, Anant Mohan, ICMR-CARE (Centre for Advanced Research and Excellence), 5 years, 2019-2024, Rs. 500 lakhs
6. Characterization of leukocytes and prediction of outcome among patients with sepsis, Vijay Hadda, AIIMS, 3 years, 2017-2020, Rs. 4.5 lakhs
7. Immune cell dysfunctions and risk of hospital acquired infections in critically ill patients with sepsis, Vijay Hadda, SERB, 3 years, July 2018, Rs. 35.0 lakhs
8. National Environmental Health Profile: 20 City Multi-Site Study, Vijay Hadda, MEFCC, 3 years, August 2019, Rs. 62.67 lakhs
9. Design and development of a biodegradable airway stent, Dr. Karan Madan, AIIMS-IIT, 2 years, 2019-2021, Rs. 5 lakhs

## Departmental projects

### Ongoing

1. Study of predictors of diagnostic yield of various interventional pulmonology procedures for lung cancer at a tertiary health care facility
2. An observational study of the clinico-pathological profile and outcomes in patients with lung cancer at a tertiary care center an observational study of the clinico-pathological profile and outcomes in patients with lung cancer at a tertiary care center
3. Determination of plasma drug levels of Anti-tubercular drugs in patients with Extra Pulmonary Tuberculosis (Lymph nodes and Pleural effusion and its association with treatment outcomes)
4. Selection criteria and clinical and socioeconomic profile of patients referred for lung transplant at a tertiary health care facility

## Collaborative projects

### Ongoing

1. Structure-based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Life Sciences, Shiv Nadar University; Center for Computational Biology and Bioinformatics, Central University of Himachal Pradesh
2. A nanomedicine approach against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Department of Chemistry, IIT Delhi, Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Canada
3. Targeting drug resistant tumor harboring mutant EGFRs: A next generation molecular approach for the treatment of Non-Small Cell Lung Cancer, Department of Chemistry, IIT Delhi

## PUBLICATIONS

**Journals: 40**

**Abstracts: 11**

### PATIENT CARE

#### Pulmonary Medicine OPD

New Cases	10213	Old Cases	24408
Chemotherapy Procedures	3994		

#### Lung Cancer Clinic

New Cases	410	Old Cases	1860
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#### Combined Pulmonary Surgery Clinic

New Cases	160	Old Cases	773
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#### Sleep Disorder Clinic

New Cases	177	Old Cases	304
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#### ILD/ PAH Clinic

New Cases	170	Old Cases	1650
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#### Indoor Patients (Ward/ ICU/ Day Care)

Regular Admission	767	Short Admission	5074
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## LABORATORIES

### Respiratory laboratory

Spirometry procedures	14400	Diffusion capacity estimation	2750
Body Box (Plethysmography) measurements	210	MIP, MEP	150
FOT/IOS	195		

### Bronchoscopy Laboratory

Fiberoptic bronchoscopy procedures	1371	Endobronchial Ultrasound	582
Thoracoscopy	44	Cryotherapy	10
Stenting	40	Rigid Thoracoscopy	120
Radial EBUS	102		

### Sleep laboratory

Polysomnography studies	414	CPAP titration	310
Watch PAT	181		

### Allergy Testing

CPET	120	FENO	1587
Six Minute Walk Test	1806	Skin Prick Test	70
Total IgE Level	3245	Aspergillus IgE Level	2860
Aspergillus IgG Level	855		

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Faculty of the department were** Member of the Independent Expert Committee-Serious Adverse Events, Drugs Controller General (India) since July 2016; Member of "Subject Expert Committee", DCGI since 2018; Member of Special Committee of "Special Centre for Molecular Medicine", J.N.U. since September 2016; Member of Task Force "Environmental Sciences" at National Institute for Research in Environmental Health, Bhopal; Chairman of the Research Committee" of VP Chest institute; Member of Institute Research Review Committee, and Ethics Committee of VP Chest Institute, Delhi; Continuing as Expert member of Project Review Committee of ICMR (Environmental Sciences); Member of the "Joint Monitoring Group" of Ministry of Health and Family Welfare, N Delhi since February 2020; Member of AIIMS Research Committee since 2018.



## 9.36. Radiodiagnosis

### Professor and Head

Arun Kumar Gupta

### Professors

Deep Narayan Srivastava  
Sanjay Sharma (RPC)  
Shivanand Gamanagatti (Trauma Centre)

Raju Sharma  
Ashu Seith Bhalla

Sanjay Thulkar (IRCH)  
Smriti Hari  
Atin Kumar (Trauma Centre)

### Additional Professors

Chandan J Das  
Manisha Jana

Madhusudhan KS  
Devasenathipathy Kandasamy

Surabhi Vyas  
Chandrashekhara SH (IRCH)

### Associate Professors

Smita Manchanda  
Mukesh Yadav (IRCH)

Ankur Goyal

Priyanka Naranje  
Ekta Dhamija (IRCH)

### Assistant Professor

Krithika Rangarajan (IRCH)

### Scientist-IV

Shashi B Paul

### Chief Technical Officer (Group A)

Mr Braham Singh

Mrs Renu Soorma

## HIGHLIGHTS

The Departmental faculty was actively engaged in patient care, education and research. The department made a concerted and successful attempt to reduce the waiting period for various imaging procedures. Reporting of all investigations is currently electronic and done on work-stations. During this period three portable ultrasound machines and one film scanner were added to the diagnostic armamentarium of the department. Faculty members delivered over 206 lectures in various CMEs, national and international conferences. Faculty members were actively involved in research, and published 137 papers in various indexed national and international journals and contributed 42 chapters to text-books of Radiology. They also edited four books on Radiology. About 60 posters and oral papers were presented in various conferences in India and abroad. The department faculty members were principal investigators in 4 funded projects. Besides, they were involved in 21 ongoing departmental projects and over 64 collaborative projects with other clinical departments. The department conducted two Radiology courses, one national conference and one state branch conference during this period which were very well received and attended by a large number of delegates from across the country.

## EDUCATION

### *Undergraduate*

The department faculty was actively involved in teaching undergraduate students. There were a total of 62 lectures taken by the faculty for them in this period.

### *Postgraduate*

There were a total of 25 junior residents in the department during this period, including 6 new residents who joined the department. The department had six fellows pursuing their fellowships during this period. Academic activities for post-graduate students included around 36 seminars, 35 journal clubs, 70 case discussions, 70 interesting film sessions and 80 didactic lectures. The department provided short term training to five radiologists from all over the country and one from Nepal, during this period.

### *BSc (Hons) Medical Technology in Radiography (MTR):*

This course is of three years duration and a total of 29 students are pursuing this course.

### **CMEs/Workshops/Symposia/National Conferences organized:**

1. Fourth AIIMS-MAMC-PGI Imaging Course on Recent Advances in Imaging Technology, 5 and 6 April 2019
2. Seventeenth Annual National Conference of the Indian Society of Pediatric Radiology ISPR2019, 7 and 8 September 2019
3. AIIMS Radiology Course Series, Imaging of Chest Tumors, 30 November and 1 December 2019
4. Department of Radiodiagnosis in collaboration with Delhi Branch of Indian Radiology & Imaging Association organized the Annual Conference of the state branch: DIU 2020, 7 and 8 February 2020

### **Lectures delivered**

**Arun Kumar Gupta: 1**

**Sanjay Sharma: 1**

**Shivanand Gamanagatti: 18**

**Madhusudhan KS: 6**

**Devasenathipathy Kandasamy: 18**

**Priyanka Naranje: 14**

**Deep N Srivastava: 3**

**Ashu Seith Bhalla: 24**

**Atin Kumar: 20**

**Surabhi Vyas: 8**

**Smita Manchanda: 19**

**Raju Sharma: 27**

**Smriti Hari: 12**

**Chandan Jyoti Das: 5**

**Manisha Jana: 12**

**Ankur Goyal: 15**

### **Arun Kumar Gupta**

1. Anorectal Malformations & Intersex Disorders, Annual Conference of Indian Society of Pediatric Radiology, 7 September 2019, New Delhi

### **Deep N Srivastava**

1. Musculoskeletal spinal interventions, Interventional radiology CME (Delhi state chapter of IRIA & ICRI), 7 July 2019, Delhi
2. Molecular biology: Radiologist's perspective, 59th Annual Conference of National Academy of Medical Sciences, 12 October 2019, Bhopal
3. Role of interventional radiology treatments in rural India, 107th Indian Science Congress, 5 January 2020, Bengaluru

### **Raju Sharma**

1. Film Reading Session, 4th AIIMS-MAMC-PGI Imaging Series –Advances in Imaging Technology, 5 April 2019, New Delhi
2. Moderated a Panel Discussion on Artificial Intelligence & Radiomics, 4th AIIMS-MAMC-PGI Imaging Series –Advances in Imaging Technology, 6 April 2019, New Delhi
3. Imaging of Crohn's Disease, Advanced Workshop on Imaging of Bowel, 27 April 2019, Mumbai
4. Imaging of focal liver lesions, CME on Liver Imaging, 21 July 2019, Bangalore
5. Film Reading Session, CME on Liver Imaging, 21 July 2019, Bangalore
6. MRI in Inflammatory Bowel Disease, ECCO Educational Workshop, 11 August 2019, New Delhi
7. Film Reading Session, IRIA Resident Education Program, 26 August 2019, New Delhi
8. Introduction to Radiomics, IRIA Conference, Chandigarh chapter, 30 August 2019, Chandigarh
9. Imaging of Pediatric Liver Tumors, Annual Conference of Indian Society of Pediatric Radiology, 7 September 2019, New Delhi
10. Faculty Film Reading Session, Annual Conference of Indian Society of Pediatric Radiology, 7 September 2019, New Delhi
11. Workshop on Inflammatory Bowel Disease, Annual Conference of Indian Society of Gastrointestinal & Abdominal Radiology, 26 September 2019, Kochi
12. Imaging Autoimmune Diseases of Liver, Current Perspective on Liver Diseases CPLD 2019, 6 October 2019, New Delhi
13. Radiology for the GI Surgeon, Annual Conference of Indian Association of Surgical Gastroenterology, 9 October 2019, New Delhi
14. Tuberculosis Vs Crohn's Disease: Can Imaging solve the conundrum, Dr RK Goulatia CME of the Indian Radiology & Imaging Association, 13 October 2019, Kaziranga, Assam
15. Imaging of Acute Pancreatitis, Dr RK Goulatia CME of the Indian Radiology & Imaging Association, 13 October 2019, Kaziranga, Assam

16. Imaging of Esophageal Tumors, European school of Radiology: Course on Oncoradiology, 15 October 2019, Kolkata
17. Imaging of Gastric Tumors, European school of Radiology: Course on Oncoradiology, 13 October 2019, Kolkata
18. Film Reading Session, AIIMS-MAMC-PGI Imaging Course on Genitourinary Imaging, 16 November 2019, New Delhi
19. Imaging in Crohn's Disease, Asia Pacific Digestive Week, 15 December 2019, Kolkata
20. MRI in Rectal Cancer: A Game Changer, Rectal Cancer Treatment Outcome Working Group Meeting, 5 January 2020, Gurgaon
21. Radiology for the Gastroenterology Resident, GYM course of the Indian Society of Gastroenterology, 19 January 2020, New Delhi
22. Film Reading Session for Experts, 73rd Annual Conference of Indian Radiological & Imaging Association, 23 January 2020, Ahmedabad
23. Role of Imaging in Inflammatory Bowel Disease, 73rd Annual Conference of Indian Radiological & Imaging Association, 24 January 2020, Ahmedabad
24. Optimizing MR Protocols for Abdominal Imaging, 73rd Annual Conference of Indian Radiological & Imaging Association, 24 January 2020, Ahmedabad
25. Novel Applications of Quantitative MRI in Abdomen, Annual Conference of India Chapter of International Society of Magnetic Resonance in Medicine (ISMRM), 8 February 2020, Hyderabad
26. Imaging in Rectal Cancer, Delhi Imaging Update 2020, 9 February 2020, New Delhi
27. Staging of Pancreatic Cancer, Annual Conference of Chandigarh State chapter of Indian Radiological & Imaging Association, 23 February 2020, Chandigarh

#### **Sanjay Sharma**

1. Improved performance of MR/TRUS fusion guided biopsy over routine systematic biopsy of the prostate., Second Medanta Ultrasound Update, Gurgaon (HR), Theme: Genitourinary and Gynaecological ultrasound - Basics to Advanced, 14 September 2019, Gurgaon

#### **Ashu Seith Bhalla**

1. Structured Radiology Reporting, AIIMS-MAMC-PGI Imaging Series –Advances in Imaging Technology, 5 and 6 April 2019, New Delhi
2. Interstitial Lung Diseases in Children, Annual Conference of Society of Chest Imaging and Interventions- SCIICON 2019, 12 and 13 April 2019, Vellore
3. Sarcoidosis Vs Tuberculosis, Annual Conference of Society of Chest Imaging and Interventions- SCIICON 2019, 12 and 13 April 2019, Vellore
4. Cases: Chest Infections, Annual Conference of Society of Chest Imaging and Interventions- SCIICON 2019, 12 and 13 April 2019, Vellore
5. Fungal infections, Dr Gyan P Lal CME on Chest imaging, 25 and 26 May 2019, Hyderabad
6. Film Reading Session, Dr Gyan P Lal CME on Chest imaging, 25 and 26 May 2019, Hyderabad
7. Childhood Interstitial Lung Disease, Dr Gyan P Lal CME on Chest imaging, 25 and 26 May 2019, Hyderabad
8. Role of Radiology in Lung Cancer Staging, 2nd Annual Masterclass in Lung cancer, 20 and 21 July 2019, Mumbai
9. Interventional Radiology in Head and Neck, AOCMF Course on Maxillofacial Trauma, 23 and 24 August 2019, New Delhi
10. Film Reading Session, Delhi IRIA Resident Education Program-IREP 2019, 23-25 August 2019, New Delhi
11. Stepwise approach to CT interpretation for ILD, AIIMS Pulmonology Course (APC) 2019 - Understanding ILD, 7 September 2019, New Delhi
12. Challenges in pediatric hemoptysis: Imaging and intervention, 17th Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi
13. Mock Tumor Board: Thoracic Masses in Childhood, 17th Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi
14. Neck Masses: Challenging Cases & Approach, XVII Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi

15. Lung Carcinoma: Plethora of treatment options in the era of personalized medicine, Imaging of Chest Tumours, AIIMS radiology course series, 30 November and 1 December 2019, New Delhi
16. Panel discussion: Mediastinal and Hilar masses, Imaging of Chest Tumours, AIIMS radiology course series, 30 November - 1 December 2019, New Delhi
17. Lung Cancer Screening, Imaging of Chest Tumours, AIIMS radiology course series, 30 November-1 December 2019, New Delhi
18. Pulmonary Infections: A scourge for mankind even after a century of antibiotics, Guest lecture: Armed Forces Medical College, 10 October 2019, Pune
19. CT Scan in Pneumonias- insights, promise and disappointments, Current Opinions in Pulmonary Medicine- Baroda Chest Group, 22 December 2019, Baroda
20. Imaging the Chest in ICU: Critical decisions to make, 73rd Annual Conference of Indian Radiological & Imaging Association, 23-26 January 2020, Ahmedabad
21. Lesions of the jaws: Radiological Perspective, 1st AIIMS Oral Pathology Symposium- Simplifying the complexity of Oral Pathology, 6 January 2020, New Delhi
22. Film Reading Session, Delhi Imaging Update DIU 2020, 7 and 8 February 2020, New Delhi
23. Radiological interventions in pediatric chest conditions, AIIMS Pediatric Pulmonology and Intensive Care Course Module 9: Pediatric Pulmonology Diagnostics., 22 and 23 February 2020, New Delhi
24. Cystic Lung Diseases: Imaging, AIIMS-Pulmocrit, 7 and 8 March 2020, New Delhi

### **Smriti Hari: 12**

1. Imaging of Breast and Axilla: The Key to conservation, Midterm CME of Breast Imaging Society (India), 20 April Dibrugarh
2. Triangulation of lesions and BIRADS Ultrasound, Basics of Breast Imaging and Intervention Workshop, 26 May 2019, New Delhi
3. Case Discussion with interactive reporting, Basics of Breast Imaging and Intervention Workshop, 26 May 2019, New Delhi
4. BIRADS: Structured Reporting, Peerless Breast Imaging Update, 23 June 2019, Kolkata
5. 'What is the BIRADS?– Interactive Case Based Teaching', Peerless Breast Imaging Update, 23 June 2019, Kolkata
6. BIRADS-Structured Reporting, Noida chapter IRIA Academic meet; Breast Imaging made easy, 25 August 2019, Noida
7. Case discussion with interactive reporting, Noida chapter IRIA Academic meet; Breast Imaging made easy, 25 August 2019, Noida
8. Role of Vacuum assisted Breast Biopsy, Noida chapter IRIA Academic meet; Breast Imaging made easy, 25 August 2019, Noida
9. Basics of Breast Imaging, Onco-imaging Masterclass; Body and Breast Imaging, 21 and 22 September 2019, Gurugram
10. Panel discussion: Sentinel node Biopsy; Can we do away with intraoperative frozen section, Onco-imaging Masterclass; Body and Breast Imaging, 21 and 22 September 2019, Gurugram
11. Panel Discussion: "East Meets West" – The South Asian Perspective
12. Seventh Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad

### **Shivanand Gamanagatti**

1. Embolization in GI bleed, CME on Interventional Radiology, 7 July 2019, Delhi
2. Basics of Non-Vascular Interventions, IREP, 23-25 August 2019, Delhi
3. Pediatric Trauma Imaging, Annual Conference of ISPR, 7 and 8 September 2019, Delhi
4. IR in abdominal Trauma, Annual Conference of ISGAR, 27-29 September 2019, Kochi
5. Radiology for GIS surgeons, Annual Conference of IASGCON, 9-13 October 2019, Delhi
6. MR imaging of TFCC tears, Annual IRIA Conference (UP branch), RICON, 12 and 13 October 2019, Agra
7. Imaging of Prosthetic Joints, Annual IRIA Conference (UP branch), RICON, 12 and 13 October 2019, Agra
8. Fibrin sheath Angioplasty, Quarterly meeting of ISVIR (Delhi state Branch), 19 October 2019, Delhi

9. Imaging in glenoid labral tears, MSK imaging, Delhi State IRIA, 20 October 2019, Delhi
10. Understanding and diagnosing TFCC tears, MSK imaging, Delhi State IRIA, 20 October 2019, Delhi
11. Chemical Ablation is it relevant in the era of thermal ablation? Ablation Workshop, PGI, CHANDIGARH, 8 November 2019, Chandigarh
12. MR imaging of Wrist: Intrinsic ligaments and TFCC, IRIA -Chandigarh State Branch, 8 November 2019, Chandigarh
13. Vascular Interventions in Genitourinary Tract, AIIMS-MAMC-PGI imaging course on Genitourinary imaging., 15 and 16 November 2019, Delhi
14. Peripheral Vascular Injuries: Imaging and Interventions., Annual Conference of SER, 30 November 2019, Delhi
15. IR in Abdominal Trauma: APDW 2019, 12-15 December 2019, Kolkata
16. Novel use of Interventional Radiology in Trauma, 73rd Annual Conference of IRIA, 23-26 January 2020, Gujrat
17. Peripheral Vascular Injuries: Imaging and Interventions, CME on Peripheral Vascular Interventions, ISVIR (Delhi Branch), 23 February 2020, Delhi
18. Radiology in Liver Injury. Consensus Meeting to formulate ISTAC guidelines for Solid Organ Injury Management, 18 and 19 January 2020, Delhi

### **Atin Kumar**

1. Tools and drugs in Interventional Radiology, AIIMS-MAMC-PGI Imaging Series –Advances in Imaging Technology, 5 and 6 April 2019, New Delhi
2. Imaging of leucodystrophy, Pediatric CME of IRIA West Bengal Chapter, 28 April 2019, Kolkata
3. Imaging of congenital brain malformations, Pediatric CME of IRIA West Bengal Chapter, 28 April 2019, Kolkata
4. Potpourri of interesting neuroradiological cases, Pediatric CME of IRIA West Bengal Chapter, 28 April 2019, Kolkata
5. IR in trauma, IRIA Outreach program and IR CME, 7 July 2019, New Delhi
6. Radiological Handles for white matter disorders, Neuropedicon 2019, 19th Annual Conference of Neurology Chapter of IAP, 26-28 July 2019, Hyderabad
7. Finding Zebras: Using Radiology to diagnose and manage systemic infection, CME on Emerging and Reemerging Infections, 10 and 11 August 2019, Pune, Maharashtra
8. Film Reading Session, Delhi IRIA Resident Education Program, 23-25 August 2019, New Delhi
9. Leukodystrophy-An Algorithmic Approach, 17th National Conference ISPR, 7 and 8 September 2019, New Delhi
10. Faculty Film Reading Session, 17th National Conference ISPR, 7 and 8 September 2019, New Delhi
11. How to read MRI Brain: Learn the basics, Clinical Approach in Pediatric Neurology: What all Pediatricians must know, 22 September 2019, Rohtak
12. Workshop on Neuroradiology, Electroencephalography, Neuroradiology, Demystifying Diagnostics in Paediatric Neurology: A Practical approach - Workshop, 27 September 2019, New Delhi
13. Leukodystrophies Part I-Dysmyelinating disorders, 1st National Symposium on Pediatric Neuroradiology – “Bridging Clinical & Radiological Perspectives, 19 and 20 October 2019, New Delhi
14. Malformations of Cortical Development, 1st National Symposium on Pediatric Neuroradiology – “Bridging Clinical & Radiological Perspectives, 19 and 20 October 2019, New Delhi
15. Pediatric Neuroradiology:Imaging in Malformations of Cortical Development, 21st Annual Meeting of Indian Society of Neuroradiology (ISNR 2019), 31 October - 3 November 2019, New Delhi
16. Film Reading Session - Neuroradiology, Budding Radiologists Training Program of ICRI, 3 November 2019, Gurugram
17. Imaging of Genitourinary Trauma, AIIMS-MAMC-PGI Imaging Series –Genitourinary Imaging, 15 and 16 November 2019, New Delhi
18. Interventional radiology in abdominal trauma-key concepts, Annual Meeting of Society for Emergency Radiology, 30 November 2019, New Delhi
19. Radiology in Splenic Injury, Consensus Meeting to Formulate ISTAC Guidelines for the management of solid organ injuries, 18 and 19 January 2020, New Delhi
20. Imaging approach in blunt vs penetrating abdominal injuries., 73rd Annual conference of Indian Radiological and Imaging Association, 23-26 January 2020, Ahmedabad

### **Chandan Jyoti Das**

1. MR Imaging of Rectal cancer, Dr RK Goulatia CME of the Indian Radiology & Imaging Association, 13 October 2019, Kaziranga, Assam
2. A Potpourri of Interesting cases for residents, 45th Annual Conference of Assam IRIA at Guwahati, 12 January 2020, Guwahati, Assam
3. Image guided Genito-urinary, interventions CME on Image Guided therapies in Clinical Medicine, 20 and 21 January 2020, Male', Maldives
4. Image guide Interventions in Oncology, CME on Image Guided therapies in Clinical Medicine, 20 and 21 January 2020, Male', Maldives
5. Multiparametric vs biparametric MRI in prostate malignancies, 73rd Annual conference of Indian Radiological and Imaging association with Asian Radiology Forum, 25 January 2020, Gandhinagar, Gujarat

### **Madhusudhan KS**

1. Digital Subtraction Angiography and Fluoroscopy, 4th AIIMS-MAMC-PGI imaging course series – advances in imaging technology, 5 and 6 April 2019, New Delhi
2. Intricacies and controversies in diagnosis of autoimmune hepatitis - Panel discussion, Current Perspectives in Liver Diseases, 5 October 2019, Delhi
3. Interventional Radiology Technique - Role of Interventional radiologist in Biliary and pancreatic lesions, 29th National Conference of Indian Association of Surgical Gastroenterology, 9–13 October 2019, Delhi
4. Chronic pancreatitis – Panel discussion, 29th National Conference of Indian Association of Surgical Gastroenterology, 9–13 October 2019, Delhi
5. Microwave ablation: Technique and hardware, Workshop on tumor ablation, 8 and 9 November 2019, Chandigarh
6. Radiology of acute pancreatitis: Diagnosis and intervention, SURGICON AIIMS Raipur, 23 and 24 November 2019, Raipur

### **Surabhi Vyas**

1. Digital mammography in Advances in Imaging Technology, AIIMS-MAMC-PGI Imaging Series, 6 April 2019, New Delhi
2. Approach to Paediatric musculoskeletal ultrasound, ISPR 2019, 7 September 2019, New Delhi
3. Shoulder ultrasound examination, Delhi State IRIA MSK CME, 20 October 2019, New Delhi
4. Panel discussion pleural and chest wall masses, Imaging of Chest Tumours, AIIMS radiology course series, 30 November 2019, New Delhi
5. Thoracic masses: Signs of localization, Imaging of Chest Tumours, AIIMS radiology course series, 1 Decemebr 2019, New Delhi
6. Sonography of Breast: BIRADS, Elastography and Interventions- A Comprehensive Guide with Case Studies., Ultravision 2019, 14 December 2019, New Delhi
7. Panel discussion on Connective tissue related interstitial lung disease, DRA Annual Rheumatology Update 2020, 16 December 2019, New Delhi
8. Overview of breast imaging, International Women's Day 2020' CME, 8 March 2020, New Delhi

### **Manisha Jana**

1. Ultrasound contrast agents, AIIMS-MAMC-PGI Imaging Series, 6 April 2019, New Delhi
2. Imaging in primary immunodeficiency disorders, SCIICON 2019, 13 April 2019, Vellore
3. Imaging of adrenals, ISPR 2019, 7 September 2019, New Delhi
4. Interpretation of CT Scan Brain - Case Vignette Approach, Neuroimaging in Psychiatry, 16 November 2019, Kolkata
5. Challenging pediatric cases: Mock tumor board, Imaging of Chest Tumours, AIIMS radiology course series, 1 December 2019, New Delhi
6. Imaging pediatric chest tumors, Imaging of Chest Tumours, AIIMS radiology course series, 1 December 2019, New Delhi

7. Skeletal dysplasia: a radiographic approach, 1st outreach program of ISPR, 8 December 2019, Jodhpur
8. Imaging in pediatric acute abdomen, 1st outreach program of ISPR, 8 December 2019, Jodhpur
9. Imaging in primary immunodeficiency disorders, 2nd outreach program of ISPR, 9 February 2020, Patna
10. Imaging in pediatric airway, 2nd outreach program of ISPR, 9 February 2020, Patna
11. Chest contrast studies, AIIMS Pediatric Pulmonology and Intensive Care Course Module, 23 February 2020, New Delhi
12. MRI in pediatric chest disorders, AIIMS Pediatric Pulmonology and Intensive Care Course Module, 23 February 2020, New Delhi

### **Devasenathipathy Kandasamy**

1. RIS - PACS Basics, 4th AIIMS-MAMC-PGI Imaging Series (4th Course on Advances in Imaging Technology), 5 and 6 April 2019, New Delhi
2. Diffusion weighted imaging, 4th AIIMS-MAMC-PGI Imaging Series (4th Course on Advances in Imaging Technology), 5 and 6 April 2019, New Delhi
3. Workshop on MR optimisation and sequences, ISPR 2019, 7 and 8 September 2019, New Delhi
4. Faculty film reading session, ISPR 2019, 7 and 8 September 2019, New Delhi
5. Film reading session, ISPR 2019, 7 and 8 September 2019, New Delhi
6. Inflammatory bowel disease in children, ISPR 2019, 7 and 8 September 2019, New Delhi
7. Inflammatory bowel disease with multidisciplinary panel discussion, 3rd Annual conference of Indian Society of Gastrointestinal & Abdominal Radiology (ISGAR), 27-29 September 2019, Kochi
8. Imaging in metabolic bone disease, Hematopoietic and Endocrine disorders, IREP 2019, 23-25 August 2019, New Delhi
9. Imaging approach to cancer research, World cancer Day CME, 24 September 2019, Noida
10. Pediatric adrenal imaging, Dr RK Goulatia CME 2019, 12 and 13 October 2019, Kaziranga
11. Approach to chest Radiograph, Dr RK Goulatia CME 2019, 12 and 13 October 2019, Kaziranga
12. Chest Tumors Imaging Techniques & Applications, AIIMS Radiology Course on Imaging of Chest Tumours, 30 November - 1 December 2019, New Delhi
13. Imaging in Neonatal Jaundice, 73rd Annual Conference of Indian Radiological and Imaging association with Asian Radiology Forum, 23-26 January 2020, Gandhinagar
14. Imaging in Neonatal Jaundice, ISPR outreach CME, 9 February 2020, Patna
15. Imaging in pediatric bowel disorders, ISPR outreach CME, 9 February 2020, Patna
16. Spotters in peripheral vascular IR, ISVIR Delhi State branch CME on Peripheral Vascular Interventions, 23 February 2020, New Delhi
17. USG chest part II: Abnormality of lungs, pleura and diaphragm etc., AIIMS Pediatric Pulmonology and Intensive Care Course Module 9: Pediatric Pulmonology Diagnostics, 22 and 23 February 2020, New Delhi
18. CT chest part I: Basics, indications, normal anatomy, newer CT modalities, AIIMS Pediatric Pulmonology and Intensive Care Course Module 9: Pediatric Pulmonology Diagnostics, 22 and 23 February 2020, New Delhi

### **Smita Manchanda**

1. CT Hardware and DECT: An update, AIIMS MAMC PGI Series on Advances in Imaging Technology, 5 April 2019, New Delhi
2. Complications in ILD, SCIICON 2019, 12 April 2019, Vellore
3. Doppler and Radiation Safety in Pregnancy, Sono Summit IRIA 2019, 29 June 2019, Chennai
4. Pelvic Mass in a Female Patient : What a Resident must know, Delhi IRIA Resident Education Program, 23 August 2019, New Delhi
5. CSOM in Children: Comprehensive Reporting, 17th National Conference Indian Society of Paediatric Radiology(ISPR) 2019, 7 September 2019, New Delhi
6. Quiz for Residents: XVII National Conference Indian Society of Paediatric Radiology(ISPR) 2019, 7 September 2019, New Delhi
7. Workshop on CT Optimization Techniques, 17th National Conference Indian Society of Paediatric Radiology(ISPR) 2019, 7 September 2019, New Delhi

8. Adenomyosis Sonographic signs and Diagnostic Accuracy, Medanta Ultrasound Update: Genitourinary and Gynaecological Ultrasound Basics to Advances, 14 September 2019, New Delhi
9. Panelist in panel discussion on Lung Cancer, Symposium on Thoracic Surgery, 22 September 2019, New Delhi
10. Imaging in Malignancies of the Uterine Corpus, 17th Annual Conference of Women's Cancer Initiative (WCI-TMH), 18 October 2019, Mumbai
11. Tumour Board panellist: Challenging Cases in Ovarian Cancer, 17th Annual Conference of Women's Cancer Initiative (WCI-TMH), 19 October 2019, Mumbai
12. Imaging in Malignant Ovarian disease, AIIMS MAMC PGI Series on Genitourinary Imaging, 16 November 2019, New Delhi
13. Ultrasound of Oral Cavity and Airways : How I do it: Technique and Current Applications, Ultravision Delhi IRIA 2019, 14 December 2019, New Delhi
14. Ovarian Masses : Understanding the IOTA rules and ORADS, Ultravision Delhi IRIA 2019, 14 December 2019, New Delhi
15. MDT: Case based discussion of pulmonary nodules/ masses, AIIMS Radiology Courses: Imaging of Chest Tumours, 30 November 2019, New Delhi
16. Missed Lung Cancers: How to avoid!, AIIMS Radiology Courses: Imaging of Chest Tumours, 30 November 2019, New Delhi
17. Pre-FESS Imaging, 2nd FESS Hands on Cadaveric Workshop, 18 January 2020, New Delhi
18. 1st Trimester Aneuploidy markers and beyond, 73rd Annual Conference of Indian Radiological and Imaging Association, 23 January 2020, Gandhinagar
19. Imaging in Uterine Malignancies, International Women's Day Celebration by ICRI, 8 March 2020, New Delhi

#### **Ankur Goyal**

1. Evidence-based Radiology and Primer on Biostatistics, 4th AIIMS-MAMC-PGI Imaging Series (4th Course on Advances in Imaging Technology), 5 and 6 April 2019, New Delhi
2. Thoracic Ultrasound, First SCIICON, 12 and 13 April 2019, Vellore
3. Workshops on Musculoskeletal ultrasound, SonoSummit 2019, 27-30 June 2019, Chennai
4. Ultrasound guided MSK interventions, IRIA outreach program on Interventional Radiology CME, organized by Delhi IRIA & ICRI, July 2019, New Delhi
5. MSK manifestations in HIV / AIDS, 7th National Conference of Musculoskeletal Society (MSS) of India, 24 and 25 August 2019, Pune
6. Lecture on 'Pediatric Renal Masses', conducted workshop on 'contrast-enhanced ultrasound' and participated in Panel discussion on 'Ethical issues in Publishing', ISPR 2019, 7 September 2019, New Delhi
7. Pitfalls of diffusion-weighted imaging in abdomen and Remedies, 3rd Annual conference of Indian Society of Gastrointestinal & Abdominal Radiology (ISGAR), 27-29 September 2019, Kochi
8. Film Reading Session, Delhi State IRIA Musculoskeletal Imaging conference, 20 October 2019, New Delhi
9. Ultrasound in MSK and Sports Injuries, 'Sports Imaging & MSK Radiology' on International Day of Radiology IDOR 2019, 8 November 2019, New Delhi
10. Imaging of Retroperitoneum, 4th AIIMS-MAMC-PGI IMAGING COURSE SERIES (5th course on Genitourinary Imaging), 15 and 16 November 2019, New Delhi
11. "Ultrasound of upper limb" and "anterior knee pain patellar maltracking" and faculty in workshops on ultrasound of extremity joints and cadaveric workshop for ultrasound guided interventions. Conference on Advanced Joint Imaging & MSK Interventions conducted by Telangana State Chapter of IRIA & Kamineni Academy of Medical Sciences and Research Centre, 16 and 17 November 2019, Hyderabad
12. 'Interventional Radiology in MSK system', 'Entrapment syndromes of upper limb' and conducted an interesting film reading session on MSK cases, International Day of Radiology CME on MSK Imaging at AIIMS, Patna, 23 November 2019, Patna
13. 'IR in chest tumors: Biopsy & beyond' and 'Chemotherapy Drug-related Pulmonary complications: Imaging perspective', Imaging of Chest Tumours, AIIMS radiology course series, 30 November 2020, New Delhi
14. Keeping track of patellar maltracking, 73rd Annual Conference of IRIA, 23-26 January, 2020, Gandhinagar
15. Quiz, ISVIR Delhi State branch CME on Peripheral Vascular Interventions, 23 February 2020, New Delhi

## Priyanka Naranje

1. Spotters Quiz, AIIMS-MAMC-PGI Imaging Series –Advances in Imaging Technology, 5-6 April 2019, New Delhi
2. MRI Thorax, Annual Conference of Society of Chest Imaging and Interventions- SCIICON 2019, 12 and 13 April 2019, Vellore
3. Localized lung cancer (Panelist), 2nd Annual Masterclass in Lung cancer, 20 and 21 July 2019, Mumbai
4. Basics of Pediatric Intervention (workshop), 17th Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi
5. Tumor Board: Thoracic Masses in Childhood, 17th Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi
6. Non-vascular Thoracic Interventions in Childhood, 17th Annual National Conference of the Indian Society of Paediatric Radiology ISPR 2019, 7 and 8 September 2019, New Delhi
7. Hemophilia MSK workshop, HAEMATOCON19: 60th Annual Conference of Indian Society of Haematology and Blood Transfusion, 7 November 2019, New Delhi
8. Tubercular infection of urinary tract, 4th AIIMS-MAMC-PGI IMAGING COURSE SERIES (5th course on Genitourinary Imaging), 15 and 16 November 2019, New Delhi
9. Approach to posterior mediastinal masses, Imaging of Chest Tumours, AIIMS radiology course series, 30 November and 1 December 2019, New Delhi
10. Imaging in Airway Malignancies, Imaging of Chest Tumours, AIIMS radiology course series, 30 November and 1 December 2019, New Delhi
11. Quiz: Score and be rewarded! Imaging of Chest Tumours, AIIMS radiology course series, 30 November and 1 December 2019, New Delhi
12. CT chest part II: Abnormalities-mediastinum, lung, vessels, bones etc. (and CT PNS in brief), AIIMS Pediatric Pulmonology and Intensive Care Course Module 9: Pediatric Pulmonology Diagnostics, 22 and 23 February 2020, New Delhi
13. A case based approach to a patient with chylothorax, AIIMS-Pulmocrit, 7 and 8 March 2020, New Delhi
14. CPC, AIIMS-Pulmocrit, 7 and 8 March 2020, New Delhi

## Oral Papers/posters presented

1. Baby A, Dhamija E, Thulkar S. Distant metastasis from Carcinoma cervix: Experience from a tertiary care centre, Korean Congress of Radiology, 2019, 18-21 September 2019, Seoul, South Korea
2. Baby A, Dhamija E, Thulkar S. Infiltrative nature of metastatic lymph nodes in Carcinoma Cervix – An unusual and morbid entity, Korean Congress of Radiology, 2019, 18-21 September 2019, Seoul, South Korea
3. Baby A, Dhamija E, Thulkar S. Skeletal metastasis in carcinoma cervix- Not a common occurrence - Retrospective analysis of 2 years, Korean Congress of Radiology, 2019, 18-21 September 2019, Seoul, South Korea
4. Bagga B, Karthika S, Manchanda S, Bhalla AS. Cochlear Otosclerosis: CE-MRI dilemma solved on CT (\*), Delhi imaging update 2020, 7-9 February 2020, New Delhi (**3rd prize poster presentation**)
5. Bansal A, Vyas S, Dhamija E, Hari S. Can MRI predict post neoadjuvant chemotherapy pathological complete response in patients with breast cancer, Annual conference of breast imaging society of India, 2019, 15-17 November 2019, Hyderabad (**Best oral paper award**)
6. Bansal S, Mahapatra M, Naranje P, Mahapatra S, Xess I. Abdominal infections in immunocompromised hosts; A clinical, radiological & microbiological correlation, HEMATOCON 19: 60th Annual Conference of Indian Society of Haematology and Blood Transfusion, 7 November 2019, New Delhi
7. Bhalla AS, Malla SR, Manchanda S, Kandasamy D. Dynamic contrast enhanced MRI: The key to head and neck schwannoma vs Paraganglioma enigma, Korean Congress of Radiology, 2019, 18-21 September 2019, Seoul, South Korea
8. Bhalla AS, Naranje P, Kapur S. Lung MRI in Adults: An underutilized tool!, KCR 2019, 18-21 September 2019, Seoul, Korea
9. Gabra P, Jana M, Gupta AK, Naranje P. Progressive Pseudorheumatoid Arthropathy of Childhood (PPAC): A mimicker of JIA! Delhi Imaging Update 2020, 7-9 February 2020, New Delhi
10. Gabra P, Jana M, Gupta AK, Yadav R. Diastrophic dysplasia: A case report, Delhi Imaging Update 2020, 7-9 February 2020, New Delhi
11. Gabra P, Ramaswamy PK, Gupta AK, Sharma R, Kumar A, Gupta N, et al. Normal Imaging appearances in

- perinatal post-mortem magnetic resonance imaging, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi
12. Ghosh A, Kandasamy D. Dissecting the Artificial Intelligence Black Box: Why, When, and How, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
  13. Goyal A, Sangwan A, Kumar A, Kandasamy D, Seith AS. Vascular Anomalies: Avoiding Misdiagnosis and Missing the Diagnosis, 119th ARRS Annual Meeting, 5-10 May 2019, Honolulu Convention Center, Hawaii, USA
  14. Goyal A, Sangwan A, Kumar A, Singhal M, Arava S. Fibro-Adipose Vascular Anomaly: Old Wine or New Cocktail, 119th ARRS Annual Meeting, 5-10 May 2019, Honolulu Convention Center, Hawaii, USA (**Cum Laude award**)
  15. Goyal A, Sharma R, Gamanagatti S, Seith AS, Seth A. Navigator versus Belt Methods of Respiratory-Triggered Diffusion-Weighted MRI in Renal Lesions: Comparison of Image Quality and ADC Values, 119th ARRS Annual Meeting, 5-10 May 2019, Honolulu Convention Center, Hawaii, USA
  16. Gupta D, Chaudhary R, Dhamija E, Sharma S, Hari S. Uniqueness of Mammography in contrast to routine radiography, 7th Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad
  17. Jayapal R, Madhusudhan KS, Singh AN, Panwar R, Dash NR, Pal S, et al. Management and outcomes of pseudoaneurysms complicating pancreatic surgery. A tertiary care single centre experience, 29th National Conference of Indian Association of Surgical Gastroenterology, 9-13 October 2019, Delhi
  18. Kartika S, Bagga B, Prasad V, Manchanda S, Vyas S. Deep pelvic endometriosis: Hidden part of iceberg. Delhi Imaging Update 2020, 7-9 February 2020, New Delhi.
  19. Kumar A, Kumar J, Chakrabarty B. Hypomyelinating disorders: Radiological diagnosis and pattern approach, 2nd Annual Meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
  20. Kumar A, Kumar J, Dawani A, Sherwani P, Jana M, Aggarwal B. Imaging manifestations of 3 cases of Encephalocraniocutaneous lipomatosis: A rare neurocutaneous syndrome, 2nd Annual Meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
  21. Kumar A, Yadav R, Chakrabarty B. Pediatric brain and spinal tuberculosis - a radiological review, 2nd Annual Meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
  22. Kumar N, Goyal A, Manchanda S, Sharma R, Bansal VK. Aggressive pelvic angiomyxoma and mimics: Can imaging be the guiding light, Delhi imaging update 2020, 7 to 9 February 2020, New Delhi
  23. Kumar P, Kumar R, Kumar V, Senthil Kumaran S, Sharma S, Thulkar S, et al. High grade and low grade prostate cancer discrimination via blood plasma NMR based metabolomics, International Society for Magnetic Resonance in Medicine, 11-16 May 2019, Montréal, QC, Canada
  24. Kumar P, Thulkar S, Panaiyadiyan S, Mewar S, Sharma S, Dhamija E, et al. Targeted 1H NMR based metabolomics analysis of urine and blood plasma in diagnosis of aggressive prostate cancer, World Molecular Imaging Congress, 4-7 September 2019, Montreal, Canada
  25. Kumari M, Gupta AK, Kumar A, Jana M, Yadav R. Macrocephaly in pediatric population - spectrum of diseases, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi
  26. Madhusudhan KS, Aggarwal A, Srivastava DN, Gupta AK. Corrosive injury of the upper gastrointestinal tract: Burning role of a radiologist, Annual Meeting of American Roentgen Ray Society ARRS 2019, 5-10 May 2019, Honolulu, Hawaii, USA
  27. Madhusudhan KS, Srivastava DN. Computed Tomography (CT) Anatomy of the Liver – A Comprehensive Review. Annual Conference of Karnataka chapter of anatomy KCAACON 2019, 20-22 September 2019, Bengaluru
  28. Manoharan D, Sharma S, Netaji A, Das CJ. Correlation between quantitative iodine parameters of triple bolus dual energy CT and perfusion CT in patients with renal cell carcinoma., 105th Scientific Assembly and Annual Meeting of the RSNA 2019, 1-6 December 2019, Chicago, USA
  29. Marri UK, Das P, Shalimar, Srivastava DN, Sharma R, Madhusudhan KS. Role of Dual-energy Computed Tomography in the Evaluation of Liver Fibrosis in Patients of Chronic Liver Disease, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA (**Trainee Research Prize**).
  30. Meena A, Sharma S, Kumar S, Naik N, Roy A, Gupta A. Role of CMRI in identification of myocardial fibrosis and wall morphology in patients of Non-ischemic dilated cardiomyopathy, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
  31. Meena P, Bhalla AS, Goyal A, Sharma R, Srivastava DN, Guleria R. Value of Dual energy CT angiography in depicting bronchial and non bronchial systemic arteries: A guide to endovascular treatment, Korean Congress of Radiology 2019, 18-21 September 2019, Seoul, South Korea
  32. Meena P, Bhalla AS, Goyal A, Naranje P. Imaging findings as a predictor of site of bleeding in patients of haemoptysis: correlation of DECTA and DSA, Korean Congress of Radiology 2019, 18-21 September 2019, Seoul, South Korea

33. Monga A, Srivastava DN, KS Madhusudhan, Goyal A. Balloon Vesselplasty Versus Percutaneous Vertebroplasty in Chronic Compression Fractures of Dorsolumbar Spine, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
34. Murugan N, Kandasamy D, Jana M. Whole body MRI -Applications, Radiological Society of North America,2019, 1-6 December 2019, Chicago, USA
35. Murugan N, Kumar A, Gamanagatti S, Patel RK, Kumar A, Kumar S, et al. Pancreatic injuries- A never ending story, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
36. Nadda N, Nayak B, Paul SB, Shalimar, Acharya SK. Clinical implications of microRNAs in Hepatocellular carcinoma, AIIMS-UCL Symposium on Liver Disease, 29 January 2020, New Delhi
37. Nadda N, Paul SB, Saraya A, et al. Assessment of circulatory microRNA and AFP for predicting early response to locoregional therapy in virus associated hepatocellular carcinoma, Indian Society of Oncology-Indian Society of Medical & Pediatric Oncology Conference-, 1-3 November 2019, Indore
38. Naranje P, Bhalla AS, Shera TA, Khan IA. Imaging of peripheral pulmonary arterial abnormalities on DECT angiography: An approach, KCR 2019, 18-21 September 2019, Seoul, Korea
39. Naranje P, Shera TA, Bhalla AS, Kabra SK, Gupta AK, Meena M. Role of split-bolus Dual energy CT angiography in evaluation of pediatric hemoptysis: A tertiary care centre experience, KCR 2019, 18-21 September 2019, Seoul, Korea
40. Netaji A, Das CJ. Advances in Prostate Biopsy- MRI guided biopsy, Korean Congress of Radiology 2019, 18-21 September 2019, Seoul, South Korea (**Scientific Exhibit Award; Bronze**)
41. Netaji A, Jana M, Kandasamy D, Yadav M, Naranje P, Gupta AK. Rhabdomyosarcoma in children and adolescents: Do pathologic tumor subtypes influence the imaging characteristics at presentation? National Conference of Indian Society of Pediatric Radiology, 2019, 7 and 8 September 2019, New Delhi
42. Paul SB, Nadda N, Vishnubhatla Sreenivas V, et al. Differences between Alpha-fetoprotein secreting and non alpha- fetoprotein secreting hepatocellular carcinoma patients, Asia Pacific Digestive Week 2019, 12-15 December 2019, Kolkata
43. Paul SB, Swami SK, Nadda N, Nayak B, et al. Clinico-radiological profile of Non alcoholic fatty liver disease related hepatocellular carcinoma: Comparison with hepatocellular carcinoma of viral etiology, Asia Pacific Digestive Week 2019, 12-15 December 2019, Kolkata
44. Rajeev R, Gupta AK, Jana M, Kandaswamy D. Radiological Evaluation of cause of surgical jaundice in paediatric population, Indian Society of Paediatric Radiology, 6 September 2019, New Delhi
45. Rajeev R, Rangarajan K, Yadav M, Bharti SG. Ultrasound guided nerve blocks in oncology, Ultravision 2019, 14 and 15 December, New Delhi
46. Rajeev R, Rangarajan K, Yadav M, Bharti SG. Ultrasound guided nerve blocks in oncology, 7th Annual conference of Chandigarh chapter of IRIA, 22 and 23 February, Chandigarh
47. Ramaswamy PK, Jana M, Sharma R, Gupta AK, Kandasamy D, Bhatnagar V, et al. Incremental Role of Shear Wave Elastography and Sonographic Scoring Systems in the Imaging Diagnosis of Biliary Atresia, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
48. Ray A, Vyas S. CT Halo sign- A systematic review and meta analysis, European Respiratory Society 2019 International congress, 28 September-2 October 2019, Madrid, Spain
49. Razik A, Sharma R, Gamanagatti S, Goyal A, Kandasamy D. Unusual primary neoplasms of the adult liver: Can imaging come to the rescue? Annual Conference of the Chandigarh chapter of IRIA 2020, 22 and 23 February 2020, Chandigarh
50. Sangwan A, Goyal A, Sharma R, Kandasamy D, Bhalla AS, Kumar A, et al. A step by step approach to solve the riddle of managing vascular anomalies, Radiological Society of North America 2019, 1-6 December 2019, Chicago, USA
51. Sangwan A, Goyal A, Sharma R, Kandasamy D, Bhalla AS, Kumar A, et al. Contrast-enhanced Ultrasound in Vascular Anomalies: A New Paradigm!, 19th KSR Gold Medal Competition for Best Paper Presentation by a Postgraduate in Radiology, 9 November 2019, Hyderabad, India (**First prize**)
52. Singh P, MK Seetharama. Soft tissue and osseous hemophilic pseudotumor-A classical case report, Korean Congress of Radiology 2019, 18-21 September 2019, Seoul, South Korea
53. Singh R, Naranje P, Bhalla AS, Manchanda S, Gupta AK, Manoranjan M. Pulmonary emergencies in patients with haematological disorders: How accurate is MDCT, Korean Congress of Radiology, 2019, 18-21 September 2019, Seoul, South Korea
54. Srivastava DN. Percutaneous augmentation procedures in chronic compression fractures of dorsolumbar spine, Pan Arab Interventional Radiology society (PAIRS), 26-29 February 2020, Dubai, UAE

55. Sudhakaran D, Gupta AK, Jana M, Naranje P, Kandasamy D. Many faces of infantile cortical hyperostosis, National Conference of Indian Society of Pediatric Radiology, 2019, 7 and 8 September 2019, New Delhi
56. Swami SK, Nayak B, Paul SB, Shalimar, Saraya A. Liquid biopsies in HCC: Gene integrity, Somatic mutation and Methylation of cell free DNA, AIIMS-UCL Symposium on Liver Disease, 29 January 2020, New Delhi
57. Swami SK, Neeti N, Paul SB, Saraya A et al. Real-time PCR based evaluation of Alu, LINE1 and beta-actin gene integrity of cell free DNA in hepatocellular carcinoma, Indian Society of Oncology-Indian Society of Medical & Pediatric Oncology Conference-, 1-3 November 2019, Indore
58. Vora Z, Manchanda S, Sharma R, Hari S, Das CJ, Kumar S, Kachhawa G, Mathur S. Utility of Apparent Diffusion Coefficient (ADC) in Evaluation of Endometrial Masses - The Dark Horse of Pelvic MRI, ISGAR 2019, 27-29 September 2019, Kochi
59. Yadav R, Kumari M, Gamanagatti S, Kumar A, Gupta AK. Pediatric Spinal Trauma - an uncommon entity SCIWORA, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. Application of Artificial Intelligence, in MRI Spine for degenerative & traumatic spine diseases, Raju Sharma, M/s Synapsica Technologies Private Limited, New Delhi, 2 years, 2019-2021, Rs 10.85 lakhs
2. Interstitial lung Diseases: Texture based analysis for quantification, Ashu Seith Bhalla, CSIR-IGIB, 2 years, 2018-2020, Sub-project under CSIR Mission Mode Project titled “Intelligent Systems (IS)-Intelligent Technology and Solutions”
3. To study the radiological and histological features of fibro-adipose vascular anomaly and develop a scoring system for diagnosis and prognostication, Ankur Goyal, AIIMS (Intramural), 2 years, 2019-2021, Rs 5 lakhs per year
4. Use of artificial intelligence to detect breast cancer on mammogram and its use in the Indian population, Arun Kumar Gupta, DBT, 3 years, 2020-2023, Rs 89.19 lakhs

### Departmental projects

#### *Ongoing*

1. Advanced magnetic resonance imaging and radiological interventions in patients of osteoarthritis of knee
2. Clinico-Radiological profile of symptomatic breast patients : A prospective study at a Tertiary care centre in India
3. Deep Learning for detection and classification of abnormalities on Full Field Digital Mammography
4. Diagnostic accuracy of MRI with respect to HRCT in connective tissue disease related interstitial lung disease
5. Diagnostic utility of dual energy CT in pulmonary nodules and masses
6. Evaluation of split-bolus dual energy CT in staging of carcinoma larynx
7. Fibroadipose Vascular Anomaly: Comprehensive analysis of clinic-radiologic-pathological features and treatment outcomes of this new entity
8. Genetic variations of Pituitary adenoma in cushing’s syndrome
9. Imaging and interventions in pediatric Budd Chiari syndrome.
10. Imaging and radiological interventions in patients presenting with non-variceal gastrointestinal hemorrhage: Technical and clinical outcomes.
11. IVIM DWI MRI in patients with lymphoma
12. Modalities of therapeutic intervention and assessment of multi-system complications in idiopathic hypoparathyroidism
13. MRI vs MDCT in pediatric bronchiectasis: A non-inferiority trial
14. Percutaneous image guided interventions in spinal diseases
15. Response assessment of Hepatocellular carcinoma to TACE
16. Response Assessment to Anti-Tubercular Therapy in Tuberculosis of Spine on MRI
17. Role of dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis

18. Role of imaging for clinical outcome evaluation in pelvic fracture patients
19. Role of ultrasound guided wire localization and surgical removal of clipped pretreatment positive axillary lymph nodes in increasing the diagnostic accuracy of sentinel lymph node biopsy after neoadjuvant chemotherapy in breast cancer patients.
20. To investigate the arterial wall mechanics of low flow mediated constriction

### **Completed**

1. 3D ultrasound to evaluate fetal femoral volume
2. Advanced MR Imaging and Image Guided Interventions in chronic low back pain
3. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology.
4. Diagnostic and prognostic role of MRI in acute cervical cord trauma
5. Evaluation of soft tissue vascular anomalies using contrast-enhanced ultrasound and shear wave elastography
6. IVIM DWI MRI in patients with osteosarcoma and ESFT
7. Multimodality imaging evaluation of chronic mass forming mastitis and role of ultrasound-guided core needle biopsy in determining the etiology
8. Role of Advanced CT & MR techniques in Pancreatic masses
9. Role of Contrast Enhanced Ultrasound and MR Perfusion in the characterization of neck masses
10. Role of HRCT in the diagnosis of apparently idiopathic interstitial lung diseases.
11. Sclerotherapy in low-flow vascular malformations: Assessment of clinical effectiveness of the current practices in a tertiary care center
12. To identify imaging features of chronic cavitory pulmonary aspergillosis and differentiate it from simple aspergilloma on DECT in patients with postTb sequelae and hemoptysis

### **Collaborative projects**

#### **Ongoing**

1. A comparison of ultrasonography and MRI in assessing tumour characteristics and locoregional spread in carcinoma cervix, Obstetrics and Gynaecology
2. A morphological study of the human Temporomandibular joint, Anatomy
3. A study to evaluate the predictors of outcome in patients with Blunt Liver Trauma, Trauma Surgery
4. A Three Arm Randomized Study to Compare Sexual Functions and Fertility Indices Following Open Mesh Hernioplasty (OMH), Laparoscopic Totally Extra Peritoneal (TEP) And Trans Abdominal Pre- Peritoneal (TAPP) Repair of Groin Hernia, Surgery
5. Applicability of Laparoscopic Ultrasound in Various Intra-Abdominal Pathologies, A Prospective Observational Study, Surgery
6. Assessment of liver fibrosis in patients with Chronic liver disease using Transient elastography, Shear wave elastography and Serum biochemical markers, Gastroenterology
7. Assessment of tumor response to locoregional therapy in patients of Hepatocellular carcinoma using Shear wave elastography, Gastroenterology
8. Association of *Pneumocystis jirovecii* infection in bronchiectasis and its effect on clinical characteristics and disease progression, Microbiology
9. Baseline and post neoadjuvant chemotherapy imaging of optic nerve in extraocular retinoblastoma. Can MRI Predict Prognosis? RP Centre
10. BIPSS in ACTH dependent Cushing's syndrome, Endocrinology and Metabolism
11. Clinical Profile, Pulmonary Function And Quality of Life of Patients with Post Tuberculosis Chronic Lung Disorders in a Tertiary Care Hospital, Pulmonary Medicine and Sleep Disorders
12. Coblation Assisted Endoscopic Excision Of Juvenile Nasopharyngeal Angiofibroma: A Prospective Pilot Study, ENT and Head & Neck Surgery
13. Comparison of Cervical Shear Wave Elastography, Bishop Score, and Transvaginal Cervical Length Measurement for Prediction of Successful Labor Induction: A Pilot Study, Obstetrics and Gynaecology

14. Comparison of mesotherapy (non operative) with surgery in management of superficial lipomas, Surgical Disciplines
15. Comparison of outcomes in post cochlear implantation children with and without congenital inner ear malformation, ENT and Head & Neck Surgery
16. Comparison of Transarterial radioembolization versus Transarterial chemoembolization in the management of intermediate Hepatocellular Carcinoma : A Randomized Control Trial, Gastroenterology, Nuclear Medicine
17. Correlation of first trimester metabolic parameters and maternal body fat indices with development of gestational diabetes mellitus in asian indian women- a comparative study, Obstetrics and Gynaecology
18. Correlation of placental vascularisation indices and placental elastography in IUGR pregnancies with perinatal outcome: A case control study., Obstetrics and Gynaecology
19. Derivation of nomograms for aortic and iliofemoral dimensions using multidetector computed tomography in the Indian population, Cardiac Radiology
20. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Surgical and Medical Oncology
21. Diagnostic Accuracy of Transcranial Ultrasound to Detect Clinically Significant Condition in post Craniectomy Patient, Emergency Medicine
22. Disconnected pancreatic duct syndrome is uncommon and asymptomatic following cystogastrostomy for pseudocyst/walled off necrosis in patients with acute pancreatitis, Gastroenterology
23. Double blind randomised control trial to assess the outcome of open vs arthroscopic excision of dorsal wrist ganglion, Orthopedics
24. Economic Burden, Prevention and Control of Pneumonia among Elderly, Centre for Community Medicine
25. Effect of phrenic nerve stimulation on diaphragm strength and thickness in mechanically ventilated patients. An Randomized Controlled Trial, Physiotherapy
26. Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous lithotomy, Urology
27. Efficacy and tolerability of hyperbaric oxygen therapy in structuring & fistulizing small bowel Crohn's disease, Gastroenterology
28. Etiological Evaluation of Microcephaly in Young Patients, Genetics
29. Etiological Evaluation of Microcephaly in Young Patients, Pediatrics
30. Evaluation of 99 m Technetium labelled antibiotic scintigraphy in diagnosis and monitoring of tuberculosis with abdomen involvement, Medicine
31. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized Controlled Trial, Surgery
32. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction, Obstetrics and Gynaecology
33. Evaluation of intralesional bleomycin in periocular and adnexal vascular lesions, RP Centre
34. Exploring the usage of Ultrasonography in assessing mid palatal suture opening in Rapid Palatal Expansion: Pilot study, Orthodontics
35. Feasibility of Enhanced recovery after surgery protocol in general thoracic surgery : prospective cohort study, Surgery
36. Incidence and outcome of neutropenic enterocolitis in paediatric cancer patients, Paediatrics
37. Minimally invasive autopsy (MIA) in the evaluation of fetal malformations and stillbirths- A feasibility study for the development of a standard protocol for stillbirth evaluation, Paediatrics
38. Neoadjuvant chemotherapy with short course radiotherapy for locally advanced rectal cancer: A pilot study, Surgery
39. Normative Values Of Renal Length And Parenchymal Thickness and Renal Elastography in Indian Paediatric Population, Paediatric Surgery
40. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy, Surgery
41. Outcomes of patients of microtia with canal atresia undergoing same stage pinna reconstruction and canalplasty, ENT and Head & Neck Surgery
42. Prediction of Difficult Laryngoscopy and Orotracheal Intubation Using Lateral Neck X-ray: A Prospective Observational Double Blind Study, Anaesthesiology, Pain medicine and Critical Care
43. Prosthetic material(mesh) anchored by mechanical device versus glue during laparoscopic repair of ventral hernia: A double blind randomised controlled trial, Surgery
44. Randomized Control Trial Comparing Radiological, Clinical and Functional Outcomes following Uniaxial vs

Polyaxial Plating in Management of Tibial Plateau Fractures and CT Guided Mapping of Proximal Tibial Fractures in Indian Population, Orthopedics

45. Role of contrast enhanced USG in assessing activity in non specific aortoarteritis, Cardiac Radiology
46. Role of Liquid Biopsy Biomarkers in Hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis, Gastroenterology
47. Role of MR guided biopsy in detection of prostate cancer, NMR
48. Safety and efficacy of Stem cell therapy in Perianal fistula in Crohn's disease, Gastroenterology
49. Sensitivity and specificity of Focussed Assessment with Sonography for Trauma (FAST) in determining pediatric solid organ injury following blunt trauma abdomen, Pediatric Surgery
50. Spectrum and profile of patients with Interstitial lung diseases presenting at a tertiary care center in north India (AIIMS-ILD registry), Pulmonary, Critical Care and Sleep Medicine
51. Study of risk factors for breast cancer in Indian women: A case control study, Surgery
52. Systemic effect of surgery in obstructive sleep apnea severity- an evaluation with inflammatory markers, Otorhinolaryngology- Head and neck surgery
53. To compare the diagnostic performance of Whole Body Low dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a tertiary care centre, Hematology
54. To determine by Ultrasound the Optic Nerve Sheath Diameter in Pediatric Patient with Intracranial Pressure Compared with Control Group, Emergency Medicine
55. To determine incidence of paratracheal lymph node metastases in laryngeal and hypopharyngeal carcinoma, ENT and Head & Neck Surgery
56. To establish an algorithm for the management of axilla in patients with early operable breast cancer having clinically negative axilla, Surgery
57. To study the management outcomes in patients with Primary Aldosteronism, Endocrinology and Metabolism
58. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gallstone disease, Surgery
59. Understanding differences in the patterns of osteoarthritis in Indian and Western population : impact on symptoms, treatment options and their outcome, Orthopaedics

### ***Completed***

1. Abdominal infections in immunocompromised hosts: A Radiological, Microbiological and Clinical Correlation, Hematology
2. Achalasia cardia: Long term outcome and assessment of factors predicting outcome following laparoscopic heller's cardiomyotomy, Surgery
3. Age estimation between age 1 and 18 years by Radiological Study of Epiphyseal Union Around the Elbow and Wrist Joints, Forensic Medicine
4. Changes in muscle mass thickness and echogenicity in critically ill patients over 7 days, Paediatrics
5. Comparison of 3 Different Methods of Orotracheal Tube Length Estimation in Neonates: A Post-mortem Study, Paediatrics
6. Comparison of quality of life and oncological outcomes of Skin Sparing Mastectomy versus Breast Conservative Surgery among ladies with Early Breast Cancer: A Randomized comparison with superiority hypothesis, Surgery
7. Double blind randomized control trial to assess the outcome of pulley release and pulley reconstruction for de Quervain's tenosynovitis', Orthopedics
8. Evaluation of 2 Dimensional and 3 Dimensional Ultrasonography in preoperative assessment of adnexal masses, Obstetrics and Gynaecology
9. Evaluation of diaphragm function of ventilated children using bedside ultrasonography, Paediatrics
10. Evaluation of outcome of intra-lesional bleomycin in orbital lymphangioma, RP Centre
11. Evaluation of various clinical and immunological parameters in predicting the outcomes of sino-nasal and skull base invasive fungal diseases : A descriptive study, ENT
12. In vivo assessment of somatostatin receptor expression with 68Ga DOTANOC PET/CT in patients with autoimmune and immune-related orbitopathy, Nuclear Medicine
13. Incidence and risk factors of preterm brain injury (periventricular leukomalacia and/or intraventricular hemorrhage)

in very low birth weight neonates (32 weeks gestation or 1500 gm birth weight): A prospective cohort study, Paediatrics

14. Multimodality imaging evaluation of chronic mass forming mastitis and role of ultrasound guided core needle biopsy in determining its etiology, Surgery
15. Non-alcoholic Fatty Liver Disease in Indian Children with Down Syndrome, Paediatrics
16. Pre- and Post-Operative Dysglycemia in Cases Of Pheochromocytoma / Paraganglioma –A Tertiary Care Centre Study in Northern India, Endocrinology and Metabolism
17. Prospective Pilot Study for Evaluating Incidence of Occult Lymph Node Metastasis in Patients of Olfactory Neuroblastoma, ENT
18. Randomized Parallel Comparative Study for the Evaluation of Effect of Vitamin K Supplementation on Bone Mineral Density in Prostate Cancer Patients, Pharmacology
19. Role of microRNAs as a biomarker in hepatocellular carcinoma, Gastroenterology
20. Role of placental growth factor, uterine artery doppler and 3D doppler ultrasound of placenta for prediction of pre-eclampsia in high risk pregnancies., Obstetrics and Gynaecology
21. Safety, suitability and clinical effectiveness of unicompartmental knee replacement in the Indian population, Orthopaedics
22. Sonographic comparison of Subclavian vein and Inferior Vena Cava collapsibility index for the assessment of volume status of hypotensive patients, Medicine
23. Synthesis Quality Control and Biodistribution Studies of 99 m Technetium (99 m Te) Labelled Antibiotics for Infection Imaging, Nuclear Medicine
24. The effect of 1 cm versus 2 cm resection margin and oncoplastic closure of breast parenchymal defect on oncological and aesthetic outcome in ladies with early breast cancer: A 2X2 factorial Randomized Controlled Trial, Surgery
25. The pattern of visual impairment in spectrum of hypoxic ischemic encephalopathy (RPC), RP Centre
26. To study and compare the prevalence of NAFLD in women with and without previous history of GDM, Endocrinology and Metabolism
27. To study the prevalence of primary aldosteronism in subjects with hypertension, Endocrinology and Metabolism
28. Ultrasound assessment of gastric emptying of clear fluids with different energy content in children: A cross over pilot study, Anesthesiology, Pain Medicine and Critical care
29. Utility of trabecular bone score and bone mineral density in assessing bone health including vertebral fracture in primary hyperparathyroidism and their change after parathyroidectomy, Endocrinology and Metabolism

## PUBLICATIONS

**Journal: 107    Abstracts: 2    Chapters in books: 42    Books: 4**

## PATIENT CARE

S. No.	Name of Investigations / Special procedures	Total no. of Investigation
1	<b>Routine X-rays</b>	
	OPD	99229
	Indoor	28421
	Casualty	62694
	Portable	49718
2	<b>Special Investigations</b>	
	Barium Studies	2368
	Intravenous pyelography	1602
	Micturating cystourethrography	2663
	Hysterosalpingography	1012
	Operation Theater Studies	224

	Others contrast studies	860
3	<b>Mammography</b>	3811
4	<b>Dexa Scan</b>	123
5	<b>Ultrasound</b>	
	Routine	36556
	Emergency	30020
	Doppler (Routine + Casualty)	4043
6	<b>CT</b>	
	Body	18922
	Head	8122
7	<b>MRI (Main + NMR)</b>	6906
8	<b>Interventional Procedures</b>	
	Interventional Vascular Studies	3440
9	<b>Interventional Non-Vascular studies</b>	
	CT Guided	449
	Ultrasound Guided	5345
	Fluoroscopy Guided	2971
	Mammography Guided	08
	<b>Grand Total</b>	<b>3,69,507</b>

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arun Kumar Gupta** was Executive committee member of ‘Indian Journal of Pediatrics.

**Professor Deep Narayan Srivastava** was President of the section of Medical Sciences for 2019-2020 and also Council Member of the “Indian Science Congress Association (professional body under Ministry of Science and Technology, Government of India); Associate Editor, Annals of the National Academy of Medical Science (India) published by Thieme Medical & scientific publishers private limited, Noida, UP, India.

**Professor Raju Sharma** was Member of Selection Committee for Delhi IIT for Faculty in Department of Biomedical Engineering; Member of the selection committee for Institute of Liver & Biliary Sciences; Appointed the Resident Education Coordinator for the Indian Radiology & Imaging Association; Member of the American Roentgen Ray Society; Invited to be Guest Editor of Special Issue of Journal of Gastrointestinal and Abdominal Radiology on Pancreatic Imaging.

**Professor Sanjay Sharma** received Best reviewer award of the year 2019, from *Indian Journal of Urology* at Urological Society of India Conference (USICON 2020), at Kochi on 24 Jan 2020; Organising Secretary “4th AIIMS-MAMC-PGI IMAGING COURSE SERIES (Imaging Advances and Physics)” held at AIIMS, New Delhi (5 and 6 April 2019); Member National Cancer Grid (NCG) Synoptic Reporting Formats working group.

**Professor Ashu Seith Bhalla** was President Society of Imaging and Interventions SCII; Professor MVK Shetty Oration of Indian Society of Paediatric Radiology; Distinguished Service Award by the Delhi State Chapter of Indian Radiological and Imaging association-IRIA; Member National Cancer Grid (NCG) Synoptic Reporting Formats working group.

**Professor Atin Kumar** was Elected as President Elect of Delhi State Chapter of Indian Radiological and Imaging Association; Elected as Governing body member of Indian College of Radiology and Imaging; National Leadership Award by Delhi state chapter of Indian Radiological and Imaging Association; Joint Organizing Chairman, Delhi Imaging Update DIU 2020, Annual conference of Delhi state chapter of IRIA, held at AIIMS, New Delhi on 7th-9th February 2020; Organising Secretary of Advances in Imaging Technology - 4th AIIMS-MAMC-PGI Imaging Course Series held at AIIMS, New Delhi on 5 and 6 April 2019.

**Dr Shashi B Paul** was Member of the ‘Task force on Hepatocellular carcinoma’, formed by the Indian National Association for the study of Liver (INASL); Member of Society of Oncologic Imaging India; Member of Breast Imaging Society of India; Reviewer for various Medical Journals- Abdominal Radiology, European Radiology, Diagnostic and Interventional Radiology, Oncology, Indian Journal of Medical Research, Journal of Clinical and Experimental Hepatology.

**Dr Ankur Goyal** Was Joint Organizing Secretary, Delhi Imaging Update DIU 2020, Annual Conference of Delhi State Chapter of IRIA, held at AIIMS, New Delhi on 7-9 February 2020; Treasurer in of Advances in Imaging Technology - 4th AIIMS-MAMC-PGI Imaging Course Series held at AIIMS, New Delhi on 5 and 6 April 2019; Convenor and Joint Secretary in the Musculoskeletal Imaging conference held at ABVIMS, Dr RML Hospital, New Delhi on 20 October 2019; Joint Secretary, Delhi State Chapter of IRIA 2019-20; Awarded the prestigious Professor VP Lakhapal Gold Medal for the best academic contribution in the year 2017 at the 73<sup>rd</sup> Annual conference of IRIA held at Gandhinagar (23-26 January 2020); Awarded the Fellowship of ICRI (Indian College of Radiology & Imaging) at the 73<sup>rd</sup> Annual Conference of IRIA held at Gandhinagar (23-26 January 2020).

**Dr Smita Manchanda** was Organizing Secretary “AIIMS Radiology Courses: Imaging of Chest Tumours 2019” held at AIIMS, New Delhi on 30 November and 1 December 2019; “President’s Appreciation Award” by the Delhi State Chapter of IRIA at “DIU 2020”; Joint Secretary, Society of Chest Imaging and Interventions; Member National Cancer Grid (NCG) Synoptic Reporting Formats working group.

## 9.37. Reproductive Biology

### Professor and Head

Ashutosh Halder

### Professor and Officer In-charge CRIA facility

Pradeep Kumar Chaturvedi

### Associate Professors

Surabhi Gupta

Mona Sharma

### Scientist II

Deepak Pandey

Neeraj Kumar

### Scientist I

Manish Jain

### HIGHLIGHTS

Department is mainly involved in teaching, training and research works besides diagnostic services (reproductive hormones and cancer biomarkers) and reproductive genetic counseling. Most of reproductive genetic counseling was self-referral (cases were with reproductive disorders, malformation, cancer, infertility, etc.). CRIA facility (diagnostic section of the department) provided tests for more than 47 parameters including cancer markers, thyroid profile and reproductive hormones. Department has started online reporting for CRIA tests. CRIA facility has done 2,62,304 tests this year; an increase of approx. 24000 tests from last year. This year methotrexate test was introduced for in- and out-patients. Department is also providing semen analysis and various FISH and PCR related services (diagnostic, teaching, training, research, etc).

Training and teaching provided to our own PhD students, MSc students and various trainees of the department besides other departments of AIIMS. Faculty members of the department were invited by several national academics for different academic contributions (NII stem cell committee, NABL core accreditation committee, ICMR APS & SRF project review/selection committee, MCI assessment for DM (medical genetics) courses, PAC & IRB committee member of NIHFWS, taskforce member of various committee of DBT, Ayush, etc.). Dr. Ashutosh Halder received this year Dr. Subhash Mukherjee Oration Award of Endocrine Society of India and joined as Editorial Board of the official Journal of ISSRF (Journal of Reproductive Health & Medicine, published by Scientific Scholar LLC, USA).

### EDUCATION

- PhD students (Registered/Ongoing): 10
- MSc students (Reproductive Biology and Clinical Embryology): 11
- JRF/SRF/RA/RO: 2
- Weekly seminars and weekly journal club
- Biweekly laboratory data presentation
- Day to day case wise/laboratory work discussion
- Postgraduate: MD Laboratory Medicine Students (Laboratory training for 15 days)  
MD Biochemistry students (Laboratory training for 15 days)
- Summer training student from IIT Kharagpur

CMEs/Workshops/Symposia/National and International Conferences

### Lectures delivered

Ashutosh Halder: 7

Mona Sharma: 1

Ashutosh Halder

1. Interpretation of semenological & endocrinological investigations with male reproductive functions, Training course on Application of Research Techniques to Assess Male Reproductive Function, 21 October 2019, NIHFWS, New Delhi
2. Cytogenetics techniques, CME Hemotech, Haematocon 2019, 7 November 2019, New Delhi

3. Applications of FISH in clinical cytogenetics, Hands-on FISH workshop, 6 December 2019, Dept. of Pediatrics, MAMC, New Delhi
4. Associations of Bisphenol A and heavy metal with Reproductive Disorders (plenary talk), 39th Annual Meeting of Society of Toxicology, 27-29 December 2019, Jiwaji University, Gwalior, MP
5. Dihydrotestosterone (DHT) and DHT/Estradiol (E2) ratio: Potential biomarkers of hyperandrogenaemia in PCOS, 3rd Annual Conference of MP PCOS Society, 18-19 January 2020, Hyderabad
6. Genetic disorder as cause of fertility decline in women & men, 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Shri Mata Vaishno Devi University, Katra, Jammu
7. Female Reproductive Disorders: Our Recent Research Experiences, Golden Jubilee Celebration & International Conference on Women's Health, 20-23 February 2020, Mumbai University Campus, Santacruz, Mumbai

Mona Sharma

1. Puberty awareness, CME on Child Abuse, 12 November 2019, AIIMS, New Delhi

### **Oral papers/posters presented**

1. Choudhury J, Kanika, Gupta S. Epigenetic Regulation of Epithelial to Mesenchymal Transition in Trophoblast Cells is Mediated by Il-6 Signaling, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Katra, Jammu (Best Poster Award)
2. Halder A. Bone mineral density in hyperprolactinemia, ESICON 2019, 21-24 November 2019, Nagpur
3. Halder A. Potential biomarkers of PCOS, 3rd Annual Conference of SPEED (SPEEDCON 2020), 1-2 February 2020, Gurugram
4. Joginder, Halder A, Mahey R, Gupta S, Sharma M. Study of citrate synthase expression in human sperm and its role in oocyte activation: A pilot study, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Katra, Jammu
5. Kanika, Gupta S, Choudhury J. Role of Exosomes in Modulating Trophoblast Cell Proliferation and Invasion, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Katra, Jammu
6. Nagesh M, Chaturvedi PK, Gupta S, Pandey D. Effect of Fisetin and Quercetin on Hormone Mediated Stromal-epithelial Interaction in Prostate Cells, 30th Annual Meeting of the ISSRF along with the World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction (ISSRF-2020), 14-16 February 2020, Katra, Jammu
7. Rana R, Halder A, Gupta S, Sharma M. Role of l-carnitine in TNF-A induced mice oocyte apoptosis, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Katra, Jammu (Best Poster Award)
8. Rana R, Halder A, Gupta S, Sharma M. TNF-alpha induced oocyte apoptosis, 15th Annual Congress of Indian Fertility Society, Fertilivision 2019, 6-8 December 2019, Gurugram
9. Singh P, Pandey D, Gupta S, Chaturvedi PK. Potential Anti-Cancer Activity of Herbal Seed Extracts for Prostate Cancer, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 14-16 February 2020, Katra, Jammu (Best Poster Award)

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. An investigation to find out genetic factors in idiopathic familial ovarian failure, Ashutosh Halder, DST-SERB, 3 years, 2018-2021, Rs. 44 lakhs
2. An Investigation to find out reasons for Phenotypic Heterogeneity/Variability in 22q11.2 deletion Syndrome, Ashutosh Halder, ICMR, 3 years, 2015-2018, Rs. 41 lakhs

3. Effects of Non-ionizing Electro Magnetic Field (EMF) on Human Health, PK Chaturvedi, ICMR, 5 years, 2017-2022, Rs. 15 lakhs
4. Elucidating health-span regulatory modules by genome-wide combinatorial effects of transcription factors downstream of insulin signaling, Neeraj Kumar, DBT, 3 years, 2018-2021, Rs. 50 lakhs
5. Embryo-uterine cross-talk for implantation & beyond: Role for exosomal microRNAs, Surabhi Gupta, DST-SERB, 3 years, 2018–2021, Rs. 44.2 lakhs
6. Generation of genome-edited mice using CRISPR/Cas-9 based knock-out/knock-in technology to study mammalian sperm-egg fusion, Surabhi Gupta, DBT, 3 years, 2017-2020, Rs. 75.5 lakhs
7. High resolution Genomic Screening using SNP Microarray to find out Genomic Causes in Idiopathic Sertoli Cell Only Syndrome (SCOS) cases, Manish Jain, AIIMS, 3 years, 2017-2020, Rs. 10 lakhs
8. Idiopathic Sertoli Cell Only Syndrome (SCOS): An Investigation to find out Epigenomic Etiologies, Manish Jain, ICMR, 3 years, 2020-2023, Rs. 45 lakhs
9. In vitro evaluation of effects of electromagnetic field on male reproductive system, PK Chaturvedi, ICMR, 3 years, 2019-2022, Rs. 58.27 lakhs
10. Integrative analysis of ovarian cancer transcriptome to identify potential therapeutic targets & biomarker discovery, Ashutosh Halder, ICMR, 3 years, 2020-2023, Rs. 54 lakhs
11. Poly Cystic Ovarian Syndrome (PCOS): An investigation to find out reasons for discrepancy between hyperandrogenism (clinical) & hyperandrogenemia (biochemical) and underlying etiologic (epigenetic & genetic) factors, Ashutosh Halder, DST-SERB, 3 years, 2018-2021, Rs. 51 lakhs
12. Quality control for hCG kits, PK Chaturvedi, HLL Lifecare Limited/Ministry of Health and Family Welfare, Yearly, Yearly, Rs. 9 lakhs
13. Role of Mitochondrial Fatty Acid Shuttle System in Premature Ovarian Failure, Mona Sharma, ICMR, 3 years, 2020-23, Rs. 41 lakhs
14. Study of potential sperm factors and related signaling pathways in eliciting oocyte intracellular calcium rise, Mona Sharma, AIIMS, 2 years, 2018-2020, Rs. 10 lakhs
15. To decipher the functional interaction of reproductive longevity targets induced by TGF-beta and insulin signaling in gonads, Neeraj Kumar, ICMR, 3 years, 2020-2023, Rs. 50 lakhs
16. To elucidate the impact of micronutrients and vitamins on sex-steroid mediated stromal-epithelial interaction in prostate cells: role in maintenance of normal prostate physiology, Deepak Pandey, ICMR, 3 years, 2020-23, Rs. 42.3 lakhs

### **Completed**

1. HDAC inhibitor(s) mediated genome-wide dynamics of healthy aging in *Caenorhabditis elegans*, Neeraj Kumar, DST-SERB, 3 years, 2017-2020, Rs. 50 lakhs
2. Role of 3,5,3'-L-triiodothyronine (T3) in the modulation of VEGF expression and leydig cell function, Surabhi Gupta, DBT, 3 years, 2016-2019, Rs. 39 lakhs
3. To elucidate the oxidative stress mediated regulation of turnover and translation regulatory mRNA binding proteins (TTR-RBPs) during embryo development, Neeraj Kumar, AIIMS, 2 years, 2017-2019, Rs. 10 lakhs
4. To study the effects of dietary flavonoids on prostate epithelial cells growing under the influence of prostate stromal cells, Deepak Pandey, AIIMS, 2 years, 2017-2019, Rs. 10 lakhs

### **Departmental projects**

#### **Ongoing**

1. An investigation to find out genetic factors in idiopathic familial ovarian failure
2. Analysis of anti-cancer activity of herbal extracts on prostate cancer cell lines
3. Characterization of TEX29 protein and its potential role in fertilization.
4. Effect of Human Sperm Vitrification on Phospholipase C zeta Expression
5. Effects of Selective Estrogen Receptor Modulators (SERMs) on stromal-epithelial interaction in prostate cells
6. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions.
7. Etiology and Biomarker of Polycystic Ovarian Syndrome
8. Functional characterization of human ovarian orthologs regulating insulin signalling dependent reproductive longevity in *Caenorhabditis elegans*

9. Genetics of POF
10. Genomics and epigenomics of PCOS
11. MicroRNA expression profiles in Sertoli cell only syndrome (SCOS) cases
12. Role of Indoleamine 2,3-dioxygenase in Trophoblast Biology.
13. Role of L-Carnitine in oocyte activation
14. Role of microRNAs in regulation of angiogenic factors in trophoblast cells
15. Role of miR-143-3p in modulating Trophoblast cell invasion
16. Role of placenta derived exosomes in decidualization in Recurrent pregnancy loss patients.

### ***Completed***

1. Assessment of HDACi on embryo developmental competence during reproductive aging
2. Biological basis of skewed sex ratio
3. Chromosome mosaicism and aneuploidy in preimplantation mouse embryo
4. Citrate synthase expression in human sperm and oocyte activation in mice
5. Double blind randomized clinical trial of polyherbal preparation Ashokarista on post- menopausal women
6. Effects of dietary flavonoids on hormone mediated stromal-epithelial interaction in prostate cells
7. Etiopathology of Macroprolactinemia
8. Evaluation of molecular basis of clinical aggressiveness in cervical carcinoma of young age
9. Genetic Study on Sertoli Cell Only Syndrome (SCOS)
10. Genetics of primary testicular failure
11. Mutational Analysis of HS6ST2: A Candidate Gene In Idiopathic Premature Ovarian Failure
12. Rapid Detection of Chromosome 13 & 21 Aneuploidy by Primed In Situ Labeling
13. Role of Cytokines in Premature Ovarian Failure
14. Role of microRNAs in regulation of angiogenic factors in trophoblast cells
15. Spermiation defect: Role of heavy metal, vitamin A and sertoli cell maturity
16. Testicular Germ cell arrest (maturation arrest): An Investigation of Phenotype-Genotype Correlation
17. The Genetic Determinants of Premature Ovarian Failure
18. To study the effect of Oxidative stress on the expression of mRNA 3' UTR binding protein genes in early embryo development
19. To study the role of conserved RNA binding proteins (RBPs) in reproductive aging using Caenorhabditis elegans as model system

### **Collaborative projects**

#### ***Ongoing***

1. Age specific nomogram of Anti-mullerian Hormone and Antral follicle counts in infertile and fertile Indian women, Obstetrics and Gynecology
2. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Urology
3. Effect of tyrosine kinase inhibitors on sperm parameters and pituitary gonadal axis in males with chronic myeloid leukemia, Haematology
4. Establishment of a normal reference range (nomogram) for Testosterone and Dihydrotestosterone in boys of age group 0– 14 years, Pediatric Surgery
5. Impact of Checkpoint inhibitors on suppressed state of immunity in tuberculosis, Transplantation Immunology & Immunogenetics
6. Impact of parental history of type 2 diabetes in Indian women with PCOS, Endocrinology
7. malignant lesions, Dental Science Centre
8. MicroRNA and hTERT gene profiles as biomarkers in oral potentially malignant and
9. Molecular Genetic Evaluation of Unexplained Stillbirths, Genetics Unit, Pediatrics
10. Reference range of serum alpha feto protein in Indian children below 3 years of age, Pediatric Surgery
11. Role of Bone Marrow Microenvironment in Multiple Myeloma, Medical Oncology, IRCH
12. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology

13. Therapeutic targeting of ER Chaperones exploiting Small Molecules: A Virtual Screening Approach to alleviate ER stress in Preeclampsia, Department of Bioinformatics, Bharathiar University, Coimbatore, Tamil Nadu
14. To study the long-term effects of disease and its treatment in survivors of pediatric solid tumors, Pediatric Surgery
15. Understanding the pathophysiology of endometriosis by protein profiling and correlation with stress, Physiology
16. Unique aspects of idiopathic hypoparathyroidism, Endocrinology

### **Completed**

1. A correlative study of fetomaternal hydrogen sulfide production with umbilical artery velocimetry in preeclampsia, Anatomy
2. Characterization of chromosomal anomalies in multiple myeloma using cytogenetics and FISH, Medical Oncology, IRCH
3. Effect of transabdominal inguinal hernia repair on semen analysis and sexual function, Surgery
4. Evaluation of C MET gene expression in gastric adenocarcinoma & co-relation with conventional clinic-pathological parameters- A descriptive study, Pathology, UCMS/GTB, Delhi University
5. Evaluation of hTERT amplification in cervical cytology specimens as a marker of histologic grade of cervical intraepithelial neoplasia, Pathology, UCMS/GTB, Delhi University
6. Lymphocyte reconstitution and infectious morbidity post autologous hematopoietic stem cell transplantation, Medical Oncology, IRCH
7. Molecular biology of early immature T-cell acute lymphoblastic leukemia, Laboratory Oncology, IRCH
8. Molecular biology of Multiple Myeloma, Medical Oncology, IRCH
9. Role of microRNA in Spermatogenesis, National Institute of Immunology, Delhi
10. Study of clinico-dysmorphic profile and associated malformation in children with cardiac malformation, MAMC, Delhi University

### **PUBLICATIONS**

Journals: 9

Chapters in Books: 1

### **PATIENT CARE**

Over 100 cases were referred to Dr. Halder, mainly from other hospitals of Delhi or self-referral for Counseling/ Planning of Management/Advice and related to Reproductive Genetics in particular Male Primary Hypogonadism, Recurrent Abortion, Recurrent IVF failure, Genetic Disorders and Malformation Syndromes.

Workload in the form of laboratory service

Standardized additional molecular cytogenetic technique (in addition to ongoing fluorescent in situ hybridization services) using STR/microsatellite markers and used for patient care

Special laboratory facilities in Department of Reproductive Biology (Molecular Cytogenetics lab), AIIMS

Microdeletion FISH on blood (Interphase/ Metaphase cell), buccal cell, urine cell, solid tissue etc.

Total 300 patients have been recruited which all are suspected microdeletion syndrome. We have done FISH & QF-PCR of all cases in our Molecular Cytogenetics lab and given report of all the patients. We have standardized Methyl Specific PCR for PWS cases and start facility of Methyl Specific PCR in our lab. We are going to start the facility of microarray of all microdeletion syndromes in our department as soon as possible (tender already uploaded).

List of Microdeletion Syndrome:

- Digeorge syndrome (22q11.2)
- William syndrome (7q11.23)
- Prader willi syndrome (15q11.13)
- Retenoblastoma (13q)
- Miller decker syndrome (17p13.3)
- Langer Giedions syndrome (8q24.11)
- 1p36.13
- Wolff Hirschhorn (4p16.3)

Prenatal FISH (Amniotic fluid cells/chorionic tissue)

- Trisomy 21 (Down syndrome)

- Trisomy 18 (Edward Syndrome)
- Trisomy 13 (Patau Syndrome)
- Any autosomal aneuploidies (on request)

Karyotyping (only research use)

Sex Chromosome FISH (X, Y, SRY: only research & infertility)

Yq Microdeletion PCR (Cover app. 20 primer)

PRINS (Chromosome13, 18, 21, X, Y)

QF-PCR (DG, WS, PWS, RB, MD, Langer-Giedions, Trisomy 13, 18, 21, etc.)

**Methyl Specific PCR** (PWS)

DNA Microarray (Microdeletion Syndrome/ Primary Testicular Failure / POF/PCOS)

CRIA Facility:

Routine assays of **47** parameters for LH, FSH, Prolactin, T3, T4, TSH, Testosterone, Estradiol, Progesterone, alpha Feto-Protein, Prostate Specific Antigen (PSA), Beta hCG, CA-125, cortisol and vitamin D, Anti TPO, Anti Tg, free T3, free T4, BNP, Troponin I, CKMB, Homocysteine, SHBG, CEA, CA 19.9, CA 15.3, Free PSA, Pro Grp, HE4, Active B12, Ferritin, Folate, Insulin, PTH, C-peptide, HbA1c and anti CCP, DHT, 17 Hydroxy progesterone, ACTH, GH, Inhibin B and AMH and Procalcitonin (PCT) the blood samples of in- and out-patients were carried out in the facility. We have started new test—methotrexate.

S.No.	Name of Investigations	Total No.
1	<b>17-OHP</b>	471
2	<b>ACTH</b>	5
3	<b>ACTIVE B12</b>	19423
4	<b>AFP</b>	6231
5	<b>AMH</b>	5185
6	<b>Anti-CCP</b>	3858
7	<b>Anti-tg</b>	198
8	<b>Anti-TPO</b>	1348
9	<b>BHCG</b>	1546
10	<b>BNP</b>	1099
11	<b>CA-125</b>	2831
12	<b>CA15.3</b>	10
13	<b>CA19.9</b>	2607
14	<b>CEA</b>	2523
15	<b>CKMB</b>	6
16	<b>CORTISOL</b>	1616
17	<b>C-Peptide</b>	2
18	<b>DHEAS</b>	542
19	<b>DHT</b>	2
20	<b>ESTRADIOL</b>	1094
21	<b>Ferritin</b>	12022
22	<b>FOLATE</b>	13251
23	<b>Free PSA</b>	122
24	<b>Free T3</b>	843
25	<b>Free T4</b>	1092

26	FSH	7488
27	Growth Hormone(GH)	171
28	Homocysteine	34
29	Inhibin B	33
30	INSULIN	1804
32	Intact PTH	15086
33	LH	6660
34	METHOTREXATE	113
35	PCT	15141
36	PROGESTERONE	351
37	PROLACTIN	5951
38	PSA	3184
40	SHBG	7
41	TESTOSTERONE	2043
42	TOTAL T3	19961
43	TOTAL T4	22926
44	Troponin-I	526
45	TSH	50258
46	TT4	1
47	Vitamin D,25 - hydroxy	32639
	<b>TOTAL</b>	<b>262304</b>

#### Tests

JSSK: 5900

BPL: 9200

AB-PMJAY: 395

Number of tests performed has increased from 2,37,956 last year to 2,62,304 this year. In addition, more than 4000 various tests were done for research project studies. Andrology services were given to approx. 50 patients that included complete sperm parameters (sperm counts, motility, vitality, morphology).

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor KR Laumas oration** of the department for the year 2019 was received by Professor AJ Rao, IISc, Bangalore. **Three Best Poster Awards** at World Congress on Reproductive Health with Emphasis on Reproductive Cancers Infertility and Assisted Reproduction and 30th Annual Meeting of the ISSRF held at Jammu, 14-16 February 2020: Palak Singh, Surabhi Gupta, Deepak Pandey, PK Chaturvedi. Potential Anti-cancer activity of Herbal seed extract for Prostate cancer; Rana R, Halder A, Gupta S, Sharma M. Role of l-carnitine in TNF-A induced mice oocyte apoptosis; Choudhury J, Kanika, Gupta S. Epigenetic Regulation of Epithelial to Mesenchymal Transition in Trophoblast Cells is Mediated by Il-6 Signaling.

**Professor Ashutosh Halder** received Dr. Subhash Mukharjee Oration Award of Endocrine Society of India 2019 during ESICON 2019; Chaired 3 sessions in 3 different conferences (ISSRF, SPEEDCON2020 & STOX); Judge for poster award in various national conference (SIAMG, NIRRH, etc.); Task Force member of Human Developmental and Disease Biology - Maternal and Child Health Program of DBT; Task Force member of Medical Genetics of MCI; Advisory panel- expert member (Genetics) and Membership of the Advisory Panel (Biotechnology) of NAMS; Member of Program Advisory Committee (PAC) and Institutional Review Board (IRB) of NIHFW; Member of Institutional Committee-Stem Cell Research (IC-SCR) of NII; Executive Member of MP PCOS Society; Accreditation Committee Member of NABL on Genetics & Cytogenetics; Expert Committee Member of CCRAS (under ministry of AYUSH); External Examiner for DM (Medical Genetics; SGPGIMS, Lucknow) and PhD (thesis & viva) in various university (JNU, CDRI, DU, SGPGI, Bundelkhand University, Kerala University, etc.); Assessment Board Expert for promotion of ICMR scientists; PAC committee member,

ICMR (SRF/RA projects); Selection Committee member for selection of Faculty, IGIMS, Patna; Reviewer for many international & national journals (mostly indexed peer reviewed) including Andrology, Molecular Genetics & Genomic Medicine, Reproductive Biology, Acta Obstetrica et Gynecologica Scandinavica, Molecular cytogenetics, Journal of Pediatric Genetics, Journal of Genetics, Toxin Reviews, Scholars Report, Science Alert, British Journal of Medicine and Medical Research, Clinical Medicine Insights: Reproductive Health, Case Reports in Genetics, Journal of Assisted Reproduction and Genetics, Peer J, Sciencedomain international, Indian Pediatrics, IJMR, etc.; New citations over 100 (total over 1000; google scholar citation 977); **Editorial/Advisory Board/Executive Member: *International Journals***—Open Journal of Clinical Diagnostics of Scientific Research (publishes more than 200 open access journals); Journal Clinical Case Reports and Reviews (CCRR); JBR Journal of Clinical Diagnosis and Research; Asian Journal of Medical Sciences (until 2012); Austin Journal of Reproductive Medicine & Infertility; Bioinfo Publications Journals; Global Journal of Human Genetics & Gene Therapy; Clinical Research and Development: Open Access; Asian journal of pharmaceutical and clinical research, etc. ***National Journals***—Journal of Reproductive Health & Medicine (ISSRF: ISSN: 2214-420X, published by Scientific Scholar LLC, USA), Journal of the Association of Physicians of India (Genetics section); Clinical Research and Development; Innovare Journal of Medical Science.

**Professor Pradeep Kumar Chaturvedi** was Course coordinator for MSc Reproductive Biology and clinical embryology; Attended the International conference 52nd Annual Meeting of Society for the study of Reproduction (USA) ‘Beyond Possible: Remarkable transformation of Reproductive Biology held at San Jose CA, USA, 18-21 July 2019; Chaired one Session in World Congress on Reproductive Health with Emphasis on Reproductive cancers Infertility and Assisted Reproduction and 30th Annual Meeting of the ISSRF held at Jammu, 14-16 February 2020; **Expert/Committee/Task Force Member of Government Institute/ Organization/ National Society:** Member of ethic committee for PG, AIIMS, Examiner for PhD and MSc\_PhD examiner IMTech Chandigarh, Gwahati University, Calcutta University, NDRI Karnal, Reviewer of projects of Department of Biotechnology (DBT), Member Selection Committee ICMR), Member expert committee ICMR for review projects on Centre for Advance Research and also Ad-hoc projects, Reviewer Journal of Andrologia.

## 9.38. Rheumatology

### Professor and Head

Uma Kumar

### Assistant Professors

Ranjan Gupta  
Rudra Prosad Goswami

Danveer Bhadu  
Brijnandan Gupta (Immunopathology)

### HIGHLIGHTS

Department of Rheumatology was created and notified in Aug 2015. This department is providing state-of-the-art patient care services and is also instrumental in building resources which are required to deal with tremendous load of patients with rheumatological illnesses. Because of space constraint department is able to conduct only two OPDs and one Rheumatology clinic. Its 6-bed Rheumatology Day Care service, which was started in 2012, first in India, is catering to the needs of patients requiring short admissions for various interventions, treatments and procedures. Various educational activities to increase awareness about arthritis and related disorders amongst the public and medical professionals are regular features. Department has been on the forefront in research also; it has research grant of Rs. 8,23,54,949.00 (Eight crores twenty-three lakhs fifty-four thousand nine hundred and ninety nine) and many collaborative projects are also running. Department faculty had numerous publications in reputed scientific journals. Departmental Clinical Immunology lab caters to whole hospital in terms of performing various immunological investigations which are phenomenal in numbers. Realizing the need for trained Rheumatology specialists, short-term training to medical specialists from various Government organizations is being provided on regular basis. Department has active teaching programme and it is trying to start super-specialty course 'DM' in Rheumatology.

### EDUCATION

#### Undergraduates

1. Scope of clinical Immunology, present concept in autoimmunity & autoimmune disorders; for semester 8; 19 March 2020
2. Systemic lupus erythematosus; for semester 8; 25 March 2020
3. Management of rheumatoid arthritis on 18 February 2020 for VIII semester
4. Inflammatory myositis on 20 February 2020 for VIII semester
5. Small vessel vasculitis on 26 February 2020 for VIII semester
6. Systemic sclerosis & Overlap syndromes on 18 February 2019 for VIII semester
7. Approach to a patient with polyarthritides on 19 March 2019 for VIII semester  
Bedside teaching for 4th, 6th, and 8th semester was regularly done

**Postgraduate Seminars**, bedside teaching, mortalities reviews, Journal scan and Journal club, case discussions every week

**Nursing lectures:** Lecture series on rheumatological disorders for various cadres of nursing staff

#### Short term training provided to physicians

1. Dr Md Alauddin All Mamun, Bangladesh, 18 February 2020-14 April 2019
2. Dr Chiranjeeva Phukan, Assam, 16 February 2020- 26 March 2020
3. Dr Ann Sebastian, UK, 30 May 2019-7 June 2019

**Telemedicine lectures** on 'Rheumatoid arthritis'.

#### CMEs/Workshops/Symposia/National and International Conferences

1. Organized a hands on workshop on "Common Immunological Investigations in Rheumatology: A primer for Residents" (10 November 2019)

#### Lectures delivered

**Uma Kumar: 18                      Danveer Bhadu: 4                      Ranjan Gupta: 4**  
**Rudra Prosad Goswami: 3**

### **Uma Kumar**

1. RA-How early to hit, Mid Term CME, HPAPI 12 to 13 April 2019 HPAPI, IG Medical College, Shimla
2. Management of Sicca symptoms, Summer Rheumatology Meet, IRA Kerala Chapter, 27 to 28 April 2019, Calicut, Kerala
3. Arthritis in diabetes mellitus: diagnose & management, Uttarakhand State Chapter of RSSDI-2019, 4 May 2019, Rudrapur
4. Demystifying Wolf “The Lupus”, Rheumatology CME, 5 May 2019, SMS Medical College, Jaipur
5. Polyarthralgia-approach & management, Mid-term conference, 7 July 2019, IFP and SMS Medical College, Jaipur
6. Latest guidelines for immunosuppressives in uveitis (focus), 2nd Uvea Rheumatology Interface 2019, 21 July 2019, India Habitat Centre, Delhi
7. Spondyloarthropathies: Overview API\_DSC\_CME, 28 July 2019, Ashoka Road, New Delhi
8. Swasth Bharat-Affordable health practice for combating chronic disease, Tech4Seva, 12 August 2019, IIT, Delhi
9. Basics and beyond, International Conference on recent advance in pain-2019, 14 September 2019, Nagpur
10. Arthritis & other musculoskeletal problem, Public lecture, 15 October 2019, Jamia Millia Islamia, New Delhi
11. Science in day-to-day life, Health Research Conclave, 5th International Sciences Festival (IISF), 5 to 8 November 2019, Kolkata
12. CTD-ILD 27th Annual Conference of the Indian Association of Clinical Medicine, 16-17 November 2019, Gautam Buddha University, Greater Noida
13. Lab Diagnosis on Rheumatoid Arthritis, 1st Indian Autoimmunity seminar, 1 December 2019, Connaught Place, Delhi
14. The Lung & origins of RA IRACON-2019, 5-8 December 2019, JIPMER, Puducherry
15. Immunogenicity: Are we immune to it? Biologics Summit-2019, 15 December 2019, APJ Abdul Kalam Road, Delhi
16. 15 Key points: Systemic Sclerosis APICON-2019, 6 January 2020, Agra
17. Moderator: Multi-Disciplinary Team (MDT) Approach to CTD-ILD: Panel Discussion, DRA Annual Update 2020: “Rheumatology Beyond Joints” 16 February 2020, Delhi
18. I am for Generation Equality: Realizing Women’s Rights, CSIR-NISCAIR, 5 March 2020, CSIR - NISTADS, Delhi

### **Danveer Bhadu**

1. Debate on Asymptomatic Hyperuricemia treatment (For), Celebrating Rheumatology-2019, KGMU 11 May 2019, Lucknow
2. Early ILD in systemic sclerosis should be treated or not? IRACON-2019, 7 December 2019, Puducherry
3. Role of Musculoskeletal Ultrasound and Nail Fold Capillaroscopy in Rheumatic Disease, Medicine Update-2020, Maulana Azad Medical College, 29 february 2020, Delhi
4. Isolated elevated alkaline phosphatase (ALP) in SLE (an interesting case), DRA update, 16 February 2020, New Delhi

### **Ranjan Gupta**

1. Autoimmune Diagnostics: Clinical perspectives, CME & Hands on Workshop ANA & ANCA in Autoimmune Diagnostics, 20 October 2019, Kochi
2. Immunotherapy tidal wave–Time for Rheumatologists to be involved?, IRACON 2019, 5 December 2019, Puducherry
3. Diagnosis of Systemic Autoimmune Rheumatic disorders–Clinical perspective, CME for Immunofluorescence in to immune Diagnostics, 31 January 2020, Visakhapatnam
4. VASCULAR IT IS but not vasculitis (Interesting case), DRA update, 16 February 2020, New Delhi

### **Rudra Prosad Goswami**

1. USG in Rheumatology, 75th Annual Conference of Association of Physicians of India, 6 January 2020, Agra
2. MAS in Lupus, Lupus Meet, 11 January 2020, Kolkata
3. Multi Disciplinary Team (MDT) Approach to CTD-ILD: Panel Discussion, DRA Annual Update 2020: “Rheumatology Beyond Joints”, 16 February 2020, Delhi

### **Oral papers/posters presented**

1. Arya A, Arya S, Kumar U, Srikumar V, Bhatia R. Corticomotor excitability in Rheumatoid Arthritis patients: A case control study, Federation of Indian Physiological Societies (FIPS), 27–29 September 2019, Faridabad

2. Arya A, Arya S, Kumar U, Bhatia R. Effect of Motor imagery on Corticomotor excitability in Rheumatoid Arthritis patients: a case control study. XXXVII Annual meeting of Indian Academy of Neuroscience (IAN). 19-21 November 2019, New Delhi
3. Chakraborty S, Gupta R, Kumari R, Mitra DK. Impact of Interleukin-9 on the Immune Suppressive Functions of Regulatory T Cells in Rheumatoid Arthritis, American College of Rheumatology Annual Meeting, 2019, 10 November 2019 Atlanta, USA
4. Gautam S, Kumar M, Kumar U, Dada R. Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial, ICNPHH-2020, 27-29 February 2020, University of Delhi, Delhi (Best Oral Presentation)
5. Gautam S, Kumar M, Kanga U, Kumar U, Dada R. Association of HLA-G 3' Untranslated Region Polymorphisms with Disease Susceptibility and Soluble HLA-G Levels in Rheumatoid Arthritis, NATCON 67, 18-21 November 2019, VMMC, Delhi
6. Gautam S, Kumar M, Kanga U, Kumar U, Mishra R, Dada R. Molecular remission and immunological tolerance in rheumatoid arthritis by yoga based lifestyle intervention: A randomized controlled trial, NATCON 67, 18-21 November 2019, VMMC, Delhi
7. Gautam S, Kumar M, Kanga U, Kumar U, Mishra R, Dada R. Yoga-based lifestyle intervention: Impact on disease activity and quality of life in active Rheumatoid arthritis patients, 2nd National Biomedical Research Competition (NBRCOM) 2019, 17 November 2019, PGIMER, Chandigarh (Best Oral Presentation)
8. Gautam S, Kanga U, Kumar U, Dada R. HLA-G 3'UTR polymorphisms and its soluble protein levels in patients with Rheumatoid Arthritis from Indian population: A case-control study 17th International Congress of Immunology (ICI), 19-23 October 2019, China Nation Convention Center, Beijing, China
9. Gautam S, Kanga U, Kumar U, Dada R. Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial, 2019 IAYT Symposium on Yoga Research, 21-23 October 2019, Kripalu Center for Yoga & Health in Stockbridge, MA, USA (Best Paper Award Swami Kuvalyananda Scholarship Award)
10. Gautam S, Kumar U, Kanga U, Dada R. Yoga-based lifestyle intervention reduces disease severity, improves quality of life and stress resilience in active Rheumatoid arthritis: A randomized controlled trial, EUSTM-2019, 18-20 October 2019, Vienna, Austria
11. Gautam S, Kumar M, Kanga U, Kumar U, Dada R. Dysregulation of immune homeostasis in Rheumatoid arthritis: Impact of yoga based lifestyle intervention 14th World Congress on Inflammation, 15-19 September 2019, International Conventional Center, Sydney, Australia
12. Gautam S, Chaurasia P, Rana D, Kumar U, Dada R. Yoga Enhances Fertility Potential and Improves Quality Of Life In Infertile Men with Rheumatoid Arthritis on Disease-Modifying Antirheumatic Drugs, 44th Annual Conference of American Society of Andrology (Andrology, 2019, Supplement 78) ASA-2018, 6-9 April 2019, Chicago, Illinois, USA
13. Gupta R, Mitra DK, Rani S. Urinary MRP8/14, An Endogenous Toll-Like Receptor 4 Ligand, Reflects Renal Disease Activity in Lupus Nephritis: A Cross-Sectional and Longitudinal Assessment IRACON, 2019, 6 December 2019 & 15 February 2020 & 15 October 2019, Puducherry, India & New Delhi, India & Jaipur, India
14. Gupta R, Mitra DK, Rani S. Urinary MRP8/14, An Endogenous Toll-Like Receptor 4 Ligand, Reflects Renal Disease Activity in Lupus Nephritis: A Cross-Sectional and Longitudinal Assessment American College of Rheumatology Annual Meeting, 2019, 10 November 2019, Atlanta, USA
15. Meena L, Bhadu D. Muscular Dystrophy: An Unusual Presentation, IRACON, 2019, 7 December 2019, Puducherry, India
16. Surabhi G, Kumar U, Kanga U, Dada R. Yoga based lifestyle intervention reduces severity of depression, disease activity and improves quality of life in Rheumatoid arthritis: A randomized controlled trial. 1st AIIMS Research Day, 26 March 2019, AIIMS, New Delhi
17. Tiwari V, Nanda S, Kumar U, Bhatia R. Pain induced cognitive impairment in female patients of fibromyalgia syndrome, National Conference of Association of Physiologists and Pharmacologist of India (65th APPICON), 28-30 November 2019, Guwahati
18. Vishnupriya V, Perumal V, Renjith AM, Gupta R. Assessment of patients' beliefs, knowledge and perception about rheumatoid arthritis and effect of an information course, Delhi Rheumatology Association Annual Meeting, 2020, 15 February 2020, New Delhi, India

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Multicenter, Double-blind, long term extension study to assess the Safety and Efficacy of Filgotinib in subjects with Rheumatoid Arthritis, Uma Kumar, Gilead Pharmaceuticals, 6 years, 2019-2025, Rs. 21.29 lakhs
2. A Phase IV Clinical Trial to evaluate safety and efficacy of Glenmark Aprezo® (Apremilast) Tablets in subjects with Active Psoriatic Arthritis, Uma Kumar, Glenmark Pharmaceuticals, 2 years, 2019-2021, Rs 4.5 lakhs
3. A prospective, multicentre, post-marketing surveillance to monitor safety associated with usage of Simponi® (golimumab injection 50 mg) in Indian subjects with Rheumatoid Arthritis (RA) as per locally approved prescribing information. Uma Kumar, Siro Clinpharm, 2 years, 2019-2020, Rs 2.5 lakhs
4. A randomized, double-blind, active control, multicenter study to evaluate the efficacy at week 52 of subcutaneously administered secukinumab monotherapy compared with subcutaneously administered adalimumab monotherapy in patients with active psoriatic arthritis. Uma Kumar, Novartis India Ltd., 2 years, 2018-2020, Rs 9.39 lakhs
5. Endogenous TLR4 ligands MRP8/14 and Tenascin-C as biomarkers of lupus nephritis disease activity: Cross sectional and longitudinal assessment, Ranjan Gupta, AIIMS, 3 years, 2017-2020, Rs 10 lakhs
6. Markers of muscle senescence in inflammatory myositis, Danveer Bhadu, Indian Rheumatology Association, 1 year, 2020-2021, Rs. 2 lakhs
7. Prediction of response to methotrexate in rheumatoid arthritis: Role of adenosine ectoenzyme network on mononuclear cells, Ranjan Gupta, APLAR, 2 years, 2017-2020, Rs 7.5 lakhs
8. Role of TLR-4 in Acute Gouty Arthritis, Danveer Bhadu, AIIMS, 1 year, 2020-2021, Rs. 2.3 lakhs
9. SENSICISM- ON (Extension): An open-label extension trial to assess the long term safety of nintedanib in patients with 'Systemic Sclerosis associated Interstitial Lung Disease' (SSc-ILD), Uma Kumar, Boehringer Ingelheim, 3 years, 2018-2021, Rs 49.52 lakhs
10. Soluble Tumor Necrosis Factor (TNF) Receptors TNFRSF1B and TNFRSF6B in Lupus Nephritis as Biomarkers, Ranjan Gupta, Delhi Rheumatology Association, 1 year, 2018-2019, Rs 1 lakh
11. Systems biology of complex diseases: from genetic findings to lead molecule development for rheumatoid arthritis. Centre of Excellence on GENOME SCIENCES AND PREDICTIVE MEDICINE (GESPREM) PHASE II, Uma Kumar, DST, 5 years, 2015- 2020, Rs 59.6 lakhs
12. To study the interplay of air pollution with autoimmunity and inflammation, Uma Kumar, DST, 3 years, 2017-2020, Rs 49.3 lakhs

#### *Completed*

1. A Randomized, Double-blind, Placebo- and Active-controlled, Multicenter, Phase 3 Study to Assess the Efficacy and Safety of Filgotinib Administered for 52 weeks in Combination with Methotrexate to Subjects with Moderately to Severely Active Rheumatoid Arthritis Who Have an Inadequate Response to Methotrexate, Uma Kumar, Gilead Pharmaceutical, 2 years, 2018-2019, Rs 23.8 lakhs
2. A Randomized, Double-blind, Placebo- and Active-controlled, Multicenter, Phase 3 Study to Assess the Efficacy and Safety of Filgotinib Administered for 52 Weeks alone and in Combination with Methotrexate (MTX) to Subjects with Moderately to Severely Active Rheumatoid Arthritis Who Are Naïve to MTX Therapy, Uma Kumar, Gilead Pharmaceutical, 2 years, 2018-2019, Rs 15.86 lakhs
3. A Phase III, randomized, double-blind, placebo controlled multi-center study of subcutaneous secukinumab (150 mg and 300 mg) in prefilled syringe to demonstrate efficacy (including inhibition of structural damage), safety, and tolerability up to 2 years in subjects with active psoriatic arthritis (FUTURE 5), Uma Kumar, Novartis Pharmaceutical, 2 years, 2018-2020, Rs 19.44 lakhs

### Collaborative projects

#### *Ongoing*

1. A combined metabolome and proteome profiling to develop a predictive biomarker set for Rheumatoid Arthritis assessment, Institute of Genomic and Integrative Biology, New Delhi
2. An Indian Initiative to Study Granulomatosis with Polyangiitis Through Clinical and Genomics Approach, Central University of Punjab, Bhatinda, Punjab
3. Clinical and Genetic Characterization of Patients presenting with Renal Tubular Acidosis in Primary Sjögren's syndrome, Department of Rheumatology, St. Stephen's Hospital, Delhi

4. Effects of antiphospholipid antibodies of varying specificities on inflammasome activation and NETosis in Antiphospholipid Syndrome and Rheumatoid Arthritis, National Institute of Immunology, New Delhi
5. Evaluation of the role of Salivary Scavenger and Agglutinin (SALSA) and lectin pathway components in Rheumatoid Arthritis (RA), Guru Govind Singh University, New Delhi
6. Identification of new and specific proteins biomarkers in rheumatoid arthritis using proteomic approach, Institute of Genomic and Integrative Biology, New Delhi
7. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis, Anatomy
8. Multi-institutional Network Program on Systemic lupus Erythematosus: Understanding the diversity of SLE, PGIMER, Chandigarh, SGPGIMS, Lucknow, NIMS, Hyderabad, JIPMER, Puducherry, CMC, Vellore, St. John's Medical College, Bangalore, Institute of Life Sciences, Bhubaneswar, SCB Medical College, Cuttack, IPGIMER, Kolkata
9. Musculoskeletal symptoms and their impact on physical and psychological health in adolescent school children, Department of Community Medicine, Santosh University, Ghaziabad, Uttar Pradesh

### **Completed**

1. Development of targeted Nano medicine for the treatment of Rheumatoid Arthritis, Pathology
2. Understanding biology of Rheumatoid arthritis: Functional characterization of some/novel genetic determinants, Department of Genetics, South Campus, Delhi University

### **PUBLICATIONS**

**Journals: 7**

**Abstracts: 2**

**Chapters in Books: 2**

### **PATIENT CARE**

**OPD:** Total number of patients seen: 28,641 (New 6939 & Follow up 21702)

#### **Rheumatology Day Care facility**

Biologics/immunosuppressive drug infusions: 1582

SC/IM injections (biologic, steroids, etc.): 845

Ultrasound: 417

**Total: 5031**

Intra-articular injection: 1186

Biopsies: 64

Others: 85

#### **Clinical Immunology Lab**

**Total blood and synovial samples analyzed: 42528**

**RF:** 7570

**ENA:** 351

**ASMA:** 2324

**C4:** 146

**Cryoglobulin & Cryofibrin:** 92

**ANA:** 11345

**ANCA:** 5461

**IgA IgG:** 1032

**ACL-IgG ACL-IgM:** 4544

**Synovial fluid for crystal:** 205

**dsDNA:** 4398

**LKM-1:** 2318

**C3:** 2742

### **Public/Patient awareness activities**

#### **Community service**

1. Medical Camp at Leh, Ladakh & Pratapgarh
2. Organized public awareness programs on arthritis at AIIMS
3. Organized public awareness program on SLE at AIIMS
4. Writing in print media to increase awareness about rheumatological disorders
5. Participating in TV and Radio programs on arthritis
6. Published public awareness booklet on Poses & Postures (musculoskeletal health for all)
7. Published public awareness booklet on air pollution & autoimmunity: Are they related?

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Uma Kumar** received National award (2020) for outstanding efforts in popularizing science and technology communication amongst masses using electronic medium on 28 February 2020 (National Science Day); awarded Atal Swasthya Bhushan Samman (2019) in recognition of her services for the society by Savron Foundation, India; received 'Founder President Dr MC Gupta' oration for the year 2019; Guest of honour in an event organized by CSIR-NISTAD, Delhi on the occasion of International Women's Day; National health coordinator for Health Research Conclave, 5th India

International Science Festival (IISF) flagship event of Ministry of Health & Family Welfare, GOI, held in Kolkata from 5 to 8 November 2020; appointed member of Programme Review & Monitoring Advisory Committee (PRMAC) on Science Channel Programme under NCSTS, DST, GOI; appointed expert member IND committee by DCGI, GOI; Member of various selection committees and expert groups; chaired sessions in various meetings like International Lupus Meet Kolkata, 2020; External Examiner for DM Rheumatology; Invited expert Geriatric, nutrition and functional foods for prevention of chronic disease Brainstorming meeting by DBT, GOI.

**Dr Ranjan Gupta** received Shakuntala Amirchand Prize, 2018 by ICMR for the best published research work in the field of biomedical science including clinical research; received IUIS-FIMSA Travel Bursary to attend the IIS-IUIS-FIMSA Immunology Course at Jaipur.

#### **VISITING SCIENTIST**

Professor (Dr) Georg Schett, Professor and Head of Department of Medicine Rheumatology and Immunology, Universitätsklinikum Erlangen FAU Erlangen-Nurnberg, Austria

## 9.39. Surgical Disciplines

### Professor and Head

Anurag Srivastava

### Professors

Sunil Chumber  
Sandeep Aggarwal

Rajinder Parshad  
Virinder Kumar Bansal

V Seenu (on assignment)  
Anita Dhar

### Additional Professor

Hemanga K. Bhattacharjee

### Associate Professors

Asuri Krishna  
Mohit Joshi

Piyush Ranjan  
Yashwant Singh Rathore  
Suhani

Manjunath Maruti Pol  
Kamal Kataria

### Assistant Professor

Om Prakash

## HIGHLIGHTS

The department of Surgical Disciplines is involved in Minimal Invasive, Thoracic, Vascular, Renal transplant, Breast, Endocrine, Gastrointestinal, Bariatric and general Surgery. We are running specialized Breast cancer, Bariatric and Renal Transplant clinics. Apart from this, the department has been running a Minimal invasive training program for basic and advanced Laparoscopic training. The department also provides short term training to many surgeons from nearby countries. The department has organized regular academic events with emphasis on imparting knowledge in focused areas of surgical armamentarium such as breast, minimally invasive, bariatric, thoracic surgery. These activities include CME, conferences and wet lab workshops. Some of the key academic programs organized by the department include the AIIMS Breast course, BARICON and Symposium on Thoracic surgery. A cadaveric workshop was also organized on lung transplant to familiarize our team with the practical aspects of lung harvest and transplant. Our department faculty has been actively participating in various academic activities including development of simulation-based teaching and skill modules for improving various undergraduate and post-graduate teaching programs. Our residents and faculty have been regularly presenting research work at various national and international fora and have received awards as well as appreciation for the same. The past year also saw visit by some Eminent international faculty who shared their experiences. The department has received third prize for poster and video presentation at Institute Day Celebration held on 25 September 2019. We have also been awarded the rolling trophy for conducting the best monthly meet of Delhi state chapter of Association of Surgeons of India during the annual conference of the society held in November 2019. The department has actively participated in public awareness activities for diseases such as breast cancer, obesity and now COVID 19.

## EDUCATION

1. Postgraduate Seminar weekly
2. MCh seminar weekly
3. Mortality and mortality discussions by Junior/Senior Resident once in a week in each unit
4. Lectures, Teaching Schedule in OPD/Ward for MBBS students
5. Internal Assessment from time to time conducted for Junior and MCh Residents and MBBS students
6. Lectures for Nursing students
7. Lectures for BSc OT technicians
8. **CCRs** presented by the Department:
  - Unit I: What keeps cool angry
  - Unit II: Once in a blue moon
  - Unit III: A mysterious facet of Peau d' orange: An unsolved riddle
  - Unit IV: A tale of multiple VT-cured by surgery
9. **CGRs** by the Department:

Unit III: Surging ahead into new horizons: Our experience with minimal access thoracic and upper GI surgeries

Unit IV: Evolution of Laparoscopic surgery in a single unit: A journey of 3 decades

10. (During the COVID 19 pandemic, departmental academic activities were conducted as webinars and virtual meetings)

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Laparoscopic cadaver training course for MCh resident at SET Facility, AIIMS, New Delhi
2. Hands on training for residents: Cadaveric multiorgan retrieval in CAST 2019, from SET Facility, AIIMS New Delhi
3. Operative Laparoscopy (5-day course) – 4 courses in April, May, July and August 2019
4. Laparoscopic Suturing
5. Hands on training for residents: Cadaveric multiorgan retravel and Endo-training session
6. Laparoscopic Suturing Skills (3-day course) – 1 course in April 2019
7. Laparoscopic Hernia Surgery (3-day course) – 2 courses in April and July 2019
8. AIIMS Breast course, April 2019, AIIMS, New Delhi
9. Abdominal wall closure technique workshop at SET facility, February 2020, AIIMS, New Delhi
10. Workshop on Art of colorectal anastomosis, September 2019, AIIMS, New Delhi
11. Pre-Conference Cadaver Workshop on General Thoracic Surgery, September 2019, SET Facility, AIIMS, New Delhi
12. Contemporary practices in surgery: Symposium on Thoracic surgery, September 2019, AIIMS, New Delhi
13. Workshop on Uniportal VATS, September 2019, AIIMS, New Delhi
14. Workshop on colorectal anastomosis, September 2019, AIIMS, New Delhi
15. AIIMS BARICON 2019 – 2nd International Conference on Bariatric & Metabolic Surgery, November 2019, AIIMS, New Delhi
16. 1st Cadaver Hands on Course in Bariatric Surgery
17. 2nd Cadaver Hands-On-Course in Bariatric Surgery as a Part of SELSICON 2019 at SET Facility, September 2019, at AIIMS, New Delhi
18. 3rd Cadaver Hands on Course in Bariatric Surgery as a Part of Pre-Conference Workshop for OSSICON 2020 - 18th National Conference of Obesity and Metabolic Surgery Society of India, February 2020; SET Facility, AIIMS, New Delhi
19. 4th IAGES (Indian Association of Gastrointestinal Endoscopic Surgeons) Fellowship Course in Bariatric & Metabolic Surgery (FALS), November 2019, AIIMS, New Delhi
20. Lung Transplant with Cadaver Workshop, March 2020, at SET Facility, AIIMS
21. Operative workshop on newer minimally invasive incisional and ventral hernia repairs, December 2019, AIIMS, New Delhi

#### **Lectures Delivered**

**Anurag Srivastava: 6**

**Sandeep Aggarwal: 22**

**Hemanga K. Bhattacharjee: 5**

**Manjunath Maruti Pol: 1**

**Kamal Kataria: 2**

**Sunil Chumber: 3**

**Virinder Kumar Bansal: 16**

**Asuri Krishna: 4**

**Mohit Joshi: 14**

**Suhani: 17**

**Rajinder Parshad: 19**

**Anita Dhar: 3**

**Piyush Ranjan: 12**

**Yashwant Rathore: 1**

**Om Prakash: 5**

#### **Anurag Srivastava**

1. Benign breast disease, ABSICON Conference, 31 August 2019 to 1 September 2019, Jaipur
2. Sentinel node biopsy in breast cancer, EAFO Breast Cancer Forum, 10-15 October 2019, Moscow, Russia
3. Current management of axilla and sentinel node mapping in breast cancer. ASIRAJ - Annual Conference of association of surgeons of India –Rajasthan Chapter, 18-20 October 2019, Jodhpur
4. Issues related to cost utility and cost effectiveness analysis. Workshop on foundations in health economics, 3-5 December 2019, Vellore
5. Breast cancer axillary node staging and sentinel node mapping and clinical breast examination, State Level Conference of Breast Disease & Management: Changing Trends 10-11 January 2020, Raipur

6. Safe technique on abdominal closure to gynecologists and obstetricians. 63rd ACOG - 2020, 29 January 2020 to 2 February 2020, Lucknow

### **Sunil Chumber**

1. Primary Hyperparathyroidism MAMC Surgery Update September 2019, New Delhi
2. Status of thyroidectomy Association of surgeons of India, Rajasthan chapter ASIRAJ 2019, 18 October 2019, Jodhpur
3. Case presentation on thyroid, CME in Surgery, Lady Harding Medical College 1 February 2020, New Delhi

### **Rajinder Parshad**

1. Surgery for early lung cancer 2nd Annual Masterclass in Lung Cancer 20-21 July 2019, Mumbai
2. Moderated a session in live operative workshop. ISES UGI/MAX Cancer Congress, 16th August, 2019, New Delhi
3. VATS thymectomy: Tips for safe surgery 14th PG Course in Endocrine Surgery, 2-7 September, 2019, Lucknow
4. Laparoscopic Management of Achalasia Cardia, 12th Annual National Conference of Society of Endoscopic and Laparoscopic Surgeons of India (SELSICON-2019, 13-15 September 2019, New Delhi)
5. Live demonstration of Laparoscopic Inguinal Hernia Repair Workshop on Laparoscopic Inguinal Hernia Repair, 4 October 2019, Jammu
6. Lecture: Laparoscopic management of Groin Hernia Workshop on Laparoscopic Inguinal Hernia Repair, 4 October 2019, Jammu
7. Fundoplication in GERD: Choosing the right one and doing it well IAGSCON 2019, 11 October 2019, New Delhi
8. Video presentation on TAPP Annual Conference of the India - Rajasthan Chapter, ASIRAJ – 2019, 19 October 2019, Jodhpur
9. Video presentation on Achalasia Cardia Annual Conference of the India-Rajasthan Chapter, ASIRAJ-2019, 19 October 2019, Jodhpur
10. VATS THYMECTOMY Thoracic CME of Department of CTVS, 15-16 November 2019, Jammu
11. Fungal Infection and Surgeon Thoracic CME of Department of CTVS 15-16 November, 2019, Jammu
12. Evolution of Surgical Management of GERD GurukulACSCON, 6 March 2020, New Delhi
13. VATS Thymectomy 2nd Annual National Conference of Indian Society of Thoracic Surgeons, 18-19 January 2020, New Delhi
14. Robotic thymectomy, ROBOLAPCON-2020, 31 January-1 February 2020, Rishikesh
15. Robotic Hellers Myotomy, ROBOLAPCON-2020, 31 January-1 February 2020, Rishikesh
16. Laparoscopic APR, ROBOLAPCON-2020, 31 January-1 February 2020, Rishikesh
17. Moderator in Long case LHMC Surgery Clinical update, 2 February 2020, New Delhi
18. Laparoscopic management of GERD, SCOPE course, 6 March 2020, New Delhi

### **Sandeep Aggarwal**

1. Bariatric Live Virtual- RYGBP/LSG, ROBOLAP, 27th April' 2019, New Delhi
2. Outcomes in Super Obese Patients Undergoing One Anastomosis Gastric Bypass or Laparoscopic Sleeve Gastrectomy, 7th International Forum of Bariatric & Metabolic Surgery in Nanjing, 3-5 May 2019, Nanjing, China
3. Panelist- Emergency Hernia Surgery, HSICON 2019, 29-30 August 2019, Kolkata
4. Moderator on Panel Discussion in Complications in bariatric surgery SELSICON 2019, 13-15 September 2019, New Delhi
5. GERD following sleeve gastrectomy SELSICON 2019, 13-15 September 2019, New Delhi
6. Conversion of sleeve to "What, When & How", 4th IAGES Fellowship Course in Bariatric & Metabolic Surgery (FALS), 26-28 September 2019, New Delhi
7. Bariatric Surgery in CLD - special consideration, 4th IAGES Fellowship Course in Bariatric & Metabolic Surgery (FALS), 26-28 September 2019, New Delhi
8. Panelist in Reaching out to fellow medical colleagues - PANEL DISCUSSION Laparofit 2019 & Asia Pacific Summit, 18-19 October 2019, Chennai
9. Panelist in Success vs Failure: Surgeon vs Patient – PANEL Laparofit 2019 & Asia Pacific Summit, 18-19 October 2019, Chennai
10. Obesity- Causes, Prevention and Surgical Management AIIMS Public Lecture, 16 October 2019, New Delhi

11. Pediatric Obesity - Indian Experience & Genetic Obesity, Surgical Treatment Obesity Week 2019 of American Society of Metabolic and Bariatric Surgery (ASMBS) and The Obesity Society (TOS), 3-7 November 2019, Las Vegas, USA
12. HHR during Sleeve- Important Risk Reduction strategy for Denovo GERD AIIMS BARICON 2019 – 2nd International Conference on Bariatric & Metabolic Surgery, 13-16 November 2019, New Delhi
13. Intraoperative Mishaps- Lessons Learnt AIIMS BARICON 2019 – 2nd International Conference on Bariatric & Metabolic Surgery, 13-16 November 2019, New Delhi
14. Revision of Sleeve - When, What and How?, AIIMS BARICON 2019 – 2nd International Conference on Bariatric & Metabolic Surgery, 13-16 November 2019, New Delhi
15. Strategies for management of T2DM in Obese- Role of LSG London International Bariatric Surgery Symposium (LIBSS – 2019), 21-22 November 2019, London, UK
16. Video Pearls- Technical Pitfalls London International Bariatric Surgery Symposium (LIBSS – 2019), 21-22 November 2019, London, UK
17. Bariatric Surgery and Polycystic Ovarian Disease (PCOD), 3rd Annual Conference of the MP PCOS Society, 18-19 January 2020, Hyderabad
18. Intraoperative Mishaps during Gastric Bypass Lessons Learnt 17th Annual Congress of the Indian Association of Gastrointestinal Endosurgeons, IAGES 2020, 6-9 February 2020, Guwahati
19. Laparoscopic Splenectomy-Options for Management of Hilum 17th Annual Congress of the Indian Association of Gastrointestinal Endosurgeons, IAGES 2020, 6-9 February 2020, Guwahati
20. Top Publications from India- Utility of Transient Elastography & Impact of Bariatric Surgery on NAFLD OSSICON 2020 - 18th National Conference of Obesity and Metabolic Surgery Society of India, 27-29 February 2020 New Delhi
21. Bariatric Surgery Techniques – Cadaver Hands On Course, Pre Conference Course- OSSICON 2020 - 18th National Conference of Obesity and Metabolic Surgery Society of India, 27 February 2019, New Delhi
22. Obesity Management- Bariatric Surgery ICMR Expert Group Meeting on PCOD: Phase II&III, 1 March 2020, New Delhi

#### **Virinder Kumar Bansal**

1. Rare abdominal wall hernia, IHSCON 2019, 28 July 2020, Allahabad
2. Debate - Robotic Surgery- is it more market driven? WZ SELSICON, 23 February 2020, Mumbai
3. Symposium on emerging minimally invasive techniques in incisional hernia repair NZ SELSICON, 8 February 2020, Patiala
4. Debate – Robotic Surgery in ventral and incisional hernia repair SELSICON, 13-15 2019, New Delhi
5. Live operative Demonstration of Laparoscopic repair of TAPP repair of inguinal hernia IHSCON, August 2019, Allahabad
6. Live operative Demonstration of Laparoscopic repair of incisional hernia, SELSICON, 13-15 September 2019, New Delhi
7. Live operative Demonstration of Laparoscopic repair of TAPP repair of inguinal hernia SELSICON, North Zone, February 2020, Patiala
8. Live operative Demonstration of Laparoscopic repair of TAPP repair of inguinal hernia SELSICON, West Zone, February 2020, Mumbai
9. Moderated a Clinical Case Discussion on Abdominal lump LHMC PG CLINICAL UPDATE 2019, January 2020, New Delhi
10. Moderated a panel discussion on “Intra-operative and postoperative management of patient with bile duct injury”, West Zone conference of SELSI-2020, 21-23 February 2020. Mumbai
11. Moderated a panel discussion on Bile Duct Injury NZ SELSI-2020, 7- 8 February 2020, Patiala
12. Moderated a panel discussion on “Laparoscopic IPOM repair, IHSCON-2019, 27-28 July 2019, Allahabad
13. Moderated a panel discussion on “Difficult Laparoscopic cholecystectomy SELSICON, 13-15 September 2019, New Delhi
14. Moderated a panel discussion on “Laparoscopic Cholecystectomy ASIRAJ-2019, 18-19 October 2019, Jodhpur
15. How to perform a safe cholecystectomy (CVS) ASIRAJ-2019, 18-19 October 2019, Jodhpur
16. Recurrent stone after cholecystectomy Northern Chapter of Association of Surgeons of India (NC-ASI), 16-17 November 2019, Chandigarh

**Anita Dhar**

1. Panelist in master classes Surgery Update 2019, 27 September 2019, New Delhi
2. Expert in master classes: Varicose Veins, Diabetic foot, Peripheral Vascular, Disease Gurukul- SCOPE, 4 January 2020, New Delhi
3. Management of Lymphedema SURGICON 2019, 23 November 2019, New Delhi

**Hemanga K. Bhattacharjee**

1. Structure of a manuscript 2nd International Conference on Bariatric and Metabolic Surgery, AIIMS BARICON, 13-16 November 2019, New Delhi
2. Laparoscopic training outside the OR: The AIIMS way 45th Annual Conference, UP State Chapter, ASI. 8-10 November 2019, Meerut
3. Ileostomy and colostomy Stoma Care Workshop, Indian Association of Surgical Gastroenterology Annual Conference, 9-13 October 2019, New Delhi
4. Recent advances and newer procedures in rectal cancer (Panel Discussion), 12th Annual National Conference of Society of Endoscopic & Laparoscopic Surgeons of India, SELSICON 2019, 13-15 September 2019, New Delhi
5. Cadaveric skill laboratory: A boon for clinicians CME on Body and Organ Donation. Government Institute of Medical Sciences, 18 September 2019, Greater Noida, UP

**Asuri Krishna**

1. Rare abdominal wall hernia, IHSCON 2019, 28 July 2020, Allahabad
2. Debate - Robotic Surgery- Is it more market driven, WZ SELSICON, 23 February 2020, Mumbai
3. Symposium on emerging minimally invasive techniques in incisional hernia repair, NZ SELSICON, 8 February 2020, Patiala
4. Debate – Robotic Surgery in ventral and incisional hernia repair, SELSICON, 13th-15<sup>th</sup> September 2019, New Delhi

**Piyush Ranjan**

1. Video presentation and panel discussion in dilemma in Breast Radiology, ASOMACON, 15-17 November 2019, Bhubaneswar
2. Post crash management Training Program on Road Safety for the District Level Safety Committee members of Tripura State By Central Road Research Institute, 3 June 2019, Agartala
3. Initial Management ATLS provider course, ATLS provider course, August 2019, Rishikesh
4. ASIRAJ video presentation ASI Rajasthan, 18-20 October 2019, Jodhpur
5. Panel discussion on -Challenges in cancer care World cancer Research Day, 24 September 2019, Noida
6. Initial Management, ATLS, ATLS provider course, December 2019, Jaipur
7. Debate on Thyroid Incidentaloma Surgicon, 23-24 November 2019, Delhi
8. Extremity examination SCOPE Gurukul, November 2019, Delhi
9. Video presentation LHMC PG update, 1 February 2020, Delhi
10. Breast cancer screening ECHO, 25 October 2019, Noida
11. Communication skills-EM India, EMINIDA 2019, 31 July to 4 August 2019, Delhi
12. Panel Discussion SELSICON, 13th-15th September 2019, Delhi

**Manjunath Maruti Pol**

1. Sutures in Surgery UG suturing workshop for interns at SET facility: abdomen wall closure, 6 April 2019, Delhi

**Mohit Joshi**

1. 'How nutrition helps in recovery of surgical patients, Symposium on 'Nutrition in Surgical patients', in association with IAPEN, 22 May 2019, Delhi
2. Interesting cases Trauma-2019, 28-30 August 2019, Lucknow
3. Non-operative management in blunt trauma abdomen, TRAUMASICON-2019, 6-8 September 2019, Ahmedabad
4. Shared Decision-Making and Religious Inequalities Progressing with partnerships: shared decision-making among vulnerable groups, 16-17 September 2019, New Delhi
5. (1) Surgical anatomy of hilum and (2) How to put and care for ICD Tube Symposium on thoracic surgery-2019, 20-22 September 2019, New Delhi

6. CME -Thyroid diseases- from crux to consensus Guidelines for management of medullary and anaplastic thyroid cancer, 9 November 2019, New Delhi
7. Faculty development workshop on simulation, 4th Annual Meeting of Pediatric Research and Education Society of India, 22 November 2019, New Delhi
8. Pitfalls in management of chest tubes ISTSCON, 2nd Annual National Conference of ISTS, 18-19 January 2020, New Delhi
9. Follow up and imaging in splenic and liver injuries Consensus meeting to formulate ISTAC guidelines for the management of solid organ injuries, 18-19 January 2020, New Delhi
10. Fidelity in simulation Workshop for nurses, 4 February 2020, New Delhi
11. Triage, Regional H.E.L.P. Course, 3 March 2020, New Delhi
12. How do I manage non-resolving pneumothorax PULMOCRIT 2020, 7-8 March 2020, New Delhi, Case-based discussion on chylothorax PULMOCRIT 2020, 7-8 March 2020, New Delhi
13. Small and large group teaching in CBME, Competency based medical education-concepts and application, 29-10 April 2020, Ludhiana
14. Assessment of attitudinal domain, Competency based medical education-concepts and application, 29-10 April 2020, Ludhiana

#### **Yashwant Rathore**

1. UNIPOINT VATS in Lung Hydatid ASIRAJ-2019, 20 October 2019, Jodhpur

#### **Kamal Kataria**

1. Endoscopic Thyroidectomy, ASIRAJ 2019 (Annual Conference of the Association of Surgeons of India – Rajasthan Chapter) 18-20 October 2019, Jodhpur
2. Necrotising Fasciitis, EMINDIA 2019, 31 July to 4 August 2019, New Delhi

#### **Suhani**

1. Why should I write?, Scientific writing workshop, 16 June 2019, New Delhi
2. Plagiarism Scientific writing workshop, DSC ASI in association with Indian chapter American College of Surgeons, 16 June 2019, New Delhi
3. How I do it? Laparoscopic Cholecystectomy, SCOPE 2019, 23 August 2019, New Delhi
4. Chest tube insertion SCOPE 2019, 23 August 2019, New Delhi
5. Panelist: PG case discussion, SCOPE 2019, 23 August 2019, New Delhi
6. Panelist: Ward rounds, SCOPE 2019, 23 August 2019, New Delhi
7. Moderator Panel Discussion on Inflammatory Lung Diseases Symposium on Thoracic surgery, 21 September 2019, New Delhi
8. What is new in general surgery literature? Surgery Update MAMC, 28 September 2019, New Delhi
9. Innovative Manikins & simulators at SET, SET Facility, 31 October 2019, New Delhi
10. Why should I write?, SURGICON 2019, 23 November 2019, New Delhi
11. Judge: Competition poster SURGICON 2019, 24 November 2019, New Delhi
12. Preoperative consideration in Breast Oncoplasty GurukulACSCON, 4 January 2020, New Delhi
13. Panelist: PG case discussion, GurukulACSCON, 2 January 2020, New Delhi
14. Moderator: case presentation groin hernia & Laparoscopic instruments LHMC Surgery Update, 1 February 2020, New Delhi
15. Breast Oncoplasty: How I plan it? ASICON CME, 23 February 2020, New Delhi
16. Chest tube insertion: How to do? SCOPE Course, 6 March 2020, New Delhi
17. How I do it? Laparoscopic Cholecystectomy, SCOPE Course, 8 March 2020, New Delhi

#### **Om Prakash**

1. Laparoscopic management of common bile duct stone CG ASICON, 6-7 March 2020, Raipur
2. Laparoscopic transgastric stapled cystogastrostomy for pseudocyst/walled off necrosis of pancreas CG ASICON, 6-7 March 2020, Raipur
3. Surgical management in field CRPF Academy, 8 January 2020, Haryana

4. Laparoscopic CBD exploration for management of common bile duct stone; ASIRAJ, 17-19 September 2019, Jodhpur
5. Laparoscopic cystogastrostomy for Pseudocyst/walled of Necrosis following acute pancreatitis SELSICON 13th-15th September 2019, New Delhi

**Oral Papers/Posters Presented: 61**

1. Aggarwal S, Bhambri A. Bariatric Surgery in super obese patient with cirrhosis, Grade III Esophageal Varices and multiple other comorbidities – the ultimate challenge, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) World Congress, 3-7 September 2019, Madrid, Spain
2. Aggarwal S, Bhambri A. De-novo GERD and weight regain after sleeve gastrectomy due to mechanical causes – (capsule of two interesting cases), 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) World Congress, 3-7 September 2019, Madrid, Spain
3. Aggarwal S, Bhambri A. Hiatus hernia detection and repair during sleeve gastrectomy - an important risk reduction strategy for de-novo gastro-esophageal reflux disease, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) World Congress, 3-7th September 2019, Madrid, Spain
4. Arumalla K, Singh D, Aggarwal S, Singla V, Gani A, Evaluation of Impact of Bariatric Surgery on Clinical, Biochemical and hormonal parameters in Women with Polycystic Ovary Syndrome (PCOS) International Federation for the Surgery of OBESITY AND METABOLIC DISORDERS 2019, 3-7 September 2019, Madrid, Spain
5. Baksi A, Bansal VK, Krishna A, Prajapati OP. TEP versus TAPP: Comparison of 1500 cases at a tertiary care hospital. European Hernia Society (EHS), 11-14 September 2019, Hamburg, Germany
6. Bale M, Parshad R et al. Long term outcomes of laparoscopic Heller's cardiomyotomy in Achalasia Cardia with Megaesophagus, 27th European Conference on General Thoracic Surgery, 9 June 2019, Dublin, Ireland
7. Bale M, Parshad R. Achalasia - experience of 100 cases, 27th European Conference on General Thoracic Surgery, 9 June 2019, Dublin, Ireland
8. Bansal VK, Kumar S, Krishna A, Prakash O, Khan WF, Misra MC. An experience of over 1500 cases of Laparoscopic groin hernia surgery at a tertiary care centre, IHSCON 27-29 July 2019, Kolkata
9. Bhambri A, Aggarwal S. Accidental Stapling and Section of the Nasogastric Tube During Roux En Y Gastric Bypass, OSSICON 2020, 27 February 2020, New Delhi
10. Bhambri A, Aggarwal S. Roux- en- O Configuration and Measures for prevention International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO), 3-7 September 2019, Madrid, Spain
11. Bhambri A, Aggarwal S. Twisted Roux Limb Leading to Twisted Jejunum-Jejunostomy in Roux En Y Gastric Bypass – How to Correct It Surgically? OSSICON 2020, 27 February 2020, New Delhi
12. Bhambri A, Aggarwal S., Impact of Concomitant Laparoscopic Sleeve Gastrectomy and Hiatal Hernia Repair on Gastro-Esophageal Reflux Disease in Morbidly Obese Patients, OSSICON 2020, 27 February 2020, New Delhi
13. Bhattacharjee HK, Mandal P, Bansal V, Sachdeva A, Sood M, Deorari A. Plan-do-check-act (PDCA) approach to improve quality of care for surgical patient: A randomized controlled trial, Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Annual meeting, 3-6th April 2019, Baltimore, USA
14. Chaithra L, Bansal VK, Krishna A, Prakash O, Bhattacharjee HK, Misra MC. Improving Operative Room Performance in Laparoscopic Surgery of Surgical Residents via Short Term Focused Training - A Quality Improvement Study, Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Annual meeting, 3-6 April 2019, Baltimore, USA
15. Dhar A. Endothelial dysfunction, inflammation & vascular growth factors in Indian population with PAD and comparison with controls 26th Annual Conference of the Vascular Society of India (VSICON 2019), 17 October 2019, Hyderabad
16. Dhar A. Lymphedema prevention in breast cancer post axillary lymph node dissection by Injection benzathine penicillin: A randomized controlled trial 48th World Congress of Surgery 2019, 11 August 2019, Krakow, Poland
17. Dhar A. Prevention of lymphedema in patients undergoing axillary dissection for breast cancer by Benzathine penicillin: A non-inferiority randomized controlled trial, VAICON 2019, 17 October 2019, Hyderabad
18. Dhar A. Randomized study to compare efficacy of two types of 2-layer compression bandage systems from KOB with multi-layer locally used cotton crepe bandages in the treatment of venous ulcers, 48th World Congress of Surgery 2019, 13 August 2019, Krakow, Poland
19. Dhar A. Various markers of endothelial dysfunction, inflammation & vascular growth factors in Indian population with PAD and comparison with controls 48th World Congress of Surgery 2019, 14 August 2019, Krakow, Poland

20. Gurnani N, Gupta M, Aggarwal S, Nehra A, Vishnubhatia A. Assessment of Impact of Bariatric Surgery on the Cognitive functions of Morbidly Obese patients, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) World Congress, 3-7 September 2019, Madrid, Spain
21. Harshit, Parshad R, Suhani, Bhattacharjee HK, Joshi M, Mathur S, et al. Carcinoma breast in young, SURGICON 2019, 23 November 2019, New Delhi
22. Jain M, Bansal VK, Krishna A, Prajapati OP. A three-arm randomized controlled study to compare sexual functions following open mesh hernioplasty, laparoscopic totally extra peritoneal and trans abdominal pre-peritoneal repair of groin hernia, European Hernia Society (EHS), 11-14 September 2019, Hamburg, Germany
23. Joshi MK, Mishra B, Gupta A, Kumar S, Sagar S, Spectrum of Injuries and management of pediatric trauma patients admitted to Trauma Surgery in a level 1 Trauma Centre: A report of 906 cases, 6th WSES Congress-2019, 27 June 2019, Nijmegen, The Netherlands
24. Kapila S, Parshad R. The feasibility and safety of the sub-xiphoid video assisted thymectomy for myasthenia gravis, ASICON, 19 December 2019, Bhubaneswar, Odisha (C. Palanivelu award for best PG paper)
25. Kataria K, Kumar C, Lohani KR, Ranjan P, Dhar A, Srivastava A. Endoscopic thyroidectomy: which one is better technique for beginners? AsAES 2020 (17th Biennial Congress of the Asian Association of Endocrine Surgery, 5-7 March 2020, Melbourne, Australia
26. Kaul A, Aggarwal S, Shalimar. Bariatric Surgery in morbidly obese patients with Liver Cirrhosis: 1-year outcomes and role of fibroscan in preoperative suspicion of cirrhosis, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO), 3-7 September 2019, Madrid, Spain
27. Kaul A, Aggarwal S, Yadav R. Impact of Bariatric Surgery on Cardiovascular risk reduction in morbidly obese patients using carotid intimal medical thickness as surrogate marker, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO), 3-7 September 2019, Madrid, Spain
28. Kaul A, Bhambri A, Aggarwal S. Acute Remnant Gastric Dilatation, AIIMS BARICON 2019, 13-16 November 2019, New Delhi
29. Kumar A, Bhattacharjee HK, Bale M, Suhani, Parshad R. Laparoscopic Deroofing of Hydatid Cyst of Liver Using A 150MM, 12MM XCEL® TROCAR, Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Annual Meeting, 3-6 April 2019, Baltimore, USA
30. Kumar A, Bhattacharjee HK, Suhani, Parshad R. Laparoscopic deroofing of hydatid cyst of liver using a 150mm, 12mm xcel® trocar – SAGES 2019, SAGES 2019, 4 April 2019, Baltimore, USA
31. Kumar A, Parshad R. Laparoscopic Repair of large paraesophageal hernia ISES UGI/MAX Cancer Congress, 17 August 2019, New Delhi
32. Kumar A, Parshad R. Thoraco-laparoscopic repair of diaphragmatic hernia, Symposium on Thoracic Surgery, 21 September 2019, New Delhi (Best Podium Presentation)
33. Parshad R. Angle of his accentuation as an antireflux surgery for patient undergoing laparoscopic heller's cardiomyotomy for 27th European Conference on General Thoracic Surgery, 9 June 2019, Dublin, Ireland
34. Pol MM, Vyas S, Sreenivas V, Vyas S, Aggarwal S. Hydrostatic Dilatation + Balloon Angioplasty Vs Hydrostatic Dilatation + Malleable Vascular Dilator for  $\leq 2$  mm Calibre Veins Used During Creation of Arteriovenous Fistula for Haemodialysis, CAST 2019 New Delhi, 2 October 2020, Greater Noida
35. Prajapati OP, Baksi A, Bansal VK, Krishna A. Outcomes of pure polypropylene mesh versus composite mesh in laparoscopic incisional and ventral hernia repair European Hernia Society (EHS), 11-14 September 2019, Hamburg, Germany
36. Prakash O, Bansal VK, Krishna A, Kumar S, Misra MC. Comparison of pure polypropylene mesh vs. Covered mesh in laparoscopic incisional and ventral hernia repair: A non randomized cohort study ASIRAJ, 17-19 September 2019, Jodhpur
37. Prakash O, Bansal VK, Krishna A, Kumar S, Misra MC. Video presentation: Laparoscopic cystogastrostomy for Pseudocyst/Walled off Necrosis of Pancreas, ASIRAJ, 17-19 September 2019, Jodhpur
38. Prakash O, Bansal VK, Kumar S, Krishna A, Misra MC. Comparison of pure Polypropylene mesh vs. covered mesh in Laparoscopic Incisional and Ventral Hernia Repair: A Non Randomised Cohort Study EndoLap 2019, 1-3 March 2019, New Delhi
39. Prakash O, Krishna A, Bansal VK, Baksi A, Umer, Surgical Challenges in Pediatric Renal Transplant; A Single Center Experience, 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida
40. Prakash O, Krishna A, Bansal VK, Bansal D, Jain M. Establishing A Laparoscopic Donor Nephrectomy Programme:

Experience Learned from More Than 300 Cases. 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida

41. Prakash O, Krishna A, Bansal VK, Bansal D, Jain M. Renal Transplant with Complex Vascular Anatomy: A Single Center Experience 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida
42. Prakash O, Krishna A, Bansal VK, Bansal D. Overcoming learning curve in laparoscopic donor nephrectomy using an abbreviated preceptorship proctorship model, 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida
43. Prakash O, Krishna A, Bansal VK, Samrajya, Umar, Impact of clinical parameters and vascular hemodynamics on outcome of AV fistula: A Prospective study, 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida, Delhi NCR
44. Prakash O, Krishna A, Bansal VK, Umer S. Laparoscopic repair of post-transplant hernia; A case report 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida
45. Prakash O, Umar, Krishna A, Bansal VK. Unusual cause of obstructed transplant kidney; A case report 16th Congress of the Asian Society of Transplantation, CAST 2019, 29 September to 2 October 2019, Greater Noida
46. Rathore Y, Chumber S, Joshi G. Management of massive Lung and liver hydatid simultaneously (poster), ASICON 2019, Bhubaneswar, 21 December 2019, Bhubaneswar
47. Rathore Y, Chumber S. Interval laparoscopic cholecystectomy after ERCP (Oral) SURGICON AIIMS, Raipur, 24 November 2019, Raipur
48. Shafneed CH, Parshad R, Suhani, Bhattacharjee HK, Joshi M. Surgery in isolated pulmonary mucormycosis – Experience and outcomes, ASICON, 19 December 2019, Bhubaneswar (Best paper award)
49. Shashikiran NJ, Bhattacharjee HK, Kumar P, Bale M, Oberoi A, Suhani, et al. Laparoscopic Radical Cholecystectomy for Gallbladder Carcinoma, Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Annual meeting, 3-6 April 2019, Baltimore, USA
50. Singh B, Divya S, Aggarwal S. One anastomosis Gastric Bypass versus Roux En Y Gastric Bypass for type 2 diabetes mellitus in obese subjects: A Randomised Controlled Trial SURGICON- Annual Conference of Delhi State Chapter of ASI, 23 November 2019, New Delhi
51. Singh BP, Aggarwal S, Tandon N. One Anastomosis gastric bypass versus Roux En-Y Gastric Bypass for T2DM in Obese subjects: A randomised controlled trial, 24th World Congress of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) World Congress, 3-7 September 2019, Madrid, Spain
52. Singh D, Aggarwal S, Ahuja V, Kumar R, Kashyap L, Shinde D. A Prospective, RCT To Compare Antral Resection Versus Antral Preservation During LSG For Morbidly Obese- Interim Analysis OSSICON 2020 - 18th National Conference of Obesity and Metabolic Surgery Society of India 27-29 February 2020, New Delhi
53. Suhani, Parshad R, Hemanga, Eshan, Haresh KP, Mathur S. An audit with outcome analysis and clinico-epidemiological trends of breast cancer' World Congress of Surgery, 14 August 2019, Krakow, Poland
54. Tripathi SN, Parshad R. Re-do Fundoplication, ISES UGI/MAX Cancer Congress, 17 August 2019, New Delhi
55. Verma E, Parshad R et al. Patient profile and outcomes in early breast cancer: results from a tertiary Indian center, World Congress of Surgery 2019, 12 August 2019, Krakow, Poland (WCS Travel Scholarship)
56. Verma E, Parshad R et al., Clinico-epidemiological and management trends of breast cancer over 25 years: A tertiary care centre experience, ENDOSURG 2019, 20 March 2019, Delhi (Travel Scholarship)
57. Verma E, Parshad R, Suhani, Bhattacharjee HK, Mathur S, Haresh.. Audit of early breast cancer over three decades: results from a tertiary Indian centre ASOMACON 2019, 16 November 2019, Bhubaneswar, Odisha
58. Verma E, Parshad R. Outcomes of Thymectomy, Symposium on Thoracic Surgery, 21 September 2019, Delhi (Best Podium Presentation)
59. Verma E, Suhani, Parshad R. Stump the experts, World Congress of Surgery 2019, 12 August 2019, Krakow, Poland
60. Verma E, Suhani, Prasad R. MSLD in breast reconstruction. Experience at a tertiary care center SURGICON 2019, 23rd November 2019, New Delhi
61. Yadavalli SD, Sharma A, Baksi A, Bhambri A. Mini Gastric Bypass (MGB/OAGB) converted to Roux En Y gastric bypass with Hiatal Hernia Repair due to small bowel growth at 70 cm from D.J flexure- Lesson learnt Monthly Meeting of Delhi State Chapter of Association of Surgeons of India (ASI), 15 February 2020, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Label Extension, Single Arm Multicentric Phase III Study to Assess the Efficacy and Safety of Approved Product Stempeucel® in Patients with Critical Limb Ischemia Due to Buerger's Disease, Anita Dhar, Stempeutics Pvt. Ltd., 5 years, 2018-2023, Rs. 7 lakhs
2. A Label Extension, Single Arm Multicentric Phase III Study to Assess the Efficacy and Safety of Approved Product Stempeucel® in Patients with Critical Limb Ischemia Due to Atherosclerotic Peripheral Arterial Disease, Anita Dhar, Stempeutics Pvt. Ltd., 5 years, 2019-2024 years, Rs 3 lakhs
3. A Study of gut microbiome in patients with gall bladder carcinoma, Asuri Krishna, AIIMS, 2 years, 2019-2021, Rs. 10 lakhs
4. Complete estrogen Blockade in recalcitrant mastalgia: A randomized clinical trial, Suhani, AIIMS, 2 years, 2018-2020, Rs 4.99 lakhs
5. Long Term Outcome of Patients with Walled off Necrosis/Pseudocyst of Pancreas in terms of Recurrence of Acute Pancreatitis, Fluid Collection and Functional Consequences following Internal Drainage by Laparoscopic or Endoscopic method. Om Prakash, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
6. To check the feasibility of aortic balloon dilatation catheter for endovascular occlusion of aorta- A cadaveric study, Mohit Kumar Joshi, AIIMS, 1 year, 2019, Rs 0.75 lakhs

#### *Completed*

1. To study the pattern of FOXP3, OX40, PD1, and TIM-3 among renal allograft patients and its correlation with risk of kidney injury, Manjunath Maruti Pol, AIIMS, 2 years, 2017-2019

### Departmental projects

#### *Ongoing*

1. A prospective randomized control study to compare antral resection versus antral preservation during Laparoscopic Sleeve Gastrectomy for Morbidly Obese
2. A prospective randomized trial comparing laparoscopic versus endoscopic drainage for walled off necrosis following acute pancreatitis
3. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG
4. A randomized control study to evaluate the use of oral metronomic chemotherapy versus conventional systemic chemotherapy, and to further conduct a randomized control trial on patients amenable to breast conservation surgery after chemotherapy
5. A Randomized control trial to compare the safety and outcome of trans-oral vestibular vs axillo-breast approach for endoscopic hemi-thyroidectomy in patients with benign thyroid swellings
6. A Randomized controlled trial to compare efficacy of complete decongestive therapy vs complete decongestive therapy and placement of hydrophobic silicone tube and look for their long term patency by ICG in upper limb lymphedema following ALND in breast cancer
7. A study of fluorescein spectrometry, indocyanine green imaging, Raman spectrometry and Doppler flowmetry analysis comparing malignant and benign lesions of breast.
8. A study to evaluate the predictors of outcome in patients with blunt liver trauma Prospective Observational study
9. Abdominal wall incisions: A Double Blinded Randomized Control Trial
10. Analysis of genes related to metabolic flexibility in subjects undergoing weight reduction surgery
11. Assessment of post cholecystectomy symptoms and quality of life evaluation: A prospective cohort study
12. Association of different modalities of treatment with expression of various subsets of T lymphocytes in patients with breast cancer and their clinical outcome
13. Biochemistry PhD thesis: Investigation of the involvement of plasma membrane ATP binding transporter A1 (ABCA1) mediated insulin resistance
14. Comparison between banded and Non- Banded Laparoscopic Sleeve Gastrectomy for Weight Loss in Obese subjects: A Randomized Controlled Trial

15. Comparison of Cost Effectiveness and Quality of Life in patients undergoing a level 1 vs. Complete Axillary Lymph Node Dissection for operable breast cancer: An Ambispective study
16. Comparison of Early Outcomes of Interrupted Double 'X' suture vs Continuous Near Far- Far Near Method for closure of hernia
17. Comparison of Early Outcomes of Interrupted Double 'X' suture vs Continuous Near Far- Far Near Method for closure of abdominal wall incisions: A Double Blinded Randomised Control Trial
18. Comparison of eTEP vs IPOM for Management of Primary and Incisional Hernia in Terms of Early Outcomes and Cost Effectiveness – A Randomized Controlled Trail.
19. Comparison of identification rate and cost effectiveness of Indocyanine green vs fluorescein for sentinel lymph node detection in ladies with operable breast cancer - Arandomized controlled trial
20. Comparison of learning curve on Two-Dimensional (2D) endo-vision system, Ultra-High Definition (HD) (4K) endo-vision system and three-dimensional (3D) HD endo-vision system for standardized phantom tasks: An ex-vivo study
21. Comparison of Quality of Life and oncological outcomes of Skin Sparing Mastectomy with Autologous Fat Grafting versus Skin Sparing Mastectomy with silicone implant versus Breast Conservative Therapy among ladies with Early Breast Cancer: A Randomized comparison
22. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and open thyroid surgery.
23. Decision analysis approach in management of non lactational mastitis
24. Development of aptamer-based assay for diagnosis of breast tuberculosis (TB breast)
25. Diagnostic study evaluation in patients presenting with sign and symptoms of abdominal and inguinoscrotal region
26. Effect of Yoga Therapy on Quality of Life in Patients Undergoing Laparoscopic Incisional and Ventral Hernia Repair- A Randomized Control Trial
27. Electrolyte and acid-base disturbances in renal transplant patients – A prospective observational study
28. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized controlled trial
29. Feasibility of enhanced recovery after surgery protocol in general thoracic surgery: Prospective cohort study
30. Follow up Study to Evaluate Correlation of Imaging and Operative findings with Clinical and Biochemical Outcome in Patients with Primary Hyperparathyroidism
31. Improving Pain Management following Laparoscopic Surgery: A Randomized Quality Improvement Study
32. Incidence of Barret's Esophagus in Morbidly Obese Patients after Laparoscopic Sleeve Gastrectomy
33. Incidence of Postoperative Hypocalcemia after Indocyanine Green Fluorescence guided Vs Conventional assessment of Parathyroid Function following Total thyroidectomy- A Randomized Controlled Trial
34. Long Term outcome of patients with Benign Breast Diseases An ambispective Study
35. Mesh fixation with penetrating fixation device versus fibrin sealant during laparoscopic repair of ventral hernia: A double blind randomised control trial
36. Neoadjuvant Chemotherapy with Short Course Radiotherapy for Locally Advanced rectal cancer: A Pilot Study
37. Nipple discharge in women; Evaluation and Randomized trial comparing limited length ductal cone excision (1.5 cm) with 3 cm ductal cone excision in women presenting with non-bloody nipple discharge
38. Omega loop gastric bypass (mini gastric bypass) versus Roux-en-Y gastric bypass for resolution of type-II diabetes Mellitus in obese subjects: A Prospective Randomized controlled trial
39. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy
40. Outcomes of laparoscopic sleeve gastrectomy with or without hiatal hernia repair in terms of resolution of symptoms of GERD
41. Outcomes of Minimal Access Thymectomy of patient with Thymoma
42. Prospective Open Label clinical trial for evaluating the feasibility, safety and efficacy of left gastric artery embolization for reduction of the weight in class I obesity
43. Prospective randomized control trial comparing angle of his accentuation v/s Toupet fundoplication as a anti reflux procedure in patients of achalasia cardia undergoing Heller's Cardiomyotomy
44. Randomized controlled study comparing stainless steel clip with silicone tube tip for localization of breast cancer after neoadjuvant chemotherapy within patients with breast cancer. A Non-inferiority study
45. Randomized Trial to Compare Effectiveness of Vacuum Suction Drainage Versus Needle Aspiration in Lactational Breast Abscess: Superiority Hypothesis Trail

46. Short term and long term outcomes following laparoscopic donor nephrectomy and open donor nephrectomy: An Ambispective comparative study
47. Standardized umbilical hygiene to reduce port site complications in laparoscopic cholecystectomy –A prospective randomized controlled study
48. Study effect of Bariatric Surgery induced weight loss on urinary incontinence
49. Study the significance of tumor infiltrating lymphocytes in breast cancer
50. Symptomatic outcomes in patients of asymptomatic gall stones after laparoscopic cholecystectomy
51. To assess the cost effectiveness of laparoscopic standardized laparoscopic mesh repair in ventral hernia
52. To assess the functional outcomes in patients undergoing standardized laparoscopic mesh repair in small and medium ventral midline hernias
53. To determine the best non-invasive marker or a combination of them correlate the most with liver biopsy in extent of fibrosis in morbidly obese patients with non-alcoholic fatty liver disease undergoing bariatric surgery
54. To determine the non-invasive investigations which correlate with liver biopsy in extent of fibrosis in morbidly obese patients undergoing bariatric surgery
55. To establish an algorithm for the management of axilla in patients of early operable breast cancer with clinically negative axilla
56. To evaluate the role of age adjusted Charlson comorbidity index scoring in predicting 30 day postoperative outcomes in patients undergoing surgery under general and regional anaesthesia
57. To study causes of cancellation among patients scheduled for elective operations
58. To study the complications of laparoscopic inguinal repair
59. To study the correlation between pre operative pain threshold measured using Quantitative Sensory Testing with post operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair - A case control study
60. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gall stone disease
61. Use of Platelet rich plasma in management of diabetes with PAD
62. Validation of a careful clinical examination with venous Doppler studies in the management of patients presenting with varicose veins

### ***Completed***

1. A randomized controlled trial to compare decongestive compression therapy (DCT), DCT with inj. BPG and hydrophobic silicone tube placed drainage in lymphedema of upper limb post breast cancer treatment
2. A study of gut microbiome in patients with gallbladder cancer
3. A study of physiological outcome and correlation with symptomatic outcome following laparoscopic Heller cardiomyotomy in primary Achalasia cardia
4. A study to evaluate the predictors of outcome in patients with blunt liver trauma Prospective Observational study
5. A Three Arm Randomized Controlled Study to Compare Sexual Functions Following Open Mesh Hernioplasty, Laparoscopic Totally Extra Peritoneal (TEP) and Trans Abdominal Pre-Peritoneal (TAPP) Repair of Groin Hernia
6. A Two Arm Parallel Design Superiority Randomised Trial Comparing Penicillin +Standard of Care Vs Standard of Care Alone in Achieving Complete Healing of Leg Ulcers in Patients with Chronic Venous Hypertension
7. Comparison of efficacy of Ormeloxifene and Tamoxifen in the treatment of cyclical mastalgia: A five-armed double-blinded randomised controlled trial
8. Comparison of mesotherapy (non operative) with surgery in management of superficial lipoma
9. Comparison of Oncologic and Functional Outcomes in Ladies with Breast Cancer Treated with Breast Conservation Compared to Those Treated with Mastectomy: An Ambispective Study
10. Comparison of three-dimensional (3D) endo-vision system versus ultra-high definition (HD) (4K) endo-vision system in minimally invasive surgical procedures-An open labelled randomized study
11. Comparison of Two-Dimensional (2D) endovision system, Ultra-High Definition (HD) (4K) endovision system and three-dimensional (3D) HD endovision system on standardized phantom tasks: An ex-vivo study
12. Dosimetric Study in children and young adults with Differentiated Thyroid Cancer undergoing Radioiodine (<sup>131</sup>I-Na) therapy
13. Ergonomic analysis of muscle activity during laparoscopy and influence of training
14. Evaluation of gamma synuclein as a serum bio-marker in breast cancer

15. Follow up Study to Evaluate Correlation of Imaging and Operative findings with Clinical and Biochemical Outcome in Patients with Primary Hyperparathyroidism
16. ICG fluorescence imaging for identifying and assessing the perfusion of parathyroid gland during thyroid surgery
17. Impact of Nutritional & Lifestyle Modifications in Subjects with BMI 25-29.9 vs 30-34.9 kg/m<sup>2</sup> and Impact of Bariatric Surgery in BMI > 35 kg/m<sup>2</sup>
18. Isolation, identification and characterization of cancer stem cells from different histopathological grades of colorectal carcinoma
19. Omega Loop Gastric Bypass versus Roux En Y Gastric Bypass for type 2 diabetes mellitus in obese subjects: A Randomized Controlled Trial
20. Pilot study on parathyroid dissection and preservation from thyroidectomy specimen and correlation with postoperative calcium and parathormone levels
21. Prospective randomized control trial comparing angle of his accentuation v/s Toupet fundoplication as a anti reflux procedure in patients of achalasia cardia undergoing Hellers Cardiomyotomy
22. Stent vs no stent in ureteroneocystostomy in live related renal transplant: A prospective randomized controlled trial
23. Study of Androgen Receptors mediated events and molecular heterogeneity in Breast Cancer
24. Study port placement and ergonomics in laparoscopic splenectomy
25. Study the impact of Bariatric Surgery induced weight loss on cardiovascular disease risk reduction in morbid obese patients
26. Study the impact of Laparoscopic Mini Gastric Bypass on weight loss and co morbidities in morbidly obese patients undergoing Bariatric Surgery
27. Surgical outcome in geriatric population
28. The effect of 1cm vs. 2 cm resection margin and oncoplastic closure of breast parenchymal defect on oncological and aesthetic outcome in ladies with early breast cancer: A 2x2 factorial randomized controlled trial
29. The feasibility and safety of the sub-xiphoid video assisted thymectomy for myasthenia gravis: A pilot study
30. Three Arm Randomized Comparison of Laparoscopic Peritoneal Dialysis Catheter Insertion with or Without Omentectomy Versus Conventional Open Peritoneal Dialysis Catheter Insertion in Chronic Kidney Disease Stage 5 Patients in Terms of Catheter Malfunction and Post-operative Complications
31. To define surgical outcome in patients who are converted to minimally invasive surgery to open procedure
32. Validation of different methods of physical examination for swelling in thyroid region and sonographic correlation - a cross-sectional study
33. Validation of different methods of physical examination of breast and axilla in patients with breast diseases: a cross-sectional study

## **Collaborative Projects**

### ***Ongoing***

1. A molecular and immunohistochemical study of human colorectal carcinomas to classify them according to the consensus molecular subtypes and to evaluate its prognostic and therapeutic relevance, Pathology
2. A prospective randomized controlled study to compare the effectiveness of moist occlusive honey dressing Vs. JatyadiTaila dressing in complete healing of dushtavrana (Chronic Wound) Department of Shalya Tantra, All India Institute of Ayurveda
3. Development of labyrinth based mechanical and fast isolation technique for identifying circulating tumour cells of colorectal carcinomas for metastatic evaluation, Pathology
4. Efficacy and safety of Semaglutide 2.4 mg once weekly in subjects with overweight and obesity, Endocrinology
5. Elucidating the role of differentially expressed genes in colorectal cancer stem cells, Biochemistry
6. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Biochemistry
7. Immunohistochemical and quantitative analysis of cytokeratin and cKIT in gastrointestinal and respiratory neuroendocrine tumours, Anatomy
8. Role of T-Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Nephrology
9. Study of Vascular Endothelial Growth Factor (VEGF) and Its Isoforms in Obesity Associated Adipose Tissue Dysfunctions, Biochemistry

10. Studying the role of WnT non-canonical pathway in sustaining colorectal cancer stem cells (CSC) and evaluating its role in cancer stem cell metabolism, Biochemistry
11. The Modulation of Insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Biochemistry
12. To study the role of regulatory T cells in immune suppression in patient with colorectal cancer, Transplant Immunology and Immunogenetics
13. Unravelling the role of novel proteins in gastroenteropancreatic and respiratory neuroendocrine tumours, Anatomy

### **Completed**

1. Endoplasmic Reticulum (ER) Stress in Obesity Induced Adipose Tissue Dysfunction and Inflammation, Biochemistry

### **PUBLICATIONS**

**Journals: 31**

**Abstracts: 20**

**Chapters in Books: 5**

### **PATIENT CARE**

The department is providing regular services in multiple fields including multimodality treatment for breast cancer patients, minimally invasive surgery, renal transplantation, hepatobiliary and pancreatic surgery, thoracic and thoracoscopic surgery, endocrine surgery, metabolic and bariatric surgery, vascular surgery including surgery for vascular access in end stage renal disease patients and cancer surgery. Our department is actively involved in indoor and outdoor patient management. The department runs the following special clinic besides regular General surgery OPD:

- Bariatric Clinic
- Breast Cancer clinic
- Follow up Clinics
- Combined pulmonary surgery clinic
- Renal Transplant clinic

The department holds regular patient support group meetings for various core areas like bariatric surgery, breast cancer. It has been actively participating in spreading awareness of these diseases in community settings via health awareness camps, delivering talks on national FM radio, writing articles in magazines and attending public awareness seminars organized by various organizations. Faculty members have also provided their services at Leh as part of the Ashoka Mission.

During the COVID 19 pandemic, the department has been providing telephonic consultations of various patients and emergent patient care as per the institutional SOPs.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

#### **Department**

- Third prize for poster and video presentation at Institute Day Celebration held on 25 September 2019.
- Awarded the rolling trophy for conducting the best monthly meet of Delhi state chapter of Association of Surgeons of India for the year 2018 during the annual conference of the society held in November 2019.

**Professor Anurag Srivastava** delivered oration at SURGICON 2019 – Manekshaw Centre, Delhi Cantt., New Delhi, 25 November 2019; Elected as the President Elect of the Delhi state chapter of Association of Surgeons of India.

**Professor Sunil Chumber** provided services at Leh as part of the Ashoka Mission.

**Professor Rajinder Parshad** delivered SK Sen memorial oration – “Changing trend in the management of breast cancer - an experience of 3 decades” - SURGICON 2019 – Manekshaw Centre, Delhi Cantt., New Delhi, 24 November 2019.

**Professor Sandeep Aggarwal** was invited as an Expert from India for a Course on Pediatric Obesity-Global Perspectives at the Obesity Week organized by The Obesity Society (TOS) and American Society of Metabolic and Bariatric Surgery (ASMBS).

**Professor Virinder Kumar Bansal** is Member, Institute Body, JIPMER, Puducherry May 2019 till May 2024; Co-Chairman, Surgery Expert Group for Standard Treatment Workflow for ICMR and National Health Authority, Ayushmann Bharat, New Delhi, 2019; Member, Apex Technical Committee for Renal Transplantation under NOTTO, January 2020; Visiting Professor, Department of Organ Transplant, University of Michigan, USA, 15-23 October 2019; President, Society of Endoscopic and Laparoscopic surgeons of India, (SELSI), January 2020; Vice President, Indian Hernia Society, 2019; Secretary, International College of Laparoscopic Surgeons 2019, 2020.

**Professor Anita Dhar** was awarded PhD from AIIMS, New Delhi; Medical Board member, Constituted at AIIMS Hon'ble National Consumer Disputes Redressal Commission, New Delhi in Consumer Case.

**Dr Hemanga K. Bhattacharjee** received the Smith International Surgical Scholarship 2020 awarded by the Department of Colorectal Surgery, Cleveland Clinic Florida, Florida, USA; Awarded American Society of Colon and Rectal Surgeons' (ASCRS) International Career Development Scholarship Award for the year 2019; The European Society of Coloproctology awarded International observership award; Received the award of certificate of appreciation for contribution to various academic activities at the SET Facility by Director, AIIMS.

**Dr Asuri Krishna** was elected Secretary Indian Hernia Society 2020-2022.

**Dr Piyush Ranjan** was awarded by Meadows foundation; National core group of experts for strengthening Emergency and Trauma Care services; Felicitated by DGHS on National Doctors Day; Resource person for developing Emergency and trauma care curriculum guideline; Attended as expert - WHO Bi-Regional (South East Asian & Western Pacific Regions) Drowning Prevention Status Report- Multi Stakeholder Meeting.

**Dr Suhani** was awarded for contribution in surgical education: by Delhi state chapter, Association of Surgeons of India at SURGICON 2019; Recipient of "Betadine Young Surgeon Award 2019" at ASICON 2019 at Bhubaneswar; Received certificate of Appreciation for contribution towards content development at SET facility AIIMS by Honorable Director, AIIMS, Delhi; Member of the Expert group for developing National Guidelines on Patient safety for National Patient Safety Implementation framework of India (2018-25).

#### **Residents:**

- Dr. Vitish Singla received Presidents Medal from Delhi State chapter of ASI for best research paper publication.
- Dr. Eshan Verma received BSI travel award to attend the World Congress of Surgery in Krakow, Poland 2019.
- Dr. Neha Gupta was awarded fellowship from EORTC (European Organization for research treatment & Cancer) to visit and present the research work in March 2020 in EBCC (European Breast Cancer Conference).
- Dr. Adarsh Pratap Singh received the Presidential young lymphologist award during the 27th ISL World Congress of Lymphology held at Argentina, Europe
- Dr. Kush Raj Lohani received clinical scholar award at San Antonio breast cancer symposium, USA

#### **VISITING SCIENTISTS**

- Dr. Ismal Jatoti, chief of the division of surgical oncology and endocrine surgery at UT Health San Antonio visited the department on 4 and 5 April 2019 during the AIIMS Breast course.
- Dr. Dieugini, thoracic surgeon from Shanghai Pulmonary Hospital visited the department as part of operative workshop on uniportal VATS in September 2019.
- Dr. Khalid Mohammad Ali Amer, consultant thoracic surgeon, South Hampton, UK visited the department for two weeks in September 2019 for mentorship of residents and faculty in the field of thoracic surgery.
- Dr Reinhard Bittner and Dr Li Binggen from Rottenburg, Germany (Hernia Center) visited as part of Operative workshop on newer minimally invasive incisional and ventral hernia repairs on 14 and 15 December 2019.



## 9.40. Transfusion Medicine

### Professor and Head

DK Sharma

### Chief Medical Officer, Incharge

Poonam Coshic

### Assistant Professors

Hem Ch. Pandey  
(Main Hospital)

Gopal Patidar  
(CN Centre)

Rahul Chaurasia  
(JPNATC)

Diptiranjana Rout (from September 2019)  
(NCI, Jhajjar)

### HIGHLIGHTS

The department is committed to patient care and blood safety and works tirelessly to achieve its aim of providing “Right blood to right patient at right time”. The blood bank services are provided 24x7 throughout the year.

The MD Transfusion Medicine was started in 2017 with first student joining in Jan. 2017. Presently we have eleven students pursuing MD. One student, the first student in the programme graduated in 2019.

Sincere efforts have been made to boost the voluntary blood donation and as a result we were able to make a record of collecting 3000 blood units on 27 February 2020 in the “Mega Blood Donation Event!”

Donor education, motivation and recruitment are being strengthened in rural areas also which have added to the voluntary donation.

Blood safety is an ongoing effort and all blood units collected in the three existing blood banks 100% are tested with NAT, in addition to serologic testing thereby providing an additional layer of safety. NAT laboratory of Main Blood Bank is the central testing facility for infectious markers for CNC blood bank and JPNATC blood bank.

Testing facility of Antibody screening using extended panel has been extended to emergency patients also. Antibody identification in patients having irregular antibodies is now being done regularly as a routine procedure.

Blood bank is supporting ABO incompatible kidney transplants by performing plasmapheresis procedures and antibody titer testing for the patients. A storage centre has been started at NCI Jhajjar which receives blood component support from Main Blood bank as its mother blood bank. The setting up of the “Blood Center” at National Cancer Institute, AIIMS, Jhajjar campus is under process.

### EDUCATION

1. CMET course on “Good Transfusion Practices” for nursing staff.
2. MBBS UG classes on Blood banking.
3. Regular training of OT technicians (B.Sc. OTT) in various laboratory techniques related to safe blood transfusion practices.
4. Regular orientation and training programmes for AIIMS nursing students.
5. MD Transfusion Medicine has been started and presently eleven students are pursuing this programme.
6. Teaching of Postgraduate students from Deptt. of Pathology, Lab. Medicine and Hematology is being done during their posting.
7. Training classes for Nursing officers posted at National Cancer Institute, AIIMS, Jhajjar campus regarding “Safe Bed-side transfusion practices”

### CMEs/Workshops/Symposia/National and International Conferences

1. CME on Blood Safety and Quality: Infectious Diseases, 5 April 2019, AIIMS, New Delhi

### Lectures delivered

Poonam Coshic: 1

Hem Chandra Pandey: 11

Gopal Kumar Patidar: 4

Rahul Chaurasia: 1

### **Poonam Coshic**

1. Panel discussion on Perinatal and neonatal transfusion practices, CME on Update on perinatal, neonatal and paediatric transfusion practices, 31 August 2019, New Delhi

### **Hem Chandra Pandey**

2. Panel discussion on “False positivity, donor notification, donor re-entry and donor deferral & its impact”, CME on Blood Safety and Quality: Infectious Diseases, 5 April 2019, New Delhi
3. Panel Discussion on “National Blood and Plasma policy–Towards strengthening Transfusion services in India”, CME on ‘Introducing PBM-Transition from Product to Patient Centric Approach’, 29-30 November 2019, Jaipur
4. Panel discussion on “Perinatal and neonatal transfusion practices”, CME on “Advancements & New Horizons in Pediatric Transfusion Practices”, 31 August 2019, New Delhi
5. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood bank officials of Madhya Pradesh, 13 June 2019, Noida
6. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood bank officials of Telangana, 31 July 2019, Noida
7. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood bank officials of Uttarakhand, 28 August 2019, Noida
8. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood for blood bank officials of Telangana, 19 December 2019, Noida
9. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood for blood bank officials of Maharashtra, 23 January 2020, Noida
10. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood for blood bank officials of Chhattisgarh, 4 February 2020, Noida
11. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-RaktKosh” for blood for blood bank officials of Chhattisgarh, 3 March 2020, Noida
12. Significance of DAT in neonatal hyperbilirubinemia—interpretation and management, CME on “Advancements & New Horizons in Pediatric Transfusion Practices”, 31 August 2019, New Delhi

### **Gopal Kumar Patidar**

1. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 6th Feb 2020, Udaipur, Rajasthan
2. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 11th Feb 2020, Jodhpur, Rajasthan
3. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 24th Feb 2020, Rajkot, Gujrat
4. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 14 February 2020, Chennai, Tamil Nadu

### **Rahul Chaurasia**

1. Massive Blood Transfusion Protocol, EMINDIA2019 (National Emergency Medicine Conference), 3 August 2019, New Delhi

### **Oral papers/posters presented**

1. Chaurasia R, Akhtar N, Arya V, Karjee S, Arulselvi S. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock. TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020, Mumbai
2. Chippy CS, Pandey HC, Seth T, Coshic P, Thapliyal RM, Sharma V. High dose IVIG & steroid for incompatible transfusion in a case with multiple alloantibody, HEAMATOCAN 2019 60th Annual conference of Indian Society of Hematology and Blood Transfusion, 7-10 November 2019, New Delhi
3. Chippy CS, Pandey HC, Thapliyal RM, Sharma V. Pan reactivity in antibody screen and identification: is it justified to transfuse least incompatible red cells?, TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020 Mumbai
4. Dhiman Y, Patidar GK, Hazarika A, Family History during screening blood donors. Do we really give much importance?, 29th regional congress of ISBT, 22-26 June 2019, Basel, Switzerland
5. Jain R, Kumar R, Coshic P, Pandey HC. Audit of Blood Transfusion Requisitions and role of implementation of

blood bank software clinician module with resident training in improving transfusion practice at a tertiary care hospital, TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020, Mumbai

6. Khan AI, Khan AK, Patidar GK, Hazarika A. Audit of Blood Usage in Elective Cardiac Surgery Procedures AABB Annual Meeting, October 19–22, 2019, San Antonio, Texas
7. Khan AK, Singh K, Patidar GK, Hazarika A. Blood Utilization Practices in Elective Neurosurgical Procedures AABB Annual Meeting, 19-22 October 2019, San Antonio, Texas
8. Kumar R, Pandey HC, Jain R, Coshic P. Retrospective comparison between non-treponemal and treponemal tests for screening of blood donors for syphilis and their correlation with donor history at tertiary care hospital, TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020, Mumbai
9. Meena SK, Pandey HC, Thapliyal RM, Sharma V. Use of adsorption studies to detect underlying alloantibodies in AIHA patients—experience of a referral center, TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020, Mumbai
10. Nivedita K, Dhiman Y, Patidar GK, Hazarika A. Comparative analysis of two commonly used transfusion-Transmitted infection testing (TTI) methods, TRANSMEDCON 2019, 9-11 January 2020, Mumbai
11. Pandey HC. Retrospective analysis of differences in red cell usage across different age groups and specialties in a tertiary care hospital, TRANSMEDCON 2019-8th Annual Conference of Indian Society of Transfusion Medicine, 9-11 January 2020, Mumbai

## RESEARCH

### Funded projects

#### *Ongoing*

1. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
2. A Randomized Control Trial for evaluation of Transfusion Related Immuno-modulation in patients with meningioma, Gopal Kumar Patidar, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
3. Diagnostic accuracy of using cell free fetal DNA isolated from mother's plasma for determination of fetal Rh D status during antenatal period as compared to determination of D status using serological tests in cord blood, Hem Chandra Pandey, AIIMS, 2 years, 2019-2021, Rs 10 lakhs

### Departmental projects

#### *Ongoing*

1. A cost descriptive study in the treatment of Guillain-Barré Syndrome and Myasthenia Gravis patients at tertiary level hospital
2. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients
3. Analysis of ABO antibody titer in healthy blood donors
4. Assessment of ABO antibody titre and coagulation factors level after mixing and dilution with normal saline of A and B blood group donor plasma
5. Clinical and serological characterization of autoimmune hemolytic anemia
6. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients
7. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusions
8. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock
9. Retrospective analysis of differences in red blood cell usage across different gender, age groups and specialties in a tertiary care hospital

#### *Completed*

1. In vitro and in vivo assessment of platelets stored in pas at 22°C and 4°C: a pilot study.

2. Prospective observational study of transfusion practices in severely injured trauma patients in emergency department at level 1 trauma center
3. Prospective observational study to analyze incidence of different errors in analytical stage of transfusion chain
4. The outcomes of leukoreduced and non-leukoreduced blood component transfusion in patients undergoing cardiac surgery
5. To study the clinical and neurophysiological outcomes after using platelet rich plasma in acute peripheral nerve injury repair, Plastic Surgery, JPNATC, AIIMS

## **Collaborative projects**

### ***Ongoing***

1. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Psychiatry
2. Probing the biology of Toll-like receptor and Interleukin-1 Receptor in peripheral blood mononuclear cells of healthy donors using novel small molecule inhibitor, Biotechnology
3. A randomized control trial for evaluation of effects of leukoreduced bloodtransfusion on infection risk in severely injured trauma patients, Critical and intensive Care, Laboratory Medicine, Emergency Medicine, Surgery, JPNATC and Anesthesiology, Pain Medicine and Critical Care, AIIMS
4. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients, Laboratory Medicine, Emergency Medicine, Surgery, JPNATC
5. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance, Regional Center for Biotechnology, Faridabad

## **PUBLICATIONS**

**Journals: 3**

**Abstracts: 7**

## **PATIENT CARE**

The following facilities are available in the department

- Autologous blood donation
- Autologous platelet donation
- Voluntary blood donation camp facility
- Apheresis procedures (SDP, TPE, PBSC)
- Automated blood grouping and serology
- Automated infectious markers testing
- 100% blood component preparation
- Irregular antibody identification
- Antibody screening
- Antibody titers
- Leucodepleted blood/components
- Irradiation facility
- ID-NAT testing of all donated units of three blood banks of AIIMS
  - (a) Apheresis: SDAP collection, TPE, PBSC, LDL apheresis and granulocyte harvesting. Registry created of voluntary SDP donors to support hemato-oncology patients.
  - (b) Community services/camps etc.:
    - Main blood bank organized total 115 voluntary donation camps in Delhi NCR and collected over 11000 units.
    - Carrying out motivational and educative programme for donors in rural areas in association with CHC Ballabgarh.
    - Main blood bank became a mother blood bank of blood storage centre at NCI Jhajjar providing blood components for use of cancer patients.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Second Prize for poster on Institute day 2019; Award of excellence from State Blood Transfusion Council for voluntary donation work 14<sup>th</sup> June 2019; ICMR International Travel Grant To Dr Romesh Jain (SR); Creating a record for collecting highest number of blood units in a single day by an Institute during “Mega Blood Donation Event” on 27 February 2020.

**Dr Poonam Coshic** was Member SBTC; Member Blood Cell-NHM Division for finalizing guidelines of Blood storage Centres

**Dr Gopal Patidar** was member of reviewing and analysis of reports of donor reaction submitted a Donor-Vigil software under National Blood Donor Hemovigilance Programme, India.



## 9.41. Transplant Immunology and Immunogenetics

### Professor and Head

DK Mitra

### Assistant Professor

Uma Kanga

Rakesh Kumar Deepak

### Scientist II

Sunil Kumar

Lata Kumari

### Scientist I

Sanjeev Goswami

Sonia Verma

### EDUCATION

During the year 2019-20, our department trained 27 students/doctors from various hospitals and institutions from India and abroad. These candidates received training on laboratory techniques in Transplant Immunology, Immunogenetics-HLA testing, post-transplant monitoring and other immunological investigations for immune deficiency.

**Short-term training-AIIMS (1-2 weeks):** The Department provided short term training to the Junior residents from Pathology (5), Laboratory Medicine (3) and Senior Residents (DM Students) of Nephrology (1), Hematology (6), Biochemistry (3), Medical Oncology (3), Transfusion Medicine (3), Pediatrics (2) from AIIMS.

**Long-term training-National (6 months):** One candidate received Long-term training.

### Continuing Medical Education (CME)

During the year, the faculty and scientists of the department participated and delivered several lectures in National and International conferences. Our department regularly provides training on various cell culture assays, including flowcytometry based assays to students and visiting trainees. Our department coordinates a national level Quality Control exercise for DNA based typing of HLA genes for assessment of Quality of testing by other HLA laboratories in India. The Faculty also delivered special lectures in departments of Biotechnology and Pathology, AIIMS as part of the academic curriculum of these departments. Faculty/Scientists delivered lectures to MD/DM residents from Pediatrics, Hematology, Anatomy, Nephrology, Biochemistry, Medical Oncology, Pathology and Laboratory Medicine. Several lectures on Transplant Immunology were also delivered to Nursing students of the institute.

### Lectures delivered

**Uma Kanga: 10                      Rakesh Kumar Deepak: 1                      Lata Kumari: 1**  
**Sanjeev Goswami: 1**

### Uma Kanga

1. Clinical relevance of Donor Specific Antibodies: Impact on Transplant outcome, Federation of Clinical Immunology Societies conference - FOCIS 2019, 18-21 June 2019, Boston, USA
2. Defining the immunological risk: New Tools in the Armamentarium, Transplant Update 2020, 7-8 March 2020, Hyderabad
3. Genetic propensity to Nasopharyngeal carcinoma in Nagas from North East India, 33rd European Immunogenetics and Histocompatibility Conference, 8-11 May 2019, Lisbon
4. Hematopoietic Stem Cell Transplantation: Genetic Matching and Donor Selection, International Symposium on Basic and Translation Immunology (BATI 2020), 5-7 March 2020, Kasaragod, Kerala
5. HLA matching Strategies for Transplantation; Technology Advancements and Strategies, Transplant Immunology Pre-Conference Workshop-Congress of the Asian Society of Transplantation CAST 2019, 29 September to 2 October 2019, NOIDA, UP
6. Immunomodulation by HLA-G: variability of expression impacts Renal Transplant Outcome, 17th International Congress of Immunology, 19-23 October 2019, Beijing, China
7. Organ and Stem Cell Transplantation: Need for State of the Art Transplant Immunology Laboratories, National Medical Laboratories professional week, 17-18 July 2019, New Delhi

8. Post Transplant Donor Specific Antibody Monitoring, Solid Organ Transplantation Congress of the Asian Society of Transplantation CAST 2019, 29 September to 2 October 2019, NOIDA, UP
9. Predictors of Transplant outcome: alloimmunity and significance of antibodies, 46th Annual Meeting of Indian Immunology Society, 14-16 November 2019, Mumbai
10. Technical Advancements in HLA typing: Challenges and future directions, World Immunology Day and 'Immunology Update', 29-30 April 2019, Chandigarh

#### **Rakesh Kumar Deepak**

1. A Flow Cytometry based T cell proliferation assay to discriminate metal implant induced Hypersensitivity and Toxicity in Arthroplasty patients, 10th International Conference on Immunology & Immunogenetics, 2-3 December 2019, London, United Kingdom

#### **Lata Kumari**

1. Role of cytokine in pathogenesis of loosening of prosthesis in total knee and hip replacement, 10th International Conference on Immunology & Immunogenetics, 2-3 December 2019, London, United Kingdom

#### **Sanjeev Goswami**

1. Preformed natural/non-HLA antibodies are associated with early rejection in kidney transplant, 17th International Congress of Immunology (IUIS 2019), 19-23 October 2019, Beijing, China

### **RESEARCH**

#### **Funded projects**

##### ***Ongoing***

1. Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary), DK Mitra, IMPRINT (HRD+ICMR), 3 years, 2017-20, Rs 64.85 lakhs
2. Evaluation of donor specific antibodies (DSA), HLA typing and major histocompatibility complex (MHC) in the outcome of post heart transplant rejection status: Clinicopathological study, Rakesh Deepak, AIIMS, 2 years, 2019-21, Rs 10 lakhs
3. Functionalization and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialized diagnostic, therapeutic & follow up care to the remote underserved population, DK Mitra, Azure Software, 1 year, 2019-20, Rs 16.44 lakhs
4. Genome wide transcription analyses in DR Mtb: Identification and Immunomodulation of novel targets, DK Mitra, DBT, 3 years, 2018-21, Rs 148 lakhs
5. Genomic analysis of HLA and non-HLA genes and humoral profile of Type 1 Diabetes Mellitus in the population of North East India, Uma Kanga, DBT (BCIL), 3 years, 2017-20, Rs 127.8 lakhs
6. Identification of novel biomarkers for prediction of Renal Allograft Rejection, Uma Kanga, AIIMS-THSTI, 1 year, 2019-2020, Rs 5 lakhs
7. Immunogenetic correlates of Dengue infection: Analysis of HLA and KIR genes in North Indian Population, Uma Kanga, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
8. Impact of host T cell response on expression and function of drug efflux pumps: Relevance to drug resistant TB, DK Mitra, ICMR, 42 months, 2014-18, Rs 78.5 lakhs
9. In Silico Trial for Tuberculosis Vaccine Development (STriTuVaD), European Commission Horizon 2020, DK Mitra, DBT, 5 years, 2018-23, Rs 500 lakhs
10. Islet-antibody negative type 1 diabetes (type 1B) in north Indians: clinical implications and pathogenesis, Uma Kanga, ICMR, 3 years, 2019-2022, Rs 56 lakhs
11. Multivalent leishmania vaccine development, DK Mitra, BIRAC DBT, 3 years, 2015-19, Rs 397.57 lakhs
12. NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses, DK Mitra, ICMR, 3 years, 2017-20, Rs 70.26 lakhs
13. Studies to delineate the Immunoregulatory role of PD-L1/PD-1 pathway and exploring it as a potential tool for vaccination strategies against Visceral Leishmaniasis, DK Mitra, DST, 3 years, 2018-21, Rs 70 lakhs
14. To study the relevance of Treg cells and immune suppressive milieu in patients with gall bladder cancer, Lata Kumari, AIIMS, 2 years, 2019-21, Rs 10 lakhs

### Completed

1. Killer Immunoglobulin Receptor-Human Leukocyte Antigen (KIR-HLA) interactions: Significance in Hematopoietic Stem Cell Transplantation, Uma Kanga, AIIMS, 2 years, 2017-19, Rs 4 lakhs
2. Inphase polymorphism analysis of the HLA minigenome and its application of Next Generation Sequencing (Japanese Society for Promotion of Science), Uma Kanga, DST-JSPS Indo-Japanese, 2 years, 2016-18, Rs 6.8 lakhs

### Departmental projects

#### Ongoing

1. Chronic Atherosclerosis Disease: Integrated analysis of stage-specific alterations in gene expression and miRNA profile of atherosclerotic plaques and correlation with plasma-derived extracellular vesicles in circulation
2. Clinical relevance of non-classical HLA, MICA and NKG2 receptors in HSCT
3. Development of cost effective inhouse assays for HLA diagnostic services
4. Establishment of heterogeneity in genetic markers: potential use in transplant monitoring
5. Genomic diversity of HLA genes in Kashmiri population – advantage of NGS technology
6. Identification of microRNA signature linked to AA and response to immunosuppressive therapy
7. Identification of Signatures for predicting rejection in Renal Transplantation
8. Immune reconstitution following haematopoietic stem cell transplantation.
9. Impact of checkpoint inhibitors on suppressed state of immunity in tuberculosis
10. NKT Cells in Tuberculosis: Impact on Protective T cell response.
11. Phenotypic and functional characterization of various T cell subsets in sarcoidosis.

### Collaborative projects

1. Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary), IIT, Kharagpur, IIT-Mumbai
2. Evaluation of novel forensic exhibits and informativity of Y-STR markers in chimerism situation, Forensic Medicine
3. Functionalization and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialized diagnostic, therapeutic & follow up care to the remote underserved population, Azure Software
4. Genetic Propensity to Nasopharyngeal Carcinoma in Nagas from North East India, Naga Hospital and Authority, Nagaland
5. Genomic analysis of HLA and Non-HLA genes and humoral profile of Type 1 Diabetes Mellitus in the population of North East India, Dept of Anatomy, Tezpur Medical College
6. Multivalent Leishmania vaccine development, Zydus Cadila
7. Potential role of HLA-G mediated immunomodulation by tissue specific human mesenchymal stem cell (hMSCs), Stem Cell Facility
8. The Role of HLA antigens in primary IgAN in Indian patients: a case control study, Nephrology

### PUBLICATIONS

**Journals: 18**

**Abstracts: 3**

### PATIENT CARE

#### Renal Transplantation

Renal Transplant Service	Recipients	Donors	Total
Live Related	678	673	1351
Cadaver Transplantation (Kidney)	63	9	72
Cross Match Test - CDC (Serology)	1292		
Cross Match Test – (Flowcytometry)	411		
Luminex PRA	629		
Luminex (DSA monitoring)	531		

## Bone Marrow/Hematopoietic Stem Cell Transplantation

Hematology, AIIMS & Other Referrals

Diagnosis	Recipients	Donor	Total
Aplastic Anaemia	207	524	731
Acute Leukaemia (AML+ALL)	93	204	297
Thalassaemia	37	85	122
Chronic Leukaemia (CML+JMML)	34	86	120
Others	61	128	189
<b>Total</b>	<b>432</b>	<b>1027</b>	<b>1459</b>

S.No.	Diagnosis	No. of Tests done
<b>A</b>	<b>Low Resolution HLA Typing</b> (PCR-SSP or PCR-SSO Luminex based)	
1	HLA-A locus	1579
2	HLA-B locus	1579
3	HLA-C locus	47
3	HLA-DRB1 locus	451
4	HLA-DRB3/4/5 loci	101
<b>B</b>	<b>High Resolution HLA Typing</b> (Sequence Based Typing (SBT)/ Next Generation Sequencing (NGS) /-SSO Luminex)	
5	HLA-A locus	76
6	HLA-B locus	76
7	HLA-C locus	77
8	HLA-DRB1	81
9	HLA-DQB1	77
10	HLA-DQA1	76
<b>C</b>	<b>Donor Specific Antibody (DSA) Monitoring</b> Luminex based assays	
11	HLA class I	29
12	HLA class II	29
<b>D</b>	<b>Chimerism studies in BMT</b>	
13	Post HSCT recipients	24
14	Pre HSCT recipients	24

15	HSCT Donors	24
	<b>TOTAL TESTS</b>	<b>4350</b>
E	<b>Unrelated Donor searches for BMT</b> *During the year requests received by 'Asian Indian Donor Marrow Registry' for HLA matched donors	35*

## II. Disease Association HLA Screening tests

	Diseases	HLA test	No of tests
16	Ankylosing Spondylitis and other Spondyloarthropathies	HLA- B-27	863
17	Coeliac Disease	HLA-DQA1	64
18	Coeliac Disease	HLA-DQB1	64
19	Narcolepsy/Cataplexy	HLA-DQB1	12
20	Behcets' Disease	HLA-B*51	52
21	Drug hypersensitivity screening	HLA-B*57:01, B*15:02	4
	<b>Total</b>		<b>1059</b>

	All Patient care services	No. of tests
	HSCT related & Quality Assurance Program	4350
	Disease association screening	1059
	<b>Total</b>	<b>5409</b>

## Primary Immunodiagnosics

Free of cost service provided for Primary & Secondary Immunodeficiency Diseases

Total No. of Tests (2019-20)			
S. No.	Diagnosis	Markers/Assays	No. of Tests
1	T Cell Frequency	CD3 <sup>+</sup> /CD4 <sup>+</sup> /CD8 <sup>+</sup>	1046
2	B Cell Frequency	CD19 <sup>+</sup> /CD20 <sup>+</sup>	1170
3	NK Cell Frequency	CD3 <sup>-</sup> /CD16 <sup>+</sup> /CD56 <sup>+</sup>	647
4	NK Cell Activity	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /Perforin <sup>+</sup>	315
5	NK Cell Activity	sIL2R	24
6	ALPS	CD3 <sup>+</sup> /CD4 <sup>+</sup> /8 <sup>-</sup> /TCRαβ <sup>+</sup>	104
7	Leukocytes Adhesion Deficiency	CD18 <sup>+</sup> /CD11a <sup>+</sup> /CD11b <sup>+</sup>	355
8	Chronic Granulomatous Disease	DHR	1012
9	Hyper IgM	CD3 <sup>+</sup> /CD8 <sup>-</sup> /CD69 <sup>+</sup> / CD154 <sup>+</sup>	37
10	T cell function (IFN-gamma)	CD3 <sup>+</sup> /CD4 <sup>+</sup> /IFN-γ <sup>+</sup> /IL-2 <sup>+</sup>	136
11	Class Switch Memory	CD19 <sup>+</sup> /CD27 <sup>+</sup> /IgD <sup>-</sup>	48
12	Degranulation Assay	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /CD107a <sup>+</sup>	7
13	IL-12 Assay	CD14 <sup>+</sup> /IL-12 <sup>+</sup>	15
14	T cell Perforin	CD3 <sup>+</sup> /CD8 <sup>+</sup> /Perforin <sup>+</sup>	4

15	Memory T cell	CD3 <sup>+</sup> /CD45RA <sup>+</sup> /CD45RO <sup>+</sup>	12
16	Serum IgA		315
17	Serum IgM		316
18	Serum IgG		323
19	Serum IgE		62
<b>Total</b>			<b>5948</b>

**Bone Marrow Transplantation: IRCH, AIIMS Referrals**

Diagnosis	Recipients
AML	191
CML	55
ALL	97
Others	127
Total	470
Donors	443
<b>Total</b>	<b>913</b>

S. No.	Diagnosis	No. of tests done
<b>A</b>	<b>Low Resolution HLA Typing (PCR-SSP)</b>	
1	HLA-A locus	804
2	HLA-B locus	720
3	HLA-DRB1 locus	219
	<b>Total</b>	<b>1743</b>

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Uma Kanga** continued as a member of the General Assembly of the International Union of Immunological Societies (IUIS) (November 2016- November 2019); as Asia Pacific Region Councillor of the Asia Pacific Histocompatibility and Immunogenetics Association (APHA) (2018 onwards- continuing); as Treasurer of Indian Immunology Society (IIS) - (2018-2020).

## 9.42. Urology

**Professor and Head**  
Amlesh Seth

**Professor**  
Rajeev Kumar

**Additional Professor**  
Prabhjot Singh

**Associate Professors**

Rishi Nayyar

Brusabhanu Nayak

**Assistant Professors**

Sanjay Kumar

Siddharth Jain

Manoj Kumar

### HIGHLIGHTS

- Dr Nikhil Vasdev, Consultant Urological Surgeon, Hertfordshire and Bedfordshire Urological Cancer Centre, Department of Urology, Lister Hospital (East and North Herts NHS Trust), Watford General Hospital (West Herts NHS Trust), UK visited the department and took a ward round and delivered a lecture on 'Status of robotic radical cystectomy' on 2 January 2020.
- The 4th Sarinder Man Singh Memorial Oration in Urology was delivered by Dr Ashok K Hemal, Director, Robotic Urologic Surgery and Minimally Invasive Surgery, Wake Forest Baptist Health Medical Center, Winston Salem, North Carolina, USA on 27 January 2020 at AIIMS, New Delhi.
- The department shifted OPD and Minor OT to 4th floor, A wing in new RAK OPD building w.e.f. 16 March 2020.



**Picture: Dr Nikhil Vasdev's visit in the department.**

### EDUCATION

The faculty of the department participated in and delivered lectures in continuing medical education programs, symposia, national and International conferences during the year. The senior faculty members are examiners for NBE and MCh Urology in various universities. The faculty of the department took active part in restructuring and reframing the curriculum for MCh and DNB training courses in Urology of other upcoming institutes. The faculty of the department is actively engaged in development of various Indian guidelines under aegis of Urological Society of India.

The Department delivered lectures for undergraduate and nursing students (BSc and MSc). The faculty is actively involved in curriculum revision for undergraduates. The department trains 11 postgraduates for the degree of MCh in

Urology over a 3-year period. Post MCh Fellowship training is available for sub-specialties including minimally invasive urology, uro-oncology, reconstructive urology and urogynecology. Two candidates successfully completed the ‘minimally invasive urology’ fellowship course, becoming the first set of fellows to pass out from the department in December 2019. The renal transplant program in the department has got held back due to operational reasons.

Faculty of the department have actively taken part in development of various modules of skill sets for students, which is a step forward towards e-learning. Faculty also took lectures for the SET facility towards their faculty development program. Training of interns and MBBS students for urethral catheterization: male and female on mannequin pelvis was done in the SET Facility and has been incorporated into their regular curriculum. Training on Skill Simulators (URO/PERC Mentor) is a part of regular curriculum of residents training.

The department also had two trainees from Afghanistan for short term observership.

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Monthly meeting of the Delhi Urological Society, 22nd February 2020, AIIMS

#### **Lectures delivered**

**Amlsh Seth: 24**

**Rajeev Kumar: 28**

**Prabhjot Singh: 14**

**Rishi Nayyar: 14**

**Brusabhanu Nayak: 7**

**Sanjay Kumar: 1**

#### **Amlsh Seth**

1. Panelist-Early Ca Prostate-Indian Perspective Cancer Prostate Summit 24-25 May 2019, Kolkata
2. Panelist-Castration resistant Ca Prostate-Indian Perspective Cancer Prostate Summit, 24-25 May 2019, Kolkata
3. Step by step management of IVC thrombus in renal cell carcinoma Iranian Urological Association, 11-24 June 2019, Tehran, Iran
4. Moderator—Uro-Oncology case discussions Masterclass in Urology, 31 May-1 June 2019, CMC, Vellore
5. Panelist-Session on Muscle Invasive Bladder Cancer 2nd Comprehensive update on Genito-Urinary Malignancies 20-21 July 2019, TMH, Mumbai
6. Panelist-Session on Localised and Locally Advanced Prostate Cancer 2nd Comprehensive update on Genito-Urinary Malignancies, 20-21 July 2019, TMH, Mumbai
7. Laparoscopic Radical Nephrectomy -Video presentation 1st Mid-Term CUE of North Zone Chapter-USI, 6-7 April 2019, Dehradun
8. Laparoscopic Adrenalectomy - Video presentation 1st Mid-Term CUE of North Zone Chapter – USI, 6-7 April 2019, Dehradun
9. AIIMS Technique of Managing Caval-Atrial Tumor Thrombus in RCC CME cum Workshop on Surgical Aspects of Renal and Upper Tract Urothelial Cancers 2 June 2019, New Delhi
10. Management of Venous Tumour Thrombosis in Locally Advanced RCC AUA-USI Board Review Course, 16-18 August 2019, Hyderabad
11. Lymph node dissection in RCC Mid-Year Uro-Oncology Update, 11 August 2019, New Delhi
12. Panelist - Nephron sparing Surgery Robotics in Urology: Current and Future Trends, 23-24 August 2019, AIIMS, Rishikesh
13. Panelist-Treatment of Overactive Bladder Best of AUA -organised by USI, 28-29 September 2019, New Delhi
14. Step by step in the management of RCC with IVC Thrombus-AIIMS Experience World Uro-Oncology Federation Meeting, 16 October 2019, Athens, Greece
15. Open Radical Cystectomy - Tips and Tricks—Video Presentation, 39th SIU Meeting, 16-20 October 2019, Athens, Greece-Session Transmitted Live World Wide
16. Simple Cystectomy and Continent Catheterisable Pouch for Exstrophy-Epispadias Complex-Lecture and Video presentation Workshop on Pediatric Urology of Indian Association of Pediatric Surgeons, 30 October to 1 Nov 2019, AIIMS, New Delhi
17. Live demonstration of Robotic Pyeloplasty in a Pediatric Patient Workshop on Pediatric Urology of Indian Association of Pediatric Surgeons, 30 October to 1 Nov 2019, AIIMS, New Delhi
18. Technique of Open Radical Cystectomy—Lecture and Video Presentation Annual Conference of North Zone Chapter Urology Society of India, 15-17 November 2019, Greater Noida
19. Multimodal management of upper tract urothelial cancer: How to get a perfect POUT Annual Conference of Urology Society of India 23-26 January 2020, Kochi
20. Ureteric tailoring and intravesical ureteric reimplantation -Lecture and Video Presentation Annual Conference of Urology Society of India 23-26 January 2020, Kochi

21. Lecture on Radical Cystectomy in the Session on Focus on advances and controversies in uro-oncology. Annual Conference of Urology Society of India 23-26 January 2020, Kochi
22. Convenor of the Session “Ayushman Bharat and its Implications” Annual Conference of Urology Society of India, 23-26 January 2020, Kochi
23. Panelist in the discussion on “ Drawbacks and improvements of various government schemes – scenario based” in the Session “Ayushman Bharat and its implications” Annual Conference of Urology Society of India, 23-26 January 2020, Kochi
24. Robotics in Uro-Oncology, 2nd World Cancer Congress, 3 February 2020, Jaipur

### **Rajeev Kumar**

1. Moderator-complex stone disease JUA Annual Meeting, 18-20 April 2019, Nagoya, Japan
2. Moderator- Poster session-Adrenal AUA Annual Meeting, 3-7 May 2019, Chicago, USA
3. Role of mpMRI based biopsies in prostate cancer CaPCON on Prostate Cancer, 24-25 May 2019, Kolkata
4. Moderator Videourology World Congress, 13-15 June 2019, Seoul, South Korea
5. Robotic pyeloplasty 17th UAA Congress, 6-10 August 2020, Kuala Lumpur, Malaysia
6. mpMRI based biopsies for prostate cancer, 17th UAA Congress, 6-10 August 2020, Kuala Lumpur, Malaysia
7. Prostate biopsies-current status, Best of USI, 7-8 September 2019, Kathmandu, Nepal
8. Adrenalectomy-video, Best of USI, 7-8 September 2019, Kathmandu, Nepal
9. RARP-Conventional video, Best of USI, 7-8 September 2019, Kathmandu, Nepal
10. Upper tract urothelial cancers, Best of USI, 7-8 September 2019, Kathmandu, Nepal
11. Authorship IMPACT 2019, 13-15 September 2019, Pune
12. Scope of misconduct IMPACT 2019, 13-15 September 2019, Pune
13. Internet impact on publishing; Samples and significance, IMPACT 2019, 13-15 September 2019, Pune
14. Ethics in medical publishing, Thoracic surgery update, 22 September 2019, New Delhi
15. NSS in UTUC, Best of AUA, 29 September 2019, New Delhi
16. Tables and Figures, IASGCON, 10 October 2019, New Delhi
17. Case discussion for stone disease 39th SIU Meeting, 16-20 October 2019, Athens, Greece
18. EBM for drug therapy for infertility, 39th SIU Meeting, 16-20 October 2019, Athens, Greece
19. Pseudojournals, 39th SIU Meeting, 16-20 October 2019, Athens, Greece
20. The editorial process 39th SIU Meeting October 16-20, 2019 Athens, Greece
21. Scientific misconduct BARICON 2019 16-Nov-19 New Delhi
22. Landmark papers in Urology NZUSICON 2019 17-Nov-19 NOIDA
23. Radical Prostatectomy Vs Active Surveillance in low risk CaP USICON 2020 23-26 January 2020 Kochi
24. Changing paradigm in BPH Management USICON 2020 23-26 January 2020 Kochi
25. Case studies from the IJU USICON 2020 23-26 January 2020, Kochi
26. Pinnamaneni Venkateshwara Rao Oration: Male infertility in the Indian patient USICON 2020 23-26 January 2020, Kochi
27. Panel discussion: Research in Healthcare SASH 2020, 22-23 February, 2020, New Delhi
28. Uro-oncology in the IJU EBM Conference TMH, 1-Mar 2020, Mumbai

### **Prabhjot Singh**

1. Laproscopic Instruments in Urology 1st Midterm CUE of North Zone Urological Society of India, 6 April 2020, Dehradun
2. Panelist: Right treatment for the right patient at right time in mRCC Symposium on metastatic RCC organised by Pfizer, 19 April 2019, New Delhi
3. Moderator for TURP module session Uroweb series, Olympus Training Centre, 27 August 2019, Gurgaon
4. Steps of TURP lecture and Moderator for TURP module session Uro MET –Resident course conducted by Urological Society of India at Olympus training centre, 31 August-1 September 2019, Gurgaon
5. Moderator for Expert Group Meeting (Urogenital) Extra-pulmonary TB Module Development’ 13 September and 23 October 2019, New Delhi
6. Video presentation on Complications in Lap/robotic urology-oncology case (Adrenal Surgery) Masterclass in Uro-oncology and Live Operative Minimally Invasive Surgery Workshop, 21-22 September 2019, New Delhi

7. Panelist in metastatic Renal Cell Carcinoma: Challenges in India, Advanced RCC and metastatic RCC: Management CME, 25 September 2019, New Delhi
8. Tips and tricks in RIRS: How I do it Best of AUA 2019 Annual meeting, 28-29 September 2019, New Delhi
9. Anatomy of Urostomy IASGCON Stoma Workshop, 12 October 2019, New Delhi
10. Step by step video presentation on Laparoscopic transperitoneal nephrectomy 37th World congress of Endourology October 29- November 2, 2019 Abu Dhabi / United Arab Emirates
11. How to prepare SOPs for preparation of e SET modules Content development workshop-2 December 5 2019 New Delhi
12. Steps of TURP lecture and Moderator for TURP module session
13. Uro MET –Consultant course conducted by Urological society of India USI at Olympus training centre, 28-29 December 2019, Gurgaon
14. Moderated Mentored TURP Skill lab 53rd Annual Conference of Urological Society of India, 23-24 January 2020, Kochi
15. HPV in Ca Penis: Impact on staging 2nd World Congress on Cancer, 6 February 2020, Jaipur

### **Rishi Nayyar**

1. Robotic pyeloplasty: challenging scenarios, Robotics in Urology: current and future trends, 23-24 August 2019, Rishikesh
2. Moderator/Subject expert (Genitourinary TB) Expert group meeting on extra-pulmonary TB module development in collaboration with WHO-SEARO and CTD (MoH&FW), 13 September and 23 October 2019, New Delhi
3. Approach to a patient with hematuria National Continuing Medical Education Programme in Surgery, 26 September 2019, New Delhi
4. Urodynamics and urogynecology, Pre-congress urogynecology workshop of 41st annual conference of AOGD, 26 September 2019, New Delhi
5. Management of Total incontinence after TURP/HoLEP: When to do? What to do? Best of AUA, 28-29 September 2019, New Delhi
6. Panelist: LUTS in a young man Best of AUA, 28-29 September 2019, New Delhi
7. Panelist: Current diagnosis and management of SUI 41st annual conference of AOGD, 29 September 2019, New Delhi
8. Chaired Moderated video session (Minimally invasive surgery), 39th SIU Congress, 17-20 October 2019, Athens, Greece
9. Landmark trials in Urology: Infections NZUSICON 2019, 15-17 November 2019, Greater Noida
10. Redo female urethral strictures and pelvic fracture associated urethral stricture reconstruction, USI-INUS Neuro-urology session at USICON 2020, 23-26 January 2020, Kochi
11. Panelist: Spinal lesions – Interactive case discussion USI-INUS Neuro-urology session at USICON 2020, 23-26 January 2020, Kochi
12. Panelist: Male LUTS Urodynamics and functional Urology at USICON 2020, 23-26 January 2019, Kochi
13. Semi-live surgery demonstration: Lap sigmoid vaginoplasty UAUCON 2020, 1 March 2020, Orchha
14. Panelist; UTI's in females and pregnancy, UAUCON 2020, 1 March 2020, Orchha

### **Brusabhanu Nayak**

1. Panelist in right treatment for right patient at right time in mRCC, Symposium on metastatic RCC by Pfizer, 19 April 2019, New Delhi
2. Advances in the management of Hormone sensitive prostate cancer Uro-oncology Workshop YUWACON 2019, 3-4 August 2019, Ghaziabad
3. Anterior urethral stricture in uncircumcised men: Local skin 17th UAA Congress 2019, 7-10 August 2019, New Delhi
4. Genetic testing in prostate cancer: Clinical implication in early detection, localized disease and CRPC USI-AUA Board review course, 16-18 August 2019, New Delhi
5. Moderator for live robotic radical cystectomy session International workshop on Robotics in urology: current & future trends, 23-24 August 2019, Rishikesh
6. Panelist in metastatic RCC challenges in India Advanced and metastatic RCC management CME, 25 September 2019, New Delhi

7. Oligometastatic bladder cancer: Should we be aggressive USI -2020 Annual meeting, 23-26 January 2020, Kochi

### Sanjay Kumar

1. Stoma types and its care 7th Annual general meeting of the Ostomy Society along with 29th annual general meeting of Indian Ostomy Society, 3 November 2019, New Delhi

### Oral papers/posters presented

1. Dadhwal R, Jain S, Seth A, Bal CS. Primary well differentiated neuroendocrine tumor of urinary bladder – a rare case report, NZUSICON, 15-17 November 2019, Greater Noida (**Best Free Poster session 6 at NZUSICON 2019 – 2<sup>nd</sup> prize**)
2. Dadhwal R, Nayyar R, Kapil A, Pandey RM. Intra-Urethral Flora and Post-Cystoscopy Urinary Tract Infection in Males - A Clinical Study, USICON, 23-26 January 2020, Kochi
3. Dadhwal R, Nayyar R, Singh P, Nayak B, Kumar R, Seth A. A Large Contemporary Experience of Renal Tumors in Young Adults and Adolescents: Clinico-Pathological Profile and Long Term Survival Patterns, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
4. Garg H, Kaushal S, Nayak B, Singh P, Ramteke P, Sarangi J. Carcinoid tumor masquerading as testicular tumor, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
5. Garg H, Kumar M, Gupta N, Sharma A, Kaushal S, Kumar R, et al. Glucose-regulated protein 78 (GRP78) in renal cell carcinoma: A novel biomarker for predicting tumor behavior, NZUSICON, 15-17 November 2019, Greater Noida (**Best Research Paper- Marudhara Jodhpur Prize session at NZUSICON 2019 – 1<sup>st</sup> prize**)
6. Garg H, Kumar S, Kaushal S, Seth A. Isolated Immunoglobulin G4 related disease masquerading as a testicular malignancy, NZUSICON, 15-17 November 2019, Greater Noida (**Best Free Poster session 3 at NZUSICON 2019 – 1<sup>st</sup> prize**)
7. Garg H, Nayak B, Seth A, Kumar A, Singh P, Nayyar R, et al. Survival analysis and predictors of long term outcomes following radical nephrectomy with inferior vena cava thrombectomy in renal cell carcinoma, USICON, 23-26 January 2020, Kochi
8. Garg H, Nayak B, Singh P, Seth A, Nayyar R. Outcomes of radical nephrectomy with inferior vena cava thrombectomy in the management of renal cell carcinoma, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
9. Garg H, Singh P, Nayak B, Kaushal S, Seth A. Cystitis cystica: knowing the nature of unknown voiding dysfunction, NZUSICON, 15-17 November 2019, Greater Noida (**Best Poster in CMC Ludhiana Poster Session at NZUSICON 2019 – 1<sup>st</sup> prize**)
10. Garg H, Singh P, Nayak B, Kaushal S. Cystitis Cystica: Knowing the Nature of Unknown Voiding Dysfunction, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
11. Goel R, Jain S, Seth A, Kaushal S. Gentle giant cystic pheochromocytoma. A silent entity with high surgical risks. A rare case report with review of the literature, NZUSICON, 15-17 November 2019, Greater Noida (**Best Free Poster session 6 at NZUSICON 2019 – 1<sup>st</sup> prize**)
12. Goel R, Seth A, Jain S BK. Polyoma virus associated urothelial malignancy of the graft kidney posing an immunological and surgical challenge. A highlight into intra-operative difficulties and brief review of the literature, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
13. Goel R, Seth A, Jain S BK. Polyoma Virus associated urothelial malignancy of the graft kidney posing an immunological and surgical challenge. A Highlight into intra-operative difficulties and brief review of the literature, USICON, 23-26 January 2020, Kochi
14. Gurnani N, Goel R, Jain S. Conservative management of high grade stab kidney injury: a case series, NZUSICON, 15-17 November 2019, Greater Noida
15. Gurnani N, Kumar M, Kumar R. Unilateral versus bilateral vasoepididymostomy: a randomised controlled trial, USICON, 23-26 January 2020, Kochi
16. Gurnani N, Nayak B, Singh P, Nayyar R, Seth A. Small cell carcinoma of urinary bladder. Experience at a tertiary care institute, NZUSICON, 15-17 November 2019, Greater Noida
17. Jain S, Goel R, Bansal D. Diagnosis and management of false urethral anastomosis in case of posterior urethral trauma, 37th World congress of Endourology, 29 October 2019, Abu Dhabi, UAE
18. Kumar L, Kumar S, Dogra PN. Robotic VVF Repair, NZUSICON, 15-17 November 2019, Greater Noida.
19. Kumar L, Nayyar R, Nayak B, Singh P, Kumar R, Seth A. Pyeloplasty for pelviureteric junction obstruction in anomalous kidneys: an experience at tertiary care center, USICON, 23-26 January 2020, Kochi
20. Kumar L, Nayyar R. Robot assisted laparoscopic simultaneous bilateral pyeloplasty: a safe, feasible and cost effective technique, Challenges in endourology, 16-18 June 2019, Berlin, Germany

21. Kumar M, Garg H, Gupta N, Kaushal S, Sharma A, Kumar R. Glucose-regulated protein 78 (GRP78) in renal cell carcinoma: A novel biomarker for predicting tumor behavior, 17th Urological Association of Asia Congress (UAA), 7-10 August 2019, Kuala Lumpur, Malaysia
22. Kumar M, Kumar R, Gurnani N. Robotic ureteric reimplant in bilateral single system ectopic ureter in adult, 30th World Congress of Videourology and Advances in Clinical Urology, 13-15 June 2019, Seoul, South Korea
23. Kumar M. Delayed massive hemothorax following removal of nephrostomy requiring thoracic surgery: A rare complication of supracostal PCNL, 4th IAU PCNL & FURS workshop and 8th IAU Annual Conference, 18-22 September 2019, Guangzhou, China
24. Nayak B, Bansal D, Singh P, Seth A, Nayyar R, Ramachandran R. Randomized controlled trial to compare the length of stay, perioperative outcomes and complications in patients undergoing radical cystectomy with and without the enhanced recovery after surgery (ERAS) protocol in a tertiary care center in India, AUA 2019, 3-6 May 2019, Chicago, USA
25. Nayak B, Garg H, Goel R, Singh P, Nayyar R, Kumar R, et al. Contemporary outcomes of open radical cystectomy: A 5 years experience from a tertiary care center, USANZ 2020, 7-10 March 2020, Sydney, Australia
26. Nayak B, Singh P, Gurnani N, Kaushal S. Small Cell Bladder Cancer: Experience from a Tertiary Care Center. 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
27. Nayyar R, Dadhwal R, Kapil A, Pandey RM. Intra-Urethral Flora and Post-Cystoscopy Urinary Tract Infection in Males—A Clinical Study, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece **(Best moderated poster at 39<sup>th</sup> SIU Congress 2019, Athens – 1<sup>st</sup> prize)**
28. Nayyar R, Jain S, Sharma K, Pethe S. A novel bladder tube for traumatic bladder neck contracture in females USICON, 23-26 January 2020, Kochi
29. Panaiyadiyan S, Jain S, Kumar M, Seth A, Kaushal S. Primary Localized Bladder Amyloidosis- The Greater Masquerader NZUSICON, 15-17 November 2019, Greater Noida
30. Panaiyadiyan S, Nayyar R, Seth A, Kumar R, Singh P, Nayak B. Long Term Urinary Continence and Sexual Outcomes Following Successful Vesicovaginal Fistula (VVF) Repair, 39th Congress of Societe Internationale d'Urologie, 17-20 October 2019, Athens, Greece
31. Panaiyadiyan S, Seth A, Kumar R, Singh P, Nayak B, Das CJ, et al. Comparison of standard 12 core systematic TRUS biopsy and Magnetic resonance trans rectal ultrasonographic fusion biopsy in the detection of prostate cancer: A prospective randomized study, USICON, 23-26 January 2020, Kochi
32. Sharma P, Nayyar R. Lap Assisted reconstruction of Sigmoid neovagina in MRKH syndrome, Challenges in endourology, 16-18 June 2019, Berlin, Germany
33. Singh P, Kumar S, Seth A, Kaushal S. Leiomyoma of the urinary bladder: A rare case report, NZUSICON, 15-17 November 2019, Greater Noida
34. Singh P, Sahil P, Nayak B, Nayyar R, Seth A. Management of common etiology of incontinence at unusual age, USANZ 2020, 6 March 2020, Sydney, Australia
35. Singh P, Sharma K, Kumar M, Kumar R, Seth A. Emphysematous urethritis and cystitis: A Rare Entity, NZUSICON, 15-17 November 2019, Greater Noida

## RESEARCH

### Funded projects

#### *Ongoing*

1. Clinical value of patient-specific three-dimensional printing of kidney before partial nephrectomy: Quantitative and qualitative assessments, Rishi Nayyar, AIIMS, 2 years, 2018-20, Rs 5 lakhs
2. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Prabhjot Singh, ICMR, 3 year, 2019-2022, Rs 100 lakhs
3. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, Brusabhnanu Nayak, ICMR, 3 years, 2019-2022, Rs 43.05 lakhs
4. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4 and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumour behaviour, Manoj Kumar, AIIMS, 2 years, 2019-2021, Rs 5 lakhs per year
5. The Role of 68Ga-PSMA-PET/CT Scan as a Staging Modality in Prostate Cancer, Sanjay Kumar, ICMR, 3 years, 2019-2022, Rs 48.85 lakhs
6. To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and biopsy findings, Siddharth Jain, AIIMS, 1 year, 2019-2020, Rs 5 lakhs

### **Completed**

1. A multicenter, prospective, longitudinal registry of patients with prostate cancer in Asia, Amllesh Seth/Prabhjot Singh, Jansen, 3 years, 2016-2019, Rs 14 lakhs
2. Human papillomavirus status in penile carcinoma in Indian patients: Incidence, type distribution and correlation with Clinico-pathological staging, Prabhjot Singh, AIIMS, 3 year, 2016-2019, Rs 9.5 lakhs
3. Identification of Glucose related protein 78 (GRP78) as a biomarker for tumor behavior in patients of renal cell carcinoma (RCC), Manoj Kumar, AIIMS, 2 years, 2017-2019, Rs 10 lakhs
4. The prognostic role of circulating tumor cells (CTC) & CXCR1 expression in tumor tissue in patients with metastatic clear cell RCC: A prospective observational longitudinal cohort study, Brusabhanu Nayak, AIIMS, 2 years, 2018-2020, Rs 8.5 lakhs

### **Departmental projects**

#### **Ongoing**

1. Evaluation of seminal biomarkers for the diagnosis of obstruction as the cause of azoospermia in infertile men
2. Long-term outcomes of RARP
3. Long-term sexual and incontinence outcomes in patients undergoing VVF repair
4. Prospective study to evaluate the etiology of Voiding Lower tract symptoms in young male patients
5. Radiological anthropometric assessment of various bolster positions for PCNL
6. Randomized controlled trial to compare standard Mitomycin, HIVEC and BCG for intermediate risk bladder cancer
7. Role of mp MRI using VIRAD (Version 1) in predicting the stage and grade of disease in carcinoma urinary bladder
8. Role of redo/extended medical expulsive therapy in patients of ureteric calculus
9. Role of urethral povidone-iodine instillation before catheterization in routine urological surgery
10. Unilateral versus bilateral vasoepididymal anastomosis: prospective randomized trial

#### **Completed**

1. Clinicopathological profile of renal tumors in pediatric, adolescent and young adult population
2. Cold cup versus loop biopsy for restaging of cancer bladder during TURBT
3. Comparison of electrocautery versus ultrasonic shears in laparoscopic nephrectomy
4. Does intra-urethral flora have a role in post-procedural incidence of urinary tract infection in healthy males undergoing endourological procedure—a clinical study

### **Collaborative projects**

#### **Ongoing**

1. A prospective randomized control trial to compare the efficacy of darifenacin versus mirabegron for treatment of overactive bladder, Obstetrics and Gynaecology
2. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology, Radiology
3. Clinico-microbiological profile and outcome of patients with Urosepsis, Microbiology
4. Evaluation of incontinence in patients undergoing bariatric surgery, Surgery
5. Hemodynamic profile in the perioperative period in patients undergoing pheochromocytoma and paraganglioma surgery with and without low dose diltiazem infusion, Anaesthesiology
6. Incidence of various urogynecological problems in post-partum patients and its relation to the mode of delivery, Obstetrics and Gynaecology
7. In-vitro urinary and serum NMR based metabolomics in prostate cancer, NMR
8. Molecular profiling and phenotype-genotype correlation of patients with pheochromocytoma/paraganglioma: Deciphering implications in management and prognostication, Pathology
9. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with Pheochromocytoma and paraganglioma undergoing surgical tumor removal: a prospective observational cohort study, Anaesthesia
10. Role of Gene Xpert urine in GUTB patients, Medicine
11. Role of In-bore MR guided Biopsy in detection of Prostate Cancer, NMR

12. Study of Association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in Infertile Men, Anatomy
13. Telomere status and DNA repair mechanisms in idiopathic male infertility, Anatomy
14. Ultrasound Guided Erector Spinae Plane Block for Postoperative Analgesia in Patients undergoing Percutaneous Nephrolithotomy – A double-blinded, randomized controlled trial, Anesthesia

### **Completed**

1. Comparison of 18f-fluoromethylcholine and 68ga-PSMA PET/CT in restaging of patients with adenocarcinoma prostate, Nuclear Medicine
2. Comparison of 68Ga-PSMA PET/CT and 18F-NaF PET/CT for detection of bone metastases in high risk prostate cancer patients, Nuclear Medicine
3. Comparison of urodynamic study and vaginal pessary test to unmask occult SUI in patients undergoing vaginal surgery for uterine prolapse, Obstetrics and Gynaecology
4. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer, Nuclear Medicine

### **PUBLICATIONS**

**Journals: 27**

**Abstracts: 14**

**Chapters in Books: 6**

### **PATIENT CARE**

#### **Main Hospital OPD**

New cases: 14282

Old cases: 41284

#### **BRAIRCH Uro-malignancy clinic**

New cases: 24 Old Cases: 3090

#### **Andrology and Infertility Clinic**

New cases: 825 Old cases: 1125

#### **Admissions**

Long Admissions: 1622 Short Admission: 1038

Discharges: 2449

#### **Main OT Surgical Procedures: 2127**

#### **Open surgery: 447**

Radical cystectomy	33	Radical or cytoreductive nephrectomy	39+5
Simple nephrectomy	15	Radical nephrectomy with IVC thrombectomy	5
Salvage cystectomy	1	Radical Nephroureterectomy	8
Partial cystectomy	1	Radical cystectomy with nephroureterectomy	3
End To End Urethroplasty	17	Partial nephrectomy	14
Anterior lay open	4	RPLND	5
Augmentation Cystoplasty	5	Graft urethroplasty	22
Adrenalectomy	2	Second stage closure	5
Paraganglioma excision	1	Pyeloplasty	7
Ureteric Reimplant	16	Boari flap	2
VVF repair	23	Total penectomy	2
Partial Penectomy	14	Orchidopexy/orchiectomy (undescended testis)	3
Hypospadias repair	4	AUS implantation/Penile prosthesis	6
Cystolithotomy	2	TVT/TOT	2
Perineal urethrostomy	6	Ilioinguinal lymph node dissection	10

High Inguinal Orchiectomy	14	Circumcision	33
Simple orchidectomy	64	Others	54

**Endourology: 1379**

Upper tract: 410		Lower tract : 969					
PCNL	191	TURP/TUIP/TUEB	89	CLT	32	DJS	292
URS	154	TURBT	282	PCCLT	1	DJR	44
RIRS	56	TUR fulguration	23	HOLEP	3	OIU/BNI/ Endodilatation	30
PCNUL	6	TURED	1	HOLCT	0	Deflux injection	1
Endopyelotomy	3	Clot evacuation	0	PVP	4	Laser welding	0
		Endoevaluation	54	Ureterocele incision	2	Others	111

**Laparoscopic: 166**

Radical nephrectomy	36	Partial nephrectomy	4
Simple nephrectomy	57	Adrenalectomy	19
Retroperitoneoscopic nephrectomy/nephroureterectomy	10	Radical Nephroureterectomy	8
Pyeloplasty	14	Ureterolithotomy	8
Pyelolithotomy	3	Paraganglioma excision	2
Simple nephroureterectomy	2	Others	3

**Robotic: 109**

Radical prostatectomy	34	Pyeloplasty	35	Others	2
Partial nephrectomy	37	Simple prostatectomy	1		

**Microsurgery: 26**

VEA	15	VVA	1	MVL	6	Scrotal exploration	4
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**Minor OT: 14424**

Endoscopic	3138
Open	1
Minor cases	4811
Uroflowmetry	6111
Urodynamic Study	363

**ESWL: 1042**

New cases	316	Old cases	726
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**Ultrasound procedures: 225**

Prostate TRUS biopsy	149	SPC	3
MRI- TRUS Fusion biopsy	44	PCN	5
In Bore biopsy	18	USG	6

## Community services/camps

1. Several health talk shows on Doordarshan (Amlesh Seth)
2. Participated in Health camp at Naudera, Pratapgarh, UP, 7 December 2019 (Prabhjot Singh)
3. Good evening India-Health talk on Urological diseases: prevention and general treatment measures, DD National, 2 May 2019 (Rishi Nayyar)
4. Participated in medical camp at Leh, Ladakh, 30 September to 4 October 2019 (Brusabhanu Nayak)

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Residents

- 'USI Olympus Travel Fellowship Award' 2020, for Harshit Garg from USI
- 'DUSCON Achiever's Award' 2019, for Rohit Dadhwal and Harshit Garg from NZUSI
- 'SIU Resident Scholarship 2019' for Dr Harshit Garg from SIU

**Professor Amlesh Seth** is Executive council member—World Uro-Oncology forum; President-North Zone Chapter Urology Society of India; Chairman—Committee of ICMR for Standard Treatment Workflows in Urology; Chairman- Urology Expert Group for consultation on Health Benefit Packages with NHA under PM JAY; Member- Subject Expert Committee on Urology and Reproduction under DCGI; Interviewed by Rajya Sabha TV for their special series called "Eureka" for encouraging young students in the field of science, technology and research; Invited Lecturer- SIU at Athens Greece, October 2019; Invited Lecturer- EAU at Amsterdam, Netherlands, March 2020.

**Professor Rajeev Kumar** participated in Pinnamaneni Venkateswara Rao Oration, Urological Society of India (2020), SIU Lecture, USANZ Annual Scientific Meeting, April 2019, Brisbane, Australia; is Faculty for workshops on Scientific medical writing: (a) Scientific medical writing: Pre-conference workshop, IPHACON, AIIMS New Delhi, 28 February 2020 and (b) Workshop on Peer Review, Indian Pedodontics Society, AIIMS, New Delhi: 19 May, 2019. He is also Associate Dean (Academics), AIIMS, New Delhi; Co-Chair Scientific Committee and Member, Board of Directors, *Société Internationale d'Urologie*; Chairman Scientific Committee and Co-opt executive member, *Urological Association of Asia*; Chief editor, *Indian Journal of Urology*; Associate editor, *National Medical Journal of India*; International consulting editor, *Journal of Urology*; Editorial board member, *Indian Journal of Medical Research*; Editorial board member, *Journal of Endourology*; Executive member, *British Journal of Urology International*; Associate editor, *International Journal of Urology*; Editorial board member, *Investigative and Clinical Urology*; Editorial board member, *Asian Journal of Urology*; Secretary, *World Association of Medical Editors (WAME)*; Honorary secretary, *Indian Association of Medical Journal Editors*

**Dr Prabhjot Singh** was awarded Achiever's award 2019 from Delhi Urological Society, December 2019; Panel member as subject expert (Urology) for development of modules for diagnosis and management of extra-pulmonary TB; Certificate of appreciation for academic contributions to the SET facility, at AIIMS, New Delhi, Jan 2020

**Dr Rishi Nayyar** is certified as 'Robotic console surgeon' by Intuitive surgical, USA; Best moderated e-poster (MP02: Basic science/Infections) at 39th Congress of SIU at Athens, Greece, October 2019; Panel member as subject expert (Urology) for development of modules for diagnosis and management of extra-pulmonary TB; First description of 'Nayyar's Smiley bladder sign and Stalagnate in bladder', November 2019; First description of 'Nayyar's tubed Bladder flap repair', December 2019; First retroperitoneoscopic partial nephrectomy at AIIMS, New Delhi ; First robotic retroperitoneoscopic partial nephrectomy at AIIMS, New Delhi; Achiever's award 2019 from Delhi Urological Society, December 2019; Certificate of appreciation for academic contributions to the SET facility, at AIIMS, New Delhi, January 2020; Certificate of Appreciation in the 1st International Cartoon Contest on Liver Health Awareness, ILBS, 2019; Awarded Scroll of honour for being a Mentor in 'UroEducation and UROMET' for ISU-USI, January 2020; Awarded MIUC International Fellowship 2020 by USI (to be presented at USICON 2021); Co-opted member and subject expert (Urology) for DTAB under DGHS, Office of DCGI; Semi-Live Surgical Demonstration of 'Lap sigmoid Vaginoplasty' at UAUCON, Orchha, March 2020; Core Faculty for the Board of Education of Urological Society of India UROMET program; Faculty for the SET (Skill-e Learning-Telemedicine) Facility; Member of the Subject Expert Committee (SEC) (Reproductive and Urology) under DGHSs, Office of DCGI (India); Editorial committee member, *Indian Journal of Urology*.

**Dr Brusabhanu Nayak** was awarded 2020 JUA Asian Scholarship; Certificate of appreciation for academic contributions to the SET facility, at AIIMS, New Delhi, January 2020

## VISITING SCIENTISTS

1. Dr Nikhil Vasdev, Consultant Urological Surgeon, UK.
2. Dr Ashok K Hemal, Director, Robotic Urologic Surgery and Minimally Invasive Surgery, Wake Forest Baptist Health Medical Center, Winston Salem, North Carolina, USA.

## 10.1. Cardiothoracic Centre

### Cardiology

#### Professor and Head

VK Bahl

#### Professors

Anita Saxena  
KC Goswami  
Rakesh Yadav  
Gautam Sharma

SS Kothari

S Seth

N Naik

S Singh

S Ramakrishnan

Balram Bhargava (on deputation)

Sandeep Mishra

G Karthikeyan

Ambuj Roy

#### Additional Professors

Saurabh K Gupta

#### Associate Professors

Deepti Siddharthan

Satyavir Yadav

Raghav Bansal

### Cardiothoracic and Vascular Surgery

#### Professor and Head

SK Choudhary

#### Professors

UK Chowdhury

Milind P Hote

AK Bisoi

V Devagourou

Sachin Talwar

#### Additional Professors

Manoj Kumar Sahu

P Rajashekar

#### Associate Professors

Sarvesh Pal Singh

Ramesh P Menon

#### Assistant Professors

Pradeep Ramakrishnan

Ummed Singh Dhatteval

Sukhjeet Singh (On Contract)

### Cardiac Anaesthesiology

#### Professor and Head

Sandeep Chauhan

#### Professors

Neeti Makhija

Sambhunath Das

Poonam Malhotra Kapoor

Parag Gharde

Minati Choudhury

Vishwas Malik

#### Associate Professors

Suruchi Hasija

Arindam Choudhury

### Cardiac Biochemistry

#### Professor

Lakshmy Ramakrishnan

#### Scientist I

Manoj Kumar Tembhe

### Cardiac Nuclear Medicine

#### Professor

Chetan D Patel

**Cardiac Pathology**

**Professor**

Ruma Ray

**Additional Professor**

Sudheer Kumar Arava

**Cardiovascular Radiology and Endovascular Interventions**

**Professor and Head**

Sanjiv Sharma

**Professor**

Priya Jagia

**Associate Professor**

Sanjeev Kumar

**Stem Cell Facility**

**Professor**

Sujata Mohanty

**Blood Transfusion Services**

**Chief Medical Officer**

Anjali Hazarika

**Assistant Professor**

Gopal Kumar Patidar

**Sup. Medical Social Service Officer**

Mrs Veena Belani

**Chief Technical Officer**

Gulshan Mehta

Bijay Majhi

Gajendra Singh Chauhan

**HIGHLIGHTS**

**Cardiology**

During this year the Department catered to nearly 1,40,000 outpatient visits. Over 35,000 patients underwent echocardiography and about 3000 diagnostic cardiac catheterizations were performed. More than 3000 patients underwent interventional procedures including angioplasty, device implantations and balloon valvoplasties.

During this period, the Department participated in several research projects studying patients across a wide spectrum of cardiac disease. Important publications relating to STEMI, hypertension, heart failure, rheumatic heart disease, and congenital heart disease were published in high-impact scientific journals. We organized major cardiology meetings including CSI National Conference 2019 and India Live 2020. The faculty of the Department are part of major cardiology journals including Heart Asia, Indian Heart Journal, Annals of Pediatric Cardiology and JPCVS. Various faculty members were part of important committees.

In addition to patient care, research and teaching, the department was involved in a major way in furthering the academic discourse in cardiology in the country. Faculty members from the Department have been elected to executive positions in the national and regional cardiology bodies and have helped refocus on the academic agenda.

**Cardiothoracic and Vascular Surgery**

The entire spectrum of patients encompassing the field of Cardiothoracic and Vascular surgery and comprising surgery for congenital heart defects, acquired cardiovascular diseases were catered to in the outpatient clinic, three days a week and the aortic clinic two days a week. With the department of Cardiology, more than 10,500 patients were treated on an inpatient basis and close to 200,000 patients were attended to in the outpatient services. More than 3500 patients suffering from all types of congenital and acquired cardiac defects underwent surgery with results comparable to the best centres in the world. Another focus was on research, publications and collaboration with national and international centres. The departmental faculty delivered 55 invited lectures and had more than 25 plus publications in peer reviewed national and international journals. In the field of intensive care, the department conducted several seminars and guest lectures. Four workshops including 1 wet lab were conducted encompassing lung transplantation and other topics. The department and

intensive care team were actively involved in the field of infection control practices and developed post-cardiac surgery ICU care protocols. The department was actively involved in the longest run VV ECMO (92 days) unsuccessfully in a 120-kg female patient with ARDS following H1N1 pneumonia in Pulmonary Medicine ICU, a first in India. The physiotherapy unit of the department was actively involved in organizing many physiotherapy workshops and was actively involved in the conduct of funded and collaborative projects.

### **Cardiac Anaesthesiology**

The Faculty and Residents from the department were awarded during National and International Conferences. All Professors and Additional Professors were examiners for DM Cardiac Anaesthesia, MD Anesthesia and DNB Anaesthesia courses all over India. The department has been a pioneer in starting a Fellowship in Pediatric Cardiac Anaesthesia and was sanctioned to start Fellowship in Vascular Anaesthesia soon. All faculty in the department are Editors, Editorial board/ Review members of various national and international Cardiac Anaesthesia, Anaesthesia and Echocardiography journals. Dr Poonam Malhotra has completed her term as President of IACTA (non-elected), is continuing as President of SCA-Delhi and NCR Branch (non-elected) and became Past President of ECMO Society of India (non-elected). She is Editor-in-chief of Journal of Cardiac Critical Care (JCCC).

### **Cardiac Biochemistry**

The department caters to inpatients and outpatients of cardiothoracic center. For several investigations done in the department, patients are referred from other departments as well as other institutions. Quality of analysis is being ensured in the department through participation in several EQAS programs. The department is active in research as evidenced by seven extramural grants as chief investigator and many collaborative projects involving several departments. Two students are currently pursuing PhD and faculty from cardiac biochemistry is involved in five other PhD theses as co-guide. Faculty of the department is involved as technical advisory committee member for a nutrition survey being conducted by UNICEF and health ministry. The faculty from the department is also part of the technical advisory committee for Andhra Pradesh government for a project on chronic kidney disease. This is in addition to being an expert member of project review committee for ICMR in the area of non-communicable diseases and endocrinology.

### **Cardiac Nuclear Medicine**

Nuclear Medicine in Cardiothoracic Centre is equipped with a Dual Head SPECT-CT Gamma Camera on which diagnostic nuclear cardiological procedures are performed. The unit is also actively involved in teaching and research work. Postgraduate students in Nuclear Medicine MD and MSc are trained on rotational basis in nuclear cardiology procedures. The unit is involved in thesis or research work of 8 DM, MD, PhD and MSc students where nuclear cardiology is part of their research work. Myocardial SPECT studies with Tc99m-labeled tracers and PET studies with F-18 FDG are routinely performed. We started the use of other PET radiotracers such as Gallium-68 DOTANOC for cardiac sarcoidosis, cardiac infective and inflammatory pathologies. We have assessed the feasibility of F-18 FDOPA for evaluation of cardiac sympathetic innervations. Recently we started imaging for detection of cardiac amyloidosis using Tc99m PYP. The unit is involved in an international multi-center research project titled "International study on imaging in Cardio-Oncology Study (iCOS)", funded by International Atomic Energy Agency, Vienna, Austria. We have been collaborating with other departments in funded project, one of which is funded by International Atomic Energy Agency.

### **Cardiovascular Radiology and Endovascular Interventions**

The faculty of the department delivered lectures at various national and international scientific meetings. The department hosted observers from various places in India and abroad. They received training in various aspects of cardiovascular imaging and endovascular interventions. The faculty are members of editorial boards and reviewers for numerous scientific journals.

### **Stem Cell Facility**

The Department of Biotechnology (DBT), Government of India has extended its financial support in Phase II, for the next 3 years towards developing the Facility as a Centre of Excellence in Stem Cell Research. The Facility is currently engaged in 9 projects in collaboration with other departments of AIIMS and funded by DBT, ICMR, DST, IUSSTF, AIIMS, etc. 16 PhD researchers and 7 MD, DM students are registered for degree, along with a 4 Scientists and 1 DST-Young Scientist are currently recruited in government funded projects at the Facility. Research scholars from other reputed institutes of India such as IISER Mohali, IIT Delhi, IIT Guwahati, IIT Kharagpur, Delhi University-South Campus, IGIB, NII, THSTI, NBRC, ICPO have also been co-supervised in their PhD work. The facility has published 16 papers in high impact peer reviewed journals and presented at various scientific forums (meetings, conferences). Faculty is involved in several reputed international scientific organizations as a member of the editorial board committee in Scientific Reports (Nature publishing group), Translational Surgery, current Trends in Stem cells and Regenerative Medicine, Insights in Stem Cells, etc. Faculty is also an active member of various International & National bodies like International Society for Cellular

Therapy (ISCT), International Society for Stem Cell Research (ISSCR) and International Society of Biological Chemists, Indian Science Congress (ISC), Indian Immunology Society (IIS). The facility has initiated scientific collaborations with five international universities (University of Michigan, Bridgeport University, Indiana University and Purdue University, USA and Iran University of Medical Sciences, Iran).

### **Blood Transfusion Services**

The round-the-clock transfusion needs of patients admitted in the Centre by collecting, processing and providing safe and quality blood and blood components. The activities include both inhouse and outdoor blood collection, blood donor motivation and pre-donation and post-donation counseling, blood component preparation, various serological tests and special procedures like apheresis and therapeutic phlebotomy. Components such as packed red cells, plasma, fresh frozen plasma, platelet rich plasma, platelet concentrate, cryoprecipitate, leucodepleted red cells and platelets are available at all times. Facility for Apheresis procedures and autologous donation is available. Surplus plasma is being sent for plasma product fractionation. Blood components are subjected to irradiation for heart transplant patients.

Serological tests performed in the BTS include tests for blood grouping, screening for irregular antibodies, compatibility tests using latest technology like column agglutination and SPRCA assay. Every unit of blood collected is tested for transfusion transmissible infections like Hepatitis B, Hepatitis C, HIV-1 and 2, syphilis, Malaria. Automation is used in most of the laboratories in the department for better output and quality. Donor blood samples are also being subjected to NAT (Nucleic Acid Amplification test) screening as an additional screening test to detect HIV/HCV/HBV and thus improve blood safety. **Pneumatic Tube System** is available for transporting Patient blood samples and forms. Computerisation of the Blood Bank procedures through e-blood bank software module by NIC, for real time data generation and integration with the HIS is in place.

## **EDUCATION**

### **Cardiology**

Department of Cardiology is involved in the education and training of undergraduate, postgraduates. The daily academic activities include journal club, mortality meeting, cath conferences, short and long seminars, debates, clinical case discussion and spotters by faculty. The departmental faculty also organized ACLS training Courses for undergraduates, postgraduate and paramedics, short term/long term training and various innovative educational activities.

### **CMEs/Workshops/Symposia/National and International Conferences**

1. CSI 2019, 5-8 December 2019, New Delhi
2. India Live 2020, 27 February-3 March 2020, New Delhi
3. Arrhythmia and electrophysiology ISHR, 22 and 23 February 2020, New Delhi

### **Lectures delivered**

#### **VK Bahl**

1. Left main bifurcation: How I do it?, EuroPCR, 21-24 May 2019, Paris, France
2. Recent trials in interventional cardiology, CSI-STEMI, 1 and 2 June 2019, Kolkata
3. Debate: 2 stent strategy should be default in left main bifurcation angioplasty, Complex Coronary Conference, 13 June 2019, New York, USA
4. Interventional Trials of 2018 which will effect the way Cardiologists will Practice in 2019, 11th Asia Pacific Vascular Intervention Course (APVIC-XI), 28 June 2019, New Delhi
5. Debate: 2 stent strategy should be default in left main bifurcation angioplasty, Chip India, 2019, 13 July 2019, Chennai
6. Bifurcation angioplasty: Tips and tricks, C3 India, 18 August 2019, Chandigarh
7. Challenges and controversies of recent trials, CSI 2019, 6 December 2019, New Delhi
8. Moderator, Complex cases, ICI, 8-10 December 2019, Israel

#### **Anita Saxena**

1. Caring of patients with pulmonary hypertension: Beyond medical management, Symposium on Pediatric PAH, 13 April 2019, Mumbai
2. Newer aspects in management of congestive cardiac failure, CME SJ Hospital, 15 June 2019, New Delhi
3. Congestive heart failure, Indian Academy of Pediatrics CME, 14 July 2019, Jaipur
4. Shock in Children, Indian Academy of Pediatrics CME, 14 July 2019, Jaipur

5. Cyanotic Heart Disease in Adults: Case Studies, PCSI CME, 3 August 2019, Bengaluru
6. Rheumatic Fever and Rheumatic Heart Disease: How to suspect and approach and manage a case?, PCSI CME, 4 August 2019, Bengaluru
7. Evidence Based Management of Heart Failure in Children, Heart Failure (SfHFT) conference, 24 August 2019, Mumbai
8. Common outpatient challenges: Incidental murmurs, Chest pain, Pediatric Cardiology CME, 15 September 2019, Chandigarh
9. Clinical evaluation of the cardiovascular system: What every pediatrician should do?, Pediatric Cardiology CME, 15 September 2019, Chandigarh
10. Management of Patients with Pulmonary Hypertension: Beyond Pharmacological Treatment, Leh Symposium, 15 November 2019, New Delhi
11. How to Approach Pregnancy with Congenital Heart Disease: Cardiological Society of India Annual Conference, 7 December 2019, New Delhi
12. Clinical Differentiations of Tetralogy of Fallot from Other TOF Physiology, 12th Clinical Cardiology Update, 18 January 2020, Chennai
13. Cardiac Evaluation in Turner Syndrome, Symposium on Turner Syndrome, 19 January 2020, New Delhi
14. Coarctation of Aorta- How to plan and treat percutaneously? India Live 2020, 29 February 2020, New Delhi
15. Adult Congenital Heart Disease in India: Burden, Challenges and Opportunities:, Women Cardiac Care 2020, 7 March 2020, Ludhiana
16. Congenital Heart Disease and Pregnancy: Pertinent Issues: Women Cardiac Care 2020, 7 March 2020, Ludhiana

#### **SS Kothari**

1. Hemodynamics tracings, The Teaching Programme for Paediatric Cardiology Trainees, 2-4 August 2019, Bengaluru
2. How to present a case? 26th Annual Conference of the Indian College of Cardiology, 21 and 22 September 2019, Kochi
3. Oxygen and congenital heart disease, National Leh Symposium – 2019, 15 November 2019, New Delhi
4. Reversible Cardiomyopathies, Heart Failure Conclave, 24 November 2019, Ludhiana
5. Ethics & cardiology practice, 71st Annual Conference of Cardiological Society of India (CSICON 2020), 5-8 December 2019, New Delhi

#### **Sandeep Mishra**

1. Guideline directed medical therapy for heart failure, 2 Antiplatelets & anticoagulants in current practice, Society of Internal Medicine of Nepal, 3-5 May 2019, Kathmandu, Nepal
2. Calcific left main PCI, 2. Left main trifurcation PCI, SCAI 2019 Annual Meeting 19-22 May 2019, Las Vegas, USA
3. Cases where interventional imaging made a difference, K-Imaging, 6-9 June 2019, Ilsan, Korea
4. Complications in high risk PCI and how to prevent them? Thang Long ICC, 16-18 August 2019, Hanoi, Vietnam
5. How to prevent complications in cath lab? TCT 2019, 25-29 September 2019, San Francisco, USA
6. Moderator and Panelist, CCT 2019, 23-27 October 2019, Kobe, Japan
7. Scaffolds will Disappear Fourth Revolution or Failed Revolution, CHORUS Berlin, 13-15 December 2019, Berlin, Germany
8. How to get your paper published? 2. How to prevent complications in cath lab? 3. Anti-platelets and anti-coagulants in current practice 4. Nanotechnology in Cardiology 5. South Asian Diest and ASCVD, Bangla Cardio 2019, 19-21 December 2019, Dhaka, Bangladesh
9. Focus updates on new technologies: Drug-eluting balloons, bioresorbable scaffolds, Singapore Live 2020, 15-18 January 2020, Singapore
10. Can plastic heart replace organic heart? Scientific & Philosophical Conference, 31 January -2 February 2020, Chennai

#### **N Naik**

1. Antiplatelets and Anticoagulants for AF Patient undergoing PCI, 4th CSI Prevent Annual Meeting, 19 October 2019, Guwahati
2. The dynamic of QT interval and how to measure it, 12 Asia Pacific Hearth Rhythm Society Annual Meeting, 27 October 2019, Bangkok, Thailand

3. Enhancing CRT Response: What to Tinker and What not to Tamper, 11th Indian Heart Rhythm Society Annual Meeting, 15 November 2019, New Delhi
4. Digital Health Population Tools for Arrhythmia Detection and EP: Evidence of Wearables and Apps, Cardiological Society of India Annual Meeting, 5 December 2019, New Delhi

#### **Ambuj Roy**

1. Hypertension target: To SPRINT or not to SPRINT, SIMON- 14th International Conference, 2-4 May 2019, Nepal
2. The role of statins in heart failure, Heart Failure 2019-6th World Congress on Acute Heart Failure, 25-28 May 2019, Greece
3. ACEI or ARNI in Heart Failure, Cardiological Society of India -STEMI COUNCIL and STEMI INDIA Conference 2019, 31 May-2 June 2019, Kolkata
4. Preventing HF Epidemic: Recognizing & Managing the predecessors, Society for Heart failure and transplantation-7th Annual Meeting, 23-25 August 2019, Mumbai
5. Late Breaking Clinical Trials and Insights with Angiotensin Receptor Neprilsyn Inhibitors (Panel Commentator), Heart Failure Society of America- 23rd Annual Scientific Meeting, 13-16 September 2019, United State of America
6. a. HDL and Cardiovascular Diseases, b. CVD Prevention in 2019-Best use of Devices and mobile, Cardiological Society of India- 4th Cardiac Prevent 2019, 18-20 October 2019, Guwahati
7. Clinical evaluation of HFpEF, Heart Failure Conclave, 24th November 2019, Ludhiana
8. Hypertension Management, Training Program of I-TREC study, 3 December 2019, Chandigarh
9. Heart Failure: Removing Failure from Heart Failure Creating a National Strategy for Optimised Management, AIIMS Continuous Medical Education (CME)- First medical education program, 20-21 January 2020, Maldives
10. Management of asymptomatic severe LV dysfunction – what should I do / not do? Heart Failure Association of India – 2020 Conference, 8 and 9 February 2020, Bengaluru
11. Primary PCI for STEMI, ICMR STEMI Workshop for Punjab Medical Officers, 7 March 2020, Chandigarh

#### **S Ramakrishna**

1. Panel discussion on Post MI management, Cardiological Society of India -STEMI COUNCIL and STEMI INDIA Conference 2019, 31 May-2 June 2019, Kolkata
2. Approach and management of pulmonary hypertension, Society for Heart failure and transplantation- 7th Annual Meeting, 23-25 August 2019, Mumbai
3. Hemodynamic spotters, 26th Annual Conference of the Indian College of Cardiology, 21 and 22 September 2019, Kochi
4. PCSI registry – way forward, PCSI 2019, 11-13 October 2019, Atal Nagar
5. Prevention – Jeopardy 2020, 4th CSI Prevent Annual Meeting, 19 October 2019, Guwahati
6. Heart failure quiz, Heart Failure Conclave, 24 November 2019, Ludhiana
7. Data collection – ensuring uniformity, Cardiological Society of India Annual Meeting, 5-8 December 2019, New Delhi
8. Ticagrelor in ACS – Debate, Cardiological Society of India Annual Meeting, 5-8 December 2019, New Delhi
9. Faculty quiz – Jeopardy 2020, Cardiological Society of India Annual Meeting, 5-8 December 2019, New Delhi
10. Quiz for PG, Cardiological Society of India Annual Meeting, 5-8 December 2019, New Delhi
11. Cardiology trials that a PG should know, Cardiology Update, 7-9 February 2020, Mangalore
12. Clinical case discussions, PG Update (SPEED 2020), 15 and 16 February 2020, Bengaluru
13. India Live PG Quiz 2020, India Live 2020, 29 February 2020, New Delhi
14. Cardiac Biomarkers – What is new? ICMR STEMI Workshop for Punjab Medical Officers, 7 March 2020, Chandigarh

#### **Saurabh K Gupta**

1. CHDs and its surgical repair, Birth defect symposium, 20 April 2019, New Delhi
2. Virtual cardiac dissection, Look Beyond 2019 – 1st Pediatric Cardiac Imaging symposium, 31 May-1 June 2019, Mumbai
3. Virtual Cardiac dissection of CT angiographic datasets, Annual Conference of Indian Academy of Cardiac Imaging (IACI), 27 and 28 September 2019, Jaipur
4. Hypertension in children, PCSI 2019, 11-13 October 2019, Atal Nagar

5. Virtual dissection in CHD, PCSI 2019, 11-13 October 2019, Atal Nagar
6. Virtual dissection and stereo virtual dissection, CSI 2019, 5-8 December 2019, New Delhi
7. Virtual dissection of CT Angiographic datasets, Back to basics 2020, 31 January-1 February 2020, Trivandrum
8. 3D printing versus virtual dissection: Which is ideal for surgeons? IACTSCON 2020, 6-9 February 2020, Ahmedabad

#### **Oral papers/posters presented**

1. Arvind B, Kothari SS, Sahu MK, Talwar S, Devagourou V, Hote MP, et al. Ivabradine versus Amiodarone for conversion of Junctional ectopic tachycardia to sinus rhythm in post-operative cardiac surgical patients – A Randomized, Open label, Non-inferiority trial, PCSI 2019, 11-13 October 2019, Atal Nagar
2. Gujral JS, Naik N, Sharma G, Parakh N, Gulati S. To study the prevalence of cardiac channelopathies in children aged 5-18 years undergoing treatment for epilepsy, 11th Asia Pacific Heart Rhythm Conference, 25 October 2019, Bangkok, Thailand
3. Gupta SK. CSI India innovation award 2019 – Virtual dissection and stereo virtual dissection, CSI 2019, 5-8 November 2019, New Delhi
4. Relan J, Gupta SK, Rajagopal R, Ramakrishnan S. Gulati GS, Sharma S, et al. Clarifying morphoanatomy of superior sinus venosus interatrial communication – A computed tomographic study of 100 patients, PCSI 2019, 11-13 October 2019, Atal Nagar

#### **Cardiothoracic and Vascular Surgery**

The Department was actively involved in the teaching of undergraduates, post-graduates, MCh students, MSc (Perfusion technology) students and nurses. Currently 27 students are pursuing MCh in CTVS, four are pursuing DM in cardiac surgical intensive care, two are pursuing fellowship in aortic surgery and six are pursuing MSc (Perfusion technology). 11 students have completed and passed in MCh in CTVS, one has completed and passed in the aortic fellowship and six have completed MSc perfusion in the said period. The Department imparted short term training to 17 postgraduates and six postdoctoral students from within AIIMS New Delhi, one from Jammu and Kashmir, one from Varanasi and six from outside India (two from UK, one from Australia and one from Nigeria).

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Lung transplant Cadaver Workshop-Hands on training, 20 April 2019, New Delhi
2. “ECMO workshop” conducted at 7th Annual Congress of the Society for Heart Failure and Transplantation (SFHFT2019), 23 August 2019, Mumbai
3. Cardio-pulmonary physiotherapy update in CTVS patients, 5 October 2019, New Delhi
4. Cardio-pulmonary physiotherapy update in CTVS patients at AIIMS, December 2019, New Delhi
5. CME on Cardio-pulmonary physiotherapy in Intensive care, 25 January 2020, New Delhi
6. Operative Workshop on “Ozaki Procedure”, 27 and 28 February 2020, New Delhi
7. Wetlab on “Ozaki Procedure”, 29 February 2020, New Delhi

#### **Lectures delivered**

##### **SK Choudhary**

1. Panelist for “Improving outcomes of birth defects, CME on “Birth Defects—From “Count to Care”, 20 April 2019, New Delhi
2. Acute Type A Dissection: Surgical Management, Techno-College and CME, Indian Association of Cardiovascular & Thoracic Surgeons, 25 and 26 May 2019, Rohtak
3. Moderated the session “TAVI Symposium: Clinical Evaluation”, Sentient Summit, 7–9 June 2019, Chennai
4. Moderated the session “TAVI Symposium: Access for TAVI, Sentient Summit, 7-9 June 2019, Chennai
5. Management of Acute Type A dissection: What should not be done? Annual Conference of Association of North Zone Cardiothoracic and Vascular Surgeons, 15-16 June 2019, Srinagar
6. 3D Health Care for Healthy Heart, 38th National Conference on Mind-Body-Medicine, 6-9 September 2019, Mt Abu
7. Moderated a session on “Aortic Valve Surgery”, 4th Annual Conference of Society of Minimally Invasive Cardiovascular and Thoracic Surgeons of India, 13-15 September 2019, Mumbai
8. Panelist in the session “MICS in Aortic Valve”, Society of Minimally Invasive Cardiovascular and Thoracic Surgeons of India, 13-15 September 2019, Mumbai

9. Trans pericardial Lung Surgery, 2nd Annual National Conference of Indian Society of Thoracic Surgeons, 18-19 January 2020, New Delhi
10. Moderated a session on “Surgical Techniques”, 2 Annual National Conference of Indian Society of Thoracic Surgeons, 18 and 19 January 2020, New Delhi
11. Simplified cerebral protection technique during arch surgery, 66th Annual Conference of Indian Association of Cardiovascular and Thoracic Surgeons, 6-9 February 2020, Ahmedabad
12. Panel discussion, Heart Team in CAD v/s Valve Disease, TAVR in Low and Medium Risk, Prosthesis Selection in Middle Age, Role of TAVI in India, Ross v/s Xenografts, 66th Annual conference of Indian Association of Cardiovascular and Thoracic Surgeons, 6-9 February 2020, Ahmedabad
13. Panel discussion, Scope of PMJAY in Management of CTVS patients, 66 Annual conference of Indian Association of Cardiovascular and Thoracic Surgeons, 6-9 February 2020, Ahmedabad
14. Moderator, Aortic Valve/Aorta and the heart team, 66th Annual Conference of Indian Association of Cardiovascular and Thoracic Surgeons, 6-9 February 2020, Ahmedabad
15. Moderator, Aortic aneurysm, 66th Annual Conference of Indian Association of Cardiovascular and Thoracic Surgeons, 6-9 February 2020, Ahmedabad
16. Moderator, Heart Valve Conclave, 11th National Conference on Percutaneous Cardiovascular Interventions-INDIA LIVE 2020, 28 February-1 March 2020, New Delhi

#### **V Devagourou**

1. Prosthetic Valve our armamentarium, CME UN Mehta Institute of Cardiology and Research center, Ahmedabad, 26-28 April 2019, Ahmedabad
2. PPM management, CME U N Mehta Institute of Cardiology and Research center, Ahmedabad, 26-28 April 2019, Ahmedabad
3. Management of TGA VSD LVOTO, IACTS Techno College of Cardiac CME, 25 and 26 May 2019, Rohtak
4. Anatomy of the Mitral Valve, Morphology Course MMM Chennai, 21 July 2019, Chennai
5. BarberioMarcial Technique for Truncus Arteriosus, PCSI-2019, Raipur, 11-13 October 2019, Raipur
6. Modified Ultrafiltration, PCSI-2019, 11-13 October 2019, Raipur
7. Rheumatic Mitral Valve Repair (Live in Box), 1st Bangaluru Live Valve Congress, 15-17 November 2019, Bengaluru
8. Pediatric mitral valve Repair, 17th International Congress of Management of Cardio Vascular Diseases, 22 and 23 November 2019, Kathmandu Nepal
9. Potts Shunt, 17th International Congress of Management of Cardio Vascular Diseases, 22 and 23 November 2019, Kathmandu Nepal
10. How to prevent SAM, 5th Amrita Heart Valve Conclave, 14 and 15 December 2019, Cochin
11. Mitral Valve Repair in Children, 66th IACTSCON, 6-9 February 2020, Ahmedabad

#### **Milind Hote**

1. Preservation of Donor Heart – From Basic science to Clinical studies, Heart Failure Conclave, 6 July 2019, Bengaluru
2. Conducted hands-on Wetlab training session: LVAD Implantation, CSI Heart failure conference 2019, 20 July 2019, Kochi
3. Chairperson For session titled – Role of Cytokine Adsorption Beyond Sepsis, AVATAR 2019, 8th Interventional Interactive Nephrology Conference, 21 July 2019, New Delhi
4. Steps in Donor Heart Harvest, 1st Multiorgan Harvest Workshop ORBO, 30 August 2019, New Delhi
5. Contraindications to Heart Retrieval from a Deceased Donor, NOTTO Training of Transplant Coordinators, 5 September 2019, New Delhi
6. Faculty for heart retrieval training (Organ Retrieval Workshop), 16th Congress of Asian Society of Transplantation, 29 September 2019, New Delhi
7. Difficult case scenario, Annual Meeting of Indian Society of Heart & Lung Transplantation, 2 October 2019, New Delhi

#### **Sachin Talwar**

1. Primary Fontan Operation in older patients, Citra Fontan Summit, 10 April 2019, Thiruvnathpuram
2. Senning operation in systemic venous anomalies, Annual Meeting of the Pediatric Cardiac Society of India, 14-17

October 2019, Raipur

3. Moderator, Annual Meeting of the Congenital heart Surgeon's society, 27 and 28 October 2019, Chicago, US
4. Transposition of arteries with pulmonary arterial hypertension, Summit on the arterial switch operation-A to Z, 28-30 November 2019, Bali, Indonesia
5. Keynote lecture on "arterial switch operation: What can we learn from the Indian experience", Summit on the arterial switch operation-A to Z, 28-30 November 2019, Bali, Indonesia
6. Cor-Triatriatum, TAPVC Summit, 14 and 15 December 2019, Hyderabad
7. Management of transposition of great arteries with regressed left ventricle, Annual Conference of the Moroccan Cardiovascular Society, 9-10 January 2020, Rabat, Morocco

### **P Rajashekar**

1. Panelist, Symposium on Cardiac MRI in Congenital Heart Diseases, 7 and 8 November 2019, New Delhi
2. Surgical Management strategies on Tetralogy of Fallot, 17th International Congress of Management of Cardio Vascular Diseases, 22 and 23 November 2019, Kathmandu, Nepal
3. Pulmonary Ultrasound in HF: A new kid in the block! 7th Annual Congress of the Society for Heart Failure and Transplantation (SfHFT2019), 24 and 25 August 2019, Mumbai
4. Maintenance of a potential brain dead organ donor, Transplant Coordinators Training Course organized by NOTTO, DGHS, MOH&FW, GOI, 3-7 September 2019, New Delhi
5. Donor Management protocols in the Indian context, Annual Meeting of Indian Society for Heart and Lung Transplantation (INSHLT) 2019, 1-2 October 2019, New Delhi
6. Cardiac Dysfunction while Weaning – New ways to Evaluate, North East Zone Critical Care Conference and Workshop, 8-10 November 2019, Shillong
7. Cardiac Output Monitoring, North East Zone Critical Care Conference and Workshop, 8-10 November 2019, Shillong
8. Development of an evidence based Antibiotic protocol for CTVS ICU at AIIMS, New Delhi, Infectious Diseases Educational Academia (InDEA) organized by Indian Medical Association, Mumbai, 17 November 2019, Bengaluru
9. Patient Ventilator Interactions, CME on Cardiopulmonary Physiotherapy, 25 January 2020, New Delhi

### **Manoj Kumar Sahu**

1. Various Approaches and associated Complications of Tracheostomy, Cardiopulmonary Physiotherapy CME, 25 January 2020, New Delhi
2. CMV infection post-transplant-immunological and long term prognosis, 6th Annual conference of Heart Failure association of India, 8-9 February 2020, Bengaluru
3. Maintenance & Transfusion therapy during ECMO, 26th Annual National Conference of Indian Society of Critical Care Medicine, 26-29 February 2020, Hyderabad
4. Cannulation – Hands On, circuit connection & maintenance, 26th Annual National Conference of Indian Society of Critical Care Medicine, 26-29 February 2020, Hyderabad
5. Discussion on Practical aspects of ECMO in ICU patient: When, which, why, how, 26th Annual National Conference of Indian Society of Critical Care Medicine, 26-29 February 2020, Hyderabad

### **Sarvesh Pal Singh**

1. Pulmonary Ultrasound in HF: A new kid in the block! 7th Annual Congress of the Society for Heart Failure and Transplantation (SfHFT2019), 24 and 25 August 2019, Mumbai
2. Maintenance of a potential brain dead organ donor, Transplant Coordinators Training course organized by NOTTO, DGHS, MOH&FW, GOI, 3-7 September 2019, New Delhi
3. Donor Management protocols in the Indian context, Annual Meeting of Indian Society for Heart and Lung Transplantation (INSHLT) 2019, 1 and 2 October 2019, New Delhi
4. Development of an evidence based Antibiotic protocol for CTVS ICU at AIIMS, New Delhi, Infectious Diseases Educational Academia (InDEA) organized by Indian Medical Association, Mumbai, 17 November 2019, Bengaluru
5. Patient Ventilator Interactions, CME on Cardiopulmonary Physiotherapy, 25 January 2020, New Delhi
6. CMV infection post-transplant-immunological and long term prognosis, 6th Annual Conference of Heart Failure Association of India, 8 and 9 February 2020, Bengaluru

### **Oral papers/posters presented**

1. Bipin C, Sahu MK, Singh SP, Rajashekar P, Talwar S, Choudhary SK. Peritoneal dialysis in Pediatric postoperative cardiac surgical patients, 26th Annual Conference of Indian Society of Critical Care Medicine, 26-29 February 2020, Hyderabad
2. Bipin C, Sahu MK, Singh SP, Rajashekar P, Talwar S, Choudhary SK. Effect of Vitamin D supplementation on the postoperative convalescence of pediatric cardiac surgical patients, 26th Annual Conference of Indian Society of Critical Care Medicine, 26-29 February 2020, Hyderabad

### **Cardiac Anaesthesiology**

- Six DM candidates including one sponsored and nine other MD-Junior resident doctors from Main Anesthesia department have undergone super specialty training in Cardiac-Thoracic-Anesthesia.
- Six MD candidates from Lady Harding Medical College and two from Kolkata were imparted short term training in the specialty of Cardiac-Anesthesia.
- Short term training imparted to four DM candidates from Shree Chitra Tirunal Institute, Trivandrum.

### **CME/Workshops/Symposia/National and International Conferences Organized**

1. Webinar on ECMO Simulator, 14 July 2019, New Delhi
2. CME on “3D Echocardiography”, 12 November 2019, New Delhi
3. 13th Quarterly Scientific Meeting - under the banner of SCA-Delhi & NCR Branch
4. Theme: Comprehensive Perioperative ECHO Workshop, 16 and 17 November 2019, Gurugram
5. National Hands-on workshop on Cardiac Critical Care and Ultrasound 8 December 2019, New Delhi
6. Transthoracic Echocardiography workshop, 28 December 2019, New Delhi

### **Lectures delivered**

#### **Sandeep Chauhan**

7. Cardiac Anaesthesia in India, British Association of Anaesthetists of Indian Origin, 3 October 2019, Leicester, UK
8. Can Echocardiographic Right Ventricular Function Parameters Predict Vasoactive Support Requirement After Tetralogy of Fallot Repair? Mayo Clinic CME and Conference on Cardiovascular Sciences, 23-28 February 2020, Cancun, Mexico

#### **Neeti Makhija**

1. Paravalvular Leak & Stuck Valve are better evaluated by 3D vs 2D echo in the evaluated, CME on 3D Echocardiography, 12 November 2019, New Delhi
2. Anaesthetic Management for Valvular Heart Surgeries, Refresher course for postgraduates held from University College of Medical Sciences and GTB Hospital, 21-27 December 2019, New Delhi
3. Challenges: Pediatric Cardiac Cath Intervention, 23rd National Conference of Indian Association of Cardiovascular and Thoracic Anesthesiologists 2020, 7-9 February 2020, Goa
4. Knowing LV diastolic function and its implications, 14th Annual Perioperative and Critical Care Transesophageal Echocardiography Workshop, 6-8 March 2020, Chandigarh

#### **Poonam Malhotra Kapoor**

1. Latest technology in cardiac output monitoring. 29th Annual Conference of Research Society of Anaesthesiology and clinical pharmacology, 26-28 April 2019, Rohtak
2. Point of Care Cardiac Ultrasound, 25th Worlds Congress of Echocardiography and Allied techniques, 17-19 May 2019, Lodz, Poland
3. Transesophageal echocardiography of the tricuspid valve, 25th Worlds Congress of Echocardiography and Allied techniques, 17-19 May 2019, Lodz, Poland
4. Intraoperative prosthetic valve mismatch, 25th Worlds Congress of Echocardiography and Allied techniques, 17-19 May 2019, Lodz, Poland
5. Perioperative goal directed therapy in CABG, 17 International Congress of Cardiothoracic and Vascular Anesthesia/13th Meeting of the Asian Society of Cardiothoracic Anesthesia and the 23rd Meeting of Korean Society of Cardiothoracic and Vascular Anesthesiologist, 6-8 June 2019, Seoul, Korea
6. Moderator, Postoperative Complications of Cardiac Surgery-Can we prevent them?, 17th International Congress of Cardiothoracic and Vascular Anesthesia/13th Meeting of the Asian Society of Cardiothoracic Anesthesia and the

- 23rd Meeting of Korean Society of Cardiothoracic and Vascular Anesthesiologist, 6-8 June 2019, Seoul, Korea
7. Thromboelastogram, 10th ECMO Training Course –ECMO India 2019, 9 June 2019, Mumbai
  8. 3D Transesophageal echo in OR, 3D Echo by Masters, 5 and 6 July 2019, New Delhi
  9. How to use 3D echo in clinical practice for better patient care, diagnosis and management, 3D Echo by Masters, 5 and 6 July 2019, New Delhi
  10. Pulmonary Hypertension for Incidental Surgery, ANAESTHESIA UPDATE 2019, 7 July 2019, New Delhi
  11. Point of Care of Ultrasound machine, Eastern India Echo and Imaging Conclave, known as EIEICO (2019), 27-28 July 2019, West Bengal
  12. Blood & Blood components during ECMO, ECMO Workshop, 24 and 25 August 2019, Ludhiana
  13. Managing Anticoagulation during ECMO, ECMO Workshop, 24 and 25 August 2019, Ludhiana
  14. Echocardiography in ECMO, 13th National & 4th International Transesophageal Echocardiography (IACTA-TEE) Workshop, 28 August-1 September 2019, Bengaluru
  15. Simulation in echocardiography, Organized PBLD Workshop, 13 National & 4th International Transesophageal Echocardiography (IACTA-TEE) Workshop, 28 August-1 September 2019, Bengaluru
  16. Clinical utility of POC viscoelastic testing in the management of cardiovascular bleeding-experience from AIIMS OPEN HOUSE: ROTEM: Necessity or LUXURY – Expert, CME at Jubilee Mission Medical College & Research Institute (JMMCRI), 18 September 2019, Thrissur
  17. ECHO on ECMO, Advanced International Pediatric Intensive Care Conference (AIPIC) 2019, 4 October 2019, New Delhi
  18. ECMO – Troubleshooting (Work station (in 4 rotatory batches), Advanced International Pediatric Intensive Care Conference (AIPIC) 2019, 4 October 2019, New Delhi
  19. Keynote Address, 14th Chennai Cardiac Anesthesia Update, 9 and 10 November 2019, Chennai
  20. 3D Echo exam of TRICUSPID VALVE, CME on 3D Echocardiography, 12 November 2019, New Delhi
  21. Prosthetic Valves: Types and Echo Assessment of the Newly Seated Valve, 8th Comprehensive TEE Workshop, 16 and 17 November 2019, Gurugram
  22. Updates on Transfusion strategy during ECMO-Latest recommendation on VV & VA
  23. ECMO, 2) Panelist for Panel Discussion – National Organization, Centralization of ECMO Program in India 3) Chaired Session On “Tutorials XIX Bailing out Catch 22 situation”, 4) ECMO education – it’s all Simulation?, 5) Different educational methodology, 6) Importance of Simulation, 7) Different simulation available for ECMO, ECMO INDIA 2019, 10th Annual National Conference, 13-15 December, Lucknow
  24. Strain and Speckle Tracking in Echo, 2nd Annual TEE Workshop, 18-20 January 2020, Kolkata
  25. TEE in Congenital Heart Disease, 2nd Annual TEE Workshop, 18-20 January 2020, Kolkata
  26. Intraoperative bleeding-ROTEM-Examples of goal directed protocols, IACTACON 2020, 7-9 February 2020, Goa
  27. Simulation training; DIC, HITT, Heparin resistance and platelets, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  28. Bleeding and clotting, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  29. ECMO, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  30. Clotting, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  31. Simulation training, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  32. Panel Discussion, Adult VV-ECMO & ECCO2R, 7th Annual SWAAC ELSO 2020 Conference, 20-22 February 2020, Johannesburg, South Africa
  33. Basic cardiopulmonary physiology of ECMO, ICU patient: When, which, why, how”, 26th Annual National Conference of Indian Society of Critical Care Medicine, 27 February 2020, Hyderabad
  34. Panel Discussion, Interactive clinical case: Discussion on Practical aspects of ECMO, ICU patient: when, which, why, how”, 26th Annual National Conference of Indian Society of Critical Care Medicine, 27 February 2020, Hyderabad
  35. Cardiac Transplant-Whom to enroll? Why, How and When?, 12th Annual Conference of WINCARS-WCC 2020 (Women Cardiac Care), 7 and 8 March 2020, Ludhiana

### **Minati Choudhury**

1. Yoga and meditation for cardiac surgical patients. Are we in the right track? International Yoga Day, 2 June 2019, New Delhi

2. Pediatric patient with cardiac murmur (Innocent/pathological) presenting for surgery, Annual Conference of Indian College of Anesthesiologist, 6-8 September 2019, New Delhi
3. ALCAPA and TOF: Echocardiography of a Rare Association, World Congress of Cardiology, 23 and 24 September 2019, Spain
4. Echo for Oncology patients, TTE Workshop, 28 December 2019, New Delhi
5. Which inotrope in pediatric cardiac surgical patients? IACTACON 2020, Date missing, Goa
6. Echo differentiation of Thrombus, pannus and abscess, 14th Perioperative & critical care TEE conference, 6-8 March 2020, Chandigarh

#### **Vishwas Malik**

1. Renal Angina in Cardiac Surgery, Annual meet of RSACP, April 2019, Rohtak
2. Strain and strain rate imaging, International conference of TEE, August 2019, Bengaluru
3. Pulmonary Arterial Hypertension in paediatric cardiac surgery, West Bengal Association of Cardiac Anaesthesia organised CME, October 2019, Chennai
4. Perioperative bleeding in Paediatric Cardiac Surgery, Moderator a panel discussion at Cardiac Anaesthesia update, November 2019 Kolkata
5. Science of Electric Velocimetry, Annual Conference of IACTA, February 2020, Goa

#### **Suruchi Hasija**

1. What do we need before proceeding for 3D TEE, 3D Echocardiography Ramalingaswami Board Room, AIIMS, 12 November 2019, New Delhi

#### **Arindam Choudhury**

1. USG guided Central venous catheter insertion, 5th International conference on health and medical sciences, 25-27 October 2019, Thimpu, Bhutan
2. USG guided pleural tap-Tricks and tips, 5th International Conference on Health and Medical Sciences, 25-27 October 2019, Thimpu, Bhutan

#### **Oral papers/posters presented**

1. Choudhury A. Coronary sinus blood flow estimated by transesophageal echocardiography correlates well with transit time flowmetry after coronary artery bypass grafting, EACTACON 2019,
2. Choudhury M. Correlation between thoracic fluid content (TFC), total leukocyte count (TLC) and C-reactive protein in patients undergoing pediatric cardiac surgery, WCCD, 23 and 24 September 2019, Barcelona, Spain
3. Makhija N, Kiran U, Kejriwal N, Sambhunath Das, Choudhary SK. Evaluation of the Effect of Rajyoga Meditation on Cognitive Correlates in Patients undergoing Surgical Repair for Congenital Heart Disease”, World Congress on Cardiology and Cardiovascular Disease, 23 and 24 September 2019, Barcelona, Spain
4. Makhija N, Kiran U. “Pseudoneurysm of Aorta Following Coronary Artery Bypass Graft Surgery – An Anaesthetic Challenge” as poster, World Congress on Cardiology and Cardiovascular Disease, 23 and 24 September 2019, Barcelona, Spain

#### **Cardiac Biochemistry**

- Guided 2 PhD students as chief guide and 5 as co-guide
- Chief guide for two MD student
- Co-guide for 10/DM MD thesis projects
- Member of doctoral committee for 5 PhD thesis

#### **CME/Workshops/Symposia/National and International Conferences Organized**

1. STA Compact test parameters (Basics principal and its clinical implication), Conference room, CNC, AIIMS, New Delhi, 6 August 2019, New Delhi

#### **Oral papers/posters presented:**

1. Tembhre, MK, Parihar AS, Sharma VK. Role of NETS in psoriasis, IADVL-DERMACON (Delhi state Chapter), 4 and 5 January 2020, New Delhi

### Cardiac Nuclear Medicine

No. of Postgraduate students: 40 (22 MD Nuclear Medicine students & 18 MSc Nuclear Medicine Technology students on rotational basis in Nuclear Cardiology)

No. of Thesis/research papers completed: 8

Moderator in Journal Club/Seminars/Intra-department lectures: 8

No. of new thesis started: 5

'On site' teaching of MD students while reporting clinical studies

#### **Lectures delivered**

##### **Chetan D Patel**

1. Cardio-Oncology, Nuclear Medicine Option, 1st Research Co-ordination Meeting on the International Study on Imaging in Cardio-Oncology (iCOS), 15-17 May 2019, International Atomic Energy Agency Vienna, Austria, Vienna, Austria
2. Emerging Role of Nuclear Medicine in HF, CSI National Heart Failure Congress, 20 and 21 July 2019, Kochi
3. Current trends and future application of Nuclear Imaging in HF, 12 Biennial Conference of Nuclear Cardiological Society of India, 5 and 6 October 2019, MIOT Hospital, Chennai

#### **Oral papers/poster presented**

1. Harish N, Bakhshi S, Patel C, Sharma A, Gupta RK, Sharma A, Thankarajan AS, Bal C, Kumar R. Diagnostic usefulness of FDG-PET/CT for detection & extent of Extra medullary disease in pediatric Acute Myeloid Leukemia, **SNMMI 2019 Annual Meeting**, 22–25 June 2019, Anaheim Convention Center, California, USA
2. Kaushik P, Patel C, Gulati G, Seth S, Parakh N, Kumar R, Comparison of 68Ga-DOTANOC PET/CT with cardiac MRI for imaging inflammation in cardiac sarcoidosis, 32nd Annual Congress of the European Association of Nuclear Medicine 2019, 12-16 October 2019, CCIB – Centre de Convencions Internacional de Barcelona, Barcelona, Spain
3. Kaushik P, Patel C, Kumar R, Gulati GS, Parakh N, Seth S. A comparison of Somatostatin receptor PET/CT and Myocardial perfusion SPECT with cardiac magnetic resonance imaging in cardiac sarcoidosis, **SNMMI 2019 Annual Meeting**, 22–25 June 2019, Anaheim Convention Center, California, USA
4. Kumar R, Harish N, Sharma A, Gupta RK, Sharma A, Patel C. Comparison of FDG PET/CT and CT in response assessment and prognosis of patients with extra medullary disease in acute myeloid leukemia, **SNMMI 2019 Annual Meeting**, 22–25 June 2019, Anaheim Convention Center, California, USA
5. Kumar R, Sharma A, Mohan A, Bhalla A, Pandey AK, Patel C. Role of metabolic tumor volume (MTV) and standardized uptake value (SUV) based parameters derived from whole body (WB) 18F-FDG PET/CT in prediction of overall survival (OS) in NSCLC, **SNMMI 2019 Annual Meeting**, 22–25 June 2019, Anaheim Convention Center, California, USA
6. Pandey AK, Kaushik P, Datta Gupta S, Sharma PD, Patel C, Bal CS Predicting good count image from low count image using machine learning algorithm, 50<sup>th</sup> Annual Conference of Society of Nuclear Medicine, 12-15 December 2019, Mumbai
7. Pandey AS, Vishali, Param Sharma, Patel C, Bal CS. Prognostic value of locally stationary wavelet field texture analysis using baseline F-18 FDG PET/CT images of Non-Small cell lung cancer (NSCLC) patients, **SNMMI 2019 Annual Meeting**, 22–25 June 2019, Anaheim Convention Center, California, USA
8. Sharma A, Mohan A, Bhalla A, Vishnubhatla S, Pandey AK, Patel C. Role of metabolic tumor volume (MTV) and standardized uptake value (SUV) based parameters derived from whole body (WB) 18F-FDG PET/CT in interim treatment response assessment of NSCLC, **SNMMI 2019 Annual Meeting**, 22 –25 June 2019, Anaheim Convention Center, California, USA
9. Sharma A, Pandey AK, Deepak, Sharma PD, Patel CD, Bal CS, Kumar R. Classification of good count and low count image using machine learning algorithm, 50th Annual Conference of Society of Nuclear Medicine, 12-15 December, 2019, Mumbai
10. Singh TP, Bakhshi S, Patel CD, Pandey AK, Batra A, Dhamija E. Role of 18-FDG positron emission tomography computed tomography in staging and early treatment response evaluation in patients of soft tissue sarcomas, 50th Annual Conference of Society of Nuclear Medicine, 12-15 December 2019, Mumbai
11. Somani S, Gupta P, Angamuthu M, Baghel V, Reddy KS, Patel CD. Effect of additional dietary intervention in reducing interfering infra-cardiac activity in patients undergoing Tc99 m-MIBI myocardial perfusion SPECT, 50th Annual Conference of Society of Nuclear Medicine, 12-15 December 2019, Mumbai
12. Thayumanavan T, Patel C, Bal C, Seth S, Roy A, Pandey AK. To assess the feasibility of fluorine-18 fluoro L-dihydroxyphenylalanine positron emission tomography-computed tomography for evaluation of cardiac

## **Cardiac Pathology**

### **Lectures delivered**

#### **Sudheer Kumar Arava**

1. Histopathology of atherosclerosis, ISAR, 3 August 2019, New Delhi
2. Panel discussion on ILD, AIIMS pulmonology course, 7 September 2019, New Delhi
3. Cardio live: Endomyocardial biopsy pathologists perspective, IN ISHLT, 1 and 2 October 2019, New Delhi
4. Thoracic masses, Pediatric radiology, 7–9 November 2019, New Delhi
5. Case presentation, ASI DSI, 15-17 November 2019, New Delhi
6. Breakfast session. Verrucous hyperplasia, APCON 2019, 2-4 December 2019, Chandigarh
7. CPC, AIIMS Pulmocrit, 7 and 8 March 2020, New Delhi

## **Cardiovascular Radiology and Endovascular Interventions**

### **Teaching**

#### **Extra-departmental**

Undergraduates: Lectures on basics of cardiovascular imaging and vascular interventions

Postgraduates: Cardiac Radiology quiz, moderating seminars in departments of allied specialties viz. Medicine, Surgery, Gastroenterology, Cardiology and Cardiothoracic Surgery

Clinico-radiology meetings with Department of Cardiology and CTVS.

Participation in Clinical Combined Rounds and Clinical Grand Rounds with Allied specialties

#### **Intra-departmental**

Daily case presentations

Weekly journal clubs and seminars

### **Training**

Training of junior and senior radiology residents, senior residents in Cardiology, CTVS and Cardiac Anaesthesia, and external observers in techniques of cardiovascular imaging and vascular interventions

### **CMEs/Workshops/Symposia/National and International Conferences**

1. Advanced Cardiovascular MR Workshop, 7 and 8 November 2019, Delhi

### **Lectures delivered**

#### **Sanjiv Sharma**

1. Endovascular repair of type B Aortic Dissection, IACTS Techno College Cardiac CME 2019, 25 and 26 May 2019, Haryana
2. Lectures on medical topics related to experience in interventional radiology, Annual Meeting of Chinese Society of (CSIR 2019) Interventional Radiology, 11-14 July 2019, China
3. Cardiac MRI in Heart Failure: Current Trends and Future Directions, 3rd CSI National Heart Failure Conference, 20 and 21 July 2019, Kerala
4. Symposium on stem Cell therapy Case based discussion on Endovascular treatment of DVT Complications of vascular Interventional Radiology Procedures, CME on Interventional Radiology (SIGT), 3 and 4 August 2019, Colombo, Sri Lanka
5. Recent Advances in Imaging Algorithms and Image Guided Management of Pulmonary Embolism, CME, 2019, 25 August 2019, Bengaluru
6. High-quality meta-analysis and Systematic reviews in IR, CIRSE 2019 (Annual Meeting of European Society of Cardiovascular and Interventional Radiology, 7-11 September 2019, Barcelona, Spain
7. Congenital and Structural Heart Disease-which view, how much and what flow rates? & Coronary Angiography-How to do it every time, 26th Annual Conference of the Indian Collage of Cardiology, 21 September 2019, Thriuvananthapuram
8. Panel Discussion and Q & A and MR imaging in CVD, 4 CSI Cardiac Prevent 2019, 20 October 2019, Guwahati
9. Role of image guided therapies in management of various disease states and their impact in clinical medicine & CME Program 2020 (Imaging guided therapies in imaging world countries, 20 and 21 January 2020, Male, Maldives

### **Priya Jagia**

1. Imaging before venous interventions, Structural Heart India and the vein workshop, 17 and 18 August 2019, New Delhi
2. Aortic Diseases: A Case Based Review, IRIA Resident Education Program, 23 August 2019, New Delhi
3. Paediatric Cardiac CT & MRI Workshop, Annual IACI Congress, 26 September 2019, Jaipur
4. CT imaging in acute aortic syndrome, Annual IACI Congress, 27 September 2019, Jaipur
5. Film Reading Quiz, Annual IACI Congress, 28 September 2019, Jaipur
6. Revascularization of the sole patent arch vessel in patients with non specific aortoarteritis, CIRSE-2019, 7-11 September 2019, Barcelona, Spain
7. Inflammatory Cardiomyopathies, UCL-AIIMS MRI Meet, November 2019, New Delhi
8. Acute chest imaging, SER Meeting, 25 November 2019, New Delhi
9. How to Read a CT scan: Read with the Masters: Live cases (Cardiac CT workshop)
10. Calcium Score Assessment: What does Zero calcium mean (Cardiac CT workshop)
11. Complications of IHD: Aneurysm versus pseudoaneurysm (Cardiac MRI workshop)
12. Annual meeting of Cardiology society of India CSI, 5 December 2019, New Delhi
13. Film reading session- Aortic pathologies, Delhi Imaging Update 2020 (By Delhi IRIA), 7-9 February 2020, New Delhi
14. Vascular Imaging, India Live 2020, 1 March 2020, New Delhi

### **Sanjeev Kumar**

1. Management strategies in acute aortic syndrome, CME of the society of emergency radiology, 28 April 2019, Varanasi
2. MAPCA's Embolisation, Annual Conference of Delhi ISVIR state branch, 28 July 2019, New Delhi
3. Current concepts and future directions in image guided therapy in DVT, CME in Interventional Radiology, 3 and 4 August 2019, Colombo, Sri Lanka
4. Image guided therapy for musculoskeletal diseases, CME in Interventional Radiology, 3 and 4 August 2019, Colombo, Sri Lanka
5. Radiation protection in cath lab, CME in Interventional Radiology, 3 and 4 August 2019, Colombo, Sri Lanka
6. DVT diagnosis and role of endovascular treatment in its management, Webinar -SER, 20 September 2019, New Delhi
7. Cardiac CT – Hardware, Software & Imaging Protocol, Imaging Today, 1 September 2019, New Delhi
8. Renovascular hypertension, AIIMS MAMC PGI, 15 November 2019, New Delhi
9. Newer protocol in acute chest pain, Annual Meeting of SER, 30 November 2019, New Delhi
10. Advancement in cardiovascular imaging technique and its impact on delivery of health care, Skill development initiative, 20 and 21 January 2020, Male, Maldives
11. Indigenous EVAR technique, LINC 2020, 29 January 2020, Leipzig, Germany
12. Challenges and solution in endovascular management of thoracic aortic injuries, LINC 2020, 30 January 2020, Leipzig, Germany
13. Triage of PVD patients into medical / endovascular and surgical treatment, 3rd Module ISVIR/Medanta CME, 22 February 2020, New Delhi
14. Endovascular treatment strategies of type b dissection and thoracic aortic aneurysm, Quarterly Delhi ISVIR CME, 23 February 2020, New Delhi

### **Oral papers/poster presented**

1. Ganga K, Goyal A, Ojha V, Jagia P, Sharma S, Kumar S. Poster-Sensitivity and specificity of T1 mapping in cardiac iron assessment, SCMR 23rd annual sessions 2020, Orlando, 14 February 2020, Orlando, USA
2. Ganga K, Ojha V, Goyal A, Jagia P, Sharma S, Kumar S. FAST MR (Fe Assessment and Surveillance in Thalassemia – MR) Feasibility of performing a large scale T2, MRI scanning program for thalassemia patients, ISMRM Co-Provided Workshop at SCMR 23rd Annual Sessions 2020, Orlando, 12 February 2020, Orlando, USA  
**(Oral paper- 1st prize)**

3. Ganga K, Ojha V, Kumar S, Jagia P, Sharma S. Sensitivity and specificity of T1 mapping in Liver iron assessment (Poster), SCMR 23rd Annual Scientific Sessions, 12 February 2020, Orlando, USA
4. Kumar S. Symptomatic Complicated Type B Dissection- Outcomes of Endovascular Repair, Impact on Aortic Remodeling, 6th Asia Pacific Congress of Interventional Oncology (APCIO) 2019, 4 October 2019, Kuala Lumpur, Malaysia
5. Malhi AS, Shaw M, Gulati GS, Kumar S, Chandrasekhar, Bhasin D, Khurana R. Title: Role of Cardiac MRI in Diagnosis in Patients of Cardiac Sarcoidosis Using T1 Mapping, T2 Mapping and Late Gadolinium Enhancement (LGE), RSNA 2019, 1-6 December 2019, Chicago USA
6. Ojha V, Ganga KP, Jagia P. TI scout sequence for cardiac amyloidosis, Indian Academy of Cardiac Imaging, Jaipur, 26 September 2019, Jaipur (**Oral paper- 1st prize**)
7. Ojha V, Ganga KP, Kumar S, Sharma S. Accuracy of greater curvature measurement in estimating the length of endograft in TEVAR: Comparison with manufacturer defined total endograft length, CIRSE 2019, 7 September 2019, Barcelona, Spain
8. Ojha V, Jagia P. Diagnosis of cardiac amyloidosis based on temporal sequence of nulling (Poster), SCMR 23rd Annual Scientific Sessions, 12 February 2020, Orlando, USA
9. Sharma S, Rajagopal R, Kumar S, Manhas V, Malhotra R. Feasibility, safety and efficacy of genicular artery embolization for relief of knee pain related to osteoarthritis, CIRSE Annual Congress 2019, 8 September, 2019, Barcelona, Spain (**Oral paper- 1st prize**)
10. Sharma S, Sinha M, Kumar S, Gulati G, Jagia P. Acute outcomes of endovascular treatment of stenosis of the aorta and renal arteries in management of uncontrolled hypertension and left ventricular dysfunction in Takayasu arteritis, CIRSE 2019, 7-11 September 2019, Barcelona, Spain
11. Sinha M, Pandey NN, Sharma A, Parashar NK, Sharma S, Kumar S. Multidetector cardiac computed tomography angiography for characterization of structural abnormalities of left ventricular outflow tract, RSNA 2019, 1-6 December 2019, Chicago USA

#### Stem Cell Facility

It participates in **PhD, DM & MD** programs

S. No.	Program	Number of Students
1	PhD	16
2	DM & MD	7
3	Short term training	7

#### Lectures delivered

##### Sujata Mohanty

1. Therapeutic implication of extracellular vesicles in liver diseases”, Scheme for Promotion of academic and research collaboration (SPARC), MHRD, 17 October 2019, New Delhi
2. Stem Cell derived exosomes: the new therapeutic modalities, Nanobiotech, 21-23 November 2019, New Delhi
3. Cells that Listens to Scaffolds: An Insight into Tissue Engineering, BioTERM 2019: International Conference on Biomaterial-based Therapeutic Engineering and Regenerative Medicine and Pre-conference Workshop, 29 November 2019, Kanpur
4. STEM CELL RESEARCH: Trends and perspectives in Medical Biotechnology, Biomedical Lecture Series, 19 December 2019, New Delhi
5. Advances in Regenerative Medicine: Where Stem Cells Meet Bioengineered Material, Biomedical Engineering, 26 February 2020, Guwahati
6. Stem Cell Therapy in lung diseases: What does the future hold. AIIMS Pulmocrit, 8 March 2020, New Delhi

#### Oral papers/poster presented

1. Dalela M, Bawa R, Parashar R, Singh H, Mohanty M. Synergistic Cytotoxicity of Dual-Drug in Polymeric Nanoparticles, NANOBIOTECK-2019, 4th Annual Conference of ISNM, 21-23 November 2019, New Delhi (**First Prize in Poster Competition**)
2. Dalela M, Mir SA, Singh H, Mohanty S. Dual-responsive paclitaxel-doxorubicin prodrug polymeric nanoparticles for more effective breast cancer synergistic combination chemotherapy, Emerging Trends in Translational Oncology, RESMO, AIIMS, 14-15 February 2020, New Delhi (**First Prize in Oral Presentation**)

3. Dash S, Majood M, Mohanty S, Samal SK, Engineered Carbon Nano Material: An Adequate Architecture for Theranostic, NANOBIOTECK-2019, 4th Annual Conference of ISNM, 21-23 November 2019, New Delhi
4. Gupta S, Mann Z, Sharma H, Nayak B, Mohanty S. Association of hIF-1 $\alpha$  and ALIX in enhanced biogenesis and secretion exosomes from human mesenchymal stem cells under hypoxia, International Society for Stem Cell Research (ISSCR), 26-29 June 2019, Los Angeles, USA
5. Mohanty S, Gupta S, Dalela M, Arora V, Das J, Nayak B, Banerjee A. Alleviation of liver fibrosis using mesenchymal stem cells derived exosomes: A cell free therapeutic approach, International Society for Stem Cell Research (ISSCR), 26- 29 June 2019, Los Angeles, USA
6. Mohanty S, Jain KG, Rawat S, Vig S, Gupta S, Gupta D, Debnath D, kalluri A, Agarwal A, Jassal M, Patra P. Harnessing the potential of 3d topography and graphene for efficient differentiation of mesenchymal stem cells into neurons and cardiomyocytes, International Society for Stem Cell Research (ISSCR), 26-29 June 2019, Los Angeles, USA
7. Soni N, Mukherjee S, Gupta S, Tripathi S, Basu A, Mohanty S, Banerjee A, Vrati S, Comparative Analysis And Characterization of Exosomal Cargo Isolated From Mesenchymal Stem Cells: Implication In Translational Research, Symposium on advance biomedical mass spectrometry and workshop on metabolomics, Faridabad

## **Blood Transfusion Services**

### **Lectures delivered**

#### **Anjali Hazarika**

1. Resource person in framing guidelines for Blood Storage Units in India.by NHM, MoHFW, GOI, 3 April 2019, 4 June 2019, 18 June 2019
2. NABH Assessor Training Course for Blood Bank Accreditation by Quality Council of India, 22 -26 July 2019
3. Training Workshop for the Blood Bank officials of the Reporting Centres under Haemovigilance Programme of India at NIB, NOIDA, 8 and 9 August 2019
4. Panelist at CME on Safe Blood For All at MAX Super speciality Hospital, Saket, New Delhi, 30 September 2019
5. Panelist at CME of Asian Association of Transfusion Medicine on Donor Notification and Counselling, held in Gurgaon, Haryana, 15 February 2020
6. ABO Blood Grouping & Cross matching, External Quality assessment scheme, Training of Trainers in Strengthening of Blood Services by NIB & NHM, MoHFW, GOI, 12 June 2019, Noida
7. Equipment Maintenance and Use, Training of Trainers in Strengthening of Blood Services by NIB & NHM, MoHFW, GOI, 15 June 2019, 2 August 2019, 19 September 2019, 19 December 2019, 23 January 2020, 7 February 2020, 5 March 2020, Noida

#### **Gopal Kumar Patidar**

1. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 06 February 2020, Udaipur
2. Blood Donor HvPI followed by Case studies, CME on Hemovigilance Program of India, 11 February 2020, Jodhpur

### **Oral papers/posters presented**

1. Dhiman Y, Patidar GK, Hazarika A. Family History during screening blood donors. Do we really give much importance? 29th Regional Congress of ISBT, 22-26 June 2019, Basel, Switzerland
2. Khan AI, Karimkhan A, Patidar G, Hazarika A. Audit of Blood Usage in Elective Cardiac Surgery Procedures, AABB Annual Meeting, 19-22 October 2019, San Antonio, Texas
3. Khan AK, Singh K, Patidar G, Hazarika A. Blood Utilization Practices in Elective Neurosurgical Procedures, AABB Annual Meeting, 19-22 October 2019, San Antonio, Texas
4. Nivedita K, Dhiman Y, Patidar GK, Hazarika A. Comparative analysis of two commonly used transfusion-Transmitted infection testing (TTI) methods, TRANSMEDCON 2019, 9-11 January 2020, Mumbai
5. Patidar GK, Hazarika A. Association of ABO Blood Group antigens and neurological tumours, 29 Regional Congress of ISBT, 22-26 June 2019, Basel, Switzerland

## **RESEARCH**

### **Cardiology**

#### **Funded projects**

##### ***Ongoing***

1. A global registry to study the demographics, socioeconomic and clinical factors, etiologies, pathophysiology,

- management, barriers to outcomes of heart failure patients (G-CHF), Ambuj Roy, Population Health Research Institute, Canada, 7 years, 2016-2023, Rs 65 lakhs
2. A randomized controlled trial of influenza vaccine to prevent adverse vascular events (IVVE), Ambuj Roy, MRC (UK)/McMaster University, Canada, 4 years, 2016-2020, Rs 2.16 lakhs
  3. Assessment of HDL quality in Healthy Adult Indians and Impact of High Altitude A collaboration project with Defense Institute of Physiology & Allied Sciences, 3 years, 2017- 2019, Rs 51.23 lakhs
  4. Childhood and young adult predictors of myocardial structure and function at age 45 years in the New Delhi and Vellore Birth Cohorts, India, Ambuj Roy, British Heart Foundation, 4 years, 2016-2020, Rs 20 lakhs
  5. Developing and testing a Collaborative Quality Improvement initiative for prevention of cardiovascular disease in India (C-QIP study), Ambuj Roy, NIH, USA, 5 years, 2019-2024, Rs 10.05 lakhs
  6. Impact of Myocardial Scarring on Clinical Outcomes in Patients with Non ischemic Dilated Cardiomyopathy, Nitish Naik, ICMR, 3 years, 2019-2022, Rs 67.14 lakhs
  7. INVICTUS (*IN*vest/*g*ation of rheumat*ic* *CA*F Treatment *U*sing vitamin K antagonists, rivaroxaban or aspirin Studies), G Karthikeyan, Population Health Research Institute, Canada, 4 years, 2016-2020, Rs 16.7 Crores
  8. National Heart Failure Registry (NHF), Dr Ambuj Roy, Indian Council of Medical Research, 3 Years, 2018-2021, Rs 24 lakhs
  9. Prognostic role of proteomics and other biomarkers in heart failure, Sandeep Seth, DHR ICMR, 3 years, 2018-2020, Rs 79 lakhs
  10. Semaglutide effects on cardiovascular outcomes in people with overweight or obesity. (SELECT), Ambuj Roy, Novo Nordisk, 5 years, 2019-2024, Rs. 2 lakhs
  11. Semaglutide Effects on Heart Disease and Stroke in Patients With Overweight or Obesity (SELECT) Trial An international multicentric trial, Ambuj Roy, Novo Nordisk, 5 years, 2018- 2023, Rs 3.8 lakhs per patient (Total 20 patients)
  12. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI, G Karthikeyan, International Atomic Energy Agency, 3 years, 2018-2020, Rs 13.5 lakhs
  13. Yoga for ICD patients: A Randomized Controlled Trial to evaluate the Efficacy of Yoga on Psychological and Arrhythmic outcomes in patients with Implantable Cardioverter Defibrillators, Nitish Naik, Ministry of AYUSH, 2 years, 2018-2020, Rs 26.08 lakhs
  14. Yoga life style changes in heart failure, Sandeep Seth, DST, 3 years, 2018-2020, Rs 46 lakhs
  15. Yoga-CaRe Trial. Effects of a yoga-based cardiac rehabilitation programme (Yoga-CaRe) on cardiovascular health: a clinical trial (India) and mechanistic study (UK). Ambuj Roy, A ICMR-MRC (UK) funded trial, 2014, Rs 24.06 lakhs

### **Completed**

1. Development of guidelines for management of common cardiac emergencies and related complications at district hospital intensive care units under NPCDS, Ambuj Roy, WHO, 7 months, 2019, Rs 6.15 lakhs
2. Pilot Study For Establishing Nationwide Network Of Registries On Management Of Acute Coronary Event (MACE Registries), Nitish Naik, ICMR, 4 years, 2015-2019, Rs 62.35 lakhs
3. Surgery compared to fibrinolytic therapy for left-sided valve thrombosis (SAFE-PVT), G Karthikeyan, ICMR, 2 years, 2017-2019, Rs 69 lakhs
4. To study the prevalence of rheumatic heart disease among adults 18-25 years age group in Ballabgarh block of Haryana using echocardiography with Doppler, Anita Saxena, DHR, 3 years, 2016–2019, Rs 38.83 lakhs

### **Departmental projects**

#### **Ongoing**

1. A prospective randomized comparison of incidence of atrial fibrillation and stroke in patients undergoing coronary artery bypass grafting with or without left atrial appendage ligation
2. Comparison of different anti-platelet drug regimens on platelet aggregation and urinary 11-dehydro-thromboxane B2 levels in stable ischemic heart disease patients
3. Effect of stellate ganglion block for cerebral vasospasm treatment following aneurysmal subarachnoid haemorrhage on cardiac rhythm: a holter-based study
4. Neurodevelopmental Outcomes in children with Cyanotic Congenital Heart Disease following Open Heart Surgery
5. Worsening of PAH with lung infection in infants with VSD

### **Completed**

1. Clarifying morphoanatomy of superior sinus venosus interatrial communication—a computed tomographic study of 100 patients
2. Fibrillin gene mutation and markers of inflammation in RSOV
3. Ivabradine versus Amiodarone for conversion of Junctional ectopic tachycardia to sinus rhythm in post-operative cardiac surgical patients – a Randomized, Open label, Non-inferiority trial
4. Prevalence of asymptomatic myocardial ischemia among patients with chronic kidney disease
5. Prevalence of cardiac channelopathies in children aged 5-18 years undergoing treatment for epilepsy
6. Streptococcal PCR in valve tissues of RHD

### **Collaborative projects**

1. A Population based prospective cohort study to unravel the causes of stroke and cognitive decline Neurology
2. Identification of delays and barriers to acute cardiac care in NCR. (Co-PI) Dept. of Community medicine, AIIMS, New Delhi
3. The Integrated Tracking, Referral, and Electronic Decision Support, and Care Coordination (I-TREC) Platform (Co-PI) Dept. of Endocrinology, AIIMS, New Delhi, Emory University, Atlanta, USA

### **Cardiac Thoracic Vascular Surgery**

#### **Funded projects**

##### **Ongoing**

1. An assessment of neurodevelopmental outcome with transposition of great arteries with intact ventricular septum who underwent primary arterial switch operation in infancy with integrated ECMO support compared to children who underwent surgery without integrated ECMO support
2. Analysis of outcome of Fontan procedure over Last 10 years and factors affecting them.
3. Assessment of Myocardial Mechanics in patients Undergoing Pericardiectomy For chronic Constrictive Pericarditis by 2D Speckled Tracking Echocardiography.
4. BNP as a predictor of Atrial Fibrillation in patients undergoing Off-Pump CABG patients- A prospective observational study
5. Clinical and radiological features of Type A Aortic Dissection A Retrospective Observational Study From 2009 – 2019
6. Clinicopathological study and long-term surgical results of right atrial mass
7. Comparing Biomarker levels and recovery of Ventricular function in patients undergoing operation to the heart (CABG) having unstable Angina Vs Stable Angina
8. Comparison of early outcomes of Mechanical versus Bioprosthetic Valve in Pulmonary Position in TOF and Corrected TOF
9. Detection of silent cardiac allograft vasculopathy with speckle tracking echocardiography in heart transplant recipients: a comparative study with conventional endomyocardial biopsy
10. Graft patency in patients undergoing CABG after Coronary Endarterectomy
11. Impact of age, LV Mass Index, thickness of IVS, direction of movement of IVS on early recovery: Morbidity and mortality in ASO in TGA
12. Long Term Fate of Neoaorta post arterial switch operation patients
13. Long Term Sequences Of Sinus Venosus ASD with rerooting Of Pulmonary Veins (UKC Modification)-Sinus Nodal Dysfunction and Pulmonary and Systemic Vein Obstruction
14. One Year Outcomes Following Orthotopic Heart Transplantation at a Tertiary Care Centre In India
15. Outcome of TAPVC repair done in last 10 Years in AIIMS
16. Outcome of Ventilator-associated pneumonia in children after cardiac Surgery – A Prospective observational study
17. Serum vitamin D Levels in Patients Undergoing CABG: Correlation with Sternal Healing after 2 months
18. Surgical outcome and perioperative management strategies of TAPVC Repair in children less than 2 years
19. Tracheostomy in paediatric surgery patients
20. Use of Allopurinol in Paediatric Cardiac Surgery

### **Completed**

1. A randomized open label controlled trial Comparing ST. Thomas and del Nido cardioplegia to study electrolyte abnormalities following Cardiopulmonary Bypass
2. A randomized open label-controlled trial to evaluate the effectiveness of Combined Conventional and Modified ultrafiltration over Conventional Ultrafiltration in Infants undergoing Congenital Heart Surgery
3. A study of effect of Hemodilution on adequacy of tissue Perfusion and Coagulopathy, in patients undergoing Tetralogy of Fallot repair
4. Acute Type A Dissection complicated by Stroke: Optimum Strategy?
5. Aneurysm of Sinus of Valsalva dissecting into interventricular septum
6. Assessment of Circle of Willis in Indian population.
7. Coarctation of aorta in adults
8. Comparative study of exercise performance after total correction with trans annular patch (TAP) versus non trans annular patch (Non-TAP) after repair of Tetralogy of Fallot
9. Comparison of Plasmalyte – A based Del Nido Cardioplegia solution in Paediatric patient undergoing Open Heart Surgery
10. Comparison of Pleural Effusion in Fenestrated and Non-Fenestrated Fontan- A Prospective Randomized Study
11. Delayed sternal closure in Pediatric Cardiac Surgical Patients
12. Demographic, clinical, and radiological profile of patients with Acute Type A dissection.
13. Early outcome of Ozaki procedure
14. Efficacy of Yoga based Cardiac Rehabilitation after Coronary Artery Bypass Surgery in Patients of Coronary Artery Disease with Moderate to Severe Left Ventricular Dysfunction- A Post Surgery Follow-up, a randomized Control Study
15. Genetic screening in patients with Bicuspid Aortic Valve
16. Histopathological study of extent of degenerative changes in ascending aorta of patients with bicuspid aortic valve
17. Management of coarctation of aorta with ascending aortic aneurysm.
18. Morphology of Sinus of Valsalva aneurysms in Indian patients
19. Mycobacterial Aortopathy: An institutional review of its presentation and management.
20. Neurological outcome of aortic arch replacement surgery without hypothermic circulatory arrest
21. Non-invasive assessment of hepatic fibrosis in post Fontan surgery patients
22. Oral sildenafil administration in patients undergoing extra cardiac Fontan procedure- A double blinded randomized study
23. Outcome of Cardiac ECMO in children undergoing corrective Cardiac Surgery
24. Outcome of post cardiac surgery patients with sepsis
25. Outcomes of Aortic valve replacement/ Bentall operation in cases of chronic severe Aortic Regurgitation with severe left ventricular dysfunction
26. Perfusion strategies for Mitral Valve Replacement surgery in patients of more than 50 years old
27. Perfusion Strategies in patients undergoing Coronary Artery Bypass Graft Surgery
28. Prevalence of Bicuspid Aortic Valve (BAV) and Ascending Aortic Dilatation in First Degree Relatives (FDR) of Patients with BAV
29. Surgical audit and outcome of patients who underwent Bentall's procedure with hemiarch procedure
30. Tetralogy of Fallot Repair in first decade of life: Perfusion strategies
31. The satisfaction levels of heart transplant recipients seeking post-transplant medical care at a tertiary care government hospital: A questionnaire based study
32. Trans-aortic mitral valve repair for functional MR in patients undergoing aortic root / valve procedure

### **Collaborative projects**

#### **Ongoing**

1. Comparative Proteomic analysis to discover novel plasma biomarkers for early detection, surveillance and prognostication of Atrial fibrillation in patients with Rheumatic heart disease, Cardiology, AIIMS and National Institute of Pathology

2. Early Enteral Feeding with supplemented mother's milk in post-operative Pediatric cardiac surgical patients: A randomized controlled trial Institute of Home Economics, Delhi University
3. Fabrication of biocompatible scaffolds for delivery of stem cells in myocardial infarct model – In search of an ideal cardiac patch, Stem Cell Facility
4. Identifying different stages of endothelial dysfunction in vitro and validating them in individuals exposed to cardiovascular risk factors, Biochemistry, AIIMS
5. Proteomic analysis of cardiac tissue of Rheumatic heart disease patients with Atrial Fibrillation to understand the pathophysiology and to identify candidate biomarkers for diagnostic and therapeutic applications, Cardiology, AIIMS and National Institute of Pathology, New Delhi
6. SAFE PHT – Randomised study to compare thrombolysis vs surgery in patients with prosthetic heart valve thrombosis, Cardiology
7. Study of plaque biology in CAD patients Cardiology and Institute of Genomics and Integrated Biology, New Delhi
8. Study of proteomics in rheumatic mitral valve tissue in patients undergoing mitral valve replacement. Cardiology

### **Cardiac Anaesthesiology**

#### **Funded projects**

##### ***Ongoing***

1. A single blind randomized controlled study to evaluate the effect of Rajyoga Meditation on Biochemical and cognitive co-relates of cardiac rehabilitation in patients of surgical repair of congenital heart disease, Usha Kiran, DST, 2 years, 2017-2019, Rs 23 lakhs
2. Bivalirudin anticoagulation in neonates and infants undergoing cardiac surgery, Suruchi Hasija, AIIMS, 2 years, 2019-2020, Rs 5 lakhs
3. Evaluation of efficacy of the point-of-care guided hemostatic management in cyanotic congenital cardiac surgery patients using AIIMS algorithm: A prospective randomized study, 2 years, Poonam Malhotra Kapoor, JCCC Research Grant, 2 years, 2018-2020, Rs 12 lakhs
4. Platelet aggregometry in cyanotic vs acyanotic paediatric patients, Poonam Malhotra Kapoor, JCCC Research Grant, 2 years, 2019-2021, Rs 15 lakhs

##### ***Completed***

1. Evaluation of coagulopathy on veno-arterial (VA) Extracorporeal Membrane Oxygenation (ECMO) using Platelet Aggregometry and Standard Tests, Poonam Malhotra Kapoor, JCCC Research Grant, 2 years, 2019

#### **Departmental projects**

##### ***Ongoing***

1. Comparison of haemodynamic and ABG parameters after transport of children on manual vs mechanical ventilation post cardiac surgery
2. Comparison of plasmalyte-a based del nido Cardioplegia solution with plain ringer Based del nido cardioplegia solution in Pediatric patients undergoing open heart Surgeries: A prospective double blind Randomized controlled trial
3. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry
4. Effects of vasopressin infusion on early pleural effusions following the Fontan procedure-a double blind randomized clinical trial
5. Evaluation of blood loss in menstruating women undergoing cardiac surgery
6. Right atrial speckle tracking echocardiographic indices as a method for assessing pulmonary arterial pressures in patients with left sided valvular heart disease'
7. To assess the change in lung compliance during surgery and progressive change in pulmonary function of infants with congenital heart disease undergoing open heart surgical repair, over a period of one year

##### ***Completed***

1. Dexmedetomidine in prevention of atrial fibrillation in patient's undergoing valve surgery.
2. Induction effect of Anesthetic agents on ventricular function of congenital heart disease children by speckle tracking echocardiograph.
3. Osteopenin, RV function & clinical outcome intetrology of Fallots.

## **Collaborative projects**

### ***Ongoing***

1. Intraoperatively comparing 2D and 3D TEE to assess the prosthetic valve mismatch, University of Alabama at Birmingham, Alabama, USA

## **Cardiac Biochemistry**

### **Funded projects**

#### ***Ongoing***

1. Deciphering the mechanism of alarmin induced necroptosis and its role in immune homeostasis and inflammation in atherosclerosis, Manoj K Tembhe, DST-SERB (Early career research grant award), 3 years, 2017-2020, Rs 50 lakhs
2. Defining the role of Neutrophil Extracellular Traps (NETs) in immune regulation and inflammation, Manoj K Tembhe, AIIMS, 2 years, 2017-2019, Rs 8.5 lakhs
3. Double blind randomized control trial to study the effects of probiotic supplement, bacillus coagulans unique is and bacillus clausii on protein absorption, body composition, muscular strength, and immunity in resistance trained adult males. R Lakshmy, Unique Biotech, 20 months, 2016-2019, Rs 37 lakhs
4. Endothelial colony forming cells (ECFC) functionality in adults born small for gestational age as compared to those born appropriate for gestational age in the New Delhi Birth Cohort: A possible mechanism linking fetal growth restriction with adult chronic diseases, R Lakshmy, ICMR, 2 years, 2019-2021, Rs 35 lakhs
5. Estimating biomarkers in DBS for cardiovascular risk assessment in geriatric population, R Lakshmy, ICMR, 12 months, 2018-2019, Rs 28 lakhs
6. Proposal for engagement of All India Institute for Medical Sciences to serve as qc lab for comprehensive national nutrition survey, R Lakshmy, UNICEF, 2 years, 2016-2020, Rs 233.67 lakhs
7. To study the association of tetrahydrobiopterin (BH4) levels in endothelial progenitor cell (EPC) with the functional activity of EPC in coronary artery disease (CAD) patients, R Lakshmy, ICMR, 2 years, 2017-2019, Rs 39 lakhs

## **Departmental projects**

### ***Ongoing***

1. Assessment of ABO antibody titer and coagulation factor level after mixing and dilution with normal saline of A and B group donor plasma
2. Comparing biomarker levels and recovery of ventricular function in patients undergoing cabg, having unstable angina vs stable angina
3. Optimizing Blood Inventory in a Blood Bank at a Super-speciality Centre in India
4. Outcome of leuco-reduced and non leuco-reduced blood components transfused in patients undergoing cardiac surgery
5. Study of endothelial progenitor cell (EPC) tetrahydrobiopterin (BH4) levels and its association with EPC number and function in coronary artery disease (CAD) patients

## **Collaborative projects**

### ***Ongoing***

1. A Randomized Control Trial to assess the effectiveness of Nurse-Led Structured Telephonic Heart Failure Management Programme on selected health related outcome variables at 3 months. College of Nursing, AIIMS, New Delhi
2. A single blinded randomized control study to evaluate the effect of rajyoga meditation on biochemical and cognitive correlates of cardiac rehabilitation in patients of surgical repair for congenital heart disease. DBT funded, Cardiac Anesthesia, AIIMS
3. Association of Common Mental Disorders with Diabetes Mellitus-A Community based Case-control Study in north India Intramural, CCM, AIIMS
4. Cellular and molecular heterogeneity of normal superior and inferior parathyroid glands at different ages. Intramural, Pathology, AIIMS
5. Effect of Vitamin D supplementation on outcome in children undergoing open heart surgery: A Randomized Controlled Trial Intramural, CTVS, AIIMS
6. Elucidating the role of TNIP1, IL2B and NFKBIA and their target micro RNA in regulating the inflammation and skin homeostasis in psoriasis, Dermatology and Venereology
7. Evaluation of human Epididymis Protein 4 (HNE) in the diagnosis of ovarian cancer level in Laboratory Oncology

8. Intraoperative lung protective ventilation in peritonitis patients undergoing emergency laparotomy: A randomized controlled trial Intramural, Anesthesiology, AIIMS
9. Prevalence of Non-Alcoholic Fatty Liver Disease (NAFLD) and its association with cardio-metabolic disease risk factors in North India, ICMR funded, Endocrinology, AIIMS
10. Study of inner ear protein Otolin-1, Vitamin D and ionized calcium in circulation as a biomarker in non-Meniére's disease vertigo patients, Intramural, Otorhinolaryngology
11. Th2/Th17 inflammation modulating filaggrin expression and disease severity in children with moderate atopic dermatitis, Dermatology and Venereology
12. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status DST funded, Biochemistry, AIIMS

### ***Completed***

1. Defining miRNA signatures in vitiligo and skin pigmentation, (L'Oreal funded IADVL project)
2. Defining miRNA signatures in vitiligo and skin pigmentation, Dermatology and Venereology
3. Defining the role of genetic, epigenetic and immunological components involved in the pathogenesis of Alopecia areata, ICMR, New Delhi
4. Impact of supplementation of package of iron and folic acid (IFA) with Vitamin B12 on Hemoglobin Levels amongst Adolescent Girls (12-19 years), DBT funded, Human Nutrition Unit

### **Cardiac Nuclear Medicine**

#### **Funded projects**

##### ***Ongoing***

1. International study on imaging in Cardio-Oncology Study (iCOS), Dr Chetan D. Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019 -ongoing, 1st year 2000 Euros

#### **Department projects**

##### ***Ongoing***

1. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
2. Non invasive tissue diagnosis – A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
3. Role of F-18 FDG PET-CT in assessment of initial chemotherapy response in Pediatric Langerhan's cell histiocytosis
4. Role of Ga68-NOTA-MSA PET-CT in identifying vulnerable carotid plaques
5. Scintigraphic Image Restoration using Constrained least square filtering
6. Scintigraphic images Restoration using Richardson Lucy Algorithm
7. To assess the feasibility of Fluorine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT for evaluation of cardiac sympathetic innervation in Heart Failure. Comparison with Carbon-11 Hydroxyephedrine (C-11 HED) PET-CT
8. To study the role of vascular function and pain sensitivity in microvascular angina

### ***Completed***

1. Interim treatment response evaluation of high grade lymphoma using texture analysis on F-18 FDG PET-CT
2. Comparison of 68Ga PSMA PET/CT and 18F Fluoride PET/CT in high risk prostate cancer
3. Comprehensive assessment of right ventricle function and pulmonary perfusion in patients
4. Effect of dietary intervention in reducing interfering infra-cardiac activity in patients undergoing Tc99m-MIBI Myocardial Perfusion SPECT
5. Optimisation and validation of input parameters for scintigraphic image deionising using Wavelet Transform
6. Prevalence of asymptomatic stress induced myocardial ischemia in patients with advanced CKD by stress myocardial perfusion scintigraphy
7. Role of F-18 FDG PET-CT in staging and early treatment response evaluation in patients of soft tissue sarcoma
8. Role of Ga68-DOTANOC PET/CT in Cardiac Sarcoidosis; Comparison with Cardiac MRI with Eisenmenger syndrome using multi-modality imaging

## **Collaborative projects**

### ***Ongoing***

1. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI, Cardiology

## **Cardiac Pathology**

### **Funded projects**

#### ***Ongoing***

1. Immunohistochemical characterization of four common viruses in clinically suspected cases of viral myocarditis, Sudheer, AIIMS, 2 years, 2018-2019, Rs 10 lakhs
2. Sudden cardiac death; Histopathological and molecular study to identify the Cause, Sudheer, ICMR, 3 years, 2019-2021, Rs 69 lakhs

## **Collaborative projects**

### ***Ongoing***

1. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss Dermatology
2. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis, Pulmonary Medicine
3. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients
4. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology
5. Exploring the phenotypic and functional role of  $\gamma\delta$  T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of Pemphigus Vulgaris, Pharmacology
6. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology, Safdarjung
7. Histopathological evaluation of surgically excised rheumatic heart valves
8. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine
9. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology
10. Sudden cardiac death in young: A histopathological and molecular study to identify the cause

### ***Completed***

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
3. Fibrillin 1 gene mutation and TGF beta in TAAA of non marfanoid individuals

## **Cardiovascular Radiology and Endovascular Interventions**

### **Funded projects**

#### ***Ongoing***

1. Evaluation of therapeutic angiogenesis induced by intramuscular autologous platelet rich plasma in non revascularisable critical limb ischemia due to peripheral artery disease, Sanjeev kumar, AIIMS, 2 years, 2019-2020, Rs 4.9 lakhs

## **Departmental projects**

### ***Ongoing***

1. “Non-invasive tissue diagnosis”- A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
2. A cross sectional study to determine the role of P-31 MR Spectroscopy analysis of PCr-ATP ratio in differentiating Left Ventricular Hypertrophy and Hypertrophic Cardiomyopathy
3. A single center randomized control trial to compare the efficacy of radiofrequency ablation with that of ultrasound guided foam sclerotherapy (polidocanol) for incompetent perforators in patients with varicose vein

4. Comparison of the Left Ventricular strain, native T1 & T2 Mapping parameters in Patients with High normal blood pressure vs. Normotensive patients (Controls)
5. Comparison of the outcomes of concomitant truncal laser ablation and tributary foam sclerotherapy versus truncal laser ablation alone in patients with lower extremity venous reflux-A single centre randomized controlled trial
6. Detection of cardiac allograft vasculopathy with dual source computed tomography and MRI in heart transplant recipients: a comparative study with conventional coronary angiography and biopsy
7. Improving Maturation Rates of Haemodialysis Access Arterio-venous Fistula in Chronic Kidney Disease V Patients Using Autologous Adipose Tissue Derived Mesenchymal Stem Cells: A Double Blind, Randomised Placebo-Controlled Trial
8. Quantitative multivariate analysis of morphological features of the left atrium, left atrial appendage, pulmonary veins and epicardial fat in recurrence of atrial fibrillation after catheter ablation: A retrospective and prospective study
9. Safety and efficacy of genicular artery embolization in patients with moderate knee pain
10. Stent graft migration after thoracic endovascular repair (TEVAR) for thoracic aortic pseudoaneurysm and type B dissection

### ***Completed***

1. Comparison of non contrast MRA to contrast enhanced MRA in patient of PVD
2. Correlation of Epicardial Fat Volume with Severity of Coronary Artery Disease and Coronary Plaque Morphology
3. Derivation of nomograms for aortic and iliofemoral dimensions using multidetector computed tomography in the Indian population
4. Prognostic value of Decrease in Corrected Coronary Opacification in predicting Major Adverse Cardiovascular Events in Patients of Coronary Artery Disease
5. Quantification of Aortic Valve Calcification on Computed Tomography Angiography in patients of Aortic Stenosis
6. Renal morphological changes after successful renal angioplasty in young patients with uncontrolled hypertension due to Takayasu arteritis
7. Role of cardiac magnetic resonance imaging in identification of myocardial fibrosis and wall morphology in patients of nonischemic dilated cardiomyopathy
8. Role of cardiac MRI in diagnosis, prognosis and treatment response in patients of cardiac sarcoidosis using T1 mapping, T2 mapping and Late Gadolinium Enhancement (LGE)
9. Role of cardiac MRI in patients of nonspecific Aorto-arteritis and its value in prognostication and assessment of treatment response
10. Role of CEUS in activity in NSAA
11. Role of dual energy CT in tissue iron identification quantification in iron overload syndrome
12. Role of dual energy CT pulmonary perfusion in evaluation of chronic obstructive pulmonary artery disease and its value in assessing treatment outcome
13. Role of MDCT in the evaluation of systemic and pulmonary venous anomalies in heterotaxy syndrome

### **Collaborative projects**

#### ***Ongoing***

1. Applied novel statistical learning and modeling techniques on CT imaging features for prediction of growth of Stanford Type B Aortic Dissection and real options financial assessment of such health care technology, AIIMS-IIT Project
2. DE-CMR compared with FDG-PET for assessment of viability and prediction of functional improvement in patients with CAD and LV dysfunction, Cardiology
3. Impact of bariatric surgery in reduction of cardiovascular risk in morbid obesity. Surgery
4. Preparation and study of radiochromic film as radiation dosimeter for medical applications. Radiation Physics
5. Role of 68 Ga-DOTANOC PET/CT in cardiac sarcoidosis; comparison with cardiac MR, Nuclear Medicine

#### ***Completed***

1. Role of cardiac magnetic resonance imaging in identification of myocardial fibrosis and wall morphology in patients of nonischemic dilated cardiomyopathy, Cardiology

## **Stem Cell Facility**

### **Funded Projects**

#### ***Ongoing***

1. 3D Printed Tracheal Grafts For Regenerative Applications, Sujata Mohanty, AIIMS, 2 years, 2018-2021, Rs 5 lakhs
2. Bio fabrication of skin tissue substitutes using functionalized materials, Sujata Mohanty, DST, 2 years, 2018-2020, Rs 15 lakhs
3. DBT- Centre of Excellence for Stem Cell Research: Basic and Translational (Phase-II), Sujata Mohanty, DBT, 3 years, 2017-2020, Rs 298 lakhs
4. Development of a Carrier Dressing Capable of Supporting the Transfer of Melanocytes & Keratinocytes onto an in vitro Wound Bed Model, Sujata Mohanty, DBT, 3 years, 2017-2020, Rs 59.37 lakhs
5. Fabrication of Biocompatible Scaffolds for Delivery of Stem Cells in Myocardial Infarct Model: In Search of an Ideal Cardiac Patch, Sujata Mohanty, NER-DBT, 3 years, 2018-2021, Rs 28 lakhs
6. Immunomodulatory property of Human Mesenchymal Stem Cell: Assessment of their therapeutic potential in GvHD model, Sujata Mohanty, DST, 3 years, 2018-2021, Rs 42 lakhs
7. Indo-US joint Centre: Cellular Reprogramming in Regenerative Medicine, Sujata Mohanty, IUSSTF, 2 years, 2019-2021, Rs 35 lakhs
8. Strategies to enhance stem cell delivery to the retina using iron oxide nanoparticle, Sujata Mohanty, DBT, 3 years, 2018-2021, Rs 82 lakhs
9. Understanding the therapeutic role of adult stem cell derived exosome in combating virus induced neurodegenerative disease, Sujata Mohanty, DBT, 3 years, 2018-2021, Rs 22 lakhs

#### ***Completed***

1. 3D Bioprinting for patient-specific joint tissue constructs and in vitro model system, Dr. Sujata Mohanty, DST, 3 years, 2017-2020, Rs 30 lakhs
2. Comparing the vascularization potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Dr Sujata Mohanty, DBT, 3 years, 2018-2020, Rs 46.26 lakhs
3. SOPs to Study Very small embryonic-like stem cells (VSELs) in various adult tissues, Dr Sujata Mohanty, ICMR, 1 years, 2017-2018, Rs 4 lakhs
4. Targeting Telomerase Reverse Transcriptase (TERT) gene to immortalize Peripheral Blood Mononuclear Cells of patients with coronary artery disease, Dr Sujata Mohanty, ICMR, 3 years, 2014-2017, Rs 56 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Autologous Non-Cultured Dermal Cell Suspension Transplantation for Correction of Volume Loss
2. Comparative evaluation of cellular responses and osteogenic potential of undifferentiated mesenchymal stem cells induced by calcium-silicate based cements- A histochemical study
3. Detection and quantification of circulating tumour cells in oral cavity squamous cell carcinoma
4. Imaging and molecular characterization of differentiated thyroid cancer
5. Immunomodulatory Potential of Tissue Specific Human MSC through HLA-G and other soluble factors
6. In vitro and in vivo stabilization of endothelial tubes from HUVEC micro tissues using human bone marrow derived hMSCs and its application in bone tissue engineering
7. In-vitro studies to explore strategies for extended utilization of donor corneal tissues by harnessing their full clinical potential
8. Optical characterization of breast cancer
9. Role of micro RNA as biomarker in hepato-cellular carcinoma
10. To evaluate the role of tissue specific MSC derived exosomes in drug induced liver injury model

#### ***Completed***

1. A comparative study to assess the efficacy, viability and composition of various cell populations of extracted hair follicle outer root sheath cell suspensions (EHF ORS CS) prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. Molecular Characterization of Steve Johnson Syndrome and its Ocular Sequelae
3. Role of stem cell therapy to decrease pacing requirements in complete heart block

4. T cells subsets and their functions in aplastic anemia
5. To explore differentiation potential of bone marrow derived Mesenchymal stem cells into functional cardiomyocytes

### **Collaborative projects**

#### ***Ongoing***

1. A double-blind randomized trial of transplantation of cultured melanocytes from outer root sheath of plucked hair follicles vs. cultured melanocytes from epidermis, Dermatology
2. A Multi-center, Randomized, Double-blind, Placebo controlled Trial to Evaluate the effects of Intra Erythrocyte Dexamethasone Sodium Phosphate on Neurological Symptoms in Patients with Ataxia Telangiectasia, Pediatrics
3. Assessment of the effect of various storage media on viability, proliferative ability and differentiation potential of human periodontal ligament stem cells (hpdlsCs): An in-vitro study, CDER
4. Comparative evaluation of efficacy of conjunctival stem cell transplantation with cultivated oral mucosal epithelial transplantation in patients with bilateral cicatrizing ocular surface diseases (i.e. Stevens Johnson syndrome & Chemical burns), RP Centre
5. Evaluations of efficacy of therapeutic angiogenesis induced by intramuscular autologous platelet rich plasma in non revascularizable critical limb ischemia due to peripheral artery diseases, Cardiac Radiology
6. Generation of 3D breast tumor organoids as an invitro drug screening model, Medical Oncology
7. IUSSTF Reducing cancer mortality through cancer prevention, Gastroenterology
8. Solid Tumor targeting using Homing Peptide and Plasmonic Photothermal Technique, Surgery
9. Study of paracrine mechanism of autologous stem cell transplantation in stroke using bifunctional markers, Neurology
10. To evaluate the role of autologous BMSC for premature ovarian aging, Gynecology
11. To study efficacy of amniotic membrane as an alternative wound dressing in patients with post traumatic raw area admitted in trauma surgery unit, Trauma Surgery, JPNATC
12. Utilization of intra arterial injections of autologous bone-marrow derived mononuclear cells for treatment of spinal injury, Cardiac Radiology

#### ***Completed***

1. Comparison of autologous cultured limbal stem cells on amniotic membrane transplant versus limbal lenticule transplantation alone in the management total limbal stem cell deficiency due to ocular burns: A Randomized Controlled Clinical Trial, RP Centre
2. Evaluation of autologous bone marrow derived stem cells in dry age related macular degeneration, RP Centre

### **Blood Transfusion Services**

#### **Funded project**

#### ***Completed***

1. A Randomized Control Trial for evaluation of Transfusion Related Immuno-modulation in patients with meningioma, Gopal Kumar Patidar, AIIMS, 2 years, 2019–2020, Rs 10 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A cost descriptive study in the treatment of Guillain barre syndrome and Myasthenia gravis patients at a tertiary level hospital
2. A Randomised Control Trial for Evaluation of Transfusion related Immuno-modulation in patients undergoing Neurosurgery
3. Analysis of ABO antibody titre in healthy blood donors
4. Assessment of ABO Antibody titre and Coagulation Factors level after mixing and dilution with Normal saline of A and B blood group donor plasma
5. Optimizing Blood Inventory Management at a Super-specialty Blood Centre in India- A Case Study
6. The outcomes of Leukoreduced and Non Leukoreduced Blood Component Transfusion in patients with Meningioma

### **Collaborative projects**

#### ***Ongoing***

1. Comparing the Vascularising potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem Cell Facility

2. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance". Regional Centre for Biotechnology, Faridabad
3. Development of diagnostic and experimental therapeutics using CRISPR-based technologies, Biochemistry
4. Effect of Hyperglycaemia on Macrophage Function in Pathophysiology of Pulmonary TB, Biochemistry
5. Evaluation of Mesenchymal Stem Cell derived exosomes on neutrophil-induced tissue damage in the animal models of liver and heart disease, Stem cell Facility
6. Exploring the potential of Exosomes derived from Endothelial Colony forming Cells (ECFC) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-vascular Diseases (CVDs), Cardiac Biochemistry, Stem Cell Facility
7. Host-Parasite interaction in Malaria, Biochemistry
8. Regulation of HIV Reservoirs through Autophagy, Biochemistry
9. Study the Potential Role of HLA-G mediated Immunomodulation by Tissue Specific Human Mesenchymal Stem Cells, Stem Cell Facility
10. Targeting Telomerase Reverse Transcriptase (TERT) gene to immortalize Peripheral Blood Mononuclear Cells of patients with coronary artery disease, Stem Cell Facility

## **PUBLICATIONS**

### **Cardiology**

**Journals: 58**

**Abstracts: 3**

**Chapters in Books: 5**

### **Cardiothoracic and Vascular Surgery**

**Journals: 21**

**Chapters in Books: 1**

### **Cardiac Anaesthesiology**

**Journals: 39**

**Abstracts: 2**

**Chapters in Books: 5**

### **Cardiac Biochemistry**

**Journals: 12**

### **Cardiac Nuclear Medicine**

**Journals: 3**

**Abstracts: 12**

### **Cardiac Pathology**

**Journals: 20**

### **Cardiovascular and Interventional Radiology**

**Journals: 30**

**Abstracts: 2**

**Chapters in Books: 1**

### **Stem Cell Facility**

**Journals: 8**

**Chapters in Books: 3**

### **Blood Transfusion Services**

**Journals: 4**

## **PATIENT CARE**

### **Cardiology**

**New OPD cases**

**37566**

**Old cases**

**114829**

#### ***Patient Services***

- TMT 2800
- Holter 3326
- Echocardiography 35388
- ECG 45632
- ABP 88
- TEE 70
- HUTT 220

### ***Cath Lab Services***

• CART	2009
• Cath	800
• Balloon dilatation	113
• PTMC	212
• PDA	122
• ASD device	74
• VSD device	5
• PTCA	1106
• Pacemakers	365
• ICD	58
• CRT	52
• RFA	112
• CARTO	14
• DSA	264
• Coil embolization	91
• BAS	85
• EM Biopsy	40

### **Cardiothoracic and Vascular Surgery**

#### **Workload**

At the department of CTVS, one of the largest numbers of numbers of adult, aortic and paediatric cardiac surgery for congenital heart defects were performed in the country. Between 1 April 2019 to 31 March 2020, 3625 surgeries of all types were performed in the department. Along with Department of Cardiology (1,34,700) and CTVS (55,788), a total number of 1,90,488 new and follow patients were seen in the OPD. The number of indoor admissions was 10,939 (3064 in CTVS & 7875 in Cardiology).

#### **The facilities and infrastructure**

1. **Operating Rooms (OR's):** There are eight fully functional operating rooms in the Department of CTVS. Each one of these is equipped with all the necessary equipment required for performing the entire range of adult, aortic and paediatric cardiac surgery. These include state-of-the-art monitoring system and anesthesia station, NIRS, BIS, EEG, 3-D echocardiography, cell saver, CPB machines, vacuum assisted venous drainage, centrifugal pump, bronchoscope, and intra-operative neuromonitoring.
2. **ICU Beds:** The Department has 4 ICUs (54 beds) fully equipped with all advanced facilities for postoperative cardiovascular surgical care.
  - ICU-A: 16 Beds
  - ICU –B: 18 Beds
  - Neonatal ICU: 8 BedsCT-5 ICU: 12 Beds
3. **General Beds:** The bed strength in the wards is follows:
  - **CT-4 Ward:** 42 Beds + 2 Isolation beds
  - **CT-5 Ward:** 24 Beds (In addition, 12 beds in CT5 ICU as above) + 2 Isolation beds
  - **CT-6 Ward:** 12 Beds
4. **CN Tower (Private Ward):** Thirty-two (32) beds in private/paying ward, shared with Department of Cardiology
5. **Homograft Valve Bank:** The Department runs the most successful valve bank of the country. This ensures adequate supply of homografts to manage complex paediatric cardiac surgical problems.
6. **Supportive services:** Five cardiac catheterization labs including, advanced CT scan, MRI, nuclear medicine, ultrasound, and echocardiography lab, state of the art blood bank, and laboratory services.

### **Cardiac Anaesthesiology**

1. Advanced monitoring facilities (TEE, TTE, NIRS, NICO monitoring) for management of routine, emergency and high risk cardiac surgical patients belongs to all spectrum
2. Specialized cognitive rehabilitation programme for heart failure, heart transplant and LVAD patients
3. Routine stress management programme both for pre- and post-operative patients

4. Different community programme by the faculties
5. Special involvement with anesthesia for complex congenital heart surgery
6. Team member of heart failure treatment like heart transplant & LVAD
7. Transesophageal Echocardiography
8. Community Service- Charitable health camps and health education
9. Special involvement with anesthesia for complex congenital heart surgery and OPCAB
10. Team member of heart failure treatment like heart transplant & LVAD
11. Transesophageal Echocardiography
12. Community Service- Charitable health camps and health education

### **Cardiac Biochemistry**

The Cardiac Biochemistry laboratory offering state-of-the-art diagnostic test facilities in patient care services and the test facilities are catering to patients of CN Centre as well as to other departments of the Institutes and also serves as referral lab for outside patients. The Lab operates as combined centralized laboratory for CN Centre and offers blood biochemistry (Blood sugar (fasting, PP, Random), LFT, KFT), hematology (hemogram, PT/INR, ESR), lipid profile, hormone (T3, T4, TSH, Testosterone, FSH, LH, Prolactin, Renin, Aldosterone) and vitamin profile (Vitamin D, B12, folate), drug testing (Cyclosporin, Tacrolimus, anti-epileptic drug testing (valproic acid, Carbamazepine, phenytoin, Phenobarbital, digoxin)) and various other specialized tests (Iron profile (serum iron, UIBC, TIBC, ferritin, catecholamine)) in the centralized lab.

### **Annual Statement of approximate number of tests done in Centralised Lab CNC**

S. No.	Description	No. of Tests (Ward)	No. of Tests (OPD)
<b>Clinical Chemistry</b>			
1	Glucose	32400	45000
2	Urea	55000	45000
3	Creatinine	55000	46750
4	Calcium	54000	44500
5	Phosphorous	54000	44000
6	Uric Acid	56750	44420
7	Sodium	56750	45650
8	Potassium	65098	45400
9	Bilirubin	54000	45450
10	Direct Bilirubin	54000	45340
11	Total Protein	56000	45110
12	Albumin	54897	45340
13	AST	59010	45900
14	ALT	59010	45000
15	ALP	57,190	45000
16	Cholesterol	36,180	8000
17	Amylase	25,150	8900
18	Cyclosporin	200	NA
19	Tacrolimus	600	NA
<b>Haematology and coagulation</b>			
1	Hb, TLC, DLC, Platelets, ESR	56780	39690
2	PT	14060	56500

3	APTT	1340	6700
<b>Hormones</b>			
1	T3	13000	8500
2	T4	13000	8500
3	TSH	14350	10500
4	Prolactin	2920	1300
5	Cortisol	2450	1950
6	Vit B12	9700	3670
7	Folate	3000	2500
8	Homocysteine	2300	1500
9	Ferritin	2450	400
10	Iron	2450	400
11	UIBC	2450	400
<b>Catecholamines/VMA</b>			
1	Adrenaline/Noradrenaline	450	135
2	VMA	490	135
<b>PTH/Vitamin D</b>			
1.	Vitamin D	5640	1340
2	PTH	45	0
<b>Lipids/Cardiac Enzymes/HbA1c</b>			
1	Lipid profile	55000	55000
2	CK-NAC	15460	4090
3	CK-MB	4000	3000
4	LDH	12000	11000
5	ASLO	1500	3900
6	CRP	50500	28000
7	Digoxin	500	500

### **Cardiac Nuclear Medicine**

The Department routinely performs myocardial perfusion SPECT imaging which is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also perform cardiac PET imaging with PET tracer F-18 FDG for assessment of myocardial viability and for cardiac infective pathologies. New diagnostic techniques for non-CAD indications are now performed like Gallium-68 DOTANOC and Tc99 m PYP for cardiac sarcoidosis and infiltrative/inflammatory pathologies, respectively. We have also assessed the feasibility of F-18 FDOPA for evaluation of cardiac sympathetic innervations and in an ongoing study evaluating its role in Heart failure patients. The department also performs radionuclide ventriculography for assessment of left ventricular function in CAD patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

Total Number of patients investigated in Nuclear Cardiology

Myocardial perfusion study:	1795	RNV study:	563
Cardiac PET:	162	Misc. (V/Q scan, 1st pass):	218
Total studies performed: 2738			

### **Cardiac Pathology**

#### **Specimens**

Routine:	310 cases	Research:	163 cases
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**Other work**

Immunohistochemistry: 392 slides      H & E stain: 305 slides  
 Special stains: 102 slides      Cutting of blocks (unstained sections): 631 slides  
 Rapid processing of post-transplant biopsies: 29 cases

**Cardiovascular Radiology and Endovascular Interventions**

Facility	No. of Procedures	Facility	No. of Procedures
MRI	961	DSA/ Venogram	675
CT	6080	Doppler & Ultrasound	8543

**Stem Cell Facility**

S.No.	Service Provided	Samples processed (n)
	Stem Cell Isolation from Bone Marrow	34
	Stem Cell Isolation from Adipose Tissue	10
	Stem Cell Isolation from Wharton's Jelly	12
	Stem Cell Isolation from Dental Pulp	2
	MNC Isolation from Bone Marrow	2
	MNC Isolation and Cryopreservation from Umbilical Cord Blood	4
	Cryopreservation of Apheresis sample	9
	Cultured Oral Mucosa Epithelial Transplantation	4
	Culture Limbal Epithelial Transplant	3
	Hair Follicle derived Stem Cells	20
	Skin Epidermis derived Stem Cells	20
	Viability of stem cells (pre & post transplantation/infusion)	15
	Amniotic Membrane preparation for grafting	19 Batches (468 Vials)
	Stem Cell Enumeration (CD34+ count)	6

**Blood Transfusion Services**

Blood units collected	2019-20
Replacement donors	10438
Voluntary donors in the department	347
Voluntary through blood mobile	896
Family Voluntary Donors	8273
Blood received from IRCS	9
Blood received from Hosp. Blood Bank, AIIMS	142
Blood received from JPNATC, AIIMS	85
Blood received from other hospital	5
<b>Total No. of Blood units collected</b>	<b>20195</b>
<b>Blood units issued</b>	
Blood units issued to CTVS/NS	24061
Blood issued to Hosp. Blood Bank, AIIMS	505
Blood issued to JPNATC	164

Blood issued to other hospitals	2284
HIV/HBsAg/HCV reactive units discard	477
<b>Total No. of blood units issued</b>	<b>27041</b>
<b>Laboratory procedures</b>	
Total no. of Blood grouping (ABO)	84112
Total no. of Blood grouping (Rh)	84112
Total no. of cross matching done	128512
<b>Infectious markers</b>	
HIV Testing	23688
HBV Testing	23688
HCV Testing	23712
VDRL Testing	21944
MP testing	21944
<b>Total</b>	<b>114976</b>
<b>Number of blood components issued</b>	
Fresh Frozen Plasma (FFP)	20894
Platelet Concentrate	12770
Cryoprecipitate	1517
Packed Red Cells	27014
Single Donor Plateletpheresis	58
<b>Total</b>	<b>62253</b>

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Cardiology

**Professor VK Bahl** is Course director, India Live.

**Professor Anita Saxena** is President of National rheumatic heart consortium.

**Professor SS Kothari** has been in Ethics Sub-Committee of Medical Council of India (MCI)- 2019-2020; Member (Expert) – Drug Controller Govt. of India (DCGI)-2019-2020; Member of Standing Selection Committee meeting for selection of regular Faculty Posts, 21 October 2019, Puducherry.

**Professor Balram Bhargava** is DG, ICMR; Secretary, DHR.

**Professor KC Goswami** is President, Cardiological Society of India.

**Professor S Seth** is Editor in Chief, JPCS.

**Professor Sandeep Mishra** is Member, Internal Affairs Committee, SCAI; International Editor, Sri Lanka Journal of Cardiology; Editorial Board of European Medical Journal; Organizing Chair, SCAI 2019 Annual Meeting; International Examiner, National Academy of Medical Sciences.

**Professor Rakesh Yadav** is Treasurer, CSI Delhi branch; Editor, Indian Heart Journal.

**Professor G Karthikeyan** is Editor-in-Chief of *Heart Asia* which is one of the three heart journals published by the BMJ Group.

**Professor Ambuj Roy** is Member, Institute Body, JIPMER, Puducherry; Convener, Heart Failure Council, Cardiological Society of India (2018-2020); Member, Technical Expert Committee for National Program for Prevention and Control of

Cancer, Diabetes, CVD and Stroke (NPCDCS); Member, Task Force Committee of ICMR for Cardiovascular Research in India; Chairperson, Project Review Committee (Cardiovascular Diseases) of ICMR, New Delhi; Members of the Task Group on Health Services for Haryana Governance Reforms Authority; Facility Coordinator In-charge, Skill, e-Learning & Telemedicine (SET) Facility, AIIMS, New Delhi; Member, Institute Ethics Committee (Post Graduates) at All India Institute of Medical Sciences; Member, AIIMS Institute Ethics Committee- Subcommittee for Serious Adverse Events in clinical trials; Member, Managing Committee, CMET, AIIMS; Prof J P Das Oration at Indian College of Cardiology -26th Annual Conference 20 Sep 2019, Kochi-Looming Burden of Heart Failure in India: Can we Reduce it? Collaborator, Global Burden of Disease; Member of the GBD India Cardiovascular Disease Expert Group.

**Professor S Ramakrishnan** is Assistant editor of Annals of pediatric cardiology; Treasurer of national rheumatic heart consortium; Associate editor of JPCS.

**Dr Saurabh K Gupta** won Savitri Srivastava Imaging award PCSI 2019; CSI Indian innovation award 2019; IJMR Clinical image competition award 2019.

### **Cardiothoracic and vascular surgery**

**Professor SK Choudhary** was nominated as the member of American Association of Thoracic Surgeons; Conferred HonoraryDSc degree (Honoris Causa) by JRD University, Chitrakoot, December 2019; Awarded “Leadership Award (2019-20)” by Sambadh Health Foundation for outstanding contribution to the Tobacco Control Campaign in India. Delivered Dr Denton A Cooley Oration (Annual Oration of Sajja Heart Foundation), titled “Courage in Cardiovascular Research” on 22 August 2019, Hyderabad. Delivered Annual Oration at Deshbandhu College (Delhi University), New Delhi, titled “The Killer Number One” on 4 September 2019. Nominated as subject expert for selection of faculty in super specialty, Directorate of Research & Medical Education, Government of Punjab, 22 September 2019, Chandigarh. Nominated as subject expert for selection of faculty in super specialty, Janakpuri Super Speciality Hospital Society (Jsshs) Janakpuri, 4 March 2020, New Delhi. Nominated as an external examiner for MCh (CTVS) 16 March 2020 at Pt. B.D. Sharma University of Health Sciences, Rohtak. Nominated in Specialists Board in specialty of Cardiothoracic Surgery, National Board of Examinations. 2019. Nominated as expert to review the draft white paper on Electronic nicotine delivery systems (ENDS), also called electronic cigarettes, e-cigarettes, Indian Council of Medical Research, New Delhi. Nominated as member of “Standing Technical Committee”, DGHS, Government of India, 26 December 2019, New Delhi. Nominated as Chairperson of Expert Group to conduct inspection at SMS Hospital, Jaipur for Heart Transplantation facilities under Transplantation of Human Organs Act, 1995, November 2019. Nominated as a member in Expert group to conduct inspection of Indraprastha Apollo Hospital, New Delhi for Lung Transplantation facilities under Transplantation of Human organs act, 1995 by the DGHS, December 2019, New Delhi. Nominated as a member in Expert group to start robotic surgery program at National Institute of Thoracic and Respiratory Diseases, 12 February 2020, Mehrauli, New Delhi.

**Professor Sachin Talwar** was Governing Council Member of WSPCHS for 4 years. Editor, Congenital Section, Asian Cardiovascular annals Thoracic annals. Theory examiner, PGI Chandigarh, 24-27 April 2019. Theory examiner, KGMC Lucknow, April 2019. Expert for Selection / Promotion of Faculty Members at King George’s Medical University: 30 July 2019. Expert for Selection / Promotion of Faculty Members at SCTIMST Trivendrum 30 August 2019. Expert for Selection / Promotion of Faculty Members at PGI Chandigarh 23 August 2019. MCh examiner SCTIMST Trivendrum, 7 December 2019. Selected External expert for PhD viva-voce for Phd (computational fluid dynamics). Keynote lecture on “arterial switch operation: what can we learn from the Indian experience” at Summit on the arterial switch operation-A to Z, 27-29 November 2020, Bali, Indonesia.

### **Cardiac Anaesthesiology**

**Professor Neeti Makhija** chaired a session in the 14th Annual Perioperative and Critical Care Transesophageal Echocardiography Workshop from 6-8 March 2020 at PGIMER, Chandigarh on Pediatric Imaging that included the following topics: Assessing PAH in CHS and its implications–non invasive, Complex cardiac anomalies – single vs double ventricle repair, Pre op and Post op echo assessment of D- TGA, Congenital mitral valve abnormalities – Pre and post-op echo assessment; Chaired the session on workshop on Lung Isolation Techniques in The Airway -2020, The Airway Congress of Airway Management Foundation from 22.02.2020 to 23.02.2020 at New Delhi. Chaired the session in 23rd National Conference of Indian Association of Cardiovascular and Thoracic Anesthesiologists 2020 at Goa organized by the Mumbai Branch from 7 February 2020-9 February 2020 on “Paediatric Cardiac Intensive Care” that included the following topics: Ivabradin: New kid on the block in Congenital Hearts, How to plan peri-operative nutrition in children?, Near misses in Paediatric Cardiac Anaesthesia/ICU-My Experience, Approach to Post op Fever-Wait OR Escalate Antibiotics; Chaired the Session in the 8th Comprehensive Perioperative Echo Workshop on 16 November 2019 At Medanta, The Medicity, Gurgaon on “Decision Making in Valve Disease – II” which included the following lectures: Should the Tricuspid Be Repaired? On which Echo Criteria should you rely?, Aortic Regurgitation: Pitfalls in Assessment, Aortic Stenosis: Gradients Vs Valve Area?, Prosthetic Valves: Type and Echo Assessment of the Newly Seated Valve, Assessment of the Thoracic Aorta: TEE

and Epiaortic Views, TAVR: Imaging and beyond. These lectures were followed by Panel Discussion and interaction with Audience. Also mentored the participants in the Hands-on Sessions & Wet Lab: Porcine Heart Dissection.

**Professor Poonam Malhotra Kapoor** has completed her 1 year tenure as the President of IACTA ( non elected). Continuing as the President of SCA-Delhi and NCR Branch ( non elected). Continuing as Founding Secretary and Chairman Academics of “The Simulation Society”. She has become the Past President of ECMO Society of India (non elected). She has nominated as Senior member –The AAPI Global Resuscitation Ad hoc Committee (2019-20). Editor-In-Chief. Journal of Cardiac Critical Care, 3rd and 4th issues of JCCC 2019. Principal Editor of Book entitled “Hypertension: New Frontiers – textbook of Cardiology” Edited by Dr HK Chopra published by Jaypee Publishers. Received “Award of Honour –for Contribution in ECMO and Echocardiography” at CSI meeting held at EROS Hotel on 10 November 2019. She was Examiner for: DNB Cardiac Anaesthesia, Kolkata; DNB Cardiac Anaesthesia, Ahmedabad; DNB Cardiac Anaesthesia, SGRH, Delhi; FTEE examination conducted by IACTA at Bengaluru. She was content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FIAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC). The Exams were online conducted by Tata Consultancy Services. Co-Editor: ISCCM Manual of RRT and ECMO in ICU (A Reference Book for Practicing Intensivists) Author: Editor: Rajesh Chandra Mishra, Co-Editors: Kanwalpreet Sodhi, KC Prakash, Poonam Malhotra Kapoor. Attended as Invited Faculty, 1st CytoSorb Advisory Board Meeting on Cardiovascular Surgeries, 22 May 2019, New Delhi. Editor in Chief – Journal of Cardiac Critical Care, Knowledge sharing Session on “Understanding Lifestyle Diseases”, 4 May 2019, New Delhi; Conducted ECMO workshop and hands-on Session, TSS-APVIC Vascular ECMO Course, 29 June 2019, New Delhi. Course Director to conduct Vascula ECMO Workshop, 11th Asia Pacific Vascular Intervention Course, 28-30 June 2019, New Delhi; Publishing Workshop Jointly by B.B. Dikshit Library, AIIMS and Wolters Kluwer, 11 July 2019, New Delhi.

**Professor Minati Choudhury** was awarded for the paper “Correlation between thoracic fluid content (TFC), total leukocyte count (TLC) and C-reactive protein in patients undergoing pediatric cardiac surgery. (Co investigators.... S Aggarwal, Devagourou V), At World congress of cardiology, Barcelona, Spain 23 and 24 September 2019.

**Devishree Das and Minati Choudhury** won Award for the paper.....” A case of Hedinger syndrome secondary to carcinoid tumor of ovary. 14th perioperative and critical care workshop, 6-8 March 2019, PGIMER, Chandigarh.

**Dr Arindam Choudhury** received Best paper award (First prize) by the European Association of Cardiothoracic Anaesthesiologists during their annual meeting in September 2019 at Ghent, Belgium for presenting the above mentioned paper. It was judged the best oral presentation out of all the international papers presented during the EACTACON 2019 (Abstract and the award certificate attached). Received Certificate of appreciation awarded for academic contribution to the SET facility programs by Director, AIIMS New Delhi during a faculty felicitation ceremony on November 2019.

### **Cardiac Biochemistry**

**Professor Lakshmy Ramakrishnan** chaired a session on “Pathology and epidemiology of atherosclerosis”, 5th Annual Conference of the Delhi Chapter of Indian Society of atherosclerosis research (ISAR-DCCON-2019), 3 August 2019, New Delhi; Member of technical advisory group constituted by Ministry of Health and Family Welfare for conducting Comprehensive national Nutrition Survey (CNNS); Expert member of project review committee of Indian Council of Medical Research in the area of Endocrinology; Also an expert member of ICMR in the area of Non Communicable Diseases; Expert member for the Task Force Project on “ICMR-India Diabetes [INDIAB] study for estimating prevalence of Diabetes and Pre- Diabetes in different states of India; Member of CKD project monitoring technical advisory committee constituted by Health and Family welfare ministry, Government of AP; Member of research area panel on diabetes at NCDIR, Bengaluru; Member of Expert Committee for Lab and Blood bank Equipment purchase in NHSRC; Member of expert group for preparation of revised GCLP guideline by ICMR; Examiner for 2 PhD thesis from Osmania University, Hyderabad; Member of research group committee for DBS study in NFHS 4 and 5; National editor, J of Practice of Cardiovascular Sciences; Reviewed articles for Therapeutic advances in Endocrinology and metabolism, International J of diabetes in developing countries, IJMR, Clinical chemistry and laboratory medicine, J of diabetes research.

### **Cardiac Nuclear Medicine**

**Dr Chetan Patel** was Chairperson in Nuclear Cardiology session, Panel discussion, 51st Annual Conference of Society of Nuclear Medicine, 12-14 December 2019, Mumbai. Reviewer for National and International Academic Journals. Vice President, Nuclear Cardiological Society of India; Member of Executive Committee, Society of Nuclear Medicine, India; Member of Executive Committee, Association of Nuclear Medicine Physicians of India; Subject expert for faculty interview 10 May at AIIMS, Jodhpur; Subject expert for faculty interview 8 September at AIIMS, Jodhpur; External examiner for MD Nuclear Medicine, at Sri Venkateshwara Institute of Medical Sciences, Tirupati on 1 May 2019; Reviewed thesis of MD Nuclear Medicine students, AIIMS, Rishikesh; Reviewed thesis of MD Nuclear Medicine students, TMH, Mumbai; Internal Examiner for MD Nuclear Medicine, MSc Nuclear Medicine Technology and DM Nuclear Medicine Therapy

Practical Examinations held in December 2019; Reviewer of Adhoc Extramural Proposal of ICMR; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitments in research projects at CIMR; Chairman, Selection Committee for recruitment of core staff at CIMR under COE Scheme, AYUSH; Training: DM cardiology students: Dr Ashish Hota & Dr Tejvir Singh, NEIGRIHMS, Shillong- One month experience in Nuclear cardiology, AIIMS; Training: MD Nuclear Medicine students from Sri Venkateswara Institute of Medical Sciences, Tirupati.

### **Cardiovascular Radiology and Endovascular Interventions**

**Professor Sanjiv Sharma** was Reviewer for many national and international radiology and cardiology journals; President of society of emergency radiology.

**Dr Priya Jagia** was reviewer for many national and international radiology and cardiology journals.

**Dr Sanjeev Kumar** was Reviewer for many national and international radiology and cardiology journals; Nominated as Secretary of Delhi ISVIR; APCIO Young investigator Scholarship; Winner of ‘Clinical Images competition 2019’ under the IJMR Symposium.

### **Residents**

1. Dr Vineeta Ojha: CIRSE International Young Fellow Travel Award for CIRSE 2019.
2. Dr Rengarajan Rajagopal: First place in residents fellows quiz in CIRSE Annual Congress 2019.

### **Blood Transfusion Services**

**Dr Anjali Hazarika** chaired a scientific session during CME on Transfusion Medicine at AIIMS, New Delhi- 5 April 2019; Organized a Donor felicitation programme with an Awareness Walk on Voluntary Blood Donation On World Blood Donors Day, 14 June 2019; Technical Expert during “Review of Technical Specifications of Medical Devices required in Lab and Blood Banks”- at NHSRC, Munirka Delhi – 5 July 2019; Chaired scientific session of in CME on Thalassaemia by Thalassaemic Society of India- 18 August 2019; Chaired scientific session at BAHMC, Rohini during CME on “An update on Perinatal, Neonatal and Pediatric Transfusion Practices”, 31 August 2019; Observer during inspection of Blood Bank for NABH accreditation, 27 and 28 September 2019; Nominated as Nodal officer for Fire Safety, BB CNC – 29 September 2019; On occasion of National Voluntary Blood Donation Day, organized month long activities like inhouse and outdoor blood donation camps, Puppet shows and Nukkad Natak in collaboration with DSACS at CNC to create awareness about Voluntary blood donation-3 October - 3 November 2019; Technical expert-Meeting and demonstration of about Good Governance Mobile app for blood donors at IRCS - 9 January 2020; Technical expert during meeting at Health Ministers office in Nirman Bhavan for suggestions regarding improving availability and accessibility of Blood in Delhi,- 9 January 2020; Chaired a scientific session on “Immunohaematological case presentation in multiple transfused pts” during CME on “Current trends & Challenges Immunohaematology & Transfusion Medicine” in Deen Dayal Upadhyay Hospital, Delhi, 20 February 2020; Mega Blood Donation Camp by the 3 blood Banks of AIIMS with a single day collection of a record 3000 voluntary blood donation, 27 February 2020

### **VISITING SCIENTISTS**

#### **Cardiothoracic and Vascular Surgery**

1. Dr Kaushik Mandal, Hershey Medical Center, Hershey, USA
2. Dr Roberto Bortolomeo, University of Bologna, Bologna, Italy
3. Dr Sivakumar Sivalingum, National Heart Institute, Kuala Lumpur, Malaysia
4. Dr Catherine Sudarshan, Papworth hospital, Cambridge, UK

#### **Cardiovascular Radiology and Endovascular Interventions**

1. Dr ChantsalsurenGalbaatar, The intermed Hospital, Ulaanbaatar, Mangolia
2. Dr Khishigjargal Erdene, The intermed Hospital, Ulaanbaatar, Mangolia
3. Dr Mohammad Anwar Hossain, Department of Radiology and Imaging, Dhaka, Bangladesh
4. Dr Wahiduzzaman, National institute of Cardiovascular Diseases, Dhaka, Bangladesh
5. Dr Shikha Sood, Indira Gandhi Medical College, Shimla, Himachal Pradesh
6. Dr Harshit, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala

#### **Stem Cell Facility**

1. Dr Chandan Sen, Indian University, Indianapolis, USA
2. Cato T Laurencin, University of Connecticut, Storrs, USA

## 10.2. Centre for Dental Education and Research

### Chief

OP Kharbanda  
(up to 29 February 2020)

Ritu Duggal  
(Orthodontics and Dentofacial Deformities)  
(from 1 March 2020)

### Professors

Ajoy Roychoudhury  
(Oral and Maxillofacial Surgery)  
Ongkila Bhutia  
(Oral and Maxillofacial Surgery)

Veena Jain  
(Prosthodontics)  
Vijay Prakash Mathur  
(Paediatric and Preventive Dentistry)

Ajay Logani  
(Conservative Dentistry and Endodontics)

### Additional Professors

Dalim Kumar Baidya  
(Anaesthesia)

Devlina Goswami  
(Anaesthesia)

### Associate Professors

Amrita Chawla  
(Conservative Dentistry and Endodontics)

Vijay Kumar  
(Conservative Dentistry and Endodontics)

Rahul Yadav  
(Oral and Maxillofacial Surgery)

Vilas Samrit  
(Orthodontics and Dentofacial Deformities)

Prabhat Kumar Chaudhari  
(Orthodontics and Dentofacial Deformities)

Kunaal Dhingra  
(Periodontics)

Kalpana Bansal  
(Paediatric and Preventive Dentistry)

Nitesh Tewari  
(Paediatric and Preventive Dentistry)

Dheeraj Kumar Koli  
(Prosthodontics)

Shalini Gupta  
(Oral Medicine)

Deepika Mishra  
(Oral Pathology and Microbiology)

Harsh Priya  
(Public Health Dentistry)

### Assistant Professors

Krushna Bhatt  
(Oral and Maxillofacial Surgery)

Aditi Nanda  
(Prosthodontics)

Rahul Morankar G  
(Paediatric and Preventive Dentistry)

Sidhartha Sharma  
(Conservative Dentistry and Endodontics)

Vikender Singh  
(Periodontics)

Anika Daing  
(Periodontics)

Bharathi M Purohit  
(Public Health Dentistry)

### Senior Administrative Officer

Smt. Renu Bhrdwaj

### Store Officer

Bhawani Singh

### Senior ANS, Officer

Alka Jhadhav

Neelam Sood

## HIGHLIGHTS

Centre for Dental Education and Research (CDER) has continued its leadership role in the region by being WHO Collaborating Centre for Oral Health Promotion since 2014 and discharging its functions as technical expert and for capacity building in neighboring countries. It is also a national leader and has been continuing as National Centre of Excellence for Implementation of National Oral Health Program for Ministry of Health and Family Welfare, Government of India. It helps the Government and ICMR in various policy matters, technical expertise, capacity building and quality control by conducting various events and the expertise of its faculty members.

The faculty of the department has organized 23 national conferences, workshops, symposia and hands-on programmes for faculty members and students of other dental and medical institutes in the country.

The faculty members are serving as office bearers and editors of prestigious professional organizations and journals, and have been delivering orations, keynote addresses and guest lectures across the world. The faculty have also received two awards and fellowships in international and six awards and fellowships at national events during this year. During this year a state-of-the-art cleft lip and palate clinic, and histopathology laboratory were inaugurated.

## EDUCATION

Centre for Dental Education and Research has been conducting postgraduate courses in Orthodontics, Prosthodontics, Conservative Dentistry & Endodontics, Oral & Maxillofacial surgery and Pediatric & Preventive Dentistry. This year the centre has enrolled PhD candidates in Orthodontics, Oral & Maxillofacial surgery and Pediatric & Preventive Dentistry. The Centre is also conducting the teaching programme for Dental Operating Room Assistant (DORA) and BSc Dental Hygiene Courses in collaboration with other departments in the Institute. The centre also continues to teach Undergraduate students (MBBS and BSc Hons. Nursing). Apart from this, short term trainees and observers have been visiting the centre.

### **CMEs/Workshops/Symposia/National and International Conferences Organized by the Centre**

1. How to Make Best of the Postgraduate Years, Symposium, 1-2 April 2019, CDER AIIMS, New Delhi
2. Hands on workshop on oral cancer screening, National Institute of Cancer Prevention and Research, 10 April 2019, Noida
3. Workshop on National Level Oral and Disease Burden Survey in India, 12 July 2019
4. CME on Laser-assisted tongue tie management, 16 July 2019, AIIMS, New Delhi
5. AOCMF Seminar—Advances in Orthognathic Surgery, New Delhi, India, 19 and 20 July 2019
6. NTPC Programme, 19-21 August 2019, AIIMS, New Delhi
7. Training Programme for KV School teachers, 2 batches, 26 August and 3 December 2019, CDER, AIIMS, New Delhi
8. Oral Healthcare Innovations Conference 2019, 16 September 2019, AIIMS, New Delhi
9. Faculty International: AOCMF Seminar Advances in Management of Temporomandibular Joint Reconstruction, Changsha, China, 20 and 21 September 2019
10. 1st AIIMS Periodontal & Peri-implant Plastic Surgery Symposium, 2 and 3 October 2019, New Delhi
11. Pre-conference Workshop of Cast Partial Denture – Clinical and Laboratory Steps, 47th Indian Prosthodontics Society Conferences, 29 November 2019, Raipur, India
12. Efficient Orthodontic Techniques for Best Facial Esthetics, 11 December 2019, AIIMS, New Delhi.
13. CME, Advances in Pediatric dentistry, 24 Dec 2019, AIIMS, New Delhi
14. Advancing Dental Research in India: National Brainstorming Meeting, 17 January 2020, New Delhi
15. Oral health promotion and oral cancer prevention for ORBO Nurses, AIIMS, New Delhi, 20 January 2020, AIIMS, New Delhi
16. Faculty International: AOCMF Lighthouse Course TMJ Surgery (with Human Anatomical Specimens), 26-28 January 2020, Leiden, Netherlands
17. Second TMJ Replacement live surgery and cadaver course, 16-18 February 2020, AIIMS, New Delhi
18. Training of Nursing Professionals on Oral Health Promotion under National Oral Health Programme, 18 February 2020, Centre for Dental Education and Research, AIIMS, New Delhi

### **Lectures delivered**

**OP Kharbanda: 9**

**Veena Jain: 2**

**Vijay Prakash Mathur: 13**

**Ritu Duggal: 3**

**Ongkila Bhutia: 3**

**Prabhat Kumar Choudhari: 1**

**Ajoy Roychoudhury: 10**

**Ajay Logani: 13**

**Vijay Kumar: 2**

**Amrita Chawla: 3**

**Kalpna Bansal: 2**

**Vikender Singh: 8**

**Devalina Goswami** (*Please see 9.1 Anaesthesiology*)

**Dalim Kumar Baidya** (*Please see 9.1 Anaesthesiology*)

**Deepika Mishra: 6**

**Aditi Nanda: 1**

**Sidhartha Sharma: 1**

**Dheeraj Kumar Koli: 3**

**Shalini Gupta: 7**

**Harsh Priya: 10**

**Nitesh Tewari: 12**

**Kunaal Dhingra: 2**

**Krushna V Bhatt: 1**

#### **OP Kharbanda**

1. Guest lecture, Indian Dental Association East Delhi Conference-EASTDENT 2019, 20 and 21 April 2019, New Delhi
2. Non-Compliance molar distalisation, Rendezvous COSG-2019: Expanding the Knowledge, 8 September 2019, Chandigarh
3. Cleft and Craniofacial Orthodontics challenges and solution, 10th International Conference of Orthodontics and Dentofacial Orthopaedics Association of Nepal (ODOAN), 13 and 14 September 2019, Lumbini, Nepal
4. Digital Orthodontics, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Millia Islamia, New Delhi
5. Cleft is Just not a gap, 32nd Annual ISDR Conference 2019, 15-17 November 2019, Ahmedabad, Gujarat
6. Pre-Conference course, 3D workshop: Why go Digital in Orthodontics, 54th Indian Orthodontic Conference, 21-24 November 2019, Bhubaneswar, Orissa
7. Management of Complex Malocclusion in AIIMS four decades of experiences, INDOCLEFTCON 2020, 8 and 9 February 2020, New Delhi
8. 2020 Vision for m-Oral Health, 97th International Association of Dental Research (IADR) General Session, 19-22 June 2019, Vancouver, Canada
9. Oral presentation, 11th Asian Chief Dental Officers Meeting 2019 and WHO Side meeting, 24-26 October 2019, Myanmar

#### **Ritu Duggal**

1. Guest lecture, How to Make Best of the Postgraduate Years Symposium, 1 and 2 April 2019, CDER AIIMS, New Delhi
2. Guest Lecture, North Zone Orthodontic, PG Convention, 29 September 2019, Faculty of Dentistry, Jamia Millia Islamia, New Delhi
3. Diagnosis and case-selection for a functional appliance, Orthodontic Finish Line, an Orientation Programme for MDS Exam, 24 and 25 January 2020, Sri Aurobindo College of Dentistry, Indore, MP

#### **Ajoy Roychoudhury**

1. Concomitant TMJ and orthognathic surgery, Advances in Orthognathic Surgery, 19 July 2019, AIIMS, Delhi
2. Protocol for TMJ ankylosis treatment, Advances in Management of Temporomandibular Joint Reconstruction, 20 September 2019, Changsha, China
3. Total Temporomandibular Joint Replacement, Advances in Management of Temporomandibular Joint Reconstruction, 20 September 2019, Changsha, China
4. Total TMJ replacement, AOCMF Lighthouse Course—TMJ Surgery (with Human Anatomical Specimens), 16 January 2020, Leiden, Netherlands
5. Preauricular approach, AOCMF Lighthouse Course—TMJ Surgery (with Human Anatomical Specimens), 16 January 2020, Leiden, Netherlands
6. Interposition arthroplasty with temporalis, AOCMF Lighthouse Course- TMJ Surgery (with Human Anatomical Specimens), 16 January 2020, Leiden, Netherlands
7. Live surgery TMJ Replacement, 2nd TMJ Replacement live surgery and cadaver course, 16-18 February 2020, AIIMS, DELHI
8. Cadaver demonstration for TMJ replacement, 2nd TMJ Replacement live surgery and cadaver course, 16-18 February 2020, AIIMS, Delhi
9. Surgical outcomes and challenges in stock alloplastic total joint replacement in adult tempromandibular joint ankylosis, 24th International Conference on Oral & Maxillofacial Surgery 2019, 21-24 May 2019, Rio-de-Janeiro, Brazil
10. A retrospective study of pediatric mandibular fracture and its management. 24th International Conference on Oral & Maxillofacial Surgery 2019, 21-24 May 2019, Rio-de-Janeiro, Brazil

### **Veena Jain**

1. Rehabilitation of patients with dentinogenesis imperfect, 22nd IPS post graduate convention, 6-8 March 2020, Amrita School of Dentistry, Kochi, Kerala
2. Oral appliance therapy in obstructive sleep apnea, AIIMS Pulmocrit-2020, 5-6 March 2020, Department of pulmonary, critical care and sleep medicine AIIMS, New Delhi

### **Ongkila Bhutia**

1. Acute dental infection and maxillofacial injuries, 20 April 2019, AIIMS, New Delhi
2. Prevention of spread of Covid 19 among the HCW, CDER Staff, 3 March 2020, CDER, New Delhi
3. Complications of Total Alloplastic TMJ Replacement, 2nd AIMS Total TMJ REPLACEMENT live surgical workshop, 16 February 2020, AIIMS, New Delhi

### **Ajay Logani**

1. Regenerative Endodontics- India's contribution, 20th Asia Pacific Endodontic Conference, April 24-27, 2019, Istanbul, Turkey
2. A biologically oriented treatment protocol for posterior teeth exhibiting symptomatic irreversible pulpitis and associated apical periodontitis, 19th European Society of Endodontology Biennial Conference, 12-14 September 2019, Vienna, Austria
3. Management of traumatic dental injuries, 4th ISDT National symposium – Road map for Dental Traumatology, 22 April 2019, KM Shah Dental College, Vadodara
4. Trauma induced root resorption, 2nd congress of South Asian of Pediatric Dentistry and 3rd annual conference of Nepalese association of Pediatric Dentistry, 4-6 April 2019, Kathmandu, Nepal
5. Do we have alternative for root canal therapy in teeth with irreversible pulpitis? 2nd IACDE North Zonal Conference of post graduate student convention, 26-27 August 2019, KGMC, Lucknow
6. Management of viral hepatitis B – clinical case scenario, Viral Hepatitis in Dentistry: Spreading smiles: Not Hepatitis, 21 November 2019, New Delhi
7. Management of complex dental injuries. Hands on MTA barrier for non-vital teeth with open apex, Faculty training workshop, 13 December, Mangalore
8. Regenerative Endodontic: Application of “Cell homing concept” in management of traumatized immature non-vital permanent teeth, KSHEMA- ICRS STEMOCN- 2019- 3 Biennial National Conference, 15 December 2019, Mangalore
9. MTA Barrier- clinical techniques, 2nd ISDT National Conference, 19-21 December 2019, Chennai
10. Multiple lectures – Full Day, Endomathon, 22 September 2019, Chandigarh
11. Basic of traumatic injuries, 21st Century Endodontic Conclave, 9 February 2020, Patna,
12. Management of root fracture, ISDT symposium, 27 July 2019, CMC Ludhiana
13. Apex locators: a must have gadget in endodontic practice, Delhi Dental Show, 13 and 14 July 2019, IDA New Delhi

### **Vijay Prakash Mathur**

1. Symposium on scientific writing, 2nd Biennial Conference of South Asian Association of Pediatric Dentistry, 4-6 April 2019, Kathmandu, Nepal
2. Overview policies and carrier opportunities in sports dentistry, 4th National Symposium of Indian Society of Dental Traumatology, 6 May 2019, Vadodara
3. Soft tissue laser use- innovative uses for better treatment outcomes, 72nd Annual Session of American Academy of Pediatric Dentistry-2019, 23–26 May 2019, Chicago, USA
4. Oral health related quality of life tools for pre-school children's, 27th IAPD Congress, 2019, 3-7 July 2019, Cancun, Mexico
5. Latest clinical approaches on pediatrics: Age one visit, ADA FDI Annual World Dental Congress 2019, 4-8 September 2019, San Francisco, USA
6. Lessons learned in training tobacco cessation counseling to dental professionals, ADA FDI Annual World Dental Congress 2019, 4-8 September 2019, San Francisco, USA
7. Directions for research in early childhood caries, ADA FDI Annual World Dental Congress 2019, 4 – 8 September 2019, San Francisco, USA
8. Symposium on scientific writing, 41st ISPPD Conference-Pedovibes, 7-9 November 2019, Greater Noida
9. How to concise your thesis into a journal paper, 33rd Annual International Conference 2019, Indian Society for

Dental Research, 15-17 November 2019, Ahmedabad

10. Oral health inequalities in south Asian region, IADR Asia-Pacific Region (IADR-APR-2019), 28-30 November 2019, Brisbane, Australia
11. When trauma arrives: Critical decision making, 2nd Indian Society of Dental Traumatology, 19 – 21 December 2019, Chennai
12. Pre-conference course on scientific writing, 17th ISPPD National P.G Convention 2020, 14–16 February 2020, Jaipur
13. What do trauma guidelines say? 17th ISPPD National PG Convention 2020, 14–16 February 2020, Jaipur

#### **Prabhat Kumar Choudhari**

1. Minimum requisite instruments- maintenance and sterilization & Ideal Orthodontic study model and Analysis, “How to make best use of postgraduate years: A student teachers perspectives”, 1 and 2 April 2019, AIIMS, New Delhi

#### **Vijay Kumar**

1. Oral Health Care in Elderly: Need and Challenges, 19th Biennial Conference of Association of Gerontology (India), 17 and 18 August 2019, New Delhi
2. Role of Conservative Dentist in Management of Cleft Lip/Palate Patients, 34th IACDE 2019 National Endodontic Conference, 28 November -1 December 2019, Mumbai

#### **Amrita Chawla**

1. Post Minamata convention: Quest for evidence-based strategies for posterior teeth restoration, 4th Asia Pacific Regional Congress of the International Association for Dental Research organized, 28-30 November 2019, Brisbane Convention and Exhibition Centre, Australia
2. Cone beam computed tomography based diagnosis and treatment planning in Endodontics, 27th IES National Conference, 20-22 December 2019, New Delhi
3. Morphological Assessment of Mental Foramen: A CBCT based Retrospective Study, 4th Asia Pacific Regional Congress of the International Association for Dental Research, 28-30 November 2019, Brisbane Convention and Exhibition Centre, Australia

#### **Sidhartha Sharma**

1. Orthograde Mineral Trioxide Aggregate Barrier as a Retreatment Option for Failed Apicoectomised Permanent Teeth- A Case Series, 27th IES 2019 National Conference, 20-22 December 2019, New Delhi

#### **Nitesh Tewari**

1. Sports Dentistry Clinical Procedures, 4th National Symposium of Indian Society of Dental Traumatology, 6 May 2019, Vadodara
2. Adverse consequences of traumatic dental injuries in primary and permanent teeth: management strategies for predictive outcomes, 27th Conference of International Association of Pediatric Dentistry, 6 July 2019, Cancun, Mexico
3. Traumatic Dental Injuries: Evidence based guideline, International Research Colloquium Nagasaki University Dental Hospital, 23 August 2019, Nagasaki, Japan
4. Adverse consequences of Traumatic Dental Injuries in young permanent teeth, International CDE of Dental Trauma in Hokkaido University Dental Hospital, 8 September 2019, Sapporo, Japan
5. Waging War against trauma induced root resorptions: Clinical insights and futuristic research, 41st National Conference of Indian Society of Pedodontics and Preventive Dentistry, 8 November 2019, Greater Noida
6. Full day workshop and hands on course on Dental Traumatology, CDE program as part of Centenary celebrations of Dr R Ahmed Dental College, Kolkata, 14 November 2019, Kolkata, West Bengal
7. Trauma induced root resorptions: regenerative management, 42nd UP State IDA Conference, 7 December 2019, Meerut
8. Crown and Crown root fractures in primary teeth: guidelines and beyond, 2nd National Conference of Indian Society of Dental Traumatology, 21 December 2019, Chennai
9. Traumatic injuries in primary teeth, CDE program on Traumatic Dental Injuries organized, 24 December 2019, Faridabad
10. Dental Traumatology: How to tackle the trauma of dental trauma in MDS examinations, Pedo-Vista-Rapid Revision

Program, 9 January 2020, Navi Mumbai

11. Management of Tooth Avulsion: Critical insights and clinical tips, 73rd Indian Dental Conference, 25 January 2020, Kovalam
12. Long term consequences of primary tooth trauma as part of Symposium on traumatic injuries to primary teeth, 17th Post graduate convention of Indian Society of Pedodontics and Preventive Dentistry, 16 February 2020, Jaipur

#### **Kalpana Bansal**

1. New Paradigms in Caries Management Strategies in Primary Dentition, Second Congress of South Asian Association of Pediatric Dentistry and Third Annual Conference of Nepalese Association of Pediatric Dentistry, 4-6 April 2019, Kathmandu, Nepal
2. Evolving Paradigms in Caries Etiology”, Pedovibes – 41st ISPPD National Conference, 7-9 November 2019, Greater Noida

#### **Dheeraj Kumar Koli**

1. Prosthodontic Management of Cleft Lip and Palate, National Training Programme in Cleft and Craniofacial Orthodontics, 21 August 2019, AIIMS, Delhi
2. Masticatory efficiency and bite force changes in complete denture with or without soft liner, Science and Art Of Prosthetic Dentistry, ICP & EPA joint meeting, 4-7 September 2019, Amsterdam, Netherland
3. Immediate implant with root retention, 47th Indian prosthodontics society conference, 28 November to 1 December 2019, Raipur

#### **Kunaal Dhingra**

1. Microrobots for Growth Factors and Stem Cells Delivery in Periodontitis, 105th Annual Meeting of the American Academy of Periodontology, 2-5 November 2019, Chicago, USA
2. Applications of Nanotechnology in Dentistry, National Conference on Nano/Bio-Technology (NanoBioTech-2019), 19–21 December 2019, New Delhi

#### **Vikender Singh**

1. When tissue is the issue: Soft tissue considerations around implants, 3rd Annual meet of Indian Prosthodontic Society, Haryana Branch, 12 April 2019, Gurugram
2. Clinical Periodontics and Mucogingival Esthetics in Dental Practice, Indian Dental Association, Kurukshetra Branch, 27 July 2019, Kurukshetra
3. Panel Speaker in PERIO-DIABETES Symposium, Delhi-NCR ISP Study Group, 8 September 2019, New Delhi
4. Decision making for the treatment of gingival recession of single tooth, Decision making for the treatment of gingival recession of single tooth, 3 October 2019, AIIMS, New Delhi
5. Pathogenesis of Periodontal Disease, ISP Smeeksha 2020, 16 January 2020, DAV Dental College, Yamunanagar
6. Fundamental principles of Periodontal Plastic Surgery for Predictable Outcomes, 6th National Conference (Perioinsight 2020), 14 February 2020, Sumandeep Vidyapeeth University, Vadodara
7. Advances in Surgical Techniques and Biomaterials for Soft Tissue Augmentation, 6th National Conference (Perioinsight 2020), 15 February 2020, KM Shah Dental College and Hospital, Vadodara
8. A Statement and Analysis of Periodontal Health, Gingival Disease and Conditions, AGGREGATE: Workshop on Classification of Periodontal Diseases, 3 March 2020, SudgaRustagi College of Dental Sciences and Research, Faridabad

#### **Shalini Gupta**

1. Clinical presentation of OPMDs and management operational framework guidelines for oral screening, Enabling continuum of care for cancer Training of trainers organized by GoIMoHFW, 17-19 July 2019, New Delhi
2. Screening of Oral cancer and precancers, Training of Trainers for ASHA workers organized by NHSRC, 26 July 2019, NIHFW, New Delhi
3. Liver Diseases & its Oral Manifestation – Dentist’s Viewpoint, Viral Hepatitis in Dentistry: ‘Spreading Smiles; NOT Hepatitis’, 21 November 2019, ILBS, New Delhi
4. Liver Diseases & its Oral Manifestation – Dentist’s Viewpoint”, Viral Hepatitis in Dentistry: ‘Spreading Smiles; NOT Hepatitis’, 11 February 2020, Sharda University, Greater Noida
5. Oral Potentially Malignant Disorders (OPMDs): Pathophysiology, diagnosis and various types of OPMDs, NICPR -ECHO, Advanced Cancer Screening Training program in Oral cancer (ACSTP-O) for dentists and oral surgeons, 21 January 2020, NICPR ICMR, Noida

6. Common abnormalities of the oral cavity, NICPR- ECHO Cancer Screening Training Program for Medical Officers (CSTP-MO), 21 May, 17 July, 29 August, 3 – 12 September, 20 November 2019 and 23 January 2020, NICPR ICMR, Noida
7. Oral Cancer Screening & Common abnormalities of oral cavity, Hands-on workshop on screening for common cancers, 10 April, 7 November 2019 and 27 February 2020, NICPR ICMR, Noida

**Devalina Goswami** (*Please see 9.1 Anaesthesiology*)

**Dalim Kumar Baidya** (*Please see 9.1 Anaesthesiology*)

**Deepika Mishra**

1. Reporting guidelines in oral carcinoma, International Oral Precancer & Cancer Congress, 6 April 2019, KGMC, Lucknow
2. Risk factors and early detection of Oral Cancer, Hands on workshop on oral cancer screening in association with CDER AIIMS, 10 April 2019, NICPR, Noida
3. Introduction to Oral cancer screening, screening modalities and operational framework guidelines for oral screening, Strengthening Continuum of Care for Cancers, Training of Trainers, 18 July 2019, New Delhi
4. Clinical Presentation of Oral Cancer associated with Tobacco Abuse, TORCH IAOMP 2019, 19 October 2019, ESIC Dental College and Hospital, Delhi
5. Odontogenic cysts and tumors: From the “ordinary” to the “Perplexing”, 1st AIIMS Oral Pathology Symposium, 6 January 2020, AIIMS, Delhi
6. Epidemiology, Etiology and Risk Factors of Oral Cancer (with focus on Tobacco and Arecanut), Advanced Cancer Screening Training program in Oral cancer (ACSTP-O) for dentists and oral surgeons, 14 January 2020, National Institute of Cancer Prevention and Research, Noida

**Harsh Priya**

1. Nicotine and areca nut addiction, tobacco cessation and management of relapse, Hands-on Workshop on Screening for Oral Cancer, 10 April 2019, NICPR, Noida
2. Oro dental late effects in PoG C2S Survivorship Study, PoG C2S Survivorship and Late Effects Subcommittee Meeting, 3 December 2019, AIIMS, New Delhi
3. Oro Dental Health and Hygiene, Teaching Learning Practices at KV, 27 December 2019, Kendriya Vidyalaya, Delhi Cantonment, New Delhi
4. Common Oral Diseases, Training of Nursing Professional on Oral Health Promotion Under the National Oral Health Programme (NOHP), 3 December 2019, AIIMS, New Delhi
5. Setting up of Tobacco Cessation Clinic, Hands-on Workshop on Screening for Oral Cancer, 10 April 2019, NICPR, Noida
6. Common Oral Diseases-Lecture, Training of School Teachers on Oral Health Promotion Under the National Oral Health Programme (NOHP), 26 August 2019, AIIMS, New Delhi
7. Tobacco Cessation Strategies - “Empowering Oral Healthcare Professionals”, Joint Academic Session – Dept. of Public Health Dentistry, 1 October 2019, AIIMS, New Delhi
8. Oral Health Care in Paediatric Oncology patients-Lecture, Monthly Day Care meeting, 1 November 2019, Department of Paediatric Oncology, AIIMS, New Delhi
9. Dental issues in childhood cancer survivors, what all to look for, spectrum of dental issues in survivors, How can they be managed, Panel Discussion on the occasion of World Childhood Cancer Day, 17 February 2020, AIIMS, New Delhi
10. Oral Cancer Awareness, Cancer Awareness Program by Preventive Oncology, IRCH, 27 February 2020, Kirori Mal College, North Campus, Delhi University, Delhi

**Krushna V Bhatt**

1. Alloplastic TMJ replacement: surgery step by step, 2nd TMJ replacement workshop, 16 and 17 February 2020, AIIMS, New Delhi

**Aditi Nanda**

1. TENS as a Bioelectric tool: Exploring, integrating and evolving new vistas in complete dentures impressions!, 47th Indian prosthodontics society conference, 28 November to 1 December 2019, Deen Dayal Upadhyay Auditorium, Raipur

## Oral Papers/ Posters presented

1. Aakriti, Logani A. Diagnostic and prognostic characteristic of large periapical lesion of endodontic origin a retrospective radiographic and clinical study, 27th National Conference, IES, 20-22 December 2019, New Delhi
2. Agarwal D. Perception pertaining to oral and systemic health: An institutionalized cross sectional study International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA, New Delhi Branch, 15 December 2019, New Delhi
3. Agarwal D. Sugar and Oral Health, 64th AIIMS Institute Day, 25 March 2019, AIIMS, New Delhi
4. Angel S, Kharbanda OP. The effect of locally injected platelet rich plasma on the rate of tooth movement during maxillary canine retraction – A Pilot study, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
5. Archana, Logani A. Influence of gauge of wire in composite wire splint on stabilization of teeth with simulated luxation dental injury: An in vitro study, 2nd National Conference of Indian Society for Dental Traumatology, 19-21 December 2019, Chennai
6. Arunakshi, Logani A. Bibliometric analysis on regenerative endodontics of Indian publications, 32nd Indian Society for Dental Research, 15-17 November 2019, Ahmedabad
7. Arunakshi, Logani A. Does Vitamin D serum levels affect periapical healing after root canal therapy – A retrospective therapy, IACDE 2nd North Zonal Conference, 26 and 27 August 2019, Lucknow
8. Badauria US. Empowering AYUSH Health Professionals on Oral Health Promotion, International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA New Delhi Branch, 15 December 2019, New Delhi
9. Baidya DK, Maitra S, Subramaniam R, Arora MK, Roychowdhury A, Bansal V, Subramanian R. Intraoperative Lung protective ventilation in peritonitis patients undergoing emergency laparotomy: randomized controlled trial, Canadian Anesthesiology Society Annual Meeting 2019, 21-24 June 2019, Calgary, Canada
10. Bansal K. Silver Diamine Fluoride Modified Atraumatic Restorative Technique (SMART) for Management of Carious Primary Molars, Oral Health Care Innovations Conference, New Delhi, 16 September 2019, New Delhi
11. Bhatt R, Goswami D, Roychoudhury A. Comparison of efficacy of dexmedetomidine and clonidine infusions to produce hypotensive anaesthesia in patients undergoing orthognathic surgery: a randomized controlled trial, South African Society of Anaesthesiologists, 12 March 2020, CSIR International Convention Centre, Elangbam
12. Bhawna, Logani A, Orthograde root end filling with MTA followed by root end resection: An alternative treatment protocol to conventional periapical surgery- A case report, IACDE PG Convention, 8-10 March 2019, Chandigarh
13. Bhawna, Logani\*\* A, A minimally invasive treatment protocol for posterior teeth exhibiting symptomatic irreversible pulpitis with apical periodontitis., 27th National Conference, IES, 20-22 December 2019, New Delhi
14. Chaudhari PK, Application of 3D printing technology in cleft lip and or palate care, NAMSCON 2019, 12 and 13 October 2019, AIIMS, Bhopal
15. Chaudhari PK, Kharbanda OP, Choudhry R, Pandey RM, Bansal K, Chauhan S, An investigation of the factors associated with caries risk in children with and without cleft lip and or palate (CL/P), 97th IADR General Session, 19-22 June 2019, Vancouver, Canada
16. Chawla A, Logani A, Cone beam computed tomography-based diagnosis and treatment planning in Endodontics, 27th National Conference, IES, 20-22 December 2019, New Delhi
17. Chawla A, Logani A, Morphological Assessment of Mental Foramen: A Cone Beam Computed Tomography Based Retrospective Study, 4th Meeting of the International Association for Dental Research (IADR) Asia Pacific Region (APR), 28-30 November 2019, Brisbane, Australia
18. Choudhary A, Tewari N, Mathur VP, Bansal K, Effect of extra-oral drying on the surface topography and fibroblast attachment potential of root surface of permanent teeth: An in-vitro study 7-9 November 2019, 41st ISPPD National Conference, 7-9th November 2019, Greater Noida
19. D Mishra, Kharbanda OP, Faruq F, Gupta N, Kabra M, Sood A, Genetic Profiling of Non Syndromic Pierre Robin Sequence Patients By Microarray, 9th Conference of Asian Society of Oral And Maxillofacial Pathology (ASOMP) 2019, 22 August 2019, MAHSA University Bandar Saujana Putra, Malaysia
20. Das D, National Oral Health Surgery methodologies across the globe, International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA New Delhi Branch, 15 December 2019, New Delhi
21. Das D, Oral Health Crisis Among Particularly Vulnerable Tribal Groups of India, IADR/AADR/CADR General Session & Exhibition, 19-22 June 2019, Vancouver, BC, Canada
22. Devi M, Rehabilitation of orbital defects – A case series, 21st IPS PG convention, 5-7 April 2020, Sankelchand Patel University, Gujarat
23. Dhingra K, Grimm WD, Osteogenic potential of neural crest-derived stem cells in masticatory mucosa, 97th IADR General Session & Exhibition, June 2019, Vancouver, BC, Canada

24. Gothankar G, Kharbanda OP, Stenocleidomastoid and trapezius muscle activity before and after twin block therapy in skeletal class II growing patient, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
25. Govind, Spectacle retained orbital prosthesis, 22 IPS post graduate convention, 6-8 March 2020, Amrita School of Dentistry, Kochi
26. Gunadhar, Logani A, A prospective study to observe the influence of immediate functional versus Non-functional loading of full coverage prosthesis on the outcome of non-surgical endodontic therapy performed on posterior teeth with periapical pathology, IACDE 2nd North Zonal Conference, 26 and 27 August 2019, Lucknow
27. Gupta RN, Implant- tissue supported overdentures – Clinical considerations and case report, 22nd IPS post graduate convention, 6-8 March 2020, Amrita School of Dentistry Kochi
28. Gupta S, The link between immunosuppression in Inflammatory Bowel Disease and Oral Cancer, Indian academy of Oral Medicine & Radiology, 15-17 November 2019, Amritsar
29. Gupta S Candida infection and clinical response to Fluconazole in Oral leukoplakia., International Association Of Dental Research, 19-22 June 2019, Vancouver, Canada
30. Indrani, Logani A, Protocol for digital photography in cases requiring aesthetic rehabilitation, IACDE 2nd North Zonal Conference, 26 and 27 August 2019, Lucknow
31. Indrani,\* Logani A, Comprehensive management of a case with spectrum of traumatic injuries, 2nd National Conference of Indian Society for Dental Traumatology, 19-21 December 2019, Chennai
32. Ivaturi A, Influencers of tobacco cessation in a tertiary dental hospital: A study on the adjuncts to behavioural intervention, AIIMS First Annual Research Day, 25 March 2019, AIIMS, New Delhi
33. Jha K, Duggal R, Effect of twin block appliance on cervical spine posture with different growth pattern., North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
34. Kaleem F, Kharbanda OP, Duggal R, \*Poster - RME & hearing in CLP patients with conductive hearing loss, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
35. Kaleem F, Kharbanda OP, Duggal R, Paper - RME & hearing in CLP patients with conductive hearing loss, INDOCLEFTCON, 8 and 9 February 2020, New Delhi
36. Karthiga R, Devalina Goswami, Maya Dehran, Rahul K Anand, Mohammed Ashraf Ganie, Comparison of opioid based and opioid free TIVA in laparoscopic gynaecological surgery: A randomized controlled trial, Annual Congress of Glasgow, Association of Anaesthetists of Great Britain and Ireland (AAGBI), 12 September 2019, Exhibition way, Glasgow
37. Kaur A, Logani\* A, Exarticulation of a recently traumatized tooth during rubber dam application- a case report, 2nd National Conference of Indian Society for Dental Traumatology, 19-21 December 2019, Chennai
38. Kaur H\*, Mishra D, Roychoudhury A, Prashant Ramteke PS, Plasma cells in a lesion- A clue to diagnosis or diagnostic dilemma, 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, 2020, 6 March 2020, Maulana Azad Institute of Dental Sciences, Delhi
39. Kaur K\*, Kakkar A, Mishra D, Bhalla AS, Sharma SC, Sinonasal IgG4 related disease: A Rare and Emerging Entity Broadening the Differential Diagnosis in the Sinonasal Universe, HEADS UP International Update in Head and Neck Pathology and Computational Pathology 2020, 17 January 2020, Tata Memorial Centre, Kolkata
40. Khurana C, Effectiveness of an oral health training program for school teachers in India, International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA, New Delhi Branch, 15 December 2019, New Delhi
41. Khurana C, Perceptions and Attitudes of Indian Dental Professionals' Towards Teledentistry, IADR/AADR/CADR General Session & Exhibition, 19-22 June 2019, Vancouver, BC, Canada
42. Koli DK, Jain V, Immediate implant with root retention, 47th Indian prosthodontics society conference, 28 November to 1 December 2019, Raipur
43. Koli DK, Jain V (poster), Masticatory efficiency and bite force changes in complete denture with or without soft liner., Science and Art Of Prosthetic Dentistry, ICP & EPA joint meeting, 4 to 7 September 2019, Amsterdam, Netherlands
44. Koli DK, Prosthodontic Management of Cleft Lip & Palate, National Training Programme in Cleft and Craniofacial Orthodontics, 21 August 2019, AIIMS, New Delhi
45. Kumari Gupta R, Implant- tissue supported overdentures – Clinical considerations and case report – Dr Rani Kumari Gupta, 22nd IPS post graduate convention, 6-8 March 2020, Amrita School of Dentistry, Kochi
46. Kumari S, Kharbanda OP, Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy – A randomized control trial, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
47. Malviya A, Sawhney C, Chhabra A, Baidya DK, The Analgesic Efficacy of Ultrasound Guided Preemptive Caudal

- Morphine as an Adjunct to Bupivacaine for Lumbosacral Spine Surgeries in Adults: A Randomized Controlled Trial, 8th Annual ESRA Congress 2019 (European Society of Regional Anaesthesia), 11-14 September 2019, Bilbao, Spain
48. Mishra D, Asit Mridha R, Kakkar A, Kala S, Yadav R, Kharbanda O.P. Molecular characterization of fibrous lesions affecting oral and maxillofacial region, 2019 American Association of Oral and Maxillofacial Pathology, 11 June 2019, Intercontinental, Miami, USA
  49. Mishra D, Chowdhry A, Bablani D, Jain P, Thapar R. Reliability of palatal rugae pattern in individual identification, 17th National Conference of Indian Association of Forensic Odontology, 22 September 2019, Maulana Azad Institute of Dental Sciences, Delhi
  50. Mishra D. Diagnostic challenges in fibro osseous lesions of oral and maxillofacial region, XVIII National IAOMP PG Convention 2019, 13 July 2019, Kalinga Institute of Dental Sciences, Bhubaneswar
  51. Mishra D, Kaur H, Kakkar A, Yadav R. Journey from intelligible to confounders of Odontogenic Cysts and tumors, HEADS UP International Update in Head and Neck Pathology and Computational Pathology, 17 January 2020, Tata Memorial Centre, Kolkata
  52. Mishra D, Kaur H. Malignant mimickers - confounders for oral and maxillofacial pathologists, XXVIII Conference of Indian Association of Oral and Maxillofacial Pathologists 2020, 1 November 2019, PMS College of Dental Science & Research, Thiruvananthapuram, Kerala
  53. Mishra D, Kaur H, Roychoudhury A, Ramteke P. B cell lymphomas of oral and maxillofacial region- Case series with review of literature, 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, 2020, 6 March 2020, Maulana Azad Institute of Dental Sciences, Delhi
  54. Mishra D. Reporting guidelines in oral carcinoma, International Oral Precancer & Cancer Congress, 6 April 2019, KGMC, Lucknow
  55. Mishra D. Risk factors and early detection of Oral Cancer, Hands on workshop on oral cancer screening in association with CDER AIIMS, 10 April 2019, NICPR, Noida
  56. Monica Dev DS. Feasibility and acceptability of utilizing an oral health promoting website eDantSeva among the individuals attending a dental hospital, International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA New Delhi Branch, 15 December 2019, New Delhi
  57. Monica Dev DS. Qualitative Evaluation and Analysis of an Oral Health Promotion Website “eDantSeva”, IADR/AADR/CADR General Session & Exhibition, 19-22 June 2019, Vancouver, BC, Canada
  58. Navas, Logani\* A. Correlation between mesiobuccal canal configuration, inter orifice distance and the corresponding root length of permanent maxillary first molar teeth: A retrospective study, 27th National Conference, IES, 20-22 December 2019, New Delhi
  59. Navas,\* Logani A. Sandwich technique for wire splinting of traumatized teeth: A preliminary clinical experience, IACDE PG Convention, 8-10 March 2019, Chandigarh
  60. Nithin KV. Prosthetic rehabilitation of bilateral maxillectomy defect – Case report, 47th Indian prosthodontics society conference, 28 November to 1 December 2019, Raipur
  61. Priya H. Anti-Spitting Law, Handholding towards banning Tobacco, IADR/AADR/CADR General Session & Exhibition, 19-22 June 2019, Vancouver, BC, Canada
  62. Radha, Logani A. A clinical study to assess the status of pulp sensibility test in teeth that have undergone pulpotomy, 27th National Conference, IES, 20-22 December 2019, New Delhi
  63. Radha, Logani A. Effect of gravity on periapical extrusion of irrigants with different irrigation protocols in immature anterior teeth, IACDE PG Convention, 8-10 March 2019, Chandigarh
  64. Rao TN, Goswami D, Narayanan S, Venkateshwaran V. A novel technique to use Arndt endobronchial blocker in pediatric one lung ventilation, 11th Annual Conference of the Indian association of Paediatric Anaesthesiologist 2019, 9 February 2019, AIIMS, New Delhi
  65. Rao TN, Goswami D, Roychoudhury A, Bhutia O, Baidya DK, Trikha A. To compare the efficacy of local anaesthetic wound infiltrations in temporomandibular joint ankylosis surgery for control of postoperative pain, First AIIMS Annual research Day, 26 March 2019, AIIMS, New Delhi
  66. Ravi P. Analysis of the existing mobile applications for oral health promotion in India, AIIMS First Annual Research Day, 25 March 2019, AIIMS, New Delhi
  67. Ravi P. Evaluation of Perceptions of Tobacco Cessation among the Individuals attending a tertiary care dental hospital, International College of Dentists Section VI (India, Sri Lanka, Nepal) & IDA New Delhi Branch. 15 December 2019, New Delhi
  68. Ravi P. Tobacco and Oral Health, 64th AIIMS Institute Day, 25 August 2019, AIIMS, New Delhi
  69. Sharma S. Nonsurgical management of teeth with failed surgical endodontic treatment- a case series, 27th National

Conference, IES, 20-22 December 2019, New Delhi

70. Singh A, Karthik V Iyer, Goswami D. Non-Operating Room anaesthesia for a child with Cri-du- Chat syndrome, 11th Annual Conference of the Indian Association of Paediatric Anaesthesiologist 2019, 9 February 2019, AIIMS, New Delhi
71. Singh B, Bansal K, Mathur VP, Tewari N. Severity and Pattern of Early Childhood Caries among Pre-school Children and its Association with Various Behavioural Factors- A Hospital Based Study, 41st ISPPD National Conference, 7-9 November 2019, Greater Noida
72. Singh P, Kharbanda OP. A three dimensional treatment changes following maxillary protraction protocol in growing class III patient using digital models, North Zonal IOS PG Convention, 27-29 September 2019, Jamia Milia Islamia, New Delhi
73. Singh V. Clinical considerations for performing free gingival graft around implants, 11th International Congress of Academy of Oral Implantology New Delhi, 13-15 August 2019, New Delhi
74. Singh V. Combination of tunneling approach with other surgical techniques for treatment of adjacent gingival recession defects, 3rd International Symposium on Soft Tissue Management around Teeth and Implants, 7 and 8 February 2020, Palazzo dei Congressi di Firenze Florence, Italy
75. Singh V. Multiple implants with simultaneous soft tissue augmentation in aesthetic zone, ITI Congress India, 5 and 6 October 2019, Mumbai
76. Sinha H, Baidya DK, Maitra S, Subramaniam S, Trikha A, Saxena R. Epidemiology and prognostic utility of cellular components of hematological system in sepsis, ESA Annual Conference 2019 (European Society of Anaesthesiologists), 1-3 June 2019, Vienna, Austria
77. Tewari N, Madhubala A, Mathur VP, Bansal K. Comparative evaluation of fracture resistance using two rehydration protocols for fragment reattachment in uncomplicated crown fractures - J O Andreasen Award category, 27th Annual Session of International Association of Pediatric Dentistry, 6 July 2019, Cancun, Mexico
78. Tosin C. Prosthodontic intervention in mandibulectomy patients – case report, 22nd IPS post graduate convention,, 6-8 March 2020, Amrita School of Dentistry, Kochi
79. Venkatraman N, Tosin C. Immediate implants- clinical consideration and case report - 47th Indian prosthodontics Society Conference, 28 November to 1 December 2019, Raipur
80. Venkatraman N. Resurrection of smile – Full mouth rehabilitation in a case of angiogenesis imperfecta, 22nd IPS Post graduate Convention, 6-8 March 2020, Amrita School of Dentistry, Kochi
81. Yadav V, Logani A. Restorative and endodontic implications of Steven Johansson Syndrome- a rare case report, 27th National Conference, IES, 20-22 December 2019, New Delhi

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Prospective Pilot study to evaluate the clinical success of a Tooth Colored metal free Self-Curing Resin-based material as an alternate to silver amalgam for Class-II Posterior Restoration, Amrita Chawla, AIIMS, 2 years, 2017-2019, Rs 3.71 lakhs
2. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: An in vitro evaluation and a randomized controlled clinical trial, Vikender Singh, National Innovation Foundation, Govt. of India, 2 years, 2019-2021, Rs 30.47 lakhs
3. Analysis of the opinions and beliefs associated with the use of tobacco dentifrice among the Individuals attending a Dental Hospital, Harsh Priya, Self-Funded, 1 year, 2020-2021, Rs 0.05 lakhs
4. Association of Candida and antifungal therapy with pro-inflammatory cytokines in oral leukoplakia-A pilot study, Shalini Gupta, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
5. Automatic diagnosis and monitoring for orthodontic invisible appliance cases using artificial neural network (ANN), OP Kharbanda/Prabhat, India-Taiwan S&T Cooperation Programme–Global Innovation & Technology Alliance (GITA), 2 years 10 months, 2018-2021, Rs 16.63 lakhs (India); NT\$ 600,000 (Taiwan)
6. Biomechanical evaluation of patient-specific alloplastic temporomandibular joint replacement among Indian population-Single Centre Prospective Observational Study, Ajoy Roychoudhury, IIT Mumbai, 2 years, 2019-20, Rs 25 lakhs
7. Building research capacity in India: Identifying barriers and enablers to oral health research, Kunaal Dhingra, International Association for Dental Research (IADR), USA, 3 years, 2017-20, Rs 26 lakhs

8. Cleft Lip and Palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital-based study-Main phase, OP Kharbanda/Vilas Samrith, ICMR, 3 years, 2017-2020, Rs 316.69 lakhs
9. Clinical, Histomorphometric and 3-Dimensional Cone Beam Computed Tomographic Analysis of Autogenous Tooth Bone Graft Mixed with Injectable Platelet Rich Fibrin for Ridge Preservation, Vikender Singh, AIIMS, 2 years, 2019-2021, Rs 8.89 lakhs
10. Cluster randomized controlled superiority trial to evaluate the growth outcomes and jaw functions after interposition arthroplasty with constochondral graft versus gap arthroplasty in the management of temporomandibular ankylosis, Ajoy Roychoudhury, ICMR, 3 years, 2018-21, Rs 15.46 lakh
11. Comparative evaluation of Module for Sports Dental Injury Prevention (MSIP) and combination of MSIP with custom-fabricated mouth-guard for prevention of traumatic dental injuries in 10-18 years old Kabaddi Players of Delhi-NCR region in a sports season: a cluster randomized controlled trial, Nitesh Tewari, ICMR, 3 years, 2020-2023, Rs 42 lakhs
12. Cone Beam Computed Tomographic evaluation of two novel techniques as adjuncts for non surgical management of large periapical lesions of endodontic origin –Prospective randomized double blind controlled trial, Ajay Logani, ICMR, 3 years, 2016-20, Rs 30 lakhs
13. Development and laboratory testing of a Self-adhesive Stainless-steel dental splint Prototype, Ajay Logani, AIIMS-IIT Delhi collaborative fund, 2 years, 2020-2022, Rs 10 lakhs
14. Development and validation of Dental Trauma Awareness Tool for School Teachers, Nitesh Tewari, ICMR, 3 years, 2019-2022, Rs 15 lakhs
15. Development of e DantSeva, an Oral Health Website and Mobile Application, Harsh Priya, e Health Division, MoHFW, 1 year, 2018-2019, Rs 35.5 lakhs
16. Effect of systemic and local antibiotic therapies on clinical and patient reported outcomes in healthy, partially dentate patients undergoing dental implant placement- a preliminary study, Veena Jain, AIIMS, 2 years, 2016-2018, Rs 3.98 lakh
17. Effectiveness of a Cranberry Extract Mouth-rinse Vs a Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children- A Double Blind Randomized Controlled Trial, Kalpana Bansal, ICMR, 2 years, 2019-2021, Rs 27 lakhs
18. Effectiveness of an Oral Health Toolkit for Pediatric Oncology Patient against standard of care in the improvement of oral health status in 2-14 years old pediatric cancer patients, Harsh Priya, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
19. Evaluation of inflammatory markers metalloproteinase-8 (MMP-8) and cathepsin- k (CTSK) levels in immediate loaded and delayed loaded dental implants: a randomized controlled trial and pilot study. Dheeraj Kumar Koli, AIIMS, 2 years, 2017-2020, Rs 7.5 lakhs
20. Explore the novel use of florescence based microendoscopy and Raman spectroscopy for detection of oral cancer and dysplasia, Deepika Mishra, AIIMS–IIT Delhi Collaborative Research Project, 1 year, 2019-2020, Rs 5 lakhs
21. Fabrication and in-vivo (rat model) evaluation of novel local drug delivery system based on polymer nanocomposite for treatment of periodontitis, Kunaal Dhingra, ICMR, New Delhi, 3 years, 2019-22, Rs 41 lakhs
22. Functional collagen nanoparticle impregnated silk nano-ceramic composite 3D matrices for flat bone regeneration, OP Kharbanda, DBT, 3 years, 2018-2021, Rs 9.86 lakhs
23. Low intensity pulsed ultrasound (LIPUS) as a therapeutic adjunct to enhance periodontal healing subsequent to luxation dental injuries, Vijay Kumar, AIIMS, Rs 3.86 lakhs
24. Maxillofacial Planning and simulation system, Ajoy Roychoudhury, Ministry of Electronics and Information technology, 3 years, 2016-19, Rs 131.93 lakhs
25. Molecular and immunological characterization of fibro-osseous lesions affecting oral and maxillofacial region, Deepika Mishra, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
26. Retrospective study of oral pathology specimens: incisional vs excisional specimens and cytopathology vs histopathology, Deepika Mishra, Self, 1 year, 2019-2020

### **Completed**

1. Association between serological levels and genetic polymorphisms of VEGF A and C with clinicopathological characteristics in oral squamous cell carcinoma and oral submucous fibrosis - A pilot study, Shalini Gupta, AIIMS, 2 years, 2016-2018, Rs 9.99 lakhs
2. Effect of nonsurgical periodontal therapy on metallothionein expression and levels in serum, saliva and gingival crevicular fluid: An interventional study, Vikender Singh, AIIMS, 1.5 years, 2017-2019, Rs 4.59 lakhs
3. Effect of various tooth storage media on viability, proliferative ability and differentiation of human periodontal ligament stem cells- an in-vitro preliminary study, Nitesh Tiwari, AIIMS, 1 year, 2016-2017, Rs 4 lakhs

4. Etiology of oral cancer in Indian population younger than 30 years, Deepika Mishra, Self-funded, 2 years, 2016-2018
5. Genetic profiling of non-syndromic Pierre Robin Sequence patients by whole exome sequencing and microarray, Deepika Mishra, AIIMS, 1 year, 2016-2017, Rs 5 lakhs
6. In-vitro efficacy and safety evaluation of novel mucoadhesive silver nanoparticle based local drug delivery system for treatment of periodontitis, Kunaal Dhingra, AIIMS, 1 year, 2016-17, Rs 5 lakhs

## **Collaborative projects**

### ***Ongoing***

1. A Population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective, Neurology–Clinical Epidemiology
2. A prospective, active controlled, randomised, double blind, multicentre, phase III study to compare the safety and efficacy of biosimilar denosumab of Enzine Biosciences Limited Versus innovator denosumab in the treatment of postmenopausal osteoporosis, Orthopedics, Endocrinology, Radiology
3. A study of offset analgesia in Trigeminal Neuralgia, Physiology
4. Assessment of oral hygiene status in HIV positive patients: a cross sectional study
5. Cleft Lip and Palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital-based study, Main Phase, Genetics and CSIR-IGIB
6. Clinical, histomorphometric and 3-Dimensional Cone Beam Tomographic analysis of Autogenous Tooth Bone Graft mixed with Injectable Platelet Rich Fibrin for ridge preservation, Periodontics, Oral Medicine and Radiology
7. Design and testing of orthodontic mini-screw embedded with sensors to detect inflammation – Phase I, Deptt. of Biomedical Engg, Indian Institute of Technology, New Delhi
8. Development of Flip Chart on Oral Health among other NCDs in SEARO, Centre for Community Medicine
9. Development of MOOCs on Oral Health and Oral Cancer, World Health Organisation
10. Development of Training Modules for MPWs, CHOs and ASHAs on Primary Oral Health Ca, National Health Systems Resource Centre, Govt. of India
11. Functional collagen nanoparticle impregnated silk nano ceramic composite 3D matrices for flat bone regeneration, IIT Guwahati
12. Incidence and risk factors of back pain after cesarean section: A prospective observational study, Gynaecology and Obstetrics
13. National Level Oral and Dental Disease Burden Survey in India—Concept and methodology, Ministry of Health and Family Welfare
14. Perioperative Music Therapy in Addition to standard treatment for the Improvement of Quality of Recovery after Anesthesia Following Maxillofacial Surgeries: A Randomized Controlled Study, Anaesthesia.
15. Role of human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in oral cancer, Biochemistry
16. Role of Negative Regulators of EGFR in Malignant Transformations of Oral Dysplasia, Biochemistry
17. To assess the potential ability of Cathepsin L and Cathepsin B as universal biomarkers of cancer, Biochemistry

### ***Completed***

1. A study to assess the effectiveness of a planned simulation teaching on the knowledge and skill of nurses working in critical care unit of AIIMS, College of Nursing
2. An exploratory study to assess the association between Nicotine Metabolite Ratio (NMR) and Smokeless Tobacco Use parameters, Psychiatry and NDDTC
3. Association between serological levels and genetic polymorphisms of VEGF A and C with clinicopathological characteristics in oral squamous cell carcinoma and oral submucous fibrosis - A pilot study, Biochemistry
4. Effect of repetitive Trans cranial Magnetic Stimulation on pain status, thermal sensitivity and motor activity in Myofascial Pain Dysfunction Syndrome, Physiology
5. Effect of various tooth storage media on viability, proliferative ability and differentiation of human periodontal ligament stem cells- an in-vitro preliminary study, Stem cell facility
6. Estimate the oral cancer conversion risk with long term follow up (10-15 years) of patients with precancerous lesions- leukoplakia, submucous fibrosis, lichen planus- among patients included in a ICMR tobacco task force project, General Surgery, NICPR, Noida
7. Interdisciplinary variations in spectrum of oral mucosal lesions, Dermatology
8. To assess the potential ability of Cathepsin L and Cathepsin B as universal biomarkers of cancer, Biochemistry

## Departmental projects

### Ongoing

1. A clinical study to compare the effect of two methods of forced eruption on alveolar bone width and height of permanent maxillary incisor tooth with complicated crown-root fracture
2. A preliminary study to evaluate the outcome of combination of non-surgical endodontics and vital pulp therapy for management of mature permanent molar teeth with symptomatic irreversible pulpitis and periapical rarefaction
3. A prospective study to evaluate improvement in posterior airway volume and lengthening of mandible in simultaneous release of Ankylosis and mandibular distraction.
4. A study to identify the risk factors and prevalence of oral cancer through screening among security personnel working at AIIMS, New Delhi.
5. Ambispective study to evaluate the fate of Costochondral Graft in TMJ ankylosis patients from January 2014 to April 2018
6. An observational cross-sectional analytical study to evaluate the effects of Anti-cancer therapy on developing dentition in long term survivors of childhood cancers
7. Assessment of inferior vena cava collapsibility index (IVCCI) and variation of carotid artery peak velocity (CAPV) as predictor of post-spinal hypotension
8. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
9. Change in food consumption pattern with calorie, sugar and fat labels: A Systematic Review
10. Comparative evaluation of color change in restorative material is due to common eatables consumed by Indian children
11. Comparative evaluation of different root surface biomodification methods in teeth with extraoral dry times more than 60 minutes
12. Comparative evaluation of simvastatin gel and diode laser in pulpotomy of primary molars
13. Comparative evaluation of two rehydration protocols in fragment reattachment
14. Comparison of 5 factor modified frailty index and ASA classification to predict morbidity and mortality in patients undergoing arthroplasty – A prospective observational study
15. Comparison of blind intubation success rates through AirQ and LMA Blockbuster in adult patients
16. Comparison of clinical efficacy of Intrathecal 0.75% isobaric ropivacaine with fentanyl versus clonidine as adjuvant in caesarean section: A prospective randomised controlled trial.
17. Comparison of efficacy of Mitek mini anchor suture technique with conventional technique for TMJ disc placcation procedure in Wilkes class III patients: A randomized controlled trial
18. Comparison of lactate clearance and neutrophil lymphocyte ratio as predictor of mortality in patients with sepsis
19. Comparison of opioid based anesthesia technique and opioid free anesthesia technique in patients undergoing laparotomy for gynecological malignancy: randomized controlled trial
20. Comparison of treatment outcomes subcondylar fracture of mandible, managed using one trapezoidal plate vs two nonparallel straight miniplate
21. Comparison of urinary and salivary metal levels in long term fixed appliance therapy: A prospective study
22. Correlation between Doppler derived carotid artery corrected flow time, pressure transducer derived radial artery flow time and pulse pressure variation: A prospective observational study
23. Designing, Development and in-vitro/ex-vivo Testing of a Prototype Flexible Pre-loaded Self-adhesive Stainless-steel Splint for Stabilisation of Traumatized Anterior Teeth: A Pilot Interventional Study
24. Effect of 940 nm diode laser irradiation and dentin bonding agent on permeability of furcation area in primary molars
25. Effect of addition of dexamethasone to ropivacaine for extra oral mandibular nerve block in patients undergoing mandibular surgeries under general anesthesia
26. Effect of E-Cigarette on Periodontal structures - Meta Analysis
27. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomized controlled trial
28. Effectiveness of a Training Package in assessing oral health knowledge, attitude, approach and actions change among School Teachers in India: An interventional study
29. Effectiveness of an oral health training program for nursing professionals in India: An interventional study
30. Evaluation and analysis of an oral health promoting website and mobile application

31. Evaluation of fit feasibility of TJR standard stock prosthesis in TMJ ankylosis patients of Indian population – ambispective observational study Investigator.
32. Evaluation of immediate skeletal and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite – A prospective clinical study
33. Evaluation of the effect of one versus two step technique on the outcome of mineral trioxide aggregate pulpotomy in mature permanent teeth with symptomatic irreversible pulpitis- A prospective clinical study
34. Evaluation of the success rate of one piece yttrium – stabilized zirconia root analogue (RAI) Dental Implants- A pilot study
35. Exploring the usage of ultrasonography in assessing mid palatal suture opening with hyrax appliance: A Pilot study
36. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in ICU
37. Feasibility of the International Caries Classification and Management System (ICCMS) protocol in a hospital-based setting
38. Interleukin 1B levels around orthodontic mini implants during direct loading
39. Oral health status of participants visiting a dental exhibition at a tertiary care center.
40. Orthodontic white spot lesion Index: a novel tool for assessment of white spot lesion induced in orthodontic patients.
41. Outcome of full pulpotomy performed with or without calcium silicate based cement in mature permanent teeth with mechanical pulp exposure - a split mouth study
42. Predictors of Intensive Care Unit Admission and Mortality In Acute Febrile Illness: A Prospective Observational Study
43. Prognostic significance of preoperative blood lactate and lactate clearance in patients undergoing emergency laparotomy for perforation peritonitis: A prospective observational study
44. Prognostic significance of red blood cell transfusion trigger in critically ill patients with sepsis and septic shock: prospective observational study
45. Prospective study for the evaluation of change in 3D airway volume and improvement in quality of life after distraction osteogenesis of mandible in obstructive sleep apnea (OSA) patients secondary to retrognathia in TMJ ankylosis
46. Prospective study to evaluate the stability after zygomatic osteotomy in patients with post traumatic residual deformity of Zygomatico Maxillary Complex
47. Randomized control trial: Comparative analysis of orbital volume in 3D model assisted mesh adaptation versus conventional technique in reconstruction of orbital floor fracture
48. Randomized controlled trial to evaluate the treatment outcomes of transparotid and transmasseteric anterior parotid approached to treat mandibular subcondylar fractures
49. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury - A prospective study
50. Sternocleidomastoid and trapezius muscle activity before and after Twin block therapy in skeletal class II growing patients
51. The effect of inciso-cervical position of wire-composite splint on the mobility of the avulsed permanent tooth: A cadaveric model study
52. The Effect of Rapid maxillary expansion on hearing in patients having Cleft Palate with conductive Hearing loss – A Pilot Study.
53. The Effect of Sequentially locally Injected Platelet Rich Plasma on the rate of tooth movement during maxillary canine retraction.
54. The effect of sodium fluoride mouth rinse on surface morphology and elemental composition of orthodontic brackets in three different pH conditions- an in vitro study.
55. The levels of Matrix Metalloproteinase-9(MMP9) as a prognostic biomarker for the outcome of pulpotomy in mature permanent teeth with symptomatic irreversible pulpitis- A clinical prospective study
56. To evaluate and compare bite force and chewing efficiency in patients of TMJ amyloses treated by alloplastic total joint replacement, gap arthroplasty with normal individuals.
57. To evaluate neck muscle activity after mandibular postural changes in growing class II high angle patients with Twin Block therapy- An EMG study
58. To evaluate the applicability Artificial Intelligence (AI) for categorizing the radiographic periapical lesions based on the periapical apical index (PAI) scoring system- A method comparison study

59. Treatment outcome of composite restoration performed with either indirect pulp therapy or full pulpotomy in deep proximal carious lesion- A clinical study
60. Ultrasonography assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: Prospective observational study

### **Completed**

1. A 3D study of treatment changes following maxillary protraction protocol in growing class III patients using digital models
2. A comparative study to evaluate the crestal bone level around immediate implant placed using socket shield technique and conventional technique – A pilot study
3. A comparative study to evaluate the soft tissue and volumetric changes around immediate implants placed using socket shield technique and conventional technique – A pilot study
4. A prospective study to observe the influence of immediate functional versus non-functional loading of full coverage prosthesis on the outcome of non-surgical endodontic therapy (NSET) performed on posterior teeth with periapical pathology
5. Ambispective study to evaluate the fate of Costochondral Graft in TMJ ankylosis patients from January 2014 to April 2018
6. Assessment of single versus subsequent Micro osteoperforation stimulated expression of IL-1 $\beta$  levels during Orthodontic Tooth Movement – A pilot study
7. Carotid artery corrected flow time & respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing elective surgery: A prospective observational study
8. Comparison of efficacy of dexmedetomidine and clonidine infusions to produce hypotensive anesthesia in patients undergoing orthognathic surgery: A randomized controlled trial
9. Comparison of efficacy of Mitek mini anchor suture technique with conventional technique for TMJ disc placcation procedure in Wilkes class III patients—A randomized controlled trial
10. Comparison of intraocular pressure change with facemask vs laryngeal mask airway in anaesthetised children
11. Comparison of post extraction bleeding complication in patients taking oral anticoagulants, with and without bridging therapy: A pilot study
12. Effect of addition of dexamethasone to ropivacaine for extraoral mandibular nerve block in patients undergoing mandibular surgeries under general anaesthesia
13. Effect of dexmedetomidine on emergence delirium and recovery parameters after desflurane or sevoflurane anesthesia in children: A prospective double randomized study
14. Effect of systemic and local antibiotics therapies on clinical and patient reported outcomes in healthy, partially dentate patients undergoing dental implant placement – A preliminary study
15. Efficacy of decremental PEEP trial on postoperative oxygenation status in adult patients undergoing emergency laparotomy: A pilot randomized controlled trial
16. Efficacy of left ventricular outflow tract velocity time integral (LVOT VTI) and carotid artery VTI as predictor of volume responsiveness to passive leg raising (PLR) in sepsis and septic shock patients by correlation with Echocardiography guided stroke volume change (delta SV%) to PLR
17. Epidemiology and prognostic utility of cellular components of hematological system in sepsis
18. Evaluation of diaphragmatic muscle mass in patients receiving pressure regulated volume controlled ventilation and synchronized intermittent mandatory ventilation for acute respiratory failure: A randomized controlled trial
19. Evaluation of rank1 in gcf and rate of tooth movement during canine retraction assisted with low level laser therapy – A randomized control trial
20. Evaluation of the effect of prosthodontic rehabilitation on quality of life and psychological distress in maxillectomy patients: A preliminary study
21. Fentanyl versus Dexmeditomidine infusion in head and neck free flap surgery for comparison of hemodynamics and anesthetic requirements
22. Integrated Ultrasound Protocol in predicting Weaning Success and Extubation Failure: A Prospective Observational Study
23. Stress distribution pattern in two different types of removable partial dentures on the supporting structures - A 3D finite element analysis and a clinical study
24. The effect of locally injected platelet rich plasma on the rate of tooth movement during maxillary canine retraction – A Pilot study

25. The effect of mandibular single implant supported overdenture on residual ridge resorption
26. The effect of prosthodontic rehabilitation of completely edentulous geriatric patients with mild cognitive impairment on their memory process - A functional MRI based pilot study
27. The influence of the severity of periodontal disease on periapical healing after non-surgical endodontic therapy in teeth with concomitant endodontic periodontal lesions without communication – A prospective study
28. To assess the efficacy of local anesthetic wound infiltration in temporomandibular joint ankylosis surgery for control of post-operative pain: A randomized controlled trial
29. To compare the effect of l-prf or alloplastic graft material on crestal bone levels around immediate implant placed in mandibular molar region
30. To compare the functioning of delayed surgical obturate fabricated using conventional and vacuum formed method in maxillectomy patients: A randomized control study
31. To correlate the level of osteocalcin in peri-implant crevicular fluid with crestal bone loss at different time intervals in immediate and delayed loaded dental implants. A randomized control pilot study
32. To determine whether implementation of a new ICU delirium prevention bundle will reduce the incidence of delirium compared to standard of care protocol in mechanically ventilated patients
33. To study the efficacy of clonidine as an adjuvant to ropivacaine in ultrasound guided transversus abdominis plane block in adult renal transplant recipients – A double blinded randomised controlled trial

## **PUBLICATIONS**

**Journals: 33   Abstracts: 5   Chapters in Books: 1   Books: 1**

## **PATIENT CARE**

### **Orthodontics and Dentofacial Deformities**

During the year under review we have provided greater emphasis on Interdisciplinary treatment of patients with Cleft Lip and Palate and combined orthogenetic surgery patients suffering from facial deformities.

### **Oral and Maxillofacial Surgery**

The division is a pioneer and leader in TMJ replacement surgeries, Temporomandibular Joint Surgery, Craniofacial trauma and Orthognathic and Aesthetic Surgery of face. The division has been efficiently running Oral and Maxillofacial Surgery OPD and Inpatient services with Exodontia, simple and complicated, Oral and Maxillofacial Pathology, managing Maxillofacial Infections, Surgery for Obstructive sleep apnea, Trigeminal neuralgia Clinic and Osteodontokeratoplasty.

### **Prosthodontics**

We have been managing outpatient duties for dental rehabilitation of complete and partially edentulous patients. We are running specialty clinic on Oral and Maxillofacial Prosthodontics, implant dentistry and temporomandibular disorders. Different types of prosthesis which we are fabricating for the patients are Complete denture, Removable Partial Denture, Crown and Bridge work, Laminates, Occlusal splints, Implant supported Prosthesis (Removable & Fixed), and Maxillofacial Prosthesis (Extra oral/ Facial & Intra oral). At the department, we are running two labs to fabricate removable and fixed Prosthodontic appliances.

### **Conservative Dentistry and Endodontics**

The specialty clinic of Conservative Dentistry & Endodontics is held twice a week. A non-surgical and surgical endodontic retreatment clinic has been initiated and is held once a week.

### **Pedodontics and Preventive Dentistry**

Division of Pedodontics and Preventive Dentistry deals with diagnosis and treatment of oral and dental diseases in children up to 14 years of age and those with special healthcare needs. On an average the division carries out about 20,000 procedures in children which range from simple to advanced paediatric dentistry procedures. We stress upon holistic and interdisciplinary care of all our patients by collaborating with other medical and dental specialties. We follow preventive protocol in almost all the patients and perform simple procedures as restorations, extractions to complex procedures as deciduous and permanent endodontic treatments, stainless steel crowns, space maintainers, habit breaking appliances and minor surgeries. Full mouth rehabilitation in children with early childhood caries, having severely mutilated multiple carious teeth is frequently done. Our division is also one of the pioneers of starting use of soft tissue lasers for surgical and biostimulation procedures in Paediatric Dentistry in India.

### **Oral Medicine and Radiology**

The division has been running regular OPD and Specialty Clinics for oral ulcers every week. The division also provides radiological support and Cone-Beam Computed Tomography facility to other divisions at CDER.

### **Periodontics**

Various treatment procedures carried out in the division are conventional non-surgical and surgical periodontal therapy, periodontal plastic surgery, soft and hard tissue regenerative procedures, diode laser-assisted soft tissue excision and adjunctive pocket debridement procedures.

### **Public Health Dentistry**

The division has been supporting regular OPD services and community outreach for AIIMS, running tobacco-use cessation clinics in CDER, Oral Health Screening in collaboration with Department of Community Ophthalmology, RPC, AIIMS for Blind School Children and Oral Health Screening among Paediatric Oncology patients in collaboration with Division of Paediatric Oncology, Paediatrics Department, AIIMS.

### **COMMUNITY ACTIVITIES**

Undertaken school-based Pit and Fissure Sealant Programme, MoHFW.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor OP Kharbanda** delivered the prestigious Indian Orthodontic Society Oration during 54<sup>th</sup> Indian Orthodontic Conference at Bhubaneswar. He has also been appointed Chairman for the Pierre Fauchard Academy Oration at Kochi. He is on the International Editorial Board of British Journal of Orthodontics and Australian Orthodontic Journal. He has also served as Expert to ICMR to review the research projects in the field of Oral Health and postgraduate research grants. Prof. Kharbanda also served as Chairman to the Ethics Committee of Manav Rachna Dental College (MRDC) Faridabad.

**Professor Ritu Duggal** is a member of the Board of Research Study of the SGT University and Chairman to the Ethics Committee of SGT University Gurugram. She also served as expert to ICMR to review the research projects in the field of Oral Health and postgraduate research grants. She is on the Editorial Board of Indian Orthodontic Journal of Orthodontics. She was also invited as ‘Guest of Honor’ on the occasion of convocation at ITS Dental College, Greater Noida and invited as ‘Guest Speaker’ on the Orientation programme for postgraduates at SGT University Gurugram.

**Professor Ajoy Roychoudhury** has been Dental Council Inspector to verify the teaching, infrastructure facility of various dental colleges in India providing postgraduate education. He has also been in the committee of MOH&FW to review the decisions of Dental Council of India pertaining to recognition to various Dental Colleges in India. He has also served as an expert at selection committee at SGPGI Lucknow. He delivered the Tajuddin Oration lecture at the 5<sup>th</sup> Annual Conference of Association of Oral & Maxillofacial Surgeons of India. He is also a reviewer for indexed journals like British Journal of Oral and Maxillofacial Surgery, National Medical Journal of India, Dental Traumatology, National Journal of Oral and Maxillofacial Surgery.

**Professor Ongkila Bhutia** has been chairperson HICC (Hospital infection control committee) CDER. She was also nominated for Nodal Officer, Covid 19, CDER, AIIMS. She is also a member of Institutional anti-ragging squad of undergraduate girl’s hostel. She was the Scientific Chairperson and course faculty 2nd AIMS total TMJ replacement live surgical workshop and is a member of main screening committee from CDER for various faculty posts at the AIIMS.

**Professor Ajay Logani** was elected President of the Indian Society of Traumatology (2017-2020).

**Professor Vijay Prakash Mathur** is faculty coordinator for Clinical Research Unit, Research Section, AIIMS and is also serving as member of Institute Ethics Subcommittee for monitoring of adverse events in clinical trials. This is year he was re-elected as Vice President- Indian Society for Dental Research (IADR- India Division) (2019-2021) and Vice President - Indian Society for Dental Traumatology. He was also nominated as Hon. Treasurer- Indian Society of Pedodontics and Preventive Dentistry (2019-2021) and Scientific Editor- Journal of International College of Dentists (Section VI) (2019-2021). He continues to serve as of Editor in Chief - Journal of South Asian Association of Pediatric Dentistry (2018-2021).

**Dr Prabhat Kumar Chaudhari** received Fellow-Membership of World Federation of Orthodontists.

**Dr Nitesh Tewari** received the prestigious JO Andreasen Award for Best Poster in Dental Traumatology in 27<sup>th</sup> Conference of International Association of Pediatric Dentistry held in Cancun, Mexico.

**Dr Kalpana Bansal** received the Distinguished Woman’s award 2020 from Indian Society of Pedodontics and Preventive Dentistry.

**Dr Shalini Gupta** received commemoration and felicitation by NICPR ICMR for collaborative work done in development of Oral cancer screening national guidelines, framework, software application ECHO programme and conducting training

workshop for medical officers and dentists. She is also a member of the Project Advisory Committee (PAC) of the ICMR Task Force study titled 'Screening and early detection of cervical, breast and oral cancer in the Dibrugarh, Assam: a demonstration project in TATA Tea gardens' by ICMR. She is a technical expert for 'Oral cancer Screening APP development' by Ministry of Health and Family Welfare (MoHFW) a Non-Communicable Disease' Technical Advisory Group (NCD TAG) and an expert for Oral cancer screening in GoI MoHFW programme for the Cancer strengthening Project that piloted in 6 districts of India. She was also appointed as Chairperson of the Selection Committee for the Positions of Dentist (SC) and Dentist (OBC). In the project entitled "WHO FCTC Global Knowledge Hub on Smokeless Tobacco at NICPR. She is also a reviewer for Journal of Indian Society of Periodontology.

**Dr Kunaal Dhingra** was awarded the prestigious Membership MFDS RCPS (Glasg) of Faculty of Dental Surgery of the Royal College of Physicians and Surgeons of Glasgow, UK in 2019

**Dr Vikender Singh** was elected as Vice President of Dental Surgeons Association of India, Gurugram Branch in April, 2019. He is also a reviewer for the Journal of Indian Society of Periodontology and Frontiers in Dentistry.

**Dr Deepika Mishra** was awarded the best poster award in XXVIII Conference of Indian Association of Oral and Maxillofacial Pathologists held in Kerala, 2020 and best paper award at 18th National Triple O symposium and 4th International Oral Precancer and cancer congress held in Delhi March 2020. She also had the second best paper award at 18th National Triple O symposium and 4th International Oral Precancer and cancer congress. Dr Mishra is also a member of e-newsletter committee of the Research Section at AIIMS.

**Dr Harsh Priya** has served as an External Expert for Development of Training Modules for MPWs, CHOs and ASHAs on Primary Oral Health Care at the National Health Systems Resource Centre, Govt. of India. She was also elected as Councilor for the IADR e-Oral Health Network group for the year 2020-2022 for International Association of Dental Research (IADR).

#### **VISITING SCIENTIST**

1. Dr Kishan Gauba, Head, Department of Oral Health Sciences
2. Dr Rajeev Agarwal, Pediatrics Consultant, Agave Pediatrics, Arizona, USA, July 2019
3. Dr Shukan Parikh Kanuga, MS, Consultant Pediatric Dentist, USA, December 2019



## 10.3. Dr. BR Ambedkar Institute Rotary Cancer Hospital

### Professor and Chief

GK Rath  
(Radiation Oncology)

### Professors

Subhash Chander (Radiation Oncology)	Lalit Kumar (Medical Oncology)	Sidhartha Satpathy (Hospital Administration)	SVS Deo (Surgical Oncology)
Sanjay Thulkar (Radio Diagnosis)	Sushma Bhatnagar (Anaesthesiology)	Atul Sharma (Medical Oncology)	Sameer Bakshi (Medical Oncology)
Seema Mishra (Anaesthesiology)	DN Sharma (Radiation Oncology)	Suman Bhaskar (Radiation Oncology)	Pratik Kumar (Medical Physics)
Sushmita Pathy (Radiation Oncology)	Ritu Gupta (Laboratory Oncology)		

### Additional Professors

Haresh KP (Radiation Oncology)	Subhash Gupta (Radiation Oncology)	Sanjeev Kumar Gupta (Laboratory Oncology)	Anita Chopra (Laboratory Oncology)
Pranay Tanwar (Laboratory Oncology)	Rakesh Garg (Anaesthesiology)	Nishkarsh Gupta (Anaesthesiology)	Vinod Kumar (Anaesthesiology)
Sachitanand Jee Bharti (Anaesthesiology)	Chandershekhara SH (Radio Diagnosis)	Sunil Kumar (Surgical Oncology)	Major MD Ray (Surgical Oncology)
Amar Ranjan Singh (Laboratory Oncology)			

### Associate Professors

Ajay Kumar Gogia (Medical Oncology)	Ranjit Kumar Sahoo (Medical Oncology)	Prabhat Singh Malik (Medical Oncology)	Sameer Rastogi (Medical Oncology)
Rambha Pandey (Radiation Oncology)	Ahitagni Biswas (Radiation Oncology)	Ritesh Kumar (Radiation Oncology)	Mukesh Yadav (Radio Diagnosis)
Ekta Dhamija (Radio Diagnosis)			

### Assistant Professors

Raja Pramanik (Medical Oncology)	Atul Batra (Medical Oncology)	Sachin Khurana (Medical Oncology)	Chandra Prakash Prasad (Medical Oncology)
Thoudam Debraj Singh (Medical Oncology)	Mayank Singh (Medical Oncology)	Surender Kumar Saini (Radiation Oncology)	Sandeep Kr Bhorival (Surgical Oncology)
Ashutosh Mishra (Surgical Oncology)	Chitresh Kumar (Surgical Oncology)	Jyoti Sharma (Surgical Oncology)	Brajesh Kr Ratre (Anaesthesiology)
Krithika Rangarajan (Radio Diagnosis)	G Smeeta (Laboratory Oncology)	Pallavi Shukla (Preventive Oncology)	Aman Sharma (Radiation Oncology)
Supriya Malik (Radiation Oncology)	Pritee Chaudhari (Radiation Oncology)	Anuja Pandit (Anaesthesiology)	Saurabh Vig (Anaesthesiology)
Shweta Bhopale (Anaesthesiology)	Balbir Kumar (Anaesthesiology)		

### Administrative Officer

BK Singh

### Finance and Chief Accounts Officer

Padam Singh

### Assistant Stores Officer

Hemant Kumar

## Total number of faculty and officials

Faculty Members	56
Resident Doctors	103
Group 'A' Officials	33
Group 'B' Officials	408
Group 'C' Officials	123
Part Time Social Guide	6
Outsourced House Keeping Staff	161
Outsourced Security Staff	81
Outsourced Data Entry Operators	36
Outsourced Sanitation Staff	81
Outsourced Fire Staff	3

### HIGHLIGHTS

#### **Onco-Anaesthesia and Palliative Medicine**

The Department of Onco-Anaesthesia and Palliative Medicine has seven well trained faculties at Dr BRAIRCH (Dr Sushma Bhatnagar, Dr Seema Mishra, Dr Rakesh Garg, Dr Nishkarsh Gupta, Dr Vinod Kumar, Dr Sachidanand Jee Bharati, Dr Brajesh Kumar Ratre) and four faculties at NCI (Dr Anuja Pandit, Dr Saurabh Vig, Dr Balbir Kumar and Dr Shweta Bhopale). They provide services to anesthesiology, critical care, pain and palliative medicine. All of them are professionally qualified anesthesiologists and critical care physicians and have gained experience as palliative care personnel in the advanced cancer patients referred for pain and other symptom management.

The mission of our department is to provide state-of-art and comprehensive care for patients with cancer with both curative and palliative intent. It includes services for various diagnostic interventions, surgical procedures, pain and palliative procedures. The department provides round the clock services for acute and chronic pain management. The department has six bedded intensive care unit which provides care for critically ill patients and six bedded palliative care ward for palliative care of oncology patients. The department has its regular academic activities and also pursuing various research activities in the fields of Cancer Pain, Palliative Care and Perioperative Medicine for proposed benefits for the patient. The department has developed protocol and has structured SOPs for better patient management. The department organizes CMEs, conferences and workshops on regular basis.

#### **Delhi Cancer Registry**

The Delhi Cancer Registry (DCR) is a population based cancer registry which collects cancer patient's data from more than 172 government or private hospitals/centers and 250 nursing homes and vital statistics division of MCD and NDMC and reports the incidence of various cancers among Delhi urban residents. When the registry was established in 1988 it has registered 5854 new cancer cases and over the years the new cancer incidence has been increasing and in 2014 the registered incidence was 20446 cases. The common sites of cancer among Delhi males are lung, mouth, prostate, tongue and larynx and in females the common sites of cancer are breast, cervix, ovary, gallbladder and corpus uteri. The reports prepared by registry are being widely used by researchers, govt. organization etc.

#### **Laboratory Oncology**

Laboratory Oncology Molecular Unit organized a live hands-on demonstration of 1) automated nucleic acid isolation from a variety of starting materials and 2) Droplet digital PCR. Hands-on-training on Real time qPCR (November 2019) and Sanger Sequencer (September, 2019) was conducted for the technical staff and scientists of the department.

#### **Medical Oncology**

The department of Medical Oncology is known for its high-level academic program, busy clinical service (inpatients and out patients) and research activity. Its academic program PhD, DM and BMT Fellowship are very competitive and sought after. Department also attracts students from national science academies and universities for summer training. In addition to academic presence in various national and international scientific meetings, department faculty members are regularly invited as an expert member to various government funding agencies for review of research proposals and opinions. 'Cancer Genetics service' is the new initiative started in past two years and has already made its presence. Recently award of a big grant by ICMR to establish a 'Cancer Genetics Registry' is the testimony to this recognition. Other important achievements in the past one year are development of infrastructure in medical oncology lab, establishment of new lab services directly related to patients care as well as research and organising national level meetings. In addition to handling huge clinical

load here at the IRCH, faculty members are also providing their services and mentorship to newly established National Cancer Institute at Jhajjar. Publications in high impact journals, research grants and recognition of our scientists and faculty members by various agencies are witness to their quality contribution. Our department has successfully organized National Conference on “Emerging Trends in Translational Oncology” and “Onco-Emergency Submit 2019”. All this was possible with hard work, and sincere efforts put up by all the members of the department. Space crunch continues to be a limitation for clinical research staff and for the lab.

The number of patients treated in our department during 2019-2020:

1. Patients treated as in-patient	11290
2. Patients treated in day care facility	: 34435
3. Medical Procedures	6267
4. Outpatient chemotherapy	14680
5. Outpatient IV antibiotics	34190
6. Hematopoietic Stem Cell Transplantation	125

#### ***Aphaeresis lab (2019-2020)***

1. PBSC harvests	201
2. SDP apheresis	2818
3. Granulocyte apheresis	101
4. Hemogram	23868

#### **Medical Physics**

Medical Physics unit looks after radiation safety, radiation education, and radiation research and quality assurance of radiation emitting imaging and therapeutic equipment in about 15 departments of AIIMS including the department which uses radioactivity for laboratory investigations. It procures the mandatory licenses from Atomic Energy Regulatory Board. We carry out radiation protection surveys of radiation installation and radioactivity labs, along with periodic checks of radiation safety gadgets like lead apron, thyroid collar, lead goggles, lead viewing windows etc. and impart radiation safety training. We provide consultations in case of inadvertent exposure to pregnancy occurred during x-ray investigations. During 2019-2020 we carried out 4339 measurements, tests, experiments and radiation sterilization of blood bags for blood transfusion.

#### **Preventive Oncology**

Preventive Oncology unit-initiated cancer awareness programmes for patients and attendants visiting Dr BRAIRCH after joining of Dr Pallavi Shukla as Assistant Professor. We also started cancer awareness programmes for college students as a part of health promotion drive. Through interdepartmental and multicentric collaborations various research projects were started for understanding the epidemiology and genetics of cancers like gall bladder, cervical, breast, prostate and ovarian.

#### **Radiodiagnosis**

A new faculty member (Dr Krithika Rangarajan) joined the department as Assistant Professor. Apart from the patient care, research and teaching work at BRAIRCH, our faculty is taking care of day to day functioning of radiology department of National Cancer Institute, Jhajjar. Faculty members visit daily to NCI Jhajjar on rotation basis. They were also involved in procurement, installation and functioning of Ultrasonography, DSA, fluoroscopy machines as well as CT and MRI machines at NCI Jhajjar. The department held multidisciplinary discussions/ tumor boards specifically addressing gastrointestinal malignancies, lung cancer and sarcoma on Saturday and Wednesday (forenoon and afternoon), respectively at BRAIRCH and daily DMG meetings at NCI.

#### **Surgical Oncology**

The year 2019-2020 was eventful and productive academic year for the department with significant achievements in teaching, research and patient care domains. The department has expanded clinical services at NCI Jhajjar, initiated a number of collaborative research projects, and organized international and national conferences and workshops. All the faculty members of the department participated in the under graduate and post graduate teaching and structured training of 27 Senior Residents including 16 M.Ch student and 11 non-academic senior resident. The departmental faculty is involved in M.Ch teaching, training and guiding in their thesis work. The faculty acts as co-guide in thesis work of various department including Radiation Oncology, Medical Oncology, Biochemistry, Biotechnology, Geriatric Medicine etc. The department successfully organized a number of scientific conferences and workshops including AIIMS-UK Cadaver course on breast oncoplasty and reconstruction, MIS in colorectal cancer surgery video workshop and a high level multi-institutional meeting to standardize curriculum and training in surgical oncology along with Society of Surgical oncology, USA. The faculty participated in a number of national and international conferences by giving lecture, participating in panel discussion and presenting educational videos. The faculty and residents of the department have presented 22 papers in national and international conferences. The department is involved in 9 funded research projects and 12 departmental projects and 10 collaborative research projects. A total of 30 original articles were published by the faculty and residents. The faculty

and residents are participating in special cancer clinics for breast cancer, gastro intestinal cancer, head and neck cancer, gynecological cancer, bone and soft tissue tumors, thoracic cancer, Hepatobiliary-pancreatic cancer and genitourinary cancer. The department is providing major and minor operation facilities to patients of cancer. A total of 1374 complex major operations and 10493 diagnostic and therapeutic endoscopy procedures and minor cancer surgeries were performed during the year. Faculty participated in community services by giving advice to ostomats, giving talk in All India Radio, television and participating in cancer awareness camps organized by NGO's. The faculty members were involved as members of editorial boards, reviewer of research papers and members of National and International bodies. The faculty members acted as examiner for M.Ch Surgical Oncology and MS Surgery examinations of various medical colleges and institutions.

## EDUCATION

### Onco-Anaesthesia and Palliative Medicine

The Department is successfully running two academic courses: DM and MD First batch was admitted in January 2016. The Department also organizes certificate course in Palliative Care twice a year in the month of June and November and foundation course on palliative care once in a year in the month of March.

- Departmental Seminar Every Monday and Friday at 8-9 AM
- IRCH Seminar Every Thursday at 8.30-9.30 AM
- Tutorials Every Tuesday 3-5 PM
- Radio Conference Every Saturday at 9-10 AM
- Journal Club/Audit/Case discussion Every Saturday at 10-12 Noon.

### Laboratory Oncology

Laboratory Oncology provides specialized training on the laboratory aspects of Hemato-Oncopathology including but not limited to morphology, flow cytometry (including minimal residual studies), multiple myeloma diagnostics and advanced molecular biology testing and interpretations. The training is imparted to MD and DM resident doctors from Departments of Medical Oncology, Pathology, Hematology and Laboratory Medicine. The department also imparts short term training to medical professionals including faculty, students and technical staff from various medical colleges all over India.

### Medical Oncology

The department of Medical Oncology is running successfully the following programs

1. DM Program
2. PhD in Medical Oncology
3. BMT Fellowship
4. Summer internship/training

### Regular classes and seminars

- Departmental Faculty Seminar Every Monday at 8.30 AM-9.30 AM
- Journal Club/Case discussion Every Wednesday at 8.30 AM-9.30 AM
- IRCH Seminar Every Thursday at 8.30 AM -9.30 AM
- Molecular Oncology Class Every Tuesday at 2.00 PM-3.00 PM

### Departmental Projects

#### Ongoing

1. The role of the PARP – 1 &  $\beta$ - Catenin in cisplatin resistance in cervical cancer
2. Minimal Residual Disease in Multiple Myeloma
3. Stop Imatinib study in CML patients
4. Role of PARP1 and  $\gamma$ -Glutamyl Cysteine Synthetase (GCS) Inhibitors on cisplatin sensitivity and DNA Methylation in ovarian cancer
5. Gene expression profile & its correlation with mitochondrial energy metabolism in pediatric Acute myeloid leukemia
6. NRd vs UPd transduction therapy for newly diagnosed symptomatic Multiple Myeloma: A Phase 3, non-inferiority trial

### Medical Physics

Medical Physics Unit carried out teaching assignments regarding radiation physics of medical imaging, radiation protection during their operation, radiation dose measurement and quality assurance in medical imaging to the students of MD Radiology, MD Radiotherapy, MBBS, and BSc (Hons.) in Radiography and Nursing. At present 3 PhD students are carrying out their research work in the Department.

## **Preventive Oncology**

### **Teaching**

1. Intra-departmental seminars: 12
2. Lecture for DM students of IRCH: Breast cancer screening in India
3. Nursing Lecture: Early detection and screening of cancers
4. Development of IEC (Information, Education and Communication) material on common cancers
5. Development of module on chest X-Ray interpretation for undergraduate teaching at SET facility

### **Workshop/Events organized**

1. Celebrated “World cancer day” on 4 February 2020 by organizing a sensitization for nurses on their role in Oncology
2. “Tobacco cessation interventions in Oncology practice” for faculty members and residents in Oncology specialties on 11 March 2020

### **Surgical Oncology**

1. Undergraduate teaching: The faculty was involved in undergraduate teaching by giving didactic lectures and by participating/ moderating seminars on oncological topics
2. Post graduate teaching: The faculty was involved in teaching and training of 16 MCh surgical oncology students and 11 surgical oncology senior residents, DM medical oncology residents and MD radiotherapy junior residents by giving didactic lectures, moderating seminars, journal clubs etc. & clinical teaching during ward rounds and in special cancer clinics of IRCH. The faculty acted as guide and co-guide for M.Ch Surgical oncology, DM medical oncology, MD radio diagnosis, MD radiation oncology thesis projects and PhD projects from various dept. of BRA- IRCH & AIIMS. The faculty was also involved in teaching & training of dental surgery residents and M.Ch Gynecology Oncology trainees on rotation
3. Para clinical teaching/training: The faculty was involved in the teaching of the M.Sc. nursing oncology students

## **CME /Workshop/Symposia/National and International Conference**

### **Onco-Anesthesia and Palliative Medicine**

1. IAPCON, 2020, 14-16 February 2020, Guwahati, Assam
2. Palliative Care Training Programme for cancer treatment centers in India, 12-16 January 2019, 15-19 January 2020, Delhi
3. 17th Foundation Course on Palliative Care, March and November 2019, Dr BRAIRCH, AIIMS, New Delhi
4. IAPC Certificate course in Palliative Care, June and November 2019, Dr BRAIRCH, AIIMS, New Delhi
5. World Hospice Day, October 2019, Dr BRAIRCH, AIIMS, New Delhi
6. ELNEC Nursing Programme, June 2019, Dr BRAIRCH, AIIMS, New Delhi
7. ELNEC Nursing Programme, February 2020, NCI, AIIMS, New Delhi
8. World Cancer Day, February 2020, NCI AIIMS Jhajjar
9. Tobacco Cessation Interventions in Oncology, March 2020, NCI AIIMS Jhajjar

### **Laboratory Oncology**

Professor Ritu Gupta organized a Cancer imaging challenge at IEEE ISBI 2019 in Venice, Italy along with IIIT-Delhi on “C-NMC challenge: Classification of Normal vs Malignant Cells in B-ALL White Blood Cancer Microscopic Image” as part of the IEEE International Symposium on Biomedical Imaging (IEEE-ISBI, 2019) Conference held in Venice, Italy from 8-11 April 2019. The challenge was technically co-sponsored by IBM India Pvt. Ltd.

### **Surgical Oncology**

1. CME on Research Methodology in Cancer on 10 April 2019 in collaboration with NCR Oncology forum, New Delhi
2. Surgical Workshop on “ICG Fluorescence guided Surgery at AIIMS, New Delhi, on 10 July 2019
3. Second AIIMS-UK Cadaver Course on Breast Oncoplasty and Reconstruction at AIIMS, New Delhi, 28 and 29 August 2019
4. CME and Video workshop on MIS for Colorectal cancers at AIIMS, New Delhi, on 23 November 2019
5. Robotic Surgery Training Workshop on 15 January in SET Facility, AIIMS, New Delhi

## Lectures delivered

### Onco-Anesthesia and Palliative Medicine

#### Sushma Bhatnagar

10. Inspection for setting Palliative Care Unit, 2 March 2020, Udaipur
11. MP-CG Chapter Association of Radiation Oncology, 22 and 23 February 2020, Raipur
12. Scientific Committee Chairperson, 27th IAPCON, 2020, 14-16 February 2020, Guwahati, Assam
13. IASP Councilor, 12th APHN Webinar, 13 June 2019, Mexico City
14. Attend the course, Meeting of IASP Scientific Program Committee, 8-10 December 2019, Amsterdam Netherlands
15. Chief Guest, CME on Cancer- Palliative Care, Rehabilitation and Pain Management, 21 December 2019, Jaipur
16. Resource Person, IAPC Certificate Course, 4 and 5 December 2019, Rishikesh
17. Resource Person, IAPC Certificate Course, 29 and 30 November 2019, Jodhpur
18. Meeting, NCG Research and Guidelines Meeting, 26 and 27 September 2019, Mumbai
19. Speaker, SOAPCCON 2019, 20 and 21 September 2019, Hyderabad
20. Speaker and a Panelist, ICACON 2019, 6 September 2019, Delhi
21. Esteem guest faculty, CME on Palliative Care 2019 at SHKM GMC, 9 September 2019, Mewat
22. Meeting, IAPC Mid Term Central Council Meeting, 14 and 15 September 2019, Guwahati
23. Guest Speaker, International Conference on Recent Advances in Pain ICRA- PAIN 2019, 13 September 2019, Nagpur, Maharashtra
24. Speaker, 13th Asia Pacific Hospice Conference (APHC 2019), 1-4 August 2019, Indonesia
25. Faculty, CME on Palliative Care, 13 July 2019, Jaipur
26. Guest Lecture, Continuous Medical Education Cancer Pain Management, 20 July 2019, Udaipur
27. Faculty, IAPC Certificate Course, AIIMS, Rishikesh, 1 and 2 July 2019, Rishikesh
28. Faculty, IAPC Certificate Course, AIIMS, Patna, 7 and 8 July 2019, Patna
29. Keynote Speaker, 7th Global Conference on Perioperative Care of the Cancer Patient and the 8th Oriental Congress of Anesthesiology and Perioperative Medicine, 21-23 June 2019, Shanghai, China
30. Faculty, CME on Palliative Medicine-A path towards better care, a sensitization programme, 11 June 2019, Srinagar
31. Faculty, Indian Association of Palliative Care Certificate Course, 15 and 16 June 2019, Raipur
32. Guest Speaker, 2nd Mid Conference of Indian Society of Anesthesiologists, Nainital, Uttarakhand 2019, Haldwani, Nainital
33. Plenary Speaker, 34th Annual Conference of Indian Society for study of Pain Bengaluru, 1-3 February 2019, Bengaluru
34. Faculty, Certificate Course in Essentials of Palliative Care (IAPC Course), 28 January 2019, Rishikesh
35. Faculty, IAPC Course, 27 January 2019, Rishikesh

#### Seema Mishra

1. Ethical Issues in palliative care, Indian Association of Palliative Care Certificate Course Programme, 29 and 30 June 2019, IRCH, AIIMS, New Delhi
2. Paediatric Palliative Care, Indian Association of Palliative Care Certificate Course Programme, 29 and 30 June 2019, IRCH, AIIMS, NEW DELHI
3. Panel discussion on Cancer pain and palliative care, ICRA - PAIN 2019, Nagpur, 13-15 September 2019, Nagpur
4. War on Cancer pain: New Frontiers, 8th International Conference on Pain Management (ICPM-2019), 12-15 October 2019, Chandigarh
5. Moderator, Panel discussion: Palliative Care: Bridging between disease modifying therapies and End of life care, 8th International Conference on Pain Management (ICPM-2019), 12-15 October 2019, Chandigarh
6. Use of opioids and its impact on quality of life in chemotherapy induced oral mucositis: A prospective observational study", MASCC/ISOO 2019 Annual Meeting on Supportive Care in Cancer, San Francisco, USA, 21-23 June 2019, San Francisco, USA, San Francisco, USA
7. Symptom burden and quality of life assessment in patients of gastrointestinal malignancies at a tertiary care center, India, PCOC Outcomes & Benchmarking Conference 2019, 20 and 21 November 2019, International Convention Centre, Sydney, Australia
8. Opioids for Chronic non-cancer pain, 27th International Conference on Palliative Care (IAPCON 2020, Guwahati),

February 14-16, 2020, Guwahati Medical College, Guwahati. ASSAM

9. Lymphedema management, 19th Annual Foundation Course in Palliative Care, 3 and 4 December 2019, AIIMS, New Delhi
10. Ethical Issues in Palliative care, Indian Association of Palliative Care Certificate Course Programme, 23 and 24 November 2019, IRCH, AIIMS, New Delhi
11. Paediatric Palliative Care, Indian Association of Palliative Care Certificate Course Programme, 23 and 24 November 2019, IRCH, AIIMS, New Delhi
12. EOL and Palliative Sedation, IACA Palliative Care Course, 16 March 2020, IRCH, AIIMS, New Delhi
13. Workshop Palliative Care and Communication, PG Orientation Workshop: 7 March 2020, AIIMS, New Delhi

#### **Rakesh Garg**

1. Airway management for upper airway obstruction, KAAMCON 2020-Kochi Advanced Airway Management Conference, 18 and 19 January 2020, Kochi, Kerala
2. Basics of Research Methodology and Publications, 24-29 November 2019, Bangalore
3. Emergencies in Palliative Care, Indian Association of Palliative Care Certificate Course Programme, 23 and 24 November 2019, Delhi
4. AIDAA Extubation Guidelines, 10th National Airway Conference NAC 2019 of All India Difficult Airway Association, 6-8 September 2019, Mangalore
5. Resuscitation Initiatives to Improve Outcomes after Out of Hospital Cardiac Arrest (OOHCA) in India, AAPI-Global Health Care Summit 2019, Hyderabad

#### **Nishkarsh Gupta**

1. Airway management in emergency settings, EMINDIA 2019, 4 August 2019, AIIMS, Delhi
2. Exploring new frontiers in perioperative care of cancer patients, ISACON DELHI 2019, Delhi
3. Meeting the challenge of breast brachytherapy, ICPM 2019, 13 and 14 October 2019, GMCH, Chandigarh
4. Chaired a session on Symposium on Critical Care, AIIMS Pulmocrit, 7 and 8 March 2020, AIIMS, Delhi
5. Palliative care for GI symptoms, Palliative Care: A Promise of Quality Life, 3 December 2019, AIIMS, Delhi
6. Ethical issues of 'End of life Care'(DNR), MAMC Anesthesia Update, 1 September 2019, MAMC, Delhi
7. Airway workshop coordinator, AIRWAY 2020, 22 and 23 February 2020, Delhi
8. Coordinator for USG Guided Regional Workshop, 3rd International Conference on Medical and Health Sciences, 22-24 October 2019, Khesar Gyalpo University of Medical Sciences, Bhutan
9. Faculty Exchange Program, University of Cologne, Cologne Summer School Program, October 2019
10. Workshop on USG in Airway, KAMACON 2020, 18 and 19 January 2020, IMA house, Kochi

#### **Vinod Kumar**

1. ERAS in Oncosurgery: Principles & Practice, ISACON Delhi 2019, 13 and 14 April 2019, Delhi
2. Workshop on difficult airway, RSACPCON 2019, 26-28 April 2019, PGIMS, Rohtak, Haryana
3. Palliative care conundrum: A real life challenge for Anesthesiologist, RSACPCON 2019, 26-28 April 2019, PGIMS, Rohtak, Haryana
4. Panel discussion: Bridging the gap between disease modification and end of life care, ICPM 2019, 12-15 October 2019, GMCH, Chandigarh
5. Imaging guided cancer pain block, ICPM 2019, 12-15 October 2019, GMCH, Chandigarh
6. Palliative care for respiratory symptoms, ICPM 2019, 23 and 24 November 2019, AIIMS, Delhi
7. Workshop on Airway skills unique to oral maxillofacial surgery, Airway 2020, 22 and 23 February 2020, Aerocity, Delhi
8. Antimicrobial strategy in febrile neutropenia, Criticare 2020, 26 February-1 March 2020, HITEC City, Hyderabad

#### **Sachidanand Jee Bharati**

1. Neuropalliative care, Neuroanaesthesia and Neurocritical Care Refresher Course, 6 and 7 April 2019, NSC, AIIMS, New Delhi
2. Cadaveric Airway Workshop, AIIMS Neuroanaesthesia Update 2019, 19 and 20 October 2019, AIIMS, New Delhi
3. Palliative Care Interventions, APC Course, 23 and 24 November 2019: IRCH, AIIMS, New Delhi

4. Symptoms Management in head and neck Cancers, 19th Annual Foundation Course in Palliative Care, 3 and 4 December 2019, AIIMS, New Delhi
5. Appraisal of Practice changing publications in 2019, AIIMS PULMOCRIT 2020, 7 and 8 March 2020, AIIMS, New Delhi

#### **Brajesh Kumar Ratre**

1. Procurement and stocking of ENDS, IAPC certificate course in Essentials of Palliative care, 23 and 24 November 2019, AIIMS, Delhi
2. Workshop on Paperless anaesthesia and critical solution, IRCH AIIMS, 14 December 2019, AIIMS, New Delhi
3. Ultrasonography guided abdominal Blocks, IRCH AIIMS, 14 December 2019, IRCH, AIIMS, New Delhi

#### **Anuja Pandit**

1. Integration of Palliative Care into Oncology, IAPC certification course for essentials in Palliative care, 23 and 24 November 2019, AIIMS, New Delhi

#### **Shweta Bhopale**

1. Nursing issues in Palliative care, IAPC certification course for essentials in Palliative care, 23 and 24 November 2019, AIIMS, New Delhi

#### **Balbir Kumar**

1. BLS workshop, BLS Workshop at CBSC Board School, 18 November 2019, Pitampura New Delhi
2. Ultrasonography guided abdominal blocks, IRCH AIIMS, 14 December 2019, IRCH, AIIMS

#### **Laboratory Oncology**

##### **Ritu Gupta**

1. Next Generation Technologies in Oncology, Next Generation Diagnostics Summit, 14 April 2019, Hyderabad
2. Panel discussion on “High Risk Multiple Myeloma”, Indian Myeloma Congress 2019, 11 and 12 May 2019, Mumbai
3. Panel discussion on “Multiple Myeloma Multi-disciplinary team discussion on Myeloma”, First Annual Meeting at Hematology Cancer Consortium, 16-18 August 2019, Kochi
4. FCMI of ALL- A Case based discussion, 12th TCS Annual Conference and Flow Cytometry Workshops, 9–12 October 2019, SGPGIMS, Lucknow
5. MM MRD Standardization- AIIMS Experience, 12th TCS Annual Conference and Flow Cytometry Workshops, 9–12 October 2019, SGPGIMS, Lucknow
6. Clinical relevance of MRD in multiple myeloma, 12th TCS Annual Conference and Flow Cytometry Workshops, 9-12 October 2019, SGPGIMS, Lucknow
7. Role of free light chain assay in plasma cell dyscrasias, 60th Annual Conference of the ISHBT-Hematocon 2019, 7 November 2019, New Delhi
8. Diagnostics in Multiple Myeloma-Past, Present & the Future, Visiting Faculty in Department of Pathology & Laboratory Medicine, 26- 29 November 2019, Dehradun
9. Molecular Cytogenetics in Hemato-Oncology, Visiting Faculty in Department of Pathology & Laboratory Medicine, 26–29 November 2019, Dehradun
10. Leukemic Stem Cells in Acute Leukemia, 3rd National Update in Hemato-Pathology, 20 December 2019, Mumbai
11. Challenges with current response criteria and MRD evaluation in India (other than PET), Indian Myeloma Congress 2020, 10–2 January 2020, Hyderabad
12. Do’s and Don’ts of Flow Cytometry for MRD in Myeloma, Indian Myeloma Congress 2020, 10–12 January 2020, Hyderabad

##### **Sanjeev Kumar Gupta**

1. Why should we do Flow Cytometry in Acute Leukemias? CME on Hemato-Lymphoid Malignancy (SN Medical College), 17 April 2019, Agra Club
2. Role of flow cytometry in chronic lympho-proliferative disorders, CME on Hemato-Lymphoid Malignancy (SN Medical college), 17 April 2019, Agra
3. Can peripheral smear examination make a difference in clinical practice? Hematopathology Update and Workshop,

27 April 2019, FMRI, Gurgaon

4. Myelodysplastic syndrome- When to suspect and how to diagnose? Hematopathology Update and Workshop, 27 April 2019, FMRI, Gurgaon
5. Tapestri platform for Single-cell multi-omics, AMP meeting presentations, Molecular diagnostic laboratory, MD Anderson Cancer Center, 11 December MDACC, Texas
6. Defining Lineage Commitment in Acute Leukemia, 19th Annual International Conference, RGCON 2020-Updates on Hemato-Oncology, 7-9 February 2020, New Delhi

#### **Anita Chopra**

1. Panel discussion on acute lymphoblastic leukemia, Hematology Cancer Consortium, 15-18 August, New Delhi
2. Transient Myelopoiesis in Down syndrome, 60th Annual Conference of the ISHBT - Hematocon 2019, 7-10 November 2019, New Delhi
3. What I took care of in my DBT Welcome trust application, Grantsmanship Workshop Series on 15 and 16 January 2020 at AIIMS New Delhi to mentor the applicants for concept note submission to Welcome trust/ DBT India Alliance, 15 January 2019, New Delhi

#### **Pranay Tanwar**

1. Markers of HPV: When and what to use, ISCCP-2019, 21 April 2019, Vishakhapatnam
2. HPV DNA test as primary screening modality for cervical cancer, Integrated screening of Purukarmikas: Bengaluru Municipal Corporation & Biocon Foundation, 30 July 2019, Bangalore
3. HPV Testing: Basis and Types, 41st Annual Conference of AOGD, Safadarjung Hospital, 26 September 2019, New Delhi
4. Panelist in discussion on roadmap for the IN-NL Partnership Health, CII-DST India-Netherlands Technology Summit, 15 and 16 October 2019, New Delhi
5. Flowcytometry: Overview of Technology, Pre-conference workshop, 60th Annual Conference of the ISHBT - Hematocon 2019, 7-11 November 2019, New Delhi
6. Keynote Lecture - HPV: Diagnostic and Research Update- Molecular Pathology – The way forwards for All Medical Specialties, 8th Annual Conference of Molecular Pathology Association, Pre-conference Dinner symposium, 10-12 January 2020, MPAICON Jaipur

#### **Amar Ranjan**

1. Diagnostic Research Methodology, Framing syllabus for MD-PhD Course, Aryabhata Knowledge University, 14 November 2019, Patna

#### **Gurvinder Kaur**

1. Immune Dysregulation in malignant disorders, The Cytometry Society (TCS) 12th Annual Meeting 2019, 10 October 2019, Lucknow

#### **Deepshi Thakral**

1. Computational Biology & Molecular, 5th International Conference on 27 July, IIIT-Delhi
2. Diagnostic and prognostic utility of modern genomic profiling in acute leukemia, 5th International Conference on translational research: Recent trends in Pre-translational to translational research, 7-9 November 2019, NCCS, Pune

#### **Medical Oncology**

##### **Lalit Kumar**

1. Invited Speaker during the conclave- 'Cancer- A Global Problem', 'Dialogue Between Health Science, Prevention and control of Major diseases in Rajasthan, organized by the National Academy of Sciences Allahabad, and Jaipur National University Institute for Medical Sciences & Research Centre, 18 April 2019, Jaipur
2. Moderator, High Risk GTN' during an update on 'controversies in Gynae oncology', (organized by Sir Ganga Ram Hospital), 5 May 2019, New Delhi
3. Maintenance therapy in Myeloma, Indian Myeloma Congress at ACTREC (TMH), 12 May 2019, Mumbai
4. Multiple Myeloma: Patten of Relapse and treatment outcome, 2nd Annual Meeting of the International Academy for clinical Hematology (IACH), 19-21 September 2019, Paris, France
5. Stem cell Transplantation, MG BMT Conference, Mahatma Gandhi Cancer Hospital & Research Institute, 20 October 2019, Visakhapatnam

### **Atul Sharma**

1. Panel discussion on autologous stem cell transplantation, Indian Myeloma Academic Group (IMAGe), 11 and 12 May 2019, Mumbai
2. Bcl2 inhibitors in hematology, HCC 1st Annual Meeting, 16-18 August 2019, Kochi
3. Practice changing updates in GI oncology (Colorectal), 2nd Mid-Year Gastrointestinal Oncology Conference 2019, 21 and 22 September 2019, Ahmedabad
4. Clinical trial comparing 100 mg/m<sup>2</sup> vs 40 mg/m<sup>2</sup> of cis platinum in locally advanced squamous cell carcinoma of Head and Neck area, ESMO 2019 Congress, 27 September to 1 October 2019, Barcelona (Spain)
5. Cancer Burden in India and Expanding Role of Medical Oncologist, 30th Annual Conference of Association of Physicians of India Rajasthan Chapter (RAJAPION 2019), 11–12 October 2019, Jaisalmer (Rajasthan)
6. Role of adjuvant and neoadjuvant therapy in colorectal cancer and GI Tumor board (MDT) parallel session, Summit for early career Oncologists, 19 and 20 October 2019, Kolkata
7. Oration: Gallbladder Cancer: Plethora of Research Potential, ISMPO & ISO Joint Meeting, 1-3 November 2019, Indore (Madhya Pradesh)
8. Moderator, Panel Discussion: Solving the Treatment Mystery of Unresectable HCC, 6th Edition of Innovations in Oncology Conference 2019, 8 December 2019, Mumbai
9. Moderator for panel discussion on Metastatic Colorectal Cancer, 5th Apollo Cancer Conclave & 8th Edition Cancer CI 2020, 13-16 February 2020, Hyderabad

### **Sameer Bakhshi**

1. Ethics in Biomedical Research, Workshop on Research Methodology, Writing and Communication for the residents admitted in session January 2019, 8 April 2019, New Delhi
2. Management of Wilm's Tumor, 4th Annual Paediatric Solid Tumor Workshp-2019, Mumbai
3. Panelist, International Clinical Trials Day (ICTD), 21 May 2019, New Delhi
4. Integrative Research in Oncology, Multidisciplinary Approach to Oncology-2019, 17 June 2019, New Delhi
5. Medulloblastoma: Clinical decision making First North Zone meeting of Indian Society of Neurooncology (ISNO) on "Neuro-oncology: New Horizons", 10 August 2019, New Delhi
6. Ethics in Biomedical Research: First Workshop on Research Methodology, Writing and Communication for the residents admitted in session July 2019, 2 September 2019, New Delhi
7. Retinoblastoma: Where do we stand, 23rd Annual Paediatric Haematology-Oncology Conference, 6-8 September 2019, Varanasi
8. Ewings Sarcoma in TYAs, 8th Annual Conference on Teenage & Young Adult Cancer (TYACON), 21 September 2019, Jaipur
9. Challenges in paediatric haematology in Adults-How it Differs from others? 3rd Annual International Precision Oncology and Breast Cancer Conference, 11 and 12 October 2019, Jaipur
10. Treatment and outcomes of testicular malignant germ cell tumors (MGCT): A single institution experience, Asia-Pacific Association of Pediatric Urologists (APAPU) Conference, 8-10 November 2019, Australia
11. Hematopoietic stem cell transplant: The present and the future, Fourth Annual meeting of Pediatric Research and Education Society of India (PRESIDE), 23 November 2019, New Delhi
12. Paediatric transplant in India-from clinic to BMT unit-what needs to be done Paediatric Bone Marrow Transplant Conference, 24 November 2019, Hyderabad
13. Challenging Pediatric Cases: Mock tumour board, AIIMS Radiology Course on Imaging of Chest Tumours, 1 December 2019, New Delh.
14. Multimodal Treatment Approach in Soft Tissue Sarcoma, 6th Edition of Innovations in Oncology Conference, 8 December 2019, Mumbai
15. Updates in the management of refractory/ relapsed neuroblastoma, 14th SAARC Federation of Oncologists International Cancer Conference, 13 and 14 December 2019, Nepal
16. Optimizing treatment in metastatic Ewing's Sarcoma, 14th SAARC Federation of Oncologists International Cancer Conference, 13 and 14 December 2019, Nepal
17. Clinical Research led and conducted by Faculty, What is required to be successful? 13th Annual Clinical Research Conference, 23-25 January 2020, Mumbai
18. How I treat Intermediate Risk NBL, CME in Pediatric Hematology Oncology, 1 and 2 February 2020, Chandigarh
19. Systemic therapy in Soft Tissue Sarcoma- Current evidence, Masterclass in Sarcoma, 8 and 9 February 2020, Pondicherry

20. Management of Bone Sarcoma-Case based discussion, Masterclass in Sarcoma, 8 and 9 February 2020, Pondicherry
21. Case scenarios in Metastatic sarcomas: PANEL DISCUSSION, Masterclass in Sarcoma, 8-9 February 2020, Pondicherry
22. Pediatric Lymphomas-Case Based Discussion, 8th edition of the biennial CANCER CI-2020,13-16 February 2020, Hyderabad
23. Ethical concerns of clinical trials in India, National conference on Safe and Sustainable Hospitals-SASH 2020, 23 February 2020, New Delhi
24. Interactive session-Malignant Bone Tumors (Metastatic), 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru
25. Interactive session-Management of RMS, Disease control and morbidity, 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru
26. Principles of Chemotherapy in Ewings Sarcoma, 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru
27. Case which taught me the most, 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru
28. Management of relapsed osteosarcoma with evidence, 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru
29. Malignant Bone Tumors, 6th Annual National Conference of the Indian Skeletal Oncology Society, 6-8 March 2020, Bengaluru

#### **Ranjit Kumar Sahoo**

1. CLL: An evolving treatment paradigm, 5th Innovations in Oncology, 28 April 2019, New Delhi
2. MM: Current Management in Indian Scenario, Update in Rx of MM, 23 August 2019, Chandigarh
3. Holistic Approach to Cancer Research: Clinician's Perspective, World Cancer Research Day, 24 September 2019, Noida
4. Challenges in Clinical Research (Panel), World Cancer Research Day, 24 September 2019, Noida
5. Immune checkpoint Inhibitors- do they impact management of infections (Chairperson), 5th Conference of Transplant Infectious Diseases, 29 September 2019, New Delhi
6. Haploidentical Transplantation (Panel), Delhi Transplantation and Cellular Therapy Group (DTCTG)- Inaugural Meeting, 16 October 2019, New Delhi
7. Antibiotic stewardship (panel, Antibiotics in ICU, 19 October 2019, New Delhi
8. Chronic Myeloproliferative Neoplasm: Clinician's Perspective, AIIMS Bone marrow biopsy CME, 10 November 2019, New Delhi
9. Bone Marrow Biopsy, AIIMS Bone marrow biopsy CME, 10 November 2019, New Delhi
10. Oral Cancers: Staging and Management, NICPR ECHO's Online Cancer Screening Program, 28 January 2020, Noida
11. Double-Expressor DLBCL: Beyond RCHOP, RGCON2020, 9 February 2020, New Delhi
12. Principles of High Dose Chemotherapy and TBI, 1st Annual ISBMT Meeting, CMC Vellore, 12-14 March 2020, Vellore

#### **Sameer Rastogi**

1. Approach a child with extremity mass, Workshop on practical pediatric oncology (North zone pedicon), 25 September 2019, Delhi
2. Systemic treatment of malignant melanoma- state of art, 3rd Annual International Precision Oncology Conference, 12 October 2019, Jaipur
3. Role and implication of molecular testing in sarcoma, Molecular Oncology Conference (MOSCON), 22 February 2020, Patna

#### **Prabhat Singh Malik**

4. Panel Discussion on ALK rearranged metastatic NSCLC: Sequencing 1st, 2nd and 3rd generation inhibitors, Mini- symposium on Stage IV Non-Small Cell Lung Cancer- Focus on ALK-ROS1 and 1L Immunotherapy, 20 April 2019, Chandigarh
5. Participated as expert for thoracic oncology guidelines, National Cancer Grid Research and Guidelines meeting, 26 and 27 September 2019, Mumbai

6. Moderated a multidisciplinary tumor board on metastatic squamous NSCLC, 33rd Annual Update on Pulmonary and Critical Care Medicine, 13 October 2019, Chandigarh
7. Lung Cancer Screening, Apollo Cancer Conclave & Cancer, 16 February 2020, Hyderabad

#### **Raja Pramanik**

1. Panel discussion in newer imaging modalities in breast cancer, 5th innovations in oncology, New Delhi, 28 April 2019, New Delhi
2. Panel discussion on colon cancer and HCC, 3rd LION Conference, 18 and 19 May 2019, Bangalore
3. Medical management of GEP NEN, Nucleocon 2019, 30 August 2019, New Delhi
4. Panel discussion on pain management in pancreatic cancer, PAINCON 2019, 30 June 2019, New Delhi
5. Organising secretary, Onco-emergency Summit, 2019, 9 November 2020, New Delhi
6. Poster presentation: Notch3 overexpression predicts survival in esophageal cancer, ESMO Asia 2019, 22-24 November 2019, Singapore
7. Speaker: Experience in establishing Cancer genetic Clinic at AIIMS, 5th Indian Cancer Genetics Conference and Workshop 2019, 15 December 2019, Mumbai
8. Panel discussion: Multidisciplinary management of HNSCC, Optimizing outcomes for SCCHN in 2020, 17 January 2020, New Delhi
9. Panel discussion: Multidisciplinary management of Rectal cancer, Advances in Colorectal Cancer, 1 February 2020, New Delhi
10. Speaker: Unresectable liver metastases: Conversion therapy, Advances in Colorectal Cancer, 2 February 2020, New Delhi.
11. Moderator for panel discussion: hereditary Cancers, 5th MOSCON, Patna, 23 February 2020, Patna
12. Panelist: SOP finalisation for molecular testing, 5th MOSCON, Patna, 23 February 2020, Patna
13. Speaker: expert opinion on Gi Cancers, 5th MOSCON, Patna, 22 February 2020, Patna

#### **Chandra Prakash Prasad**

1. WNT5A based therapy in Malignant Melanoma, 6th International Conference on 'Translational Approaches in Clinical, Environmental and Biotechnological Research, 'GenoPro-2019' Invertis University, 11 and 12 October 2019, Bareilly
2. Career Prospects for Biotech/Life Sciences Post Graduates
3. Sixth International Conference on 'Translational Approaches in Clinical, Environmental and Biotechnological Research, 'GenoPro-2019' Invertis University, 11 and 12 October 2019, Bareilly
4. Opportunities and Possibilities for Life Sciences Graduates, Microbiology Department, Ram Lal Anand College, Delhi University, 31 October 2019, New Delhi
5. Targeting of metabolically active Triple Negative Breast Cancer, Recent Trends in Biotechnology" at Maulana Azad National Institute of Technology, 20-24 January 2019, Bhopal

#### **Thoudam Debraj Singh**

1. Therapeutic effect of Interleukin-4 receptor targeting ELP polymer in glioblastoma bearing mouse tumor model, 4th International Conference on Nanomaterials (ICN 2019), 12-14 April 2019, Kottayam
2. Non-invasive imaging of therapeutic effect induced by IL-4 receptor targeting AP1-ELP-KLAK polymer in glioblastoma bearing mouse tumor model, World Molecular Imaging Congress (WMIC-2019), 4-7 September 2019, Montreal, Canada
3. Effects of molecular weight and structural conformation of multivalent-based elastin-like polypeptides in vivo, 6th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN), 18-21 December 2019, Guwahati
4. A novel orally active inverse agonist of estrogen-related receptor gamma (ERR $\gamma$ ), DN200434, enhances sodium iodide symporter function in anaplastic thyroid cancer model, World Congress on Cancer 2020 (WCC-2020), 3-5 March 2020, Jaipur

#### **Mayank Singh**

1. Validation of Ubiquitin Specific Peptidase 37 (USP37) as a critical factor in Oncogenesis of Osteosarcoma, World Cancer Congress 2020, MGMC Jaipur, 3-5 February 2020, Jaipur
2. Deciphering the landscape of Cellular signaling pathways by using Molecular imaging, National Symposium on

Bioimaging, University of Delhi, 19 February 2020, New Delhi

3. Targeting Cellular Deubiquitin machinery as a therapeutic option in Cancer, Emerging Trends in Translational Oncology, 14 February 2020, New Delhi

## **Medical Physics**

### **Pratik Kumar**

1. Radiation hazards: Some typical points, Advances in Imaging Technology: 4th AIIMS-MAMC-PGI Series, 5 and 6 April 2019, AIIMS, New Delhi
2. ICRP recommendation on radiation protection, Continuing Education Programme on Radiation Safety in the Use of radioactivity in Animals, 2-4 September 2019, Institute of Nuclear Medicine & Allied Sciences (INMAS), Delhi
3. Evolving concept of Dose Reference Level in radiologic imaging patients, 40 Annual Conference of Association of Medical Physicists of India, AMPICON 2019, 7-9 November 2019, Netaji Subhash Chandra Bose Cancer Hospital, Kolkata

## **Preventive Oncology**

1. Role of ASHA workers in mobilizing the community for cancer screening, Workshop on screening and early detection of breast cancer for ASHA workers, NICPR, 15 October 2019, Noida
2. Strategies to mobilize the community, Hands-on workshop for Public Sector Medical Officers on Screening for Common Cancers, NICPR, 5 November, Noida
3. Moderator of session on Tobacco Cessation case scenarios in dental practices, Workshops for members of Indian Dental Association on "Tobacco cessation" organized by CDER, AIIMS, Delhi

## **Radiodiagnosis**

### **Chandrashekhara SH**

1. Recent advances in imaging algorithms and image guided management of pulmonary embolism, Society of Emergency Radiology CME, 25 August 2019, Teleradiology solutions, Bangalore
2. Congenital heart disease: Approach, Annual National Conference of Indian Society of Pediatric Radiology, 7 September 2019, AIIMS, New Delhi
3. Advanced MRI and how MRI changes the patient management in cardiac mass, Cardiac MRI CME, 8 November 2019, AIIMS, New Delhi
4. Panel discussion on 'GI Emergencies in Cancer', Oncological Emergencies, 9 November 2019, AIIMS, New Delhi
5. Panel discussion on 'Hemoptysis, GI Bleed, Hematuria, Carotid blow-out, Tumor-bleeds', Oncological Emergencies, 9 November 2019, AIIMS, New Delhi
6. Acute aortic syndromes-Unusual manifestations, Society of Emergency Radiology Annual Conference, 30 November 2019, AIIMS, New Delhi
7. Judged the Resident poster and paper presentations, Delhi imaging Update, 7 February 2020, AIIMS, New Delhi

## **Mukesh Kumar**

1. Imaging of Noninfectious entities in Leukemia, Oncological Emergencies, 9 November 2019, AIIMS, New Delhi
2. Image guided visceral block- Spine intervention and pain Management. International Conference and Workshop, 20-22 December 2019, AIIMS, New Delhi
3. Chest imaging as relevant to physiotherapists, 8th International Conference of Physical therapy-AIIMS, 23 December 2019, AIIMS, New Delhi
4. Imaging in Lung cancer, Delhi imaging Update-2020, 7 February 2020, AIIMS, New Delhi

## **Ekta Dhamija**

1. Imaging in carcinoma cervix: clinical Implications of Radiology Report, Clear Medi Healthcare Annual Radiology CME 2019, 7 April 2019, India Habitat Centre, New Delhi
2. Approach to breast interventions, Mid-term CME of BISI 2019, 20 April 2019, Dibrugarh, Assam
3. Case based review of carcinoma lung and lymphoma, Onco-Imaging Master class, 21 September 2019, Medanta Medicity, Gurugram, Haryana
4. Panelist- Tomosynthesis and increasing burden of radial scars, Onco-Imaging Master class, 21 September 2019, Medanta Medicity, Gurugram, Haryana

5. DBT- A New Frontier in breast Imaging, 3rd Precision Oncology and Annual International Breast Cancer Conference, 11-13 October 2019, Jaipur
6. Role of Preoperative MRI in Breast Cancer- Present Status, 3rd Precision Oncology and Annual International Breast Cancer Conference, 11-13 October 2019, Jaipur
7. Moderator of Panel: Does a Radiology report answer the key questions needed to be known prior to embarking therapy in ovarian malignancies and tracking patients on surveillance, 17th Annual Conference of Women's Cancer Initiative, 18-20 October 2019, Tata Memorial Hospital, Mumbai
8. Imaging in Ca ovary and OORADS, 17th Annual Conference of Women's Cancer Initiative, 18-20 October 2019, Tata Memorial Hospital, Mumbai
9. Case based quiz on breast imaging, 7th Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad
10. Panelist: Personalization in febrile neutropenia, Onco-Emergency Summit 2019, 9 November 2019, AIIMS, New Delhi
11. Panelist: SVC Obstruction, Onco-Emergency Summit 2019, 9 November 2019, AIIMS, New Delhi
12. Two cases from my practice-My eureka moment! Annual Meeting of Society of Emergency Radiology, 30 November 2019, AIIMS, New Delhi
13. Imaging in endometrial carcinoma, Dr Rajendra Rao CME organized by IRIA/ICRI, 14 and 15 December 2019, PGI Chandigarh
14. Promise of Tomosynthesis: From Screening to Diagnosis Dr Rajendra Rao CME organized by IRIA/ICRI, 14 and 15 December 2019, PGI Chandigarh
15. Imaging approach to ovarian masses, Dr Rajendra Rao CME organized by IRIA/ICRI, 14 and 15 December 2019, PGI Chandigarh
16. Skeletal Imaging (Bones and Joints- Non traumatic), 8th International Conference of Physical therapy-AIIMS 2019, 23 December 2019, AIIMS, New Delhi
17. Imaging in musculoskeletal Sarcoma: Minimum and Interpretation, Masterclass in Sarcoma, 8 and 9 February 2020, JIPMER, Puducherry
18. Panelist: Management of musculoskeletal sarcoma, Masterclass in Sarcoma, 8 and 9 February 2020, JIPMER, Puducherry
19. Panelist: Management of Retroperitoenal Sarcomas, Masterclass in Sarcoma, 8 and 9 February 2020, JIPMER, Puducherry

### **Krithika Rangrajan**

1. Panelist – pediatric chest tumours, Oncoemergency Summit 2019, 9 November 2019, AIIMS, Delhi
2. Neuroimaging as relevant to physiotherapists, 8th International Conference of physical therapy- AIIMS, 23 December 2019, AIIMS Delhi

### **Radiation Oncology**

#### **GK Rath**

1. Cancer Control Program in India, Chhattisgarh Cancer Conclave 2019, 1 April 2019, Bilaspur
2. Population based screening of common cancers, Cancer Conclave, Bhopal, 2 July 2019, Bhopal
3. Cancer control in India, Breast cancer updates 2019, 7 July 2019, Bhubaneswar
4. An overview of cancer screening in India, NCD screening programme for Pourakarmikas, 30 July 2019, Bengaluru
5. Bridging the gap for Indian cancer patients by enabling advanced care and clinical research, Symposium on Translational Oncology, 21 August 2019, Vishakapatnam
6. Cancer care in India, 2nd MVRCONCON 2019, 30 August 2019, Kozhikode
7. Control of head and neck cancers: Indian perspective, AROI-ICRO PRODVANCE 2019 Teaching Course, 7 September 2019, Chandigarh
8. ICMR initiative on cancer research, NCG Academic Review Meeting, 26 September 2019, Mumbai
9. Development of consensus on management of OPMD, Cancer 2019, 3rd Annual Conference of CCRI, 8 November 2019, Cochin
10. Cancer Burden in India, Cancer 2019, 3rd Annual Conference of CCRI, 9 November 2019, Cochin
11. Dealing with cancer in India, 14th Annual Conference of the 'AROI-NE Chapter', 15 November 2019, Imphal

### **Subhash Chander**

1. Sixth Annual Conference of Indian Society of Critical Care Medicine (CRITICARE-2020), 28 February-1 March 2020, Hyderabad
2. Tirtififth Annual National Conference of India Society for Study of Pain (ISSPCON-2019), 7-9 February 2020, Ahmedabad
3. Fifty-third Annual Conference of Urological Society of India, 23-26 January 2020, Kochi
4. Colombo Conference on Medical Education-2019, 13-15 November 2019, Colombo, Sri Lanka
5. Combined Otolaryngology Spring Meetings, 1-5 May 2019, Austin, USA

### **DN Sharma**

1. Recent Advancement in Brachytherapy, Annual State Conference of the Association of Radiation Oncologists of MP & CG (AROICON MP CG 2020), 22 and 23 February 2020, Raipur
2. Ongoing Research in Gynecological Oncology, World Congress on Cancer, 3-5 February 2020, Jaipur
3. Future of Brachytherapy in the modern era of high precision external beam radiotherapy, 41st AROICON, 28 November-1 December 2019, Ahmedabad
4. Redefining the role of Brachytherapy in the era of precision cancer treatment & Transperineal brachytherapy in cervical cancer, 31st Annual Scientific Congress of Malaysian Oncological Society (ASCOMOS 2019), 31 October-3 November 2019, Malaysia
5. Technological advance in brachytherapy, 31st Annual Conference of the UPAROI, 6 October 2019, Lucknow
6. Case 1 cervix ICA brachytherapy case history, BMCON-IV & RAJAROICON 2019, 13-15 September 2019, Jaipur
7. Brachytherapy in head and neck cancer, AROI-ICRO Prodvance 2019, 7 and 8 September 2019, Chandigarh
8. Soft Tissue Sarcoma, 9th Annual Conference of Indian Brachytherapy Society (IBSCON 2019), 30 August-1 September 2019, Mangalore
9. PBI using brachytherapy: protocol and quality assurance for routine use. How can this be implemented in Indian patients? Which group can be selected? two Controversies to consensus meeting 2019, 16 and 17 August 2019, Kolkata
10. Pediatric CNS tumours: Proton therapy will make other high end photon based RT techniques obsolete (CNS/ Pediatric), Max Cancer Congress, Max Institute of Cancer Care, 17 August 2019, New Delhi
11. When is Brachytherapy and Teletherapy the right choice for primary treatment of oral cancer, Indian Academy of Otolaryngology & Head-Neck Surgery (IAOHNS 2019), 17 August 2019, Gurugram
12. Role, Techniques and Evidence of Tumour Bed Boost including Brachytherapy, 32nd AROI ICRO Sun PG Teaching Programme, 27 and 28 July 2019, Kolkata
13. Rational of fractionation in Radiotherapy in breast cancer, Breast Cancer Updates –2019, 27 July 2019, Bhubaneswar
14. When to refer a case of ca cervix to radiation Oncologist & Role of Radiotherapy in Cancer cervix, West Zone Gynaec Onco PG CME, 20 and 21 July 2019, Bhopal
15. Use of combination interstitial and intracavitary applicators in a high volume center, ABS Annual Meeting 2019, 13-15 June 2019, Florida, USA
16. Panel Discussion on Brachytherapy, Brachytherapy Workshop, 18 May 2019, Dharmshila
17. Brachytherapy in head & neck cancer, Teaching Program on “Overview of Head and Neck Oncology”, 13 and 14 April 2019, Pune

### **Suman Bhasker**

1. Panelist on Oropharyngeal Cancer, Annual Meeting of Oncology Forum, 7 December 2019, Delhi

### **Subhash Gupta**

1. Structuring a Collaborative National Image Banking Program at Tata Medical Center, Kolkata, 26 July 2019, Kolkata
2. Panelist- ‘Selecting Operable Breast Cancer Patients for Neoadjuvant treatment’ -Precision Oncology & Breast Cancer Update, October 2019, Jaipur
3. Panelist-Bridging the Gap of Talents in Healthcare, ARTTICON 2019, 13 December 2019, Delhi

### **Haresh KP**

1. Partial Breast irradiation-Indian Context, Breast Cancer Updates 2019-Odisha, 27 July 2019, Bhubaneswar, Odisha

2. Radiotherapy as Precision Therapy, Clinical and translational research for precision medicine workshop, MAHE, 5 December 2019, Manipal
3. Management of localised prostate cancer, Glenmark Prostate cancer tumor board, 30 August 2019, New Delhi
4. Post op radiotherapy in prostate cancer, Glenmark Prostate cancer tumor board, 30 August 2019, New Delhi
5. Systemic adjuvant chemotherapy, AIIMS Breast Course 2019, 5 April 2019, New Delhi
6. Panel Discussion – case capsules on breast cancer management, AIIMS Breast Course 2019, 5 April 2019, New Delhi

#### **Rambha Pandey**

1. Panelist, Symposium on Lung Cancer, AIIMS PULMOCRIT 2020, 7 and 8 March 2020, New Delhi
2. Moderator for the Panel Discussion on Laryngeal cancer, AIIMS Surgical Oncology Course In Head Neck Oncology, 13 and 14 September 2019, Rishikesh
3. Panelist for panel discussion on Urological complications carcinoma cervix, Annual Meeting of Oncology Forum 2019, 7 and 8 December 2019, New Delhi
4. Panelist for Panel-Pediatric CNS Tumors: Proton therapy will make other high end photon based RT techniques obsolete, Max debate in Oncology, 17 August 2019, New Delhi
5. Panelist for panel Discussion on Lung Cancer, Symposium on Thoracic Oncology, 21 and 22 September 2019, New Delhi

#### **Ahitagni Biswas**

1. Radiotherapy plan evaluation in head & neck cancer- problem based approach, AROI – ICRO PRODVANCE 2019 teaching course on Head and Neck Cancers, 7 September 2019, Chandigarh
2. Management of acute and delayed toxicities of radiotherapy in head & neck cancer, AROI – ICRO PRODVANCE 2019 teaching course on Head and Neck Cancers, 7 September 2019, Chandigarh
3. Evidence based management of Wilms tumor – Radiation Oncology Perspective, 33rd AROI-ICRO SUN Teaching Course on Paediatric Malignancies, 12 October 2019, Lucknow
4. Interesting case scenarios in pediatric neuro-oncology- panelist, SGRH-ISNO CME on pediatric brain tumors, 10 November 2019, Delhi
5. Approach in treatment of relapsed refractory Hodgkin's lymphoma- panelist, 5th APOLLO CANCER CONCLAVE & 8th biennial Conference CANCER CI – 2020, 14 February 2020, Hyderabad

#### **Supriya Mallick**

1. SVC obstruction, Onco-Emergency Summit 2019, 9 November 2019, New Delhi

#### **Gopishankar Natanasabapathi**

1. Planning in Gamma Knife – Physicist's Perspective, Master class on Stereotactic Radiosurgery (SRS/SBRT) of Brain and Spine Tumor, 30 and 31 August 2019, Gurgaon
2. Prevention and Handling of Radiation accidents incidents/accidents, Lectures on Radiation Safety as relevant to nursing practice, 13 February 2020, New Delhi

#### **Surgical Oncology**

##### **SVS Deo**

1. How to start a CRS &HIPEC center, ISPSM-ESSO-AGOI – Workshop and Conference, 18-20 April 2019, Mumbai
2. ABC of Breast cancer Management, Live Surgical Workshop – CME on Breast Cancer, 27 April 2019, B. Barooah Cancer Institute, Guwahati, Assam
3. Barriers to BCT & Breast Oncoplasty, Update on Breast Cancer, 27 July 2019, AIIMS, Bhubaneswar
4. Epidemiology of Young Breast Cancer, Breast Surgery Education & Training in India, International Society of Surgery – Biennial Conference, 11-15, August 2019, Krakow, Poland
5. Loco-regional recurrence in Breast Cancer, Excellence in oncology, 17-19 October 2019, Dubai
6. Skin sparing MRM and Implant recon & ICG- Breast -Video presentation, NATCON 2019, 20 and 21 September 2019, Kolkata
7. Changing Role of Surgery in Head & Neck Cancer, Update on Head & Neck Cancers, 13 September 2019, Rishikesh

8. Retroperitoneal Sarcomas, Surgery Update, 25 September 2019, Delhi
9. Risk Reducing mastectomy with Low cost mesh & ICG, ABSICON 2019, 30-31 August 2019, Jaipur
10. Planning Incisions for breast surgery, Breast Cancer Database development, Video- Mini LD flap, AIIMS-UK cadaver course –Breast Oncoplasty & Reconstruction, 28 and 29 August 2019, New Delhi
11. Planning incisions & Tips of Oncoplasty, Surgical Oncology Curriculum & Training, ASICON 2019, 18-20 December 2019, Bhubaneswar
12. Soft Tissue Sarcoma -AIIMS experience, Master class- Sarcoma, 8 February 2020, Puducherry
13. Locally Advanced Breast Cancer, IASO, MIDCON, 28 and 29 February 2020, Tirupati

#### **Sunil Kumar**

1. Complications of VATS lobectomy, ISTS / SELSI Conference 2019, 18 September 2019, India Habitat Center, New Delhi Multidisciplinary Tumour Board - Locally advanced NSCLC, 33rd Annual Update on Pulmonary and Critical Care Medicine, 13 October 2019, PGIMER, Chandigarh,
2. NACT and Surgical Approach to Locally Advanced Lung Cancer, 2nd Annual Conference of ISTS, 18 January 2020, NITRD, New Delhi

#### **MD Ray**

1. Retroperitoneal lymph node dissection in Gynaecological Malignancies, Panelist, Conference cum Workshop “3rd ESSO-ESPSO, ISPSM & AGOI International Course. Role of HIPEC in Colo Rectal Cancer, 19-21 April 2019 at Tata Memorial Hospital, Mumbai
2. Anterior Pelvic Exenteration, Update in Oncology -2019 Controversies in Gynae Oncology, 4 and 5 May 2019 at Sir Ganga Ram Hospital, New Delhi
3. River Flow’ Incision for decreasing morbidity of Ilio-Inguinal Block Dissection (IIBD), Velammal Healthcare Innovation Awards, 15 and 16 November 2019, Madurai, Tamil Nadu
4. CRS AND HIPEC- experience from AIIMS, Delhi., Annual Update in Peritoneal Surface Oncology, 20-22 February 2020, Mumbai
5. AIIMS experience in CRS and HIPEC, Mid Term Annual Conference of Indian Association of Surgical Oncology, 29 February-1 March, Tirupati, Andhra Pradesh

#### **Sandeep Kumar Bhoariwal**

1. Hemoptysis, GI Bleed, Haematuria, Carotid blow out, Tumor Bleeds, CME Oncological Emergencies, 9 November 2019, New Delhi
2. Current evidence for MIS in colorectal Cancer, Colorectal Cancer: Update on Minimally Invasive Surgery & Video Workshop, 23 November 2019, New Delhi
3. Open versus Minimally invasive Whipples Operation, Robo-Onco-Con, 3 February 2019, New Delhi
4. Management of Challenging cases in Colo-Rectal Cancer, Colorectal Cancer: Update on Minimally Invasive Surgery & Video Workshop, 23 November 2019, New Delhi

#### **Jyoti Sharma**

1. Surgical Trials, Delhi Oncology Forum, CME, 19 April 2019, Delhi
2. Oncologic emergencies, CME Oncological Emergencies, 9 November 2019, Delhi
3. GI emergencies in cancer, CME Oncological Emergencies, 9 November 2019, Delhi
4. Controversies & Consensus in CRC, Colorectal Cancer: Update on Minimally Invasive Surgery & Video Workshop, 23 November 2019, Delhi

#### **Ashutosh Mishra**

1. Panelist – Challenging Cases in Colorectal cancers, Colorectal Cancer: Update on Minimally Invasive Surgery & Video Workshop, 23 November 2019, AIIMS, New Delhi

#### **Chitresh Kumar**

1. Molecular diagnostic testing in thyroid nodule FNA: Use and interpretation, 20th Annual Conference of Indian association of Endocrine Surgeons, 27 and 28 September 2019, Indore
2. Follow up Protocols after Breast Reconstruction, 2nd AIIMS-UK Cadaver course on Breast Oncoplasty and Reconstruction, 29 August 2019, AIIMS, New Delhi

## Oral papers/posters presented

### Onco-Anesthesia and Palliative Medicine

1. Bhatnagar SA, Mishra S. Clinical and socio-demographic correlates of dyspnea in advanced cancer patients presenting in palliative care unit at a tertiary cancer centre in India, IAPCON 2020, 13-16 February 2020, Guwahati, Assam
2. Anand B, Bhatnagar S, Mishra S, Gupta N, Bharti SJ, Garg R, Kumar V. Assessment of symptom burden in patients of malignant bowel obstruction. IAPCON 2020, 13-16 February 2020, Guwahati, Assam
3. Bhatnagar SM, Mishra S, Garg R, Bharti SJ, Kumar V. Comparison of intervention with analgesics versus analgesics alone in patients with Head and Neck malignancy in terms of pain relief and quality of life at 3 months follow up: A Prospective randomized study, IAPCON 2020, 13-16 February 2020, Guwahati, Assam
4. Maurya BP, Bhatnagar S, Mishra S, Gupta N, Kumar V, Garg R, Bharati SJ. End of Life care practices at a Tertiary Cancer Centre in India: An Observational study, IAPCON 2020, 13-16 February 2020, Guwahati, Assam
5. Mishra S, Nandi R, Singh VP, Sharma A, Kumar L, Bhatnagar S. Use of opioids and its impact on quality of life in chemotherapy induced oral mucositis: A prospective observational study”, MASCC/ISOO 2019 Annual Meeting on Supportive Care in Cancer, San Francisco, USA, 21-23 June 2019, San Francisco, USA
6. Mishra S, Singh VP, Bhatnagar S, Sharma A, Gupta N, Bharti S, Garg R, Kumar V. Symptom burden and quality of life assessment in patients of gastrointestinal malignancies at a tertiary care center, India, PCOC Outcomes & Benchmarking Conference 2019, International Convention Centre, Sydney, 20 and 21 November 2019, International Convention Centre, Sydney, Sydney, Australia
7. Neethu Susan Abraham, Sushma Bhatnagar, Seema Mishra. Nutritional status in gastro-intestinal cancer patients admitted to palliative care ward using Subjective Global Assessment Form & Assessment of their serum albumin levels in the last one month, IAPCON 2020, 13-16 February 2020, Guwahati, Assam
8. Sanjeev, Mishra S, Bhatnagar S. Effect of palliative interventions on psychological well-being of cancer patients, IAPCON 2020, 13-16 February 2020, Guwahati, Assam
9. Singh N, Mishra S, Kumar L, Bhatnagar S, Gupta N, Bharti S, Garg R, Kumar V. Prevalence of Polypharmacy and Potentially Inappropriate Medications (PIMs) in Geriatric Oncological Patients, IAPCON 2020, 13-16 February 2020, Guwahati, Assam

### Delhi Cancer Registry

1. Malhotra RK, Manoharan N, Nair O, Deo SVS, Rath GK. Trends and future burden of tobacco-related cancers incidence in Delhi urban areas, 1990-2012, 37th Annual Conference (ISMCON2019) of the Indian Society of Medical Sciences, 5-7 December 2019, Patna
2. Manoharan N, Deo SVS, Rath GK. PBCR Sources with HBCR-AIIMS, New Delhi, Workshop on Cancer Registration, 1 June 2019, New Delhi
3. Manoharan N, Deo SVS. Population Based Cancer Survival on Cancers of Breast, Cervix and Head and Neck Cancers in Delhi (2012-14), PBCR Survival on Cancers of Breast, Cervix and H&N- Survival data review meeting, 13 February 2020, Bangalore
4. Manoharan N, Malhotra RK, Nair O, Deo SVS, Rath GK. Incidence and Trends of Oral Cancers in Delhi, 37th Annual Conference (ISMCON2019) of the Indian Society of Medical Sciences, 5-7 December 2019, Patna

### Laboratory Oncology

1. Amar R, Tanwar P. Pattern of presentations in plasma cell leukemia in India, Asia Pacific bone marrow transplantation, 29 August-September 2019, Busan, Korea.
2. Atanesyan L, Gupta R, Kaur G, Khan S, Kumar L, Rani L, Sharma OD, Sharma A. Maryvonne Steenkamer, Jeroen van der Steen, Suvi Savola, Deepshi Thakral. Presented paper on “Determination of CNVs by NGS based digital MLPA in multiple myeloma and their effect on clinical outcome”, 17th International Myeloma Workshop, 12-15 September 2019, Boston, USA
3. Bakhshi S, Chopra A, Kapoor S, Kumar L, Palanichamy JK, Pramanik R, Sharma A, Singh J, Sahoo RK, Scaria V, Sivasubbu S, Kumar R, Verma D. Comprehensive analysis of lncRNAs in T-ALL, Japanese Society of Hematology Annual Meeting, 10-13 October 2019, Tokyo, Japan.
4. Bakhshi S, Chopra A, Kapoor S, Kumar L, Palanichamy JK, Pramanik R, Sharma A, Sahoo RK, Scaria V, Singh J, Sivasubbu S, Kumar R, Verma D. Comprehensive Analysis of Immunophenotype and Transcriptome in Indian T-Acute Lymphoblastic Leukemia - A Prospective Study, Annual Meeting of American Society of Hematology,

7-10 December 2019, Orlando, USA

5. Bakhshi S, Chopra A, Kumar R, Kumar J, Singh J, Seth R, Sharma A, Verma D. MEF2Cdysregulation is associated with immature T cell immunophenotype, absence of biallelic deletion of TCR-gamma and inferior survival (poster presentation), Annual Meeting of American Association of Cancer Research, 29 March-3 April 2019, Atlanta, USA
6. Bakhshi S, Das N, Gupta R, Gogia A, Gupta SK, Kumar L, Malhotra A, Rai S, Singh S, Sahoo RK. Role of CD123 as Determinant of Minimal Residual Disease in Acute Myeloid Leukemia (Poster), SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11-14 September 2019, Hilton, Houston.
7. Bakhshi S, Das N, Gupta R, Gupta SK, Gogia A, Kumar L, Malhotra A, Rai S, Sahoo RK, Singh S. Presented poster on “Role of CD123 as Determinant of Minimal Residual Disease in Acute Myeloid Leukemia”, SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11 –14 September 2019, Houston, Texas, USA
8. Bakhshi S, Das N, Gupta R, Gupta SK, Gogia A, Kumar L, Malhotra A, Rai S, Sahoo KR, Singh S. Presented poster on “CD123 is an Important Predictor of Post Induction Response and Early Treatment Outcome in Acute Lymphoblastic Leukemia”, SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11–14 September 2019, Houston, Texas, USA
9. Bakhshi S, Das N, Gupta R, Gupta SK, Gogia A, Kumar L, Malhotra A, Rai S, Sahoo RK, Singh S. CD123 is an Important Predictor of Post Induction Response and Early Treatment Outcome in Acute Lymphoblastic Leukemia(Poster),SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11-14 September 2019, Hilton, Houston
10. Bakhshi S, Gupta D, Amar R, Tanwar P. Comparative evaluation of WT1 gene expression at diagnosis and end of induction of acute myeloid leukemia as a biomarker for therapy response, Asia Pacific bone marrow transplantation, 29 August–1 September 2019, Busan, Korea.
11. Bakhshi S, Gupta R, Gupta SK, Kamal VK, Kumar L, Sahoo RK, Sharma A. Effect of concomitant deletions of CDKN2A/B, PAX5 and pseudoautosomal region genes along with IKZF1 deletions (IKZF1-plus) on outcome in BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia. (Poster), SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11-14 September 2019, Hilton, Houston.
12. Bakhshi S, Gupta SK, Gupta R, Kamal VK, Kumar L, Sahoo RK, Sharma A. Clinical outcome of cases with isolated MLPA finding of amplification of chromosome 21 genes(AMP21-MLPA) is similar to other cases of BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia.(Poster), SOHO-2019, 7th Annual Meeting of Society of Hematologic Oncology, 11-14 September 2019, Hilton, Houston.
13. Bakshi S, Das N, Gupta R, Gupta SK, Kumar L, Malhotra A, Prajapati VK, Rai S, Singh S, Sahoo RK. To explore the utility of diagnostic immunophenotypes for detection of MRD in B-ALL. (Poster), Haematocon 2019, 60th Annual Conference of ISHBT, 7-10 November 2019, New Delhi.
14. Bakshi S, Das N, Gupta R, Gupta SK, Malhotra A, Kumar L, Prajapati VK, Rai S, Singh S, Sahoo RK. Presented poster on “To explore the utility of diagnostic immunophenotypes for detection of MRD in B-ALL”, Haematocon 2019, 60 Annual Conference of ISHBT, 7–10 November 2019, New Delhi
15. B-Slagter A, Bakhshi S, Thakral D, Gupta R, Kaur G, Kumar I, Kumar L, Anand R, Savola S., Sharma A, Seth R. Rapid Identification of Key CNVs in Acute Lymphoblastic Leukaemia by NGS based Multiplex Ligation-Dependent Probe Amplification, 1st Annual AIIMS Research Day-poster presentation, 26 March 2019, AIIMS, New Delhi.
16. Das N, Gupta R, Gupta S, Kaur G, Kumar L, Rai S, Saroj, Sharma A, Sahoo R, Thakral D. Leukemic Stem Cells in Acute Myeloid Leukemia – Important Predictor of Minimal Residual Disease and Early Treatment Outcome. 1st Annual AIIMS Research Day-Oral presentation, 26 March 2019, AIIMS, New Delhi.
17. Datta R, Amar R, Tanwar P. Plasmablastic lymphoma and plasmablastic myeloma, is the two an outcome of single disease process? Asia Pacific bone marrow transplantation, 29 August–1 September 2019, Busan, Korea
18. Dubey H, Amar R, Tanwar.P Megakaryocytes in peripheral blood smears in a case of chronic myeloid leukemia, Asia Pacific bone marrow transplantation, 29 August-1 September 2019, Busan, Korea.
19. Farswan A, Kaur G, Gupta R, Gupta A, Sriram K. Inferring biological pathways in multiple myeloma after missing value imputation, 17th International Myeloma Workshop, 12-15 September 2019, Boston.
20. Gupta R, Gogia A, Kaur G, Kumar L, Khan S, Rani L, Sahoo RK, Sharma OD, Sharma A. Presented a paper on “Estimation of CNVs in Multiple Myeloma by NGS based digital MLPA”, Indian Myeloma Congress 2019, 11 and 12 May 2019, Mumbai
21. Gupta R, Gupta A, Hazra S, Kumar L, Kaur G, Kaur G, Sharma A, Sharma OD. Presented paper on “Modified risk stratification (MRS) for Multiple Myeloma - A simplified model using machine learning”, 17th International Myeloma Workshop, 12-15 September 2019, Boston, USA
22. Gupta R, Gupta SK, Gogia A, Jain G, Kumar L, Sharma A, Sahoo RK, Sharma OD. Presented poster on “Comparison of primary and secondary plasma cell leukemia: study of 18 cases”, 1st ISHBT-ERIC Workshop &

4th ISHBT-EHA Tutorial 2020, 27-29 February 2020, Chandigarh

23. Gupta R, Gupta SK, Gogia A, Jain G, Kumar L, Sharma A, Sahoo RK, Sharma OD. Comparison of primary and secondary plasma cell leukemia: study of 18 cases (Poster), 1st ISHBT-ERIC Workshop & 4th ISHBT-EHA Tutorial 2020, 27-29 February 2020, New Delhi
24. Gupta R, Jain G, Kumar L, Kumar I, Ray D, Sharma A, Sahoo R, Thakral D. Next Generation Sequencing based identification of somatic genetic alterations in acute myeloid leukemia guides treatment initiation and disease monitoring, National Conference on Emerging Trends in Translational Oncology, 14 and 15 February 2020, AIIMS, New Delhi and NCI, Jhajjar.
25. Gupta R, Kaur G, Khan S, Kumar L, Rani L, Sharma A, Thakral D. Presented poster on “Sub-stratification of CNV signatures in BRAFV600E positive newly diagnosed Multiple Myeloma using NGS based digital MLPA”, 35th Ernst Klenk Symposium, 17–19 September 2019, Cologne, Germany
26. Gupta R, Kumar C, Kumar L, Sahoo RK, Sharma OD, Sharma A. Presented poster on “Patterns of SFLCR in plasma cell dyscrasia at a tertiary referral centre in India”, Indian Myeloma Congress 2019, 11 and 12 May 2019, Mumbai
27. Gupta R. Clinical and immunological connotation of BRAF mutations in Multiple Myeloma, IUIS-IIS-FIMSA Course “Basic and Advanced Translational Immunology”, 12–16 October 2019, RUHS, Jaipur
28. Julieana D, Amar R, Tanwar P. Plasma cell leukemia, a case series, Bengal society of Hematology Conference (BeSHCON) 15 and 16 February 2020, Kolkata
29. Kamboj D, Mitra D, Sonal S, Thakral D. Impact of IL-9 on T cells and Macrophage function- Relevance in Tuberculosis, 1st Annual AIIMS Research Day-poster presentation, 26 March 2019, AIIMS, New Delhi
30. Sameer Bakhshi, Ritu Gupta, Sanjeev Kumar Gupta, Vineet Kumar Kamal, IKZF1plus cases in BCR-ABL1 negative pediatric B-ALL have poor outcome compared to other cases (Poster), 1st ISHBT-ERIC Workshop & 4th ISHBT-EHA Tutorial 2020, 27-29 February, 2020, New Delhi

## Medical Oncology

1. Chellapuram SK, Kumar L, Pramanik R, Sharma A, Sharma A, Sahoo R, Malik PS, Sunu Lazar Cyriac, POEMS SYNDROME: A single centre study of 68 patients and comparison of consolidation Autologous stem cell transplant (ASCT) versus non-ASCT cohorts., 17th International Myeloma Workshop, 12-15 September 2019, Boston, MA, USA
2. Chopra A, Singh J, Verma D, Kumar R, Bakhshi S, Kumar J, Seth R, Sharma A. *MEF2C* dysregulation is associated with immature T cell immunophenotype, absence of biallelic deletion of TCR-gamma and inferior survival, American Association for Cancer Research Annual Meeting 2019, 29 March-3 April 2019, Atlanta, Philadelphia, USA
3. Chopra A, Verma D, Kapoor S, Singh J, Palanichamy JK, Pramanik R, Sharma A, Bakhshi S, Sahoo RK, Scaria V, Kumar L, Sivasubbu S and Kumar R. Comprehensive Analysis of Immunophenotype and Transcriptome in Indian T-Acute Lymphoblastic Leukemia - a Prospective Study, American society of haematology annual meeting 2019, 7-10 December 2019, Orlando, USA
4. Das N, Gupta R., Malhotra A., Gupta SK, Singh S, Rai S, Prajapati VK, Sahoo RK, Bakhshi S, Kumar L. To explore the utility of diagnostic immunophenotypes for detection of MRD in B-ALL, Hematocon-2019, 7-10 November 2019, New Delhi
5. Ghose S, Biswas S. Antagonizing of Survival Signals to Regulate Liver Diseases and Hepatocellular Carcinoma, International conference on Oncology and Virology, 13 and 14 December 2019, Bangkok, Thailand
6. Ghufuran SM, Sharma S, Ghose S, Biswas S. Alteration of Survival Signals to Regulate Liver Diseases and Hepatocellular Carcinoma, 39th IACR (Indian Association for Cancer Research), 5-7 February 2020, Thiruvananthapuram
7. Ghufuran SM, Sharma S, Ghose S, Biswas S. Translational Approach to inhibit nonresolving inflammation and angiogenesis alerting survival signals to prevent hepatocarcinogenesis, 8th International Translational Cancer Research Conference, 13-16 February 2020, Varanasi
8. Gogia A, Kumar L, Sharma A, Gupta R, Rani L. Safety and efficacy of bendamustine and rituximab (BR) regimen in Indian chronic lymphocytic leukemia patients, ESMO 2019, 27 September-1 October 2019, Barcelona, Spain
9. Gupta A, Prasad CP, Pramanik R, Gogia A, Kumar L, Singh M. Utilization of liquid biopsy (circulating tumor DNA) based assay to predict disease load in different cancers., Emerging Trends in Translational Oncology, 14 and 15 February, 2020, New Delhi and Jhajjar
10. Kumar L, Chellapuram SK, Sahoo RK, VRd versus VCD as induction therapy for newly diagnosed multiple

myeloma: A Phase III, randomized study, 17th International Myeloma Workshop, 12-15 September 2019, Boston, MA, USA

11. Malik PS, Yadav A, Jain D, Mohan A, Khurana S, Kumar S. An open label randomized control trial comparing efficacy and safety of Pemetrexed-Carboplatin versus Paclitaxel (Weekly)-Carboplatin as first-line chemotherapy in advanced non-squamous non-small cell lung cancer, 2019 World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
12. Mendiratta M, Kumar L, Gupta R, Rai S, Prasad CP, Sahoo RK. Reconstitution post autologous hematopoietic stem cell transplantation, Emerging Trends in Translational Oncology, 14 and 15 February, 2020, New Delhi and Jhajjar
13. Mittal A, Malik PS, Pathy S, Kumar S and Jain D. Dose dense Paclitaxel and Carboplatin as neoadjuvant therapy for resectable/borderline resectable NSCLC- a phase II trial, 2019 World Conference on Lung Cancer, 7-10 September 2019, Barcelona, Spain
14. Prasad CP, Gogia A, Deo SVS and Mathur S, Role of PFKF in Breast Cancer, 2nd FEBS Advanced Lecture Course on Oncometabolism, 1-6 September 2019, Luso, Portugal
15. Rastogi S, Anand V, Gupta N et al Knowledge of patients with sarcoma for their illness in Indian setting (Knowsarc study), Connective tissue oncology society (CTOS 2019 14 November 2019, Tokyo, Japan
16. Sharma A, Thakar A, Bhaskar S, Sikka K, Pramanik R, Biswas A, Singh A, Deo S, Thulkar S. How to prepare an annual report, Annual Conference of ESMO Congress 2019, 27 September to 1 October 2019, Barcelona, Spain
17. Umar SM, Patra S, Prasad CP. HuR (Human antigen-R) as therapeutic target in Triple Negative Breast Cancers (TNBCs), 6th International Conference on 'Translational Approaches in Clinical, Environmental and Biotechnological Research, 'GenoPro-2019', 11 and 12 October, 2019, Bareilly
18. Umar SM, Patra S, Prasad CP. HuR-CD44 signaling axis as therapeutic target in Triple Negative Breast Cancers (Tnbc), Emerging Trends In Translational Oncology, 14-15 February, 2020, New Delhi and Jhajjar

### Medical Physics

1. Agarwal SM, Kumar P. Optically Stimulated Luminescence in LiMgF<sub>3</sub> and its response as medical dosimeter., 40th Annual Conference of Association of Medical Physicists of India, AMPICON2019, 7-9 November 2019, Netaji Subhash Chandra Bose Cancer Hospital, Kolkata
2. Jain A, Sahil, Kumar P, Aggarwal S. Particle size effect on TL/OSL response of NaMgF<sub>3</sub>: Tb phosphor.' International Conference on Advanced Materials and Nanotechnology (AMN-2020), 20-22 February 2020, Jaypee Institute of Information Technology, Noida, UP
3. Mittal A, Gopishankar N, Shalini, Verma AK and Kumar P. Development of diacetylene based radiochromic films for radiation dosimetry in medical applications, International Conference on Advanced Materials Research (ICAMR), 17-20 January 2020, Okinawa, Japan
4. Mohana M, Sreejesh MS, Verma K, Kumar D and Kumar P. Routine Quality Assurance of Lead Apron: AIIMS Experience, 40th Annual Conference of Association of Medical Physicists of India, AMPICON2019, 7-9 November 2019, Netaji Subhash Chandra Bose Cancer Hospital, Kolkata
5. Sharma S, Subramani V, Chander S, Bhaskar S, Pathy S, Kumar P, Gopishankar N, Thulkar S, Singh M, Binjola A. Evaluation of DVH based Patient-Specific Quality Assurance using COMPASS, 61st Annual Meeting of American Association of Physicists in Medicine (AAPM), 14-8 July 2019., San Antonio, Texas, USA

### Radiodiagnosis

1. Baby A, Dhamija E, Thulkar S, Infiltrative Nature of Metastatic Lymph Nodes In Carcinoma Cervix An Unusual And Morbid Entity, 75th Korean Congress Of Radiology 2019, 18-21 September 2019, COEX Korea Exhibition Center, Seoul, Korea Seoul
2. Baby A, Dhamija E, Thulkar S. Distant Metastasis From Carcinoma Cervix: Experience From A Tertiary Care Centre, 75th Korean Congress of Radiology 2019, 18-21 September, 2019, COEX Korea Exhibition Center, Seoul, Korea Seoul
3. Baby A, Dhamija E, Thulkar S. Skeletal Metastasis In Carcinoma Cervix- Not A Common Occurrence -Retrospective Analysis Of 2 Years, 75th Korean Congress Of Radiology 2019, 18-21 September, 2019, COEX Korea Exhibition Center, Seoul, Korea Seoul
4. Bansal A, Vyas S, Dhamija E, Hari S. Can MRI predict post neoadjuvant chemotherapy pathological complete response in patients with breast cancer? 7th Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad
5. Gupta D, Chaudhary R, Dhamija E, Sharma S and Hari S. Uniqueness of mammography in contrast to routine

- radiography, 7th Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad
6. Gupta D, Dogra D, Dhamija E, Thulkar S. Breast Radiographer- Mammographer: Need Of The Hour?, 7th Annual Conference of Breast Imaging Society of India, 15-17 November 2019, Hyderabad
  7. Radhika R, Yadav MK, Bharti SG, Rangarajan K. Ultrasound guided nerve blocks in oncology, Tumour Ablation Workshop, 9 November 2019, PGIMER Chandigarh, Chandigarh

## Radiation Oncology

1. Bhasker S, Kumar R, Manasa P, Binjola A. Radiation exposure to heart in right sided whole breast radiation-Dosimetric aspects with 3DCRT with tangential fields. The Canadian Cancer Research Conference, 3-5 November 2019, Ottawa, Canada
2. Bisht RK, Gopishankar N, Vellaiyan S, Singh M, Kale SS. Two staged stereotactic radiosurgery to high number of brain metastasis with Gamma Knife Perfexion, 24th International Conference on Medical Physics – 8th Latin American Congress of Medical Physics – 2nd Chilean Congress of Medical Physics, 8-11 September 2019, Santiago, Chile
3. Biswas A, Kashyap L, Roy S, Sahoo R, Pramanik R, Sikka K, Bhasker S, Sharma A, Thakar A, Bakhshi S. Multi-modality management of nasopharyngeal carcinoma in paediatric and adolescent patients: experience from a regional cancer centre in north India, 51st Congress of the International Society of Paediatric Oncology SIOP, 23-26 October 2019, Lyon, France
4. Chander S, Kanodia R, Suman B, Ritesh Kumar R, Biswas A, Verma H. Palliative quad shot radiotherapy in advanced head and neck cancer (hnc) – impact on symptomatic relief and quality of life 2019 Annual Conference of American Head and Neck Society (AHNS) 1-5 May 2019, Austin, USA
5. Devnani B, Gupta S, Haresh KP, Biswas A, Pareek V, Batra M, Singh M, Tandon V, Julka PK, Rath GK. Impact of Adjuvant Therapy on Survival in Treatment of Central Nervous System Hemangiopericytoma, 2019 American Society for Radiation Oncology (ASTRO) Annual Meeting, 15-18 September 2019, Chicago, USA
6. Gopishankar N, Agarwal A, Bisht RK, Kale SS, Chander S. To investigate and validate optimal planning strategy, rapid dose delivery methodology in Gamma Knife Radiosurgery (GKSRS) for acoustic neuroma tumors, 24th International Conference on Medical Physics – 8th Latin American Congress of Medical Physics – 2nd Chilean Congress of Medical Physics, 8-11 September 2019, Santiago, Chile
7. Gupta S, Haresh KP, Devanani B, Bhasker S, Suhani S, Asuri K, Omprakash O, Bansal V, Seenu V, Parshad R, Srivastava A, Julka PK, Rath GK. Efficacy and safety of trastuzumab in Her2 +ve breast cancer patients in real world settings, an Indian experience. San Antonio Breast cancer Symposium, 11-14 December 2019, San Antonio, USA
8. Gupta S, Haresh KP, Devanani B. A pilot study to evaluate the feasibility and efficacy of high dose weekly radiotherapy for treating large or fungating inguinal nodes in advanced penile cancers., 46th Annual Scientific Meeting of COSA, 12-14 November 2019, Adelaide, Australia
9. Haresh KP, Arun T, Gupta S, Suhani S, Prashad R, Krishnanunni VA. Ramduluri AV, Gupta P, Kumar D, Kumar S, Begum N, Devnani B, Rath GK. An Institutional Phase I/II Study to evaluate safety and efficacy of high dose weekly hypofractionated palliative breast radiotherapy in advanced unresectable or metastatic breast cancer. 2019 American Society for Radiation Oncology (ASTRO) Annual Meeting, 17 September 2019, Chicago, USA
10. Kumar L, Chellapuram SK, Mookerjee A, Sahoo R, Malik PS, Gupta R, Sharma OD, Biswas A. Characteristics and Outcome of Relapsed Myeloma after Single Autologous Stem Cell Transplant: 20-year Experience. 17th International Myeloma Workshop (IMW) 12-15 September 2019, Boston, USA
11. Kumar R, Navaudhyam R, Binjola A, Bhasker S. Clinical Cosmetic and HR-QOL evaluation of Conformal Breast Boost Radiotherapy in Early Breast Cancer: A phase II randomized study between Electrons and Photons, 2019 American Society for Radiation Oncology (ASTRO) Annual Meeting, 15-18 September 2019, Chicago, USA
12. Mallick S, Haresh KP, Gupta S, Sharma DN, Sharma S, Upadhyay A, Benson R, Rath GK. Hypofractionated accelerated radiotherapy (HART) with concurrent and adjuvant temozolomide in newly diagnosed Glioblastoma-A phase 2 randomized trial (HART-GBM trial), AROICON 2019, 28 November 2019-1 December 2019, Ahmadabad
13. Mallick S. Demography, patterns of care and survival outcomes in patients with malignant tumour of trachea: A systematic review and individual patient data analysis of 733 patients. AROICON 2019, 28 November-1 December 2019, Ahmadabad
14. Mittal A, Gopishankar N, Shalini, Verma AK, Kumar P. Development of diacetylene based radiochromic films for radiation dosimetry in medical applications, International Conference on Advanced Materials Research (ICAMR), Okinawa, Japan, 17-20 January 2020, Okinawa, Japan
15. Naresh G, Kumar L, Sharma A, Chellapuram S, Malik PS, Sahoo RK, Pramanik R, Biswas A. An Experience

of Primary Amyloidosis from an Indian Tertiary Cancer Centre: A Retrospective Study. Society of Hematologic Oncology (SOHO) 2019 Annual Meeting, 11-14 September 2019, Houston, USA

16. Roy S, Biswas A, Binjola A, Kumar R, Tripathi M, Bal C. Dosimetric comparison between 3-dimensional conformal radiotherapy, partial arc volumetric modulated arc therapy and full arc volumetric modulated arc therapy for involved site radiotherapy in early nodal diffuse large B-cell lymphoma, 41st Annual Conference of Association of Radiation Oncologists of India (AROICON), 28 November-1 December 2019, Ahmedabad
17. Sharma A, Chaudhary MK, Thakar A, Bhaskar S, Sikka K, Pramanik R, Biswas A, Singh CA, Sahoo RK, Deo S, Kumar R, Thulkar S, Kakkar A, Seth S, Sreenivas V. Concurrent chemotherapy and external radiation therapy: An open label non-inferiority phase III randomized controlled trial of weekly versus three weekly cisplatin and radical radiotherapy in locally advanced head and neck squamous cell carcinoma: CONCERT trial, European Society of Medical Oncology (ESMO) Congress 2019, 27 September-1 October 2019, Barcelona, Spain
18. Sharma S, Subramani V, Chander S, Bhaskar S, Pathy S, Kumar P, Gopishankar N, Thulkar S, Singh M, Binjola A. Evaluation of DVH Based Patient-Specific Quality-Assurance Using COMPASS 61st Annual Meeting of American Association of Physicist's in Medicine (AAPM 2019) 14-18 July 2019, San Antonio, USA

## **Surgical Oncology**

1. B Arendam, Deo SVS. 4th prize, ISPSM-ESSO-AGOI, 18-20 April 2019, TMH, Mumbai
2. Bansal B, Deo SVS, Mishra A. A Prospective Interventional Study Evaluating Awareness and Knowledge of Indian Patients about Genetic Aspects of Breast Cancer and the Effect of Educational Intervention, ICGCW 2019, 15 December 2019, TMH, Mumbai
3. Bansal B, Deo SVS, Ray MD. Cytoreductive surgery & HIPEC for peritoneal surface malignancy: clinical spectrum, morbidity, and mortality in 102 cases. SSO 2019, 27-30 March 2019, San Diego, USA
4. Bansal B, Deo SVS. Genetic counselling and risk reducing surgery – AIIMS surgical oncology experience – An interesting case of twins with breast cancer, ICGCW 2019, 15 December 2019, TMH, Mumbai
5. Navin K, Deo SVS, Ashutosh. Awareness and Knowledge regarding Genetic aspects of Breast Cancer in LMIC – A prospective Questionnaire based study. World Congress of Surgery, 11-15 August 2019, Krakow, Poland
6. Navin K, Deo SVS, Jyoti. Management of chest wall chondrosarcoma, ISTSCON, 10 January 2020, Delhi
7. Navin K, Deo SVS, Sandeep B, Perioperative complications after Cytoreductive Surgery (CRS) and Hyperthermic Intraperitoneal Chemotherapy (HIPEC), Annual oncology forum meeting, 7 and 8 December 2019, Delhi
8. Navin K, Deo SVS, Sunil K. An Analysis of palliative Surgical procedures in patients with Gastro-Intestinal tract Cancers performed at a tertiary care center, NATCON 2019, 20-22 September 2019, Kolkata
9. Navin K, Deo SVS. Awareness and Knowledge regarding Genetic aspects of Breast Cancer, ABSICON 2019, 30 August-1 September 2019, Jaipur
10. Navin K, Deo SVS. Reconstruction of complex chest wall defect. Apollo cancer conclave, 14-16 February 2020, Hyderabad
11. Raghu, Deo SVS, 3rd prize, ISO, November 2019, Indore
12. Raghuram K, Deo SVS, Bhorival S. Routine cavity shave during breast conservation surgery is a good alternative to frozen sections, NATCON- IASO, 20-22 September 2019, Kolkata
13. Raghuram K, Kumar S, Bhorival S, Deo SVS. A data of clinical spectrum and management of gall bladder cancer from north Indian tertiary care center, ISO-ISPMO, 1-3 November 2019, Indore
14. Raghuram K, Kumar S, Bhorival S, Deo SVS. Validation of the role of PET-CT and Diagnostic laparoscopy in the staging of Gall bladder cancer patients- A single arm prospective study, SSO, 26-29 March 2019, Boston, USA
15. Ray MD. Role of HIPEC and its Association with Regulatory T-cell in Ovarian Cancer: Preliminary Experience from Tertiary Care Centre in India. AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics Conference 2019, 26-30 October 2019, Boston Massachusetts, USA
16. Ray MD. Role of HIPEC and its association with Regulatory T cells in Ovarian Cancer: Preliminary experience from tertiary care centre in India, Carcinogenesis 2019, 27-29 September 2019 at Ahmedabad, Gujarat
17. Saikia J, Deo SVS, Gogia A, Sharma DN, Thulkar S. How to improve breast conservation surgery (BCS) rates in low- and middle-income countries (LMIC), World Conference of Surgery, 11-15 August 2019, Krakow, Poland
18. Saikia J, Deo SVS, Ray MD, Sandeep B, Bhatnagar S, Garg R, Gupta N. Learning Curve: Analysis of Critical surgical outcome and quality indicators following CRS and HIPEC, ISPSM 2019, 19-21 April 2019, TMH, Mumbai, India
19. Saikia J, Deo SVS, Ray MD, Sandeep B, Bhatnagar S, Garg R. Economic analysis: CRS & HIPEC Programme in a Tertiary Care Government Sector Hospital, ISPSM 2019, 19-21 April 2019, TMH, Mumbai, India

20. Saikia J, Deo SVS. Synthetic Mesh as a low-cost alternative to ADM for implant based reconstruction- Indian Experience, ABSICON 2019, 30 August-1 September 2019, Jaipur, India
21. Saikia J, Kumar S, Sangla S, Deo SVS, Malik PS, Jain D, Madan K. Clinical Utility of cell-free DNA (cfDNA) in plasma and intraoperative pleural lavage cytology (PLC) for patients with resectable primary pulmonary malignancies – A pilot study. NATCON, Kolkata, 20-22 September 2019, Kolkata, India
22. Saikia J, Malik P, Madan K, Jain D, Bharati S, Gowda M, Nandi S, Deo SVS, Kuma S. Operated Stages I-III B NSCLC among young Indian cohorts - Clinical Profile and Outcomes, WCLC-IASLC, 7-10 September 2019, Barcelona, Spain
23. Third Prize in ISPSM-ESSO-AGOI on 18-20 April 2019 at TMH, Mumbai
24. Third prize in ISO-ISMPPO, on November 2019, Indore, India
25. Second Prize in Quiz Competition at World Congress of Surgery, Krakow Poland
26. awarded 3rd Best Paper at ABSICON, Jaipur, India, 2019
27. International travel award to Jyotishman Saikia from Department of Science and Technology.
28. 14.Awarded 3 rd best paper presentation to Dr Raghuram K
29. International travel award to Dr Raghuram K by Indian Council for Medical Research
30. International travel award to Dr Navin K by Indian Council for Medical Research
31. First prize for best paper presentation to Dr Navin Kumar during “Annual oncology forum meeting, New Delhi

## RESEARCH

### Onco-Anesthesia and Palliative Medicine

#### Funded projects

##### *Ongoing*

1. Spiritual problems and concerns faced by Indian palliative care patients. Sushma Bhatnagar, ICMR, 3 years, 2017-2019, Rs1.32 lakhs
2. Study of Pain attributes to Design a Pain Measurement Device for the cancer and injured Patients, Sushma Bhatnagar, DRDO, 2 years 10 months, 2017-2020, Rs 24.88 lakhs.
3. Clinical Validation of Iontophoretic Delivery of Lidocaine as an Alternative to EMLA Cream, Sushma Bhatnagar, AIIMS, 2 years, 2019-2021, Rs 5 lakhs.
4. Novel Video Laryngoscope for Endotracheal Intubation in Patients with Reduced Mouth Opening approved for AIIMS-IIT project, Nishkarsh, AIIMS, 2 years, 2019-2021, Rs 5 lakhs/year
5. Comparison of King Vision Video laryngoscope channeled and non-channeled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study. Nishkarsh, AIIMS, 2019-2021, Rs 2 lakhs

##### *Completed*

1. Prevalence and factors associated with cancer related neuropathic pain in India: A cross sectional study”, ICMR, 2 years, 10 lakhs, Sushma Bhatnagar
2. A Double Blind, Double-Dummy, Randomized, Prospective, Two Arm, Parallel, Multicenter, Phase IV Clinical Trial To Evaluate Efficacy And Safety Of Gaba-NT (Fixed-Dose Combination Of Gabapentin And Nortriptyline) In Comparison With Gabapentin In Patients With Neuropathic Pain, ICMR, 2 years, Rs 3 lakhs, Sushma Bhatnagar
3. Molecular Determinates of Response to opioids in cancer patients: Indian Scenario, ICMR, 3 years, Rs 28 lakhs, Sushma Bhatnagar.
4. Comparison of two techniques (bolus morphine vs. infusion morphine) of analgesic titration with intravenous morphine in palliative cancer patient - a prospective randomized study, AIIMS, 2 years, Rs 3 lakhs, Vinod Kumar

#### Departmental projects

##### *Ongoing*

1. Prevalence and risk factors of acute neuropathic pain following oncological surgeries: a prospective study at a tertiary cancer center
2. Prevalence and predictors of insomnia in cancer patients presented to palliative care unit of a tertiary care center in India

3. Prospective Evaluation Of Social Support, Depression and Quality of Life in Advanced Cancer Patients Attending The Palliative Care Clinic Of A Tertiary Care Centre
4. Knowledge, attitude and perception regarding morphine use in Indian cancer patients
5. Intraoperative celiac plexus neurolysis for pain relief in unresectable pancreatic, gastric and gall bladder cancer
6. Comparison of dexmedetomidine vs. midazolam in conscious sedation for patients undergoing medical thoracoscopy- a randomized controlled pilot study
7. Effect of adding dexamethasone to ropivacaine on ultrasound guided serratus anterior plane block for modified radical mastectomy: A Prospective randomized controlled pilot study
8. Comparative evaluation of Nasotracheal intubation with C Mac Videolaryngoscope conventional blade vs. D blade using cuff inflation technique in patients undergoing head and neck cancer surgeries: A prospective randomized study
9. Prevalence and risk factors of cognitive dysfunction in advanced cancer patients admitted in palliative care unit
10. Effectiveness of Intercostal Radiofrequency Ablation in the management of chronic pain after thoracic surgery

### ***Completed***

1. To evaluate the comparative efficacy and safety of Gabapentin, Duloxetine and Pregabalin in patients with Chemotherapy Induced Painful Neuropathy (CIPN): A Randomized Controlled Pilot trial
2. Prevalence of chemotherapy induced peripheral neuropathy in a palliative care setup and its impact on the quality of life of cancer patients
3. Effect of patient controlled epidural analgesia (PCEA) and intravenous patient-controlled analgesia (IVPCA) on postoperative inflammatory response and cancer recurrence in patients undergoing abdominal oncosurgery - a prospective randomized controlled trial
4. Cardiopulmonary exercise testing as a predictor of morbidity after major gastrointestinal cancer surgeries in patients at nutritional risk: A prospective observational pilot study
5. Comparison of two different doses of intrathecal bupivacaine for intracavitary radiotherapy in patients with carcinoma cervix – A randomised control trial
6. Comparative evaluation of efficacy of intravenous infusion of Dexmedetomidine with Morphine for postoperative analgesia & sedation in head and neck cancer surgery
7. To study the impact of nutritional intervention in delaying the progression of cachexia to refractory cachexia in female cancer patients: A study based in India

## **Delhi Cancer Registry**

### **Funded projects**

#### ***Ongoing***

1. Establishment of Hospital based Cancer Registries and patterns of care and survival studies on Cancer Breast, Cancer Cervix and Head and Neck Cancers, SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 6 years, 2014-2020, Rs 38 lakhs per annum
2. Patterns of Care and Survival Studies on childhood, lymphoid and hematopoietic malignancies. SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 5 years, 2017-2021, Rs 1 lakh per annum (approx.)
3. Population Based Survival Studies on Cancer Breast, Cervix and Head & Neck Cancers, SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 5 years, 2017-2021, Rs 6.8 lakhs per annum (approx.)

## **Laboratory Oncology**

### **Funded projects**

#### ***Ongoing***

1. Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia. Ritu Gupta, ICMR, 5 years, 2019-2024, Rs 490.82 lakhs
2. Unit of Excellence on Cancer Research on Multiple Myeloma. Ritu Gupta, DBT, 5 years, 2016-2021, Rs 314 lakhs

3. Evaluation of DRY Multi-Color Panels for Lymphoma & Leukemia Diagnosis and Monitoring on a Flow Cytometer. Ritu Gupta, Beckman Coulter, 2 years, 2018-2020, Rs 9.46 lakhs
4. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning. Ritu Gupta, DST, 3 Years, 2019-2022, Rs 35 lakhs
5. Minimal Residual Disease Estimation in Multiple Myeloma using Image Processing: Design and Development of Myelomaimager - an Automated Computer Assisted Tool. Ritu Gupta, DST, 3 Years, 2018-2021, Rs 45 lakhs
6. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach, Ritu Gupta, AIIMS, New Delhi, 2 years, 2018-2020, Rs 20 lakhs
7. Digital Holographic Microscopy of acute leukemic cell for 3D morphology-based classification, Ritu Gupta, AIIMS, New Delhi, 2 years, 2018-2020, Rs 20 lakhs
8. Prevalence and significance of ETS related gene deletions in Acute Lymphoblastic Leukemia, Sanjeev Kumar Gupta, AIIMS, New Delhi, 2 years, 2018-2020, Rs 10 lakhs
9. Development of risk-stratification algorithm to select BCR-ABL1 negative pediatric B-ALL patients for detailed genetic analysis- a step towards optimum use of next generation sequencing platform, Sanjeev Kumar Gupta, ICMR, 3 years, 2020-2023, Rs 49.50 lakhs
10. Early immature T-lymphoblastic leukemia (ALL): Evaluation of early thymic precursor T-ALL immunophenotype, absence of biallelic deletion of TCR  $\gamma$  chains (ABD) and expression of MEF2C as predictors of treatment response as assessed by minimal residual disease determination., Anita Chopra, DST, 3 years, 2015-2019, Rs 20.16 lakhs
11. Elucidation of role of TOX in T-ALL. Anita Chopra, DHR, 3 years, 2020-2023, Rs 30 lakhs
12. Identification of tyrosine kinases in Indian pediatric Ph-like Acute lymphoblastic Leukemia, Anita Chopra, DHR, 3 years, 2018-2021, Rs 30 lakhs
13. DBT-Wellcome trust intermediate career fellowship. Anita Chopra, DBT Wellcome India Alliance, 5 years, 2018-2023, Rs 386 lakhs
14. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population, Pranay Tanwar, ICMR, 5 years, 2017-2022, Rs 122 lakhs
15. A prospective study to evaluate WT1 gene expression as predictive molecular marker of disease progression in de novo cases of Acute myeloid Leukemia, Pranay Tanwar. DST, 4 years, 2017-2021, Rs 52 lakhs
16. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients. Pranay Tanwar, ICMR, 4 years, 2017-2022, Rs 199 lakhs
17. Human Papilloma Virus (HPV): Relevance in etiology of oral squamous cell carcinoma in Indian Population, Pranay Tanwar, DHR, 3 years, 2017-2021, Rs 45 lakhs
18. Generation of 3D Breast Tumor Organoids as an in vitro Drug Screening Study Model, Pranay Tanwar, AIIMS New Delhi, 2 years, 2020-2022, Rs 8.91 lakhs
19. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & monitoring of therapy, Amar Ranjan, ICMR, 3 years, 2017-2020, Rs 25 lakhs
20. Analysis of expression of biomarkers in ovarian cancer, Amar Ranjan, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
21. Impact of TCR  $\alpha\beta$  sequence repertoire in CML blasts, Gurvinder Kaur, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
22. Characterization of circulating cell free Nucleic acids for identification of leukemia-specific genetic alterations in early recurrence monitoring of Acute Myeloid Leukemia. Deepshi Thakral, AIIMS, 2 years, 2018-2020, Rs 10 lakhs

### **Completed**

1. Molecular determinants of prednisolone sensitivity in pediatric acute lymphoblastic leukemia, Anita Chopra, AIIMS, 2 years, 2016-2019, Rs 8 lakhs
2. A prospective study to evaluate Wilm's tumor 1 (WT1) mutation in de novo cases of Acute myeloid Leukemia and correlating their outcome with treatment response, Pranay Tanwar, AIIMS, 4 years, 2015-2019, Rs 4 lakhs
3. Prognostic evaluation of thrombopoietin following surgery in gastrointestinal cancer patients, Amar Ranjan, Oncology Forum, 1 year, 2019, Rs 1.5 lakhs

### **Medical Oncology**

#### **Ongoing**

1. Risk of cancer in mobile phones users: a prospective study under ICMR task force. Effect of Non-ionizing electromagnetic field (EMF) on human health, Lalit Kumar, ICMR, 10 years, 2012-2022, Rs 142.19 lakhs.

2. Pazopanib based combination oral metronomic therapy in platinum resistant, platinum refractory and advanced and advanced ovarian cancer: a randomized phase II study. Lalit Kumar, ICMR, 3 years, 2018-2021, Rs 49.51 lakhs.
3. Aspirin for Dukes C and High Risk Dukes B Colorectal Cancers - An International, Multi-centre, Double Blind, Randomised Placebo Controlled Phase III Trial, Atul Sharma, Singapore Clinical Research Institute, Singapore, 10 Years, 2013-2018, 500 USD per patient
4. CANscript™ Clinical Outcomes in a Real-World Setting (ANCERS-1): A Prospective, Multicenter, Observational Study Examining the Clinical Utility of CANscript™ in Routine Clinical Practice, Atul Sharma, Catalyst (CRO), 5 Years, 2017-2020, Rs 0.2 lakhs
5. A single arm, multicentric, open label, efficacy and safety study of Doceaqualip (Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India) based regimens in metastatic gastric adenocarcinoma patients. Atul Sharma, Lambda Therapeutics Research Limited, 2 Years, 2018-2020, Rs 4.79 lakhs + 1.72 lakhs per patient
6. An Open Label, Multicenter, Non-Comparative, Phase IV Study of Panitumumab to Characterize its Safety, Tolerability and Activity in Indian Subjects with Previously Treated Wild-Type RAS (KRAS and NRAS), Metastatic Colorectal Cancer, Atul Sharma, Dr Reddy's Lab and PPD, 2 Years, 2019-2021, Rs 4 lakhs
7. Establishing a nutritional counseling program and developing a nutritional database in pediatric patients with cancer, Sameer Bakhshi, Cuddle Foundation, 3 Years, 2016-2019, Rs 13.37 lakhs
8. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), Sameer Bakhshi, DST, 3 Years, 2017-2020, Rs 50.7 lakhs
9. Indian Childhood collaborative leukaemia group multicentre national standardisation study for newly diagnosed acute lymphoblastic leukemia (ALL), Sameer Bakhshi, National Cancer Grid, 3 Years, 2016-2019, Rs 35 lakhs
10. SADAL: A Phase IIb Open label Study of Selinexor (KPT-330) in Patients with Relapsed/Refractory Diffuse Large B-Cell Lymphoma (DLBCL), Sameer Bakhshi, Excel Life Sciences, 5 Years, 2018-2023, Rs 11 lakhs
11. A Phase II, Open-Label Trial Evaluating the Efficacy and Safety of Two Dosages of Once Daily Oral CA-170 in Patients with Selected Relapsed Advanced Tumors (ASIAD), Sameer Bakhshi, Veeda Clinical Research Pvt. Ltd, 5 years, 2018-2023, Rs 3.8 lakhs per patient
12. A Phase IV Multi-Centric Post-Marketing Study Evaluating the Safety, Immunogenicity and Efficacy of the Marketed Formulation of Hetero – Rituximab, Sameer Bakhshi, Hetro Pharma Ltd., 2 years, 2018-2020, Rs 12 lakhs
13. Single-day Intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, Randomized, Open-label, Non-inferiority trial, Sameer Bakhshi, Glenmark Pharmaceuticals, 3 Years, 2020-2023, Rs 5.52 lakhs.
14. Lymphocyte reconstitution following Autologous Stem Cell Transplantation in myeloma and lymphoma, Ranjit Kumar Sahoo, DST, 3 years, 2018-20, Rs 39.08 lakhs.
15. Safety study of Nivolumab for selected advanced malignancies in India, Prabhat Singh Malik, Bristol-Myers Squibb, 2 years, 2018-2020, Rs 39.72 lakhs
16. A prospective, multicenter, Phase-IV clinical trial to assess safety of TAGRISSO™ (Osimertinib) in Indian adult patients with metastatic epidermal growth factor receptor (EGFR) T790M mutation-positive non-small cell lung cancer (NSCLC), Prabhat Singh Malik, AstraZeneca Pharma India, 1 year, 2019-2020, Rs 506 lakhs
17. AIIMS-IIT Delhi collaborative research Proposal on Liquid Biopsy: An exploratory study on exosome-based diagnostics for lung cancer, Prabhat Singh Malik, IIT & AIIMS, Delhi, 2 Years, 2019-2020, Rs 10 lakhs (For IITD), Rs 10 lakhs (AIIMS)
18. Expression of NOTCH1,2,3, HES-1 and p21 in esophageal squamous cell carcinoma, Raja Pramanik, AIIMS, 1 year, 2017-2018, Rs 5 lakhs
19. Exploring how  $\beta$ -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Chandra Prakash Prasad, ICMR, 3 Years, 2019-2022, Rs 21.65 lakhs
20. Exploring how Phosphofructokinase-1 (PFK-1) induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Chandra Prakash Prasad, SERB, 3 Years, 2018-2021, Rs 46.65 lakhs
21. Estrogen Related Receptor Gamma ( $ERR\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid, Thoudam Debraj Singh, DST-SERB Core, 3 years, 2020-2023, Rs 49 lakhs
22. Multivalent targeting-based delivery of paclitaxel using elastin like polypeptide containing IL-4 receptor targeting peptide (AP1-ELP) for ovarian cancer therapy, Thoudam Debraj Singh, ICMR, 3 years, 2019-2022, Rs 36 lakhs
23. To study the role of USP37 in oncogenesis of ovarian cancer by using carbon nanodots embedded 3D cell culture platform, Mayank Singh, AIIMS IITD, 2 years, 2019-2021, Rs 10 lakhs
24. Elimination of leukemic and angiogenesis ability with altered macrophages plasticity in Acute Myeloid Leukemia,

Sampa Ghose, AIIMS, 2 years, 2019-2021, Rs 10 Lakhs

25. Studies of therapeutic potential of endothelial cells and angiogenic properties in hepatocellular carcinoma, Sampa Ghose, DST, 3 years, 2016-2019, Rs 30 Lakhs.

### **Completed**

1. Role of mitochondrial complex encoding genes in Pediatric AML, Sameer Bakhshi, AIIMS, 2 Years, 2016-2019, Rs 10 lakhs
2. National Multicentre Childhood Leukemia Programme, Sameer Bakhshi, ICMR, 2 Years, 2017-2019, Rs 32 lakhs
3. Improving Refusal, Non-Compliance, Abandonment and Outpatient Infection Treatment in Pediatric and Adolescent Cancers, Sameer Bakhshi, Lebara Foundation, 3 Years, 2015-2020, Rs 93.33 lakhs
4. MGMT methylation in primary CNS lymphoma, Ranjit Kumar Sahoo, AIIMS, 3 years, 2015-2017, Rs 3.15 lakhs
5. Role of RRM1, RRM2, hENT1 and ERCC1 expression in Advanced Carcinoma of Gall Bladder treated with Gemcitabine-Platinum Doublet. Ranjit Kumar Sahoo, Nag Foundation, Pune, 3 years, 2016-2018, Rs 5 lakhs
6. Effect of food on pharmacokinetics of abiraterone in metastatic CRPC, DS Arya, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
7. Validation of Thymidylate Synthetase and Folate Receptor alpha expression as predictive biomarkers for efficacy of pemetrexed based chemotherapy in advanced non squamous NSCLC, Prabhat Singh Malik, AIIMS, 2 Years, 2016-2018, Rs 9 lakhs

### **Medical Physics**

#### **Funded projects**

##### **Ongoing**

1. Development of tissue equivalent optically stimulated luminescent materials for radiation dosimetric applications in low and high doses of medical radiation, Pratik Kumar, DHR, 3 years, 2017-2020, Rs 15.53 lakhs
2. Preparation and study of radiochromic film as radiation dosimeter for medical applications, Pratik Kumar, ICMR, 3 years, 2018-2021, Rs 16.69 lakhs
3. Development of new and novel radiation dosimetric OSL materials by ion implantation technique and chemical methods for improved dosimetry, Pratik Kumar, DRDO, 3 years, 2019-2022, Rs 23.65 lakhs

### **Preventive Oncology**

##### **Ongoing**

4. Detection of HPV circulating tumor DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Sujata Pathak, AIIMS, 2 years, 2019-2021, Rs 9.5 lakhs
5. Early and Late development of Castration Resistant Prostate Cancer and its correlation with Androgen Receptor Ligand Binding Domain Mutations, Sandeep Kumar, AIIMS, 2 years, 2017-2020, Rs 6.75 lakhs
6. In vitro evaluation of chloroquine and artemisinin for sensitization effect on multidrug-resistant small cell lung cancer cells, Asrar Alam, AIIMS, 2 years, 2019-20, Rs 10 lakhs
7. Identification of immunogenic regions from SARS-CoV-2 spike protein capable of eliciting robust humoral response, Asrar Alam, AIIMS, 1 year, 2020-2020, Rs 10 lakhs
8. Development of a novel cancer immunotherapeutic agent by integrating tumour antigen TRP-2 with Mycobacterium indicus pranii and analysis of its antitumour efficacy and immune-mechanisms using a mouse model, Pawan Kumar, AIIMS, 2 years, 2019-2021, Rs 10 Lakhs

### **Radiodiagnosis**

#### **Funded projects**

##### **Ongoing**

9. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Ekta Dhamija, AIIMS. 2 years, 2019- 2021, Rs 8,00,000
10. Use of Artificial Intelligence to detect breast cancer on mammogram and its use in the Indian population, Krithika Rangarajan, DBT, 3 year, 2020-2023, Rs 85.19 lakhs

## **Completed**

11. Metallic tumour marker clip for breast cancer: design, development and clinical implications, Sanjay Thulkar, SERB-DST, 5 years, 2014-2019, Rs 23.27 lakhs
12. Comparative evaluation of Nasoenteric feeding and Percutaneous Radiologic Gastrostomy for enteric support in patients with moderate and severe dysphagia due to neoplasms of oropharynx or esophagus: A Pilot Randomized controlled trial, Mukesh Kumar, AIIMS, 2 years, 2018-2020, Rs 5 lakhs

## **Radiation Oncology**

### **Ongoing**

1. ICMR Task Force Genomics of gallbladder carcinoma in Indian Patients, GK Rath, ICMR, 5 years, 2018–2023, Rs 199 lakhs
2. ICMR Task Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population, GK Rath, ICMR, 4 years, 2017–2021, Rs 122 lakhs
3. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, GK Rath, Cancer Foundation, 4 years, 2017-2021, Rs 40 lakhs
4. To Investigate the role of HPV infection and its association with breast cancer in India: A patient-based exploration study, GK Rath, ICMR, 2 years, 2020-2021, Rs 10 lakhs
5. Identification of Hereditary Breast and Ovarian Cancer (HBOC) syndrome families with breast cancer and their BRCA1 & BRCA2” gene mutation profiling in NER population, GK Rath, NCDIR-ICMR, 3years, 2020-2023, Rs 98 lakhs
6. Mycidac C in Lung cancer, Subhash Gupta, Cadila, 3 years, 2017-2019, Free drugs.
7. A study of Palbociclib in combination with Letrozole as treatment of postmenopausal women with hormone receptor positive, Her 2 new negative advanced breast cancer for whom Letrozole therapy is deemed appropriate, Haresh KP, Pfizer India, 3 years, 2017-2019, Rs 10 Lakhs
8. A Randomized, Multiple-dose, Multicenter, Comparative, Parallel Study to Evaluate the Efficacy, Safety and Pharmacokinetic Characteristics of Intravenous Infusion of Trastuzumab (Test, Hetero) and Reference Medicinal Product (Reference, Roche) in combination with standard chemotherapy in Patients of HER2-positive Metastatic breast cancer (TRUMAB Study), Haresh KP, Hetero Pharma, 3 years, 2019-2021, Rs 17 Lakhs
9. A prospective pilot study to evaluate the effectiveness and toxicity of Stereotactic body radiotherapy (SBRT) for Portal Vein Thrombosis in patients with advanced Hepatocellular carcinoma (HCC) (DHR Grant), Haresh KP, DHR, 3 years, 2019-2021, Rs 31 Lakhs
10. A Randomized, double blind, multicentre, multinational comparative clinical study to compare the efficacy and safety of INTP24 against Avastin, Rambha Pandey, Rs 5.86 Lakhs
11. Prospective pilot study of endobronchial brachytherapy for palliation of malignant airway obstruction, Rambha Pandey, Rs 10 Lakhs
12. Prospective assessment of radiation induced lung injury (RILI) in breast cancer patients undergoing adjuvant post-operative three-dimensional conformal radiotherapy (3DCRT), Ritesh Kumar, AIIMS, 2 years, 2017 – 2019, Rs 4 Lakhs

## **Surgical Oncology**

### **Funded projects**

#### **Ongoing**

1. HBCR & Pattern of care and survival studies in breast, head & neck and cervical cancer. SVS Deo, ICMR, 6 years, 2014-2020, Rs 35 lakhs
2. Patterns of care and survival studies on cancer in childhood, lymphoid and hematopoietic malignancies. SVS Deo, ICMR, 4 years, 2017-2021, Rs 5 lakhs
3. Comparative Sphingolipid profiling of breast cancer cell and tissue types for identification of Potential Metastatic biomarkers, SVS Deo, DST, 4 years, 2016-2020, Rs 47.15 lakhs
4. Patterns of Care and Survival Studies on Gall Bladder Cancer under ICMR- National Cancer Registry Programme (NCRP), Sunil Kumar, ICMR, 5 years, 2019-2023, Rs 13 lakhs
5. Clinical significance of cell-free DNA in intraoperative pleural lavage fluid and plasma in patients undergoing pulmonary metastasectomy: A pilot study, Sunil Kumar, AIIMS, 2 years, 2018-20, Rs 10 lakhs

6. Development of Standard Operating Procedures (SOP) of Hyperthermic Intraperitoneal Chemotherapy (HIPEC) in peritoneal surface malignancies for Public set up in India., MD Ray, DST, 3 years, 2017-2019, Rs 50 lakhs
7. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance, MD Ray, AIIMS, 2 years, 2018-2019, Rs 8 Lakh

### **Completed**

1. An economic analysis of alternative treatment methods of ovarian cancer in India, Neerja Bhatla. MD Ray, Multi institutional Collaboration, 3-5 years, 2018-2022
2. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer, Amar Ranjan. MD Ray, ICMR, New Delhi, 3 years, 2018-2021, 30 lakhs

### **Departmental projects**

#### **Onco-Anesthesia and Palliative Medicine**

#### **Ongoing**

1. A comparison of effect of Desflurane vs. Sevoflurane on arterial oxygenation during one lung ventilation for thoracotomies in oncosurgical patients: - a randomized control trial
2. A comparison of two techniques of postoperative analgesia: lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion in patients undergoing cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) – prospective randomized control study
3. A cross-sectional survey of medical professionals in India to assess their prescription practices, knowledge, attitude, and barriers towards opioid analgesic prescriptions
4. A Prospective Observational Study to Assess the Effect of Palliative Care Consultation on the Palliative Care Needs of Patients Suffering from Advanced Lung Cancer, in a Tertiary Care Hospital in India
5. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy
6. A survey of medical professionals in an apex tertiary care hospital to assess awareness, interest, practices and knowledge in palliative care: A descriptive cross-sectional study”
7. An observational study to elucidate the reasons for non compliance to home treatment for breast cancer related lymphedema in a tertiary care hospital
8. Asian patient’s perspective regarding oncology awareness, care and health (APPROACH)
9. Assessment of palliative care outcomes in patients of gastrointestinal malignancies attending the palliative care clinic of a tertiary care centre: a prospective observational study
10. Assessment of quality of life in breast cancer patients receiving hormonal therapy
11. Assessment of Symptom Burden and Quality of Life in Paediatric Cancer Patients in a Tertiary Care Centre In India: A prospective study
12. Assessment of Symptom Burden and Quality of Life in Patients of Advanced Breast Cancer in Indian Population: A Cross-Sectional study
13. Assessment of Symptom Burden and Quality of Life in Patients of Lung Cancer Attending The Palliative Care Clinic of a Tertiary Care Centre: A Prospective Observational Study.
14. Assessment of Symptom Burden In Patients of Malignant Bowel Obstruction In A Tertiary Care Centre In India
15. Association of Vitamin D deficiency with opioid consumption, quality of life and progression free survival in metastatic breast cancer patients: An Observational descriptive prospective study
16. Cardiopulmonary exercise testing as a predictor of postoperative outcome in patients undergoing esophageal cancer surgery following neoadjuvant chemotherapy - A prospective observational study
17. Comparison between C-arm fluoroscopic guided posterior versus Percutaneous Ultrasound-guided anterior approach for celiac plexus neurolysis in patients with upper abdominal cancer in terms of pain relief and quality of life-A Prospective randomized comparative study
18. Comparison of efficacy of Ultrasound guided Paravertebral Block versus Erector Spinae Plane block for Postoperative Analgesia in Modified Radical Mastectomy: A Randomized Controlled Trial
19. Comparison of efficacy of ultrasound guided paravertebral block versus complete antethoracic block for postoperative analgesia in
20. Comparison of intervention with analgesics versus analgesics alone in patients with upper abdominal malignancy

in terms of pain relief and quality of life at 3 months follow up : A Prospective randomized study

21. Comparison of lung aeration loss in open abdominal oncologic surgeries after ventilation with Electrical Impedance Tomography guided PEEP versus conventional PEEP – A pilot randomized control trial
22. Comparison of total intravenous anaesthesia and inhalational anesthesia for development of postoperative pulmonary complications in oral cancer resection surgery with pectoralis major myocutaneous (PMMC) flap reconstruction: A prospective, randomized control trial.
23. Comparison of WHO step 2 analgesic drug versus step 3 analgesic drug in Stage 4 opioid-naive lung cancer patients presenting to pain clinic with moderate to severe pain in terms of pain relief and quality of life at 3 weeks follow up: A randomized prospective study
24. Early pain intervention in cancer pain patients improves quality of pain relief, decreases analgesic requirement and thus improves quality of life
25. Effectiveness of the Certificate Course in Essentials of Palliative Care programme on the knowledge in palliative care among the participants: A cross-sectional interventional study
26. Effects of physiotherapy on neck and shoulder movements and mouth opening in patients operated for oral cancer and their quality of life. A Pilot Study
27. End of Life care practice at a Tertiary Cancer Centre in India: An Observational study
28. Incidence and risk factors for post-operative nausea vomiting in cancer surgeries: a prospective observational study
29. modified radical mastectomy: a randomized controlled trial
30. Nasotracheal intubation in patients with oropharyngeal carcinoma under general anaesthesia: A comparative evaluation between fiberoptic bronchoscope and C-MAC D blade video laryngoscope
31. Palliative Care Needs Assessment in Patients Suffering from Advanced Chronic Obstructive Pulmonary Disease (COPD)/ Interstitial Lung Disease (ILD): A Prospective Study
32. Palliative Care: Promoting Access & International Cancer Experience in India Collaborative (PC-PAICE India Collaborative)
33. Pattern of Patients Presenting with Malignant Spinal cord Compression in Palliative Care Unit at a Tertiary Care Centre of India-An Observational Study
34. Pattern of presentation of breast cancer related lymphedema and its impact on quality of life of breast cancer patients attending pain and palliative care clinic.
35. Prevalence and factors associated with cancer related neuropathic pain in India: A cross sectional study
36. Prevalence of Pain Among Inpatients at All India Institute of Medical Sciences- New Delhi
37. Quality of life and symptom burden in patients with hematological malignancies receiving hematopoietic stem cell transplantation- a prospective observational study
38. The journey of cancer patients from symptom onset to the beginning of treatment in a cancer hospital in India
39. To compare the effectiveness of Duloxetine vs. Gabapentin on neuropathic pain intensity in patients with chemotherapy-induced peripheral neuropathy: A double-blind randomized controlled trial
40. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on postoperative morphine consumption in patients undergoing breast cancer surgery: A prospective randomized control study.
41. To study the clinical correlation between chemotherapy induced peripheral neuropathy (CIPN) and deficiency of vitamin b12, vitamin d3, calcium and omega 3 fatty acids.
42. Validation of an Indian Palliative Care Spiritual Distress Scale

### ***Completed***

1. Prevalence and factors affecting anxiety and depression in cancer patients in palliative care setup at tertiary care center.
2. Assessment of care giver burden in palliative care
3. Validity and reliability of the Hindi version of the Patient Assessment of Constipation Quality of Life questionnaire in cancer patients on opioids for pain management at tertiary care center, India
4. Validation of the Hindi version of the EORTC QLQ-C15-PAL questionnaire for the evaluation of quality of life of advanced cancer patients at tertiary care center, India”
5. Prevalence of postoperative morbidity in patients undergoing elective major thoraco-abdominal oncosurgery and their correlation with anaesthetic technique
6. Strong opioids and its impact on QOL in chemotherapy induced oral mucositis: A prospective observational study
7. Prevalence and predictors of postoperative fatigue and its impact on the quality of life patients after gastrointestinal

cancer surgeries : A prospective observational study

8. Comparative evaluation of Intravenous infusion of dexmedetomidine vs. Morphine for postoperative analgesia and sedation in Commando surgeries

## **Laboratory Oncology**

### ***Ongoing***

1. A study of plasma cell and B-cell compartment in plasma cell proliferative disorders (PCPD)
2. Establishment of Standard and the state-of-the-art molecular procedures for Monitoring Minimal Residual Disease (MRD) and identification of ABL kinase domain mutations in Chronic Myeloid Leukemia (CML)
3. Non-invasive evaluation of genomic aberrations in multiple myeloma
4. To evaluate the safety and feasibility of hematopoietic stem cell micro transplantation in relapsed and refractory acute myeloid leukemia (AML) patients who do not have a matched sibling donor
5. Treatment versus observation in patients with biochemical relapse of multiple myeloma, a phase III, randomized controlled trial.
6. Investigation on immunotherapeutic approaches to breast cancer in a murine
7. Molecular biology of immature T-ALL
8. Identification of tyrosine kinase lesions in B-ALL

## **Medical Oncology**

### ***Ongoing***

1. "EMF (Erlotinib/Methotrexate/5-FU) regimen as an efficacious therapy in unresectable or recurrent/metastatic Head Neck Squamous cell carcinoma after platinum failure: Investigator initiated, single arm, phase II trial"
2. A Phase II Study of Gemcitabine Docetaxel Combination in Metastatic Relapsed Synovial Sarcoma
3. A phase II study of Metformin plus Pemetrexed/Carboplatin in patients with Non-squamous non-small cell lung cancer.
4. A pilot study to assess safety and efficacy of modified FOLFIRINOX in unresectable Gall Bladder Cancer
5. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy
6. A Prospective, Single-Arm, Multicenter, Pragmatic Phase-IV Trial Investigating Safety and Effectiveness of DARZALEX (Daratumumab) In Indian Subjects With Relapsed and Refractory Multiple Myeloma, Whose Prior Therapy Included a Proteasome Inhibitor and an Immunomodulatory Agent Funded by Johnson & Johnson
7. A retrospective study of early stage epithelial ovarian cancer
8. A single arm feasibility phase II study of EMF (erlotinib/mtx/5-FU) in platinum refractory R/M HNSCC
9. A single arm feasibility phase II study of EMF regime in platinum refractory recurrent metastatic head and neck squamous cell carcinoma
10. A two-arm randomized open label prospective parallel design superiority Phase II multicentric clinical trial to evaluate the efficacy of a doublet second line chemotherapy versus monotherapy in advanced unresectable or metastatic gall bladder cancer progressing on first line chemotherapy
11. Adjuvant chemoradiation and chemotherapy in resected gastric cancer
12. Adjuvant Chemotherapy or Chemo-radiation in Gall Bladder Cancer: A Phase III Randomized Controlled Study (ACCeleRate trial)
13. An ambispective cohort study of clinicopathological characteristics in patients of locally advanced breast cancer
14. An audit of clinic-pathological characteristics and outcome to therapy in high risk endometrial cancer treated at tertiary cancer centre: Retrospective analysis
15. Analysis of clinic pathological features, molecular profile and survival outcome of lung cancer patients below 40 years
16. Assessment of brain metastases (Incidence, clinic-pathological, molecular correlation and outcome) in Non-small cell Lung cancer (NSCLC) patients: A single arm prospective observational study
17. Assessment of Knowledge and attitude of breast and ovarian cancer patients regarding
18. Assessment of Sexual health and intimacy related problems in cancer patients undergoing chemotherapy
19. Bendamustine, Pomalidomide and Dexamethasone in relapsed and/or refractory multiple myeloma

20. Bortezomib, lenalidomide and dexamethasone-based consolidation therapy after Autologous
21. Clinicopathological features and outcome of DLBCL patients treated in tertiary health setting
22. Clinicopathological features and outcome of patients with Hodgkin's lymphoma
23. Comparison of "Multigene hereditary panel testing" profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: a prospective study in North Indian population
24. Concurrent Chemotherapy and External Radiation Therapy: An Open Label Non-Inferiority Phase III Randomized Controlled Trial of Weekly versus Three Weekly Cisplatin and Radical Radiotherapy in Locally Advanced Head and Neck Squamous Cell Carcinoma
25. Cost effectiveness of early stoppage of early antibiotic therapy at clinical recovery in pediatric cancer patients with high risk febrile neutropenia compared to delayed stoppage of early antibiotic therapy
26. DNA Methylation in Ovarian Cancer
27. Early integrated palliative care versus routine oncological care for advanced adult sarcoma patient in tertiary care centre in India: a randomized phase II trial
28. Early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia. A randomized open label clinical trial
29. Effect of Non-ionizing electromagnetic field (EMF) on human health funded by ICMR
30. Estimation of quality of anti-cancer drugs in marketed formulation
31. Gene expression profile and its correlation with mitochondrial energy metabolism in pediatric AML
32. Hematopoietic Stem Cell Transplantation in multiple myeloma: A single arm prospective study
33. Hereditary breast and ovarian cancer syndrome (HBOC) at a tertiary care institute
34. Incidence and impact of gut colonization by multi-drug resistant organism in patients receiving high intensity chemotherapy for AML or autologous HSCT
35. Minimal Residual Disease in Multiple Myeloma
36. Outcome analysis of triple negative breast cancer
37. Pazopanib based combination oral Metronomic therapy in Platinum Resistance, Platinum Refractory and advanced Ovarian Cancer: A randomized phase II Study
38. Pazopanib based oral metronomic therapy in Platinum refractory and relapsed ovarian cancer: a randomized phase II study
39. Pre and Post-transplant evaluation of natural killer T cells in multiple myeloma
40. Retrospective analysis of patterns and outcomes in Relapsed Multiple Myeloma
41. Retrospective analysis of RRMI, RRM2, ERCC1 and hENT1 expression in predicting treatment outcomes in advanced/recurrent CaGB who treated with gemcitabine and platinum-based chemotherapy
42. Retrospective study of Engraftment Kinetics and Cost-Effectiveness Analysis of a Risk-Adapted Algorithm of Plerixafor Use for Autologous Peripheral Blood Stem Cell Mobilization in Multiple Myeloma
43. Role of PARP1 and  $\gamma$ -Glutamyl cysteine synthetase (GCS) Inhibitors on cisplatin: AIIMS sensitivity and DNA Methylation in ovarian cancer
44. Single-day intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, randomized, open-label, non-inferiority trial
45. Stoppage of empirical antibiotic therapy in pediatric high-risk febrile neutropenia: A randomized open label Phase III clinical trial.
46. Study of efficacy and safety of neo adjuvant chemotherapy in patients with stage II B and III NSCLC
47. Study of Nilotinib drugs levels with foods and their clinical outcome in patients of chronic myeloid leukemia
48. The Feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single arm phase II trial
49. To study the effect of fatty meals on nilotinib drug levels in blood in newly diagnosed patients of CML-CP

### **Completed**

1. The role of the PARP – 1 & B- Catenin in cisplatin resistance in cervical cancer
2. Pazopanib based oral metronomic therapy in Platinum relapsed, Platinum Refractory and Advanced ovarian cancer: a randomized phase 2 study
3. Impact of serum galactomannan assay on diagnosis and outcome of invasive fungal infections in high risk febrile neutropenia

4. Bortezomib, lenalidomide and dexamethasone (VRd) versus bortezomib, cyclophosphamide and dexamethasone (VCd) as induction therapy in untreated multiple myeloma: A phase III randomized Study
5. A prospective, Interventional study assessing response to Cytarabine, Daunorubicin and Etoposide (ADE) for first relapse of paediatric Acute Myeloid Leukemia
6. Olanzapine for prevention of nausea and vomiting in children and adolescents receiving highly emetogenic chemotherapy (HEC): An investigator initiated, randomized, open-label trial
7. To study clinical and biological significance of mutations in mitochondrial DNA regulatory region in acute myeloid leukemia
8. Retrospective analysis of testicular Germ cell tumours treated at IRCH, AIIMS
9. Role of RRM1, RRM2, hENT1 and ERCC1 expression in Advanced Carcinoma of Gall Bladder treated with Gemcitabine-Platinum Doublet
10. A phase III open label randomized control study to compare efficacy and safety of pemetrexed-Carboplatin versus Paclitaxel- Carboplatin as induction regimen in advanced Non-Squamous NSCLC
11. To assess the frequency, clinicopathological, molecular correlation and outcome of brain metastasis in NSCLC patients
12. A study to determine the association of trace elements and heavy metals with lung cancer and their correlation with smoking

## **Medical Physics**

### ***Ongoing***

1. Development of new luminescence material for dosimetry purpose
2. Calibration and use of optically stimulated luminescence dosimeter
3. Development of protocol for quality assurance of lead apron and thyroid collar
4. Development of radiochromic film dosimeter

## **Radiodiagnosis**

### ***Ongoing***

1. Assessment of the effectiveness of Transversus abdominis plane (TAP) block for pain relief in percutaneous transhepatic biliary drainage in gall bladder cancer patients- A randomized control trial
2. Role of Multiparametric MRI in predicting the grade of adult Peripheral Soft tissue sarcomas

## **Radiation Oncology**

### ***Ongoing***

1. Preparation and study of radiochromic film as radiation dosimeter for medical applications
2. Pilot study to compare moderate hypofractionated radiotherapy versus stereotactic body radiotherapy (SBRT) in intermediate and high risk prostate cancer, a toxicity and quality of life comparison
3. A pilot study to evaluate the feasibility, toxicity profile and quality of life in patients with newly diagnosed glioblastoma, receiving adjuvant chemoradiation using stereotactic radiotherapy in comparison to conventional radiotherapy
4. Adaptive Radiotherapy in Head and Neck Cancer- A Prospective study

### ***Completed***

1. A phase II study to assess the feasibility of involved site radiotherapy for consolidation after chemo-immunotherapy in newly diagnosed patients of stage I-II nodal diffuse large B-cell lymphoma
2. A pilot study to compare interstitial multicatheter brachytherapy vs VMAT for APBI in early breast cancer: An adaptation, toxicity, and cosmesis comparison
3. Comparative evaluation of acute toxicity, cosmesis and quality of life in hypofractionation versus conventional fractionation radiotherapy to whole breast and regional nodes after breast conservation surgery in breast cancer patients

## **Surgical Oncology**

### ***Ongoing***

1. Evaluation of Indocyanine green dye based navigation surgery in optimizing axillary management of carcinoma breast
2. Learning Basic Lab Techniques and Analysis of Colorectal cancer data base
3. Prevalence of sarcopenia in patients with upper gastrointestinal and lung malignancy undergoing surgical resection and its impact on immediate postoperative outcomes: A prospective observational study
4. Efficacy of Neoadjuvant chemotherapy in carcinoma esophagus- A pilot study comparing Cisplatin+5-FU with Paclitaxel+Caboplatin
5. A prospective assessment of quality indicators of peri-operative outcomes in major oncological surgeries at a high volume tertiary care center
6. A prospective comparative study between HIPEC and EPIC and a Retrospective analytic survey of HIPEC patients
7. A Study Of Colorectal Cancer Patients – Clinical Profile, Treatment And Relapse Patterns And Learning Basic Laboratory Techniques Of Molecular Biology For miRNA Extraction In Colon And Rectal Cancer Patients
8. Prospective assessment of quality indicators of perioperative outcomes in major oncological surgeries at a high volume tertiary care center
9. Validation of role of PET-CT and Diagnostic Laparoscopy in the gall bladder cancer patients – A prospective study
10. Feasibility study of dual technique- blue dye and fluorescence imaging for detection of sentinel node in oral cavity cancer – a prospective validation study

### ***Completed***

1. Efficacy of Neoadjuvant chemotherapy in carcinoma Esophagus-A pilot study comparing Cisplatin+5-FU with Paclitaxel+ Carboplatin
2. Awareness and Knowledge of Indian Breast Cancer patients pertaining to genetic aspect of Breast cancer
3. Clinical Utility of cell-free DNA in intraoperative pleural lavage fluid and plasma for patients with resectable primary pulmonary malignancies – A pilot study
4. Evaluation of peritoneal cancer index (PCI) in primary advanced ovarian epithelial carcinoma amongst Indian population.”
5. A prospective observational study comparing CT scan vs PET CT scan in carcinoma ovary for determining the preoperative disease burden and resectability”
6. Clinical significance of cell-free DNA in intraoperative pleural lavage fluid and plasma in patients with Non-small cell Lung cancer: A pilot study
7. Validation of the role of PET-CT and diagnostic laparoscopy in assessing the staging of gall bladder cancer patients: a single arm prospective study

## **Collaborative projects**

### **Onco-Anesthesia and Palliative Medicine**

#### ***Ongoing***

1. A cross-sectional survey of medical professionals in India to assess their prescription practices, knowledge, attitude, and barriers towards opioid analgesic prescriptions- National Drug Dependence Treatment Centre
2. A Prospective Observational Study to Assess the Effect of Palliative Care Consultation on the Palliative Care Needs of Patients Suffering from Advanced Lung Cancer, in a Tertiary Care Hospital in India, Pulmonary medicine
3. A prospective randomized control trial comparing intracostal with pericostal thoracotomy closure to evaluate post thoracotomy pain syndromes-Surgical Oncology
4. A survey of medical professionals in an apex tertiary care hospital to assess awareness, interest, practices and knowledge in palliative care: A descriptive cross-sectional study.-Surgical Oncology
5. An observational study to elucidate the reasons for noncompliance to home treatment for breast cancer related lymphedema in a tertiary care hospital-Physiotherapy
6. Asian patient’s perspective regarding oncology awareness, care and health (APPROACH).-Radiation Oncology, Psychiatry

7. Assessment of quality of life in breast cancer patients receiving hormonal therapy, Medical oncology, surgical oncology
8. Association of Vitamin D deficiency with opioid consumption, quality of life and progression free survival in metastatic breast cancer patients: An Observational descriptive prospective study, Medical Oncology
9. Comparison between C-arm fluoroscopic guided posterior versus Percutaneous Ultrasound-guided anterior approach for celiac plexus neurolysis in patients with upper abdominal cancer in terms of pain relief and quality of life-A Prospective randomized comparative study, Radiodiagnosis/ IRCH AIIMS
10. Early pain intervention in cancer pain patients improves quality of pain relief, decreases analgesic requirement and thus improves quality of life, Radiodiagnosis IRCH
11. Effects of physiotherapy on neck and shoulder movements and mouth opening in patients operated for oral cancer and their quality of life. A Pilot Study. -Surgical Oncology, Physiotherapy, IRCH
12. Palliative Care Needs Assessment in Patients Suffering from Advanced Chronic Obstructive Pulmonary Disease (COPD)/ Interstitial Lung Disease (ILD): A Prospective Study, Pulmonary medicine
13. Palliative Care: Promoting Access & International Cancer Experience in India Collaborative (PC-PAICE India Collaborative)-Surgical Oncology
14. Pattern of presentation of breast cancer related lymphedema and its impact on quality of life of breast cancer patients attending pain and palliative care clinic. Medical oncology, surgical oncology, Physiotherapy, IRCH
15. Prediction of infection in postoperative cases of gastrointestinal malignancy by analysis of thrombopoetin-Laboratory Oncology
16. Prevalence of pain among inpatients at All India Institute of Medical Sciences- New Delhi, Pulmonary medicine
17. Safety and efficacy of neoadjuvant chemotherapy in stage IIB and IIIA NSCLC: Single arm phase II study-Medical Oncology
18. To compare the effectiveness of Duloxetine vs Gabapentin on neuropathic pain intensity in patients with chemotherapy-induced peripheral neuropathy: A double-blind randomized controlled trial-Medical Oncology
19. Validation of an Indian Palliative Care Spiritual Distress Scale Duquesne University, Pittsburgh-Surgical Oncology, AIIMS

## **Laboratory Oncology**

### ***Ongoing***

1. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach, Biophysics
2. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning, IIT, Delhi
3. Digital Holographic Microscopy of acute leukemic cell for 3D morphology based classification, IIT, Delhi
4. Minimal Residual Disease Estimation in Multiple Myeloma using Image Processing: Design and Development of Myelomaimager - an Automated Computer Assisted Tool. IIT, Delhi
5. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population” as ICMR Task Force, NIOP, New Delhi, RCC Trivandrum, NICPR, Noida
6. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, NIOP, New Delhi, NICPR, Noida, GB Pant Hospital, New Delhi

## **Medical Oncology**

### ***Ongoing***

1. Elucidation of role of TOX in T-cell acute lymphoblastic leukemia. Funded by DHR 2019-2021 (30 lakhs), Laboratory Oncology
2. Identification and in-vitro functional assay of novel driving tyrosine kinases in Indian BCR-ABL- like ALL
3. Internal sponsor for DBT-Wellcome trust India Alliance intermediate career fellowship for Dr. Anita Chopra
4. Centre of Advanced Research and Excellence in AML, Lab Oncology
5. 225Ac-DOTATATE therapy in metastatic CRPC, Nuclear Medicine
6. Lenvatinib in advanced thyroid cancer, Nuclear Medicine
7. Effect of food on pharmacokinetics of abiraterone in metastatic CRPC, Pharmacology
8. 225Ac-DOTATATE therapy in GEP-NET, Nuclear Medicine

9. Cellular and immunological role of DPP3 in esophageal cancer., Biochemistry, Pathology, Medical Oncology, Surgical Oncology
10. Evaluation of Neoadjuvant chemotherapy in esophageal squamous cell carcinoma: a RCT comparing Paclitaxel and Carboplatin Versus Cisplatin and 5Fluorouracil, Surgical Oncology, Medical Oncology, Radiology, Nuclear Medicine, Radiation Oncology
11. p53 in regulation of Epithelial-Mesenchymal Transition in breast cancer: role of micro-RNA, IIT Delhi, Institute of Cytology, St Petersburg, Russia
12. CRISPR-based editing of regulatory region and expanded triplet repeats as therapeutic approach in India's most common hereditary Ataxias. Neurology

### ***Completed***

1. Lu177-PSMA therapy in metastatic CRPC, Nuclear Medicine
2. A prospective study to evaluate the efficacy of PET-CT Scan in detecting residual disease in locally advanced head and neck cancers after primary treatment with definitive chemoradiotherapy, Nuclear Medicine, ENT, Radiation Oncology, Medical Oncology.
3. EBV DNA PCR in clinically suspected nasopharyngeal cancer, Microbiology, ENT, Radiation oncology, Medical Oncology
4. Expression and Significance of Notch signaling -associated proteins, Notch 1, Notch 2, Notch 3, Hes1 and p21 in esophageal squamous cell carcinoma: A retrospective Study., Medical Oncology, Pathology, Surgical Oncology, Radiation Oncology

### **Preventive Oncology**

#### ***Ongoing***

1. A Study of Gut (oral, fecal and bile) Microbiome in Patients with Gallbladder Cancer, Surgical Disciplines, Gastroenterology, Translational Health Science and Technology Institute, Faridabad
2. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer., Urology, Laboratory Oncology
3. Genomics of Gall Bladder Carcinoma in Indian patients, Laboratory Oncology, National Institute of Cancer Prevention and Research, Noida, IGIB, New Delhi
4. Comparative study of Genetics, Clinical and Epidemiological factors of breast cancer in Indian Population, Laboratory Oncology, National Institute of Pathology, Delhi National Institute of Cancer Prevention and Research, Noida
5. To study the Interplay between Cancer-Testis germline POTE antigen and Notch signaling and its association with global DNA methylation in Ovarian Cancer, Biochemistry

### **Radiodiagnosis**

#### ***Ongoing***

1. To establish algorithm for management of axilla in patients with axillary lymph node negative early operable breast cancer, Surgery
2. Development of an instrument to Evaluate total pain in cancer Patients in indiancontext, Oncoanesthesia and palliative care
3. A cross-sectional study to identify the social context of pain in cancer patients, Onco-Anesthesia and Palliative Medicine
4. A single arm feasibility phase ii study of emf (erlotinib+methotrexate+5-fu) regimen in platinum refractory recurrent/metastatic hnscc, Medical oncology
5. Comparison between Ropivacaine/dexamethasone and 10% Lignocaine injection in distal glossopharyngeal nerve block for intractable cancer pain- A randomized Trial, Onco-Anesthesia and Palliative Medicine.
6. Outcome of advanced unresectable synovial cell sarcoma from and Indian tertiary care center: retrospective study, Medical Oncology
7. A Phase II Study of Gemcitabine/Docetaxel in Patients with Relapsed Metastatic Synovial Sarcoma, Medical Oncology
8. Evaluation of tumor microenvironment in Osteogenic Sarcoma, Orthopedics
9. Clinico-radiological correlation of the breast diseases, Radiodiagnosis

10. Computational analysis of CT images, Department of Biotechnology, IIT Roorkee
11. Early pain interventions in cancer pain patients improves quality of pain relief, decreases analgesic requirement and thus improves quality of life, Onco-Anaesthesia and Palliative Medicine
12. Role of MR guided biopsy in detecting prostate cancer, NMR
13. Assessment of brain metastases in advanced NSCLC, Medical Oncology
14. Development of tissue equivalent optically stimulated luminescent materials for measurement of low doses of medical radiation., Medical physics unit, and Department of Health physics inter university accelerator centre, New Delhi

### ***Completed***

1. Comparison of CT vs PET CT in Ca ovary for accuracy of staging, disease burden and prediction of resectability and determination of PCI, a prospective study, Surgical Oncology
2. A Prospective study to determine the efficacy of Positron Emission Tomography/Computed Tomography (PET/CT) in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo- Radiation Therapy, Nuclear Medicine
3. Three arm phase II/III RCT comparing erlotinib plus best supportive care (BSC), capecitabim plus BSC and BSC only in unresectable / metastatic CAGB patients with poor performance status (ECOG PS-III), Medical Oncology
4. Clinical Outcome of MRI-CT based Intracavitary brachytherapy in cervical cancer: A retrospective Clinical Study, Radiation Oncology
5. Multimodality Imaging Evaluation of Chronic mass forming mastitis and role of ultrasound guided vacuum assisted biopsy in determining its etiology, Radio-diagnosis
6. A pilot study to compare Interstitial Multicatheter Brachytherapy (IMB) versus Volumetric modulated ARC therapy for APBI in early breast cancer: An adaptation, toxicity and cosmesis comparison, Radiation Oncology
7. Assessment of Early Treatment Response And Dosimetric Evaluation In Locally Advanced Cervical Cancer Treated With 3d Conformal Radiation Therapy Along With Concurrent Cisplatin And Image Guided High Dose Rate Brachytherapy, Radiation Oncology
8. Correlation of Barrel Index determined by MRI in early cervical cancer with operability, lymph node status and local extension of the disease, Obstetrics and Gynaecology
9. A Prospective Study to evaluate the accuracy of Axillary Staging using Ultrasound guided FNAC in early Breast cancer Patients, Surgical Oncology
10. Evaluation of peritoneal cancer index (PCI) in primary advanced ovarian epithelial carcinoma amongst Indian population, Surgical Oncology

### **Radiation Oncology**

#### ***Ongoing***

1. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients, Biochemistry
2. Role of Nuclear Receptor network signaling in pathogenesis of Gallbladder cancer, Biochemistry
3. The role of novel self-assembling peptide matrix (SAPM) in prevention of post radiation caries in head and neck cancer patients: Randomized clinical trial, Conservative Dentistry and Endodontics, Centre for Dental Education and Research (CDER)
4. Can pre-session intra-ductal administration of N acetyl-cysteine in each wharton duct decrease xerostomia and improve quality of life in adult patients of oropharyngeal squamous cell carcinoma treated by single modality of radical external beam radiotherapy treatment?, Otorhinolaryngology, Pharmacology,
5. Formulation of Phantom brain to obtain & establish dosimetry of magnetic fields following repetitive transcranial magnetic field stimulation, Physiology

#### ***Completed***

1. Prospective pilot study for evaluating incidence of occult lymph node metastasis in patients with olfactory neuroblastoma, Departments of Otorhinolaryngology & head-neck surgery, Radiation Oncology, Medical Oncology, Pathology, Radiology & Nuclear Medicine
2. A Prospective study to determine the efficacy of Positron Emission Tomography-Computed Tomography (18F-FDG PET-CT) scan in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo-Radiation Therapy and its comparison with CECT, Nuclear Medicine, Radiation

Oncology, Medical Oncology, Otorhinolaryngology & head-neck surgery, Pathology & Radiology

3. MGMT promoter methylation in primary CNS lymphoma, Medical Oncology, Pathology & Radiation Oncology
4. Clinicopathological features and outcome of diffuse large B cell lymphoma- an ambispective analysis, Medical Oncology and Pathology

## Surgical Oncology

### Ongoing

1. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma, Pathology
2. Differentiating inflammatory and metastatic mediastinal lymphadenopathy on 18-FDG- PET/CT in lung cancer: Role of steroid suppression, Nuclear Medicine
3. Role of nuclear receptors in pathogenesis of carcinoma gall bladder, Biochemistry
4. A prospective study to elucidate molecular genetic risk factors of gallbladder carcinoma in Indian Population, Lab Oncology
5. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer. Lab Oncology
6. The phase II study of HIPEC and the proposed phase III RCT comparing between HIPEC and IP chemotherapy, TMC, Kolkata
7. Hyperthermia and immune modulation in homologous recombination stratified epithelial ovarian cancer: Development of targeted therapeutic approaches, TMC, Kolkata
8. An economic analysis of alternative treatment methods of ovarian cancer in India: An appraisal of economic burden, quality of life and mortality risk, Obst & Gynae
9. Determining Surgical Resection Margin of Cancer by Rapid Molecular Assessment Using Mass Spectrometric Imaging. Department of Chemistry, IISER Tirupati, Andhra Pradesh
10. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer. Lab Oncology.

### Completed

1. Comparison of analgesic efficacy of Ultrasound guided thoracic Paravertebral block versus surgeon guided Serratus Anterior Plane block for acute postoperative pain in patients undergoing thoracotomy for lung surgery-A prospective randomized study, Onco-Anesthesia
2. Outcomes of Metastatic Colorectal cancers over 15 years at a tertiary care cancer centre-A retrospective analysis, Medical Oncology

## PUBLICATIONS

**Journals: 259**

**Abstracts: 55**

**Chapters in Books: 42**

**Books: 4**

## PATIENT CARE

1. **TOTAL BED STRENGTH** = 182
  - a. Medical Oncology = 78
  - b. Radiation Oncology = 37
  - c. Surgical Oncology = 61
  - d. Palliative Care Unit = 06
2. **TOTAL OPD ATTENDANCE – (2019-20)(TOTAL = 178700 )**
  - a. New Patient`s Registered = 13008
  - b. Revisits = 165692

### 3. DESCRIPTION OF VARIOUS OPD/CLINICS AT DR. BRAIRCH (YEAR 2019-2020)

S No.	Name of the OPD/Clinic	New patients			Revisits		
		Male	Female	Total	Male	Female	Total
1.	Adult Medical Oncology	1028	831	1859	16233	27462	43695
2.	Adult Lymphoma Leukemia	-	-	-	-	-	-
3.	AML/HL	127	70	197	3173	2217	5390

4.	ALL/CML	227	119	346	3260	2451	5711
5.	Breast Cancer	35	631	666	526	8527	9053
6.	Bone & Soft (Tissue)	147	99	246	899	709	1608
7.	Cancer Prevention and Screening	02	08	10	-	-	-
8.	Familial Cancer	2	2	4	-	-	-
9.	Gastrointestinal	408	294	702	1278	1021	2299
10.	Gynaecology - `A`	-	125	125	-	855	855
11.	Gynaecology - `B`	-	354	354	-	1849	1849
12.	Gynaecology - `C`	-	258	258	-	1037	1037
13.	Genitourinary & Gynae	102	183	285	729	1949	2678
14.	Head & Neck (Surgery) - A	231	85	316	1409	549	1958
15.	Head & Neck (Ent) – B	1038	170	1208	3486	1029	4515
16.	Hepatobiliary & Pancreatic	146	110	256	874	640	1514
17.	Lung Cancer	532	196	728	4845	2816	7661
18.	NHL/MM/CLL	79	55	134	1851	1133	2984
19.	Neuro Oncology	278	133	411	1699	837	2536
21.	Ophthalmic Tumour	24	15	39	30	45	75
22.	Paediatric Medical Oncology	251	117	368	8351	5399	13750
23.	Paediatric Lymphoma Leukemia	98	25	123	4978	2744	7722
24.	Paediatric (Surgery)	67	49	116	1943	1697	3640
25.	Pain Relief	689	431	1120	8389	8348	16737
26.	Pain & Palliative Care (RT-Ii)	-	-	-	-	-	-
27.	Paediatric Palliative Care	-	-	-	-	-	-
28.	Radiotherapy	658	892	1550	6059	8123	14182
29.	Surgical Oncology	360	340	700	1917	2328	4245
30.	Thoracic Oncology	198	166	364	1171	916	2087
31.	Transplant	13	11	24	904	582	1486
32.	Urology Malignancy	389	30	419	4266	1397	5663
33.	Endo Malignancy	49	31	80	389	373	762
	Total	7178	5830	13008	78659	87033	165692

**G.TOTAL = 13008 + 165692 = 178700**

<b>ADMISSIONS (2019-2020)</b>	
REGULAR ADMISSIONSS	11290
SHORT/DAY CARE ADMISSIONS	34435
TOTAL ADMISSIONS	45725

<b>DISCHARGES (2019-2020)</b>	
REGULAR DISCHARGES	11072
SHORT/DAY CARE DISCHARGES	34130
TOTAL DISCHARGES	45202

TOTAL DEATHS – (2019-2020)	281
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<b>OPERATION THEATRE SERVICES – (2019-2020)</b>	
MAJOR OPERATIONS	1342
MINOR OPERATIONS	10318
TOTAL OPERATIONS	11660

<b>ELECTRO-CARDIOGRAM (ECG)</b>	<b>4681</b>
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<b>OPD PROCEDURES (TREATMENT ROOM NO.15)</b>	<b>6267</b>
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<b>OPD CHEMOTHERAPY SERVICES (TREATMENT ROOM NO. 15)</b>	
MALE CT	4599
FEMALE CT	2436
MALE CHILD CT (PAED.)	5677
FEMALE CHILD CT (PAED.)	1968
TOTAL CASES	14680

**OPD ATTENDANCE NEW PATIENT'S REGISTERED (MALE & FEMALE) – (2019-2020)**

NEW PATIENT'S REGISTERED	MALE	FEMALE	TOTAL
APRIL–2019	640	520	1160
MAY–2019	707	611	1318
JUNE–2019	630	432	1062
JULY–2019	753	596	1349
AUGUST–2019	602	512	1114
SEPTEMBER –2019	594	486	1080
OCTOBER–2019	546	479	1025
NOVEMBER–2019	615	443	1058
DECEMBER–2019	576	426	1002
JANUARY–2020	628	540	1168
FEBRUARY–2020	518	484	1002
MARCH–2020	369	301	670
TOTAL	7178	5830	13008

**TOTAL (MALE & FEMALE) = 13008**

**OPD ATTENDANCE REVISITS (MALE & FEMALE) – (2019-2020)**

REVISITS	MALE	FEMALE	TOTAL
APRIL = 2019	7014	8107	15121
MAY–2019	7460	7840	15300
JUNE–2019	5749	6677	12426
JULY–2019	6930	8138	15068
AUGUST –2019	6627	7413	14040

SEPTEMBER–2019	7205	7222	14427
OCTOBER–2019	7041	6719	13760
NOVEMBER–2019	6739	7323	14062
DECEMBER–2019	6603	7194	13797
JANUARY–2020	6494	7542	14036
FEBRUARY–2020	5958	7232	13190
MARCH–2020	4839	5626	10465
TOTAL	78659	87033	165692

**TOTAL (MALE & FEMALE) = 165692**

**GEOGRAPHICAL DISTRIBUTION ACCORDING TO THEIR RESIDENCE = 13008**

S.NO	State	TOTAL
1.	Andhra Pradesh	05
2.	Andman Nicobar	03
3.	Assam	24
4.	Arunachal Pradesh	04
5.	Bihar	1753
6.	Chandigarh	02
7.	Chhattisgarh	16
8.	Dadar & Nagar Haveli	-
9.	Daman & Diu	-
10.	Delhi	3998
11.	Goa	-
12.	Gujrat	08
13.	Haryana	1355
14.	Himachal Pradesh	43
15.	Jammu & Kashmir	121
16.	Jharkhand	160
17.	Kerala	22
18.	Karnataka	08
19.	Ladakh	11
20.	Lakshdeep	-
21.	Madhya Pradesh	247
22.	Maharashtra	24
23.	Meghalaya	04
24.	Manipur	29
25.	Mizoram	10
26.	Nagaland	02
27.	Orissa	47
28.	Pondicherry	01

29.	Punjab	73
30	Rajasthan	282
31.	Sikkim	13
32.	Tamilnadu	09
33.	Telangana	03
34.	Tripura	09
35.	Uttar Pradesh	4165
36.	Uttaranchal	395
37.	West Bengal	103
	TOTAL	12949

#### OTHER COUNTRIES

1.	Afghanistan	04
2.	Bangladesh	07
3.	Cameroon	01
4.	Congo (Democratic Republic)	01
5.	Nepal	45
6.	Republic Armenia	01
	TOTAL	59

**GRAND TOTAL = 13008**

#### LABORATORY ONCOLOGY SERVICES – (2019-2020)

1.	HEMOGRAM (HMG)–(HB, TLC, PLATELETS)	52077
2.	PERIPHERAL BLOOD SMEAR (PBS)	6826
3.	BONE MARROW ASPIRATION (BM)	4613
4.	CYTO-CHEMISTRY	1018
5.	SERUM PROTEIN ELECTROPHORESIS (SPE)	5060
6.	IMMUNOFIXATION (IFX)	3177
7.	URINE ELECTROPHORESIS (UE)	1406
8.	TUMOR MARKER	3431
9.	FLOWCYTOMETRY	40465
10.	C.S.F.	2133
11.	ESR	329
12.	MOLECULAR BIOLOGY	6707
13.	SERUM FREE LIGHT CHAIN	96
14.	CYTOPATHOLOGY	44
15.	BETA 2 – MICROGLOBULIN	597
16.	CYTOLOGY	514
17.	HPB DNA	1537
	Total	130030

**G.TOTAL = 130030**

**APHERESIS – (2019-2020)**

1.	SINGLE DONOR PLATELETS (SDP)	2818
2.	PERIPHERAL BLOOD STEM CELL – HARVEST (PBSC)	201
3.	HEMOGRAM	23868
4.	PLASMA	-
5.	NO. OF GRANULOCYTES	101
6.	PLASMA EXCHANGE	01
	TOTAL	26989

**G. TOTAL = 26989****MEDICAL ONCOLOGY LABORATORY SERVICES- (2019-2020)**

1.	CYTOGENETICS FOR DETECTION OF PHILDELPHIA CHROMOSOME	294
2.	CYTOGENETICS FOR CHIMERISM	01
3.	RT-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUALITATIVE)	532
4.	RQ-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUANTITATIVE)	512
5.	CD 34 COUNTS BY FLOW CYTOMETRY	319
6.	CD 3 COUNTS BY FLOW CYTOMETRY	25
7.	IMMUNO PHENOTYPING FOR LEUKEMIA	-
8.	MNC COUNTS	189
9.	CRYOPRESERVATION OF STEM CELLS – 80	132
10.	STORAGE OF STEM CELLS AT 4	68
11.	BONE MARROW TRANSPLANT	02
12.	INFUSION OF STEM CELLS	140
13.	VIABILITY OF STEM CELL	159
14.	ELISA FOR ASPERGILLOSIS DETECTION	2658
15.	SCREENING OF FLT-3 MUTATIONS IN AML	-
16.	LDH	483
17.	Magnesium	109
18.	Acute Leukemia Cytogenetics	05
	Total	5628

**G. TOTAL = 5628****MEDICAL PHYSICS SERVICES (2019-2020)**

	No. of blood bags irradiated	1235
	Quality Assurance test done on X-Ray machines	2561
	Quality Assurance test done on film processor at DR. BRAIRCH, AIIMS	-
	Quality Assurance test on film processor at Radiology (Main)	-
	Radiation output measurements in X-Ray units	416
	Quality Assurance test done on film processor at AIIMS	-
	Radiation protection survey measurements	-

	Advise in inadvertent exposure to pregnancy	09
9.	Q.C. test fluoroscopy done at AIIMS	-
10.	Q.A. test done on Lead apron	118
	Total	4339

**G. TOTAL = 4339**

**RADIOTHERAPY SERVICES –(2019-2020)**

1.	CASES ON RADIOTHERAPY	61937
2.	TOTAL FIELD ON RADIOTHERAPY	-
3.	CASES ON BRACHYTHERAPY	930
4.	TREATMENT PLANNING AND SIMULATIONS	3782
5.	TWO AND THREE DIMENSIONAL DOSE DISTRIBUTIONS	727
6.	COMPENSATORS	382
7.	SHIELDING BLOCKS IMMOBILIZATION DEVICES AND ORIFITS	2099
8.	RADIATION REVIEW CLINIC	3051
9.	PLANNING C.T.	1406
	TOTAL	74314

**G.TOTAL = 74314**

**RADIO-DIAGNOSIS SERVICES (2019-2020)**

1.	C.T. SCAN	7641
2.	ULTRA-SOUND	6710
3.	MAMMOGRAPHY	2302
4.	X-RAYS (ROUTINE)	15370
5.	DOPPLER	329
6.	INTERVENTION	1560
7.	SPECIAL INVESTIGATION (BA,I)	851
	TOTAL	34763

**G.TOTAL = 34763**

**Onco-Anesthesia and Palliative Medicine**

**Facilities available in the Department**

1. 'Pain Policy' at IRCH, AIIMS. The aim of the policy is, IRCH is committed to treat pain of all registered patients
2. Continue to run two new course at AIIMS, MD, Palliative Medicine and DM, Onco-Anesthesia at Department of Onco-Anesthesia and Palliative Medicine
3. Structured Pain and Palliative care Program for whole of the hospital
4. Running Pain and Palliative care clinics all six days in a week at IRCH, AIIMS
5. Advance Interventional Pain Management techniques like PNFS (Peripheral Nerve Field Stimulator) and Programmable Intrathecal Implant
6. USG guided nerve blocks in supine position for Gastro intestinal and Gynecological Malignancy
7. Ultrasound guided line central venous line placements
8. Radiofrequency ablation for Cancer Pain Patients

9. Scrambler Therapy in Cancer Pain Patients
10. Indian Association of Palliative Care's Certificate Course in Palliative Care Unit of Anesthesiology, Dr BRA, IRCH is Nodal Center for conducting Indian Association of Palliative Care's Certificate Course in Palliative Care twice in a year
11. Research on psychosocial and spiritual aspect of pain in Cancer patients International collaborative research started in area of Pain and Palliative Care

#### Laboratory Oncology

S.No.	Investigation	Number
1.	Hemogram	52077
2.	Bone Marrow	4613
3.	Peripheral blood smear	6826
4.	Serum Protein Electrophoresis	5060
5.	Urine Electrophoresis	1406
6.	Immunofixation	3177
7.	Serum Free Light Chain	96
8.	ESR	329
9.	Cytochemistry	1018
10.	Cytospin	2133
11.	Flowcytometry	40465
12.	Molecular Studies	6707
13.	Beta 2 microglobulin	597
14.	Tumor Marker	3184
15.	HPV DNA Test	1537
16.	Guided Cytopathology	514

#### Medical Oncology

##### Dr Chandra Prakash Prasad

Started two biochemical assays for cancer patients in Department from April 2018 onwards

1. Serum LDH Assay
2. Serum Mg<sup>2+</sup> Assay

##### Dr Mayank Singh

1. PCR based services (Real time and Nested PCR) for Cancer patients for quantification of BcrAbl transcript for CML patients from last one year with a patient load of 527 patients for Quantitative PCR and 427 patients for nested PCR for year 2019-2020 (Total patient load =956 for year 2019-2021).
2. Started ELISA based VEGF estimation services for patients which we are providing today as a regular patient service (No charge)

#### Medical Physics

- |  |             |
|--|-------------|
| 1. No. of blood bags irradiated                        | 1235        |
| 2. Quality Assurance tests done on x-ray machines      | 2561        |
| 3. Radiation output measurements in x-ray units        | 416         |
| 4. <i>Advices in inadvertent exposure in pregnancy</i> | 09          |
| 5. QA tests done on lead apron at AIIMS                | 118         |
| <b>Total</b>   | <b>4339</b> |

## Preventive Oncology

### Community Services

Health awareness camps outside AIIMS

1. Female Cancer Awareness Programme for girls of Government College at Nehru College, Faridabad on 21 January 2020
2. Cancer prevention awareness event at Kirori Mal College on 27 February 2020.

### Health awareness camps in AIIMS

1. Lung Cancer Awareness Programme in collaboration with Department of Pulmonary Medicine and Sleep Disorders and National Drug Dependence and Treatment Centre, Ghaziabad.
2. Cervical Cancer Awareness Programme in collaboration with Department of Obstetrics and Gynaecology.

## Radiodiagnosis

S.No.	Name of Investigations	Number
1.	X-ray	15370
2.	Ultrasound	6710
3.	Doppler	329
4.	CT	7641
5.	Mammography	2302
6.	Special investigations (fluoroscopy)	851
7.	Interventions	1560
	<b>GRAND TOTAL</b>	<b>34763</b>

## Radiation Oncology

### A. DEPARTMENTAL STATISTICS (IRCH)

- |    |   |       |
|----|---|-------|
| 1. | Total cases of external beam radiotherapy       | 61937 |
| 2. | Total cases of brachytherapy                    | 930   |
| 3. | Treatment Planning and Simulations              | 3782  |
| 4. | 2D and 3D distribution                          | 727   |
| 5. | Compensators                                    | 382   |
| 6. | Shielding blocks, immobilization devices, molds | 2099  |
| 7. | Radiation Review clinic                         | 3051  |
| 8. | Planning CT                                     | 1406  |

### B. DEPARTMENTAL STATISTICS (NCI-AIIMS, Jhajjar)

- |    |   |      |
|----|---|------|
| 1. | Total cases of external beam radiotherapy | 6197 |
| 2. | Total cases of brachytherapy              | 453  |
| 3. | Planning CT                               | 463  |
| 4. | Total Registration with RT                | 1534 |
| 5. | Total OT performed                        | 299  |

## Surgical Oncology

### Facilities available in department

1. **Minor Operation Theater:-** Diagnostic and minor therapeutic procedures including Lymph node biopsy, punch/trucut biopsy, excision of Skin/Oral tumors, soft tissue tumors, feeding jejunostomy, colostomy, insertion of Hickman's catheter/ chemo ports for long term Chemotherapy are available in the Minor OT
2. **Endoscopy Services (Diagnostic & Therapeutic):**
  - Diagnostic Endoscopy: Video and Fibre optic upper GI endoscopy, side viewing duodenoscopy, Colonoscopy, Sigmoidoscopy, Bronchoscopy, Cystoscopy, Nasopharyngo laryngoscopy and laparoscopy
  - Therapeutic Endoscopy: Stricture dilatation, Intraluminal Radiotherapy, Stenting and Percutaneous Endoscopic Gastrostomy
3. **Major Operation Theater:** Facilities available for all major cancer Surgeries including radical resection and reconstruction of tumors involving Head & Neck, GI tract, Breast, Bone and Soft tissue, Gynaecological malignancies, Hepato-Biliary-Pancreatic malignancies and Thoracic tumors. Advanced reconstructive surgical procedures are under taken to reconstruct the defects after resection

In addition advanced state of art surgical oncology services are being offered including Minimally Invasive Surgery for GI cancers, Thoracic cancers and Gynae cancers, HIPEC for peritoneal surface malignancies, complex Limb salvage procedures for sarcomas and Risk reducing surgery for hereditary cancers

**Total no. of Minor Operations & Endoscopic procedures performed: 10,493**

**Total no. of Major Cancer Operations performed: 1374**

#### **Surgical Audit & Quality Metrics**

- Overall Bed Occupancy – 100%
- Operative Mortality – 0.8%
- Peri- Operative Morbidity (C.D-Grade III &IV) – 7 %
- Re-operation Rate - 1.06 %
- Re-Admission rates - 0.5%

#### **Other salient initiatives:**

NCI –AIIMS- The department of Surgical Oncology has actively contributed for planning, procurement and commissioning of Surgical Oncology services at NCI Jhajjar. Oncology OPD services started in February 2019 and major OT services in May 2019.

#### **Community service**

1. Dr Sunil Kumar. Providing free cancer care services and student awareness for Cancer in Bihar & Jharkhand through an NGO, Chandrakanti Devi Cancer Foundation
2. Dr. Sunil Kumar. Provided services as Surgical Oncologist as a part of the AIIMS team providing clinical care and personal training in Leh (Laddakh) through Ashoka Mission, September 2019

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

With the inauguration of National cancer Institute at Jhajjar, Haryana in 2019 as the second campus of AIIMS, New Delhi in 2019, the Chief Dr BRAIRCH and Heads of Departments/Units were assigned mentoring role and over-sight of the National Cancer Institute for the proper development in consonance with the objectives of AIIMS and NCI under the overall guidance of Director AIIMS.

#### **Onco-Anesthesia and Palliative Medicine**

**Professor Sushma Bhatnagar** was president of Indian Association of Palliative Care, 2018, member of Scientific Committee of World Congress on Pain to be held at Amsterdam in August 2020, scientific Committee of World Congress on Pain to be held at Boston during 12-16 September 2018; Implementation Group - Lancet Commission Global Access to Pain Control and Palliative Care, 2018. She was recipient of 2018 International Innovation Grant (Project ID 12554) from Conquer Cancer Foundation by American Society of Clinical Oncology; council member' International Association of Study of Pain (IASP) Council for a period of 6 years till 2023; Chief Editor' of Indian Journal of Palliative Care since 2009. She was appointed as Board of Directors of International Association of Hospice and Palliative Care (IAHPC) in 2014 for 3 years; Master mentor' of Palliative care program in India. She was 'Deputy Team leader' of Training-of-Trainers in Palliative Care Programme by Asia Pacific Hospice Palliative Care Network, 2012-2018. She is reviewer of articles for Lancet Oncology and British Journal of Anaesthesia.

**Dr Rakesh Garg** was awarded Proficiency Award 2019 for invaluable contribution and outstanding services to the society, Awarded with award certificate of Appreciation at ISACON 2019- 67th Annual National Conference of ISA, Bangalore; November 2019. He was invited as judge for Paper presentation at AIDAA national Conference. He was invited at an observer at ILCOR task force meeting for development of Resuscitation guidelines. Became task force member for contributing CPR guidelines framework for resource constraints settings at ILCOR. He received certificate of recognition as a reviewer for the year 2019 from the Editorial Board of JNACC (Journal of Neuroanaesthesiology and Critical Care). He was selected for the Singapore Medical Journal reviewer recognition awards 2019. He received letter of appreciation and certificate of merit for outstanding work as Associate Editor for Indian Journal of Anaesthesia in the year 2019-2020. He is Associate Editor of Indian Journal of Anaesthesia; Journal of Anesthesiology and Clinical Pharmacology and BMC Emergency Medicine, pubmed indexed journal.

**Dr Nishkarsh Gupta** is reviewer of IJA, BMJ open, JOAPC, Iranian Journal of Pediatrics, Indian Journal of Cancer and editorial board member of Medical Journal of Dr DY Patil Vidyapeeth

**Dr Balbir Kumar** was awarded BLS & ACLS Provider AHA Certificate after successful completion of BLS & ACLS Course from 11-14 November, 2019 at Venkateshwar Hospital Dwarka New Delhi.

#### **DCR**

**Dr Rajeew Kumar Malhotra** received highest citation award to our paper title "Receiver Operating Characteristic (ROC) Curve for Medical Research" Indian Pediatric journal published in 2011 at Noida on 8 December 2019.

## Laboratory Oncology

**Professor Ritu Gupta** received award for paper on “Estimation of CNVs In Multiple Myeloma by Next Generation Sequencing Based Digital MLPA” at the 2nd Annual Conference of the Indian Myeloma Academic Group (11 and 12 May 2019)

**Dr Sanjeev Kumar Gupta** was awarded 6 months Fellowship in Genomics at MD Anderson Cancer Centre, Houston, Texas, USA (June 2019- December 2019) by Dept. of Health Research (DHR), Govt. of India.

**Dr Anita Chopra** received travel award of Japanese Society of Hematology annual meeting 2019.

**Dr Pranay Tanwar** received travel Grant award from ABPMT & ICBMT-2019 and award from 61st Annual Meeting 2020 Korean Society of Hematology International Conference

**Dr Amar Ranjan** was invited at 24th Annual Congress of Korean Society of Blood & Marrow Transplantation, 30th August -1 September 2019, Busan, Korea; Bengal Society of Hematology, Kolkata, BeSHCON 2020, 14-16 February, 2020 and represented at 1st Highlights of Past EHA (HOPE) in Asia from 23-25 August 2019 in Kolkata.

**Dr Gurvinder Kaur** received IUIS GECD-FOCIS Travel award 2020 for Advanced Course in Basic and Clinical Immunology, held on 1-4 March 2020 in San Diego, California, USA

## Medical Oncology

**Professor Lalit Kumar** was invited Faculty for 2020 Clinical Research Training institute in Asia Pacific (CRTI-APAC) Region by the American Society of Hematology (ASH), Washington. He delivered Padmashri Sh. Advani Oration’ during the Precision Oncology and Annual International Breast Cancer Conference 2019 on 12 October 2019 at Jaipur. He served as Ambassador of the Society of Hematologic Oncology (SOHO) Annual Meeting, Houston, USA (2017-Contd). He is Associate Editor (Asia) for Current Problems in Cancer (Elsevier) and member Editorial Board ‘ONCOLOGY (Karger), Clinical Hematology International (Atlantis Press) and Indian Journal of Medical Research (IJMR). He was the member of expert committee to evaluate the extension proposal on Chemical Biology & Therapeutics (CBT), Bangalore, (DBT, Govt. of India) date: 27 March 2020; Data Safety Management Board A Phase II/III, partially double blind, randomized, active controlled, multi centric study to assess immunogenicity and safety of SIPL’S qHPV vaccine; Standing Committee on Tertiary Cancer Care Programme, DGHS, NCD Section, Govt. of India, New Delhi; expert committee for IJMR, ‘Clinical Image Competition (December 2019); faculty Selection Board for Medical Oncology VMMC and Safdarjung Hospital, New Delhi- 110029 (31 July 2019). He was examiner for Ph.D to the University of Madras and JNCSR (Jawahar Lal Nehru Centre for Advanced Scientific Research, Bangalore)

**Professor Atul Sharma** was awarded ISMPO oration during biennial ISO – ISMPO joint meeting at Indore on 1 November 2019. He visited Bhutan in August 2019 as part of delegation of Government of India for establishing a cancer hospital in Bhutan and Princess Margaret Hospital, Toronto, Canada avail of Short-Term Training/Observership in Bone Marrow Transplantation (for unrelated and haploidentical allogenic stem cell), Canada, 2019.

**Professor Sameer Bakhshi** was awarded “Atal Swasthya Bhushan Samman” in Memory of Bharat Ratna Atal Bihari Vajpayee Ji 2019 for extraordinary services and dedication towards profession by Sevron foundation.

**Dr Ranjit Kumar Sahoo** organized “Oncologic Emergencies” at Ramlingaswamy Board Room, AIIMS, New Delhi on 9 November 2019. He was visiting Fellow at Peking University Institute of Hematology (PUIH) for a period of 3 months between May-August 2019.

**Dr Raja Pramanik** participated as an expert at the meeting of experts for developing a consensus statement for genetic testing & management of Hereditary Breast and Ovarian Cancers [HBOC] in India; Indian Society of Medical and Pediatric Oncology; Mumbai, took various public awareness programmes at Saket bar association; Public awareness lecture on HBOC;ONAI, oncology Nurses association of India;New Delhi. He participated at medical camp organised by AIIMS and Patient Care Trust; Oncology services to Tibetan Refugees AIIMS Community Service and Patient; Dalai Lama; Temple, McLeod Ganj, India.

**Dr Chandra Prakash Prasad** received ‘Dr Bhagwati Prasad Innovative Research Award’ at 6th International Conference on ‘Translational Approaches in Clinical, Environmental and Biotechnological Research, ‘GenoPro-2019’ 11-12 October, Invertis University, Bareilly; 1st Poster Prize to Mr. Umar Sheikh, PhD Student at ‘GenoPro-2019’ 11-12 October 2019 Invertis University, Bareilly; II Poster Prize to Mr. Umar Sheikh, PhD Student at “Emerging Trends in Translational Oncology, on February 14-15, 2020 at AIIMS, New Delhi and NCI-AIIMS Jhajjar. He is member of scientific Organizations -EURAXESS membership from Aug 2019- till now and IACR (Indian Association of Cancer Res.): *Life Membership* from

September 2019. He is working group committee member at NIEPA on Two-day Workshop on finalization of Teaching Learning Resources for Life-science Teachers, on 16-17 January 2020 at NIEPA, New Delhi. He organized first basic conference in Medical Oncology, AIIMS i.e. “Emerging Trends in Translational Oncology, on 14-15 February, 2020 at AIIMS, New Delhi and NCI-AIIMS Jhajjar. He was chairperson for Biotechnology Session at ‘GenoPro-2019’ 11-12 October 2019 Invertis University, Bareilly. He was external Expert for Practical Exam/Viva voice for MSc Microbiology on 21 May 2019 at Invertis University, Bareilly. He was reviewers for various Peer-Reviewed journals i.e. Front. Oncol, J of Exp. Clin. Can. Res, Life Sci., Cell. Physio etc. He designed & Initiated ‘Cancer Biology Course for MSc Nursing’ in September-2019 at Dr. BRA IRCH, AIIMS, New Delhi.

**Dr Thoudam Debraj Singh was the organizing secretary** for first Conference on “Emerging Trends in Translational Oncology”: AIIMS, New Delhi and NCI-AIIMS, Jhajjar; 14 and 15 February 2020; New Delhi. He was expert Project Review committee (PRC); Nanotechnology/ Nanomedicine (ICMR); 2019 onwards; New Delhi. He organized a Guest Lecture by Dr. Parijat Bhatnagar, Program Director (Asc.), Cell Based Medicine, California, US; IRCH AIIMS, New Delhi; 24 December 2019; New Delhi. He designed and Initiated ‘Cancer Biology Course for M.Sc. Nursing’; I.R.C.H. AIIMS, New Delhi; September- November 2019; New Delhi. He is life **membership** ISNM (Indian Society of Nano Medicine) and IACR (Indian Association of Cancer Res.).

**Dr Mayank Singh** organized first Conference on “Emerging trends in translational Oncology” from 14-15 February at AIIMS New Delhi and NCI Jhajjar. He was panelist at “3rd Annual International Precision Oncology & Breast Cancer Conference” from 11 to 13 October at Hotel Marriott, Jaipur. His PhD Student Ravi Chauhan won the 3rd best poster award at “Emerging trends in translational Oncology” at AIIMS New Delhi

**Dr Sachin Kumar** received young Investigator Award for the Best Oral Presentation in NALCCON 2019: 10th Annual Conference of Indian Society for Study of Lung Cancer (ISSLC) organized at KGMU, Lucknow on 14 and 15 December 2019. He received extramural grant entitled “Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer” awarded by ICMR, New Delhi. Grant amount: Rs 47,64,984.00, Duration: 3 years (2019-2020) and poster presented on Diagnostic and prognostic utility of differentially expressed circulating microRNAs in Indian NSCLC patients (EP1.03-20). E-poster presented in IASLC 2019 World Conference on Lung Cancer held at Barcelona, Spain from 7 to 10 September 2019.

### Medical Physics

**Professor Pratik Kumar** was invited to become member, education and training committee, international organisation of medical physics (IOMP); Was invited by Tamil nadu and Puducherry chapter of Association of Medical Physicists of India (TN&PY-AMPI) to deliver Dr Cyril Albert Jayachandran Endowment Oration entitled “Practical aspects of quality in medical imaging: Summary of experience of 25 years” at Kanyakumari during TN&PY-AMPI Conference, 7 and 8 September, 2019; Was invited as technical expert for diagnostic radiology x-ray equipment by National Accreditation Board for Testing and Calibration Laboratories (NABL), Ministry of Commerce & Industry, Govt. of India; Was invited by Central Pollution Control Board (CPCB), Govt. of India as member, technical committee to evaluate the performance of ion generator with respect to two projects awarded to IIT Delhi and Science and Technology Park, Pune; Member, project monitoring committee, Technology Development Board (TDB), Deptt. of Science and Technology (DST), Govt. of India; Member, area review panel related to devices and diagnostics constituted by Biotechnology Industry Research Assistance Council (BIRAC), Deptt. of Biotechnology (DBT), Govt. of India; Got invited as expert for high level committee constituted by Min. of Environment, Forest & Climate Change on the order of Hon’ble Supreme Court on 25 November 2019 to discuss the feasibility of technologies to control air pollution in Delhi and NCR; Member, project review committee, Industry Innovation Program on Medical Electronics (IIPME), BIRAC, DBT & MeitY, Govt. of India; Member Secretary, Radiation Safety Committee, AIIMS; Examiner for PhD thesis from Tata Memorial Hospital, Mumbai entitled “Dosimetric and quality assurance studies in high dose diagnostic imaging modalities to establish national radiation protection programme” and by University of Kerala, Thiruvananthapuram, for another PhD. Thesis entitled “Evaluation of radiotherapy treatment planning techniques and different dose calculation algorithms for the management of breast cancer”; External expert, standing selection committee, PGIMER, Chandigarh for faculty of medical physics, Department of Radiotherapy and the post of medical physicist, LHMC, Delhi; Was invited by Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, Ministry of Defence to become chairman, project review committee to monitor a project entitled “Three dimensional radiation dosimetry with radiochromic gel system”; Referee for Journal of Medical Physics, Journal of Luminescence (Elsevier), Indian Journal of Radiological Imaging, Radiation and Environmental Biophysics (Springer), Physical & Engineering Sciences in Medicine (Springer), European J of Medical Physics (Elsevier), Radiation Physics Chemistry (Elsevier The Netherland); Australasian Physical and Engineering Sciences in Medicine (Springer), Radiation and Environmental Biophysics (Springer Berlin Heidelberg); Question setter for the selection of medical physicist, AIIMS, Bhubaneswar and BSc radiotherapy technology, KGMU; Examiner, BSc and MSc medical imaging technology radiodiagnosis, PGIMER, Chandigarh; Got invited by INMAS, DRDO to evaluate the mobile app Vikiran Prahri; Chaired meetings of Exposure Investigation Committee for Radiation Facilities of Northern Region (EIC-NR) at Northern Regional Regulatory Centre (NRRRC), AERB, New Delhi; Was editor, Medical Physics Gazette, newsletter of

Association of Medical Physicists of India (AMPI); Member, Editorial Board, Journal of Medical Physics; Member Electro-medical Equipment Sectional Committee, Bureau of Indian Standards (BIS), New Delhi.

### **Preventive Oncology**

**Dr Pallavi Shukla** was awarded the “AIOS - Community / Social Ophthalmology Award” on 14 February 2020 in 78th Annual Conference of All India Ophthalmological Society at Gurugram, Haryana and awarded best PhD Award at 53rd RPC foundation day on 14 March 2020

### **Radiodiagnosis**

**Dr Mukesh Kumar** was appointed as treasurer for Society for Emergency Radiology India for 2020-2021

**Dr Ekta Dhamija** was appointed as governing council member of Breast Imaging society of India for term of 2 years (2019-2021) and editorial team member of the Asia Pacific Journal of Cancer Care.

**Dr Krithika Rangarajan** was appointed to Digital Committee of Indian Radiology and Imaging Association for 2020 and received Albert L Baert Editorial Fellowship, European Society of Radiology for 2019-2020.

### **Radiation Oncology**

**Professor GK Rath** inaugurated the NCD screening programme and delivered a lecture on Prevention and early diagnosis of cancers for the Pourakarmikas at Bengaluru on 30 July 2019, was Chief Guest at the Cancer Conclave in Bhopal on 2 July 2019. He delivered the plenary lecture at the 1st TCGA conference and hands on workshop in India on ‘Multi-Omics studies in cancer-Learnings from TCGA’ at IISER, Pune on 21 September 2019 and keynote address- ‘Inception, Evolution and Future in Oncology’ at the AROICON 2019 at Ahmedabad on 30 November 2019. Dr GK Rath is the Chairman of Research Area Panel (RAP) on Cancer at NCDIR-ICMR, Bengaluru; MCI committee of experts to consider the issues relating to the academic qualifications and teaching experience for Department of nuclear medicine on 30 April 2019; High power committee for the 2nd Campus, CNCI, Kolkata; Chairman, PRSG of the Ministry of Electronics and Information Technology for the project ‘Development of low cost automated screening system for cervical cancer (Cervi SCAN-II)’ implemented by CDAC, Thiruvananthapuram; Chairman, of the committee to oversee the technology transfer process of Dual energy medical LINAC being developed by SAMEER, Mumbai by Ministry of Electronics and Information Technology. He is scientific Advisory Committee (SAC) of National Centre for Disease Informatics and Research (NCDIR), Indian Council of Medical Research, Bangalore and Chairman of the National Steering Committee for the project entitled ‘Research and development of high energy electron linear accelerator technology for medical and other applications’ being implemented by SAMEER, Mumbai and INMAS, DRDO, New Delhi. Dr GK Rath is a member of expert Committees/Bodies of Indo US Advanced Radiotherapy Consortium (IUS-ARC) Working Group; expert group meeting on Cancer in North East region NCDIR, Bengaluru on 3 June 2019; expert group for the finalising the proforma for ‘Patterns of care and survival studies of Gall bladder cancer in HBCR under ICMR-NCRP, Bengaluru on 8 May 2019. He was invited to participate in the meeting for ‘Setting up of TCCC at Ambala Cantt, Govt of Haryana Chandigarh on 6 May 2019. He is chairman of Standing Selection Committee of Faculty at AIIMS Bhopal on 17-19 December 2019, expert in the meeting of the ‘Personal Promotion Assessment Board’ for promotion of faculty members in the Department of Radiation Oncology at IGIMS, Patna on 19 November 2019; member, Atomic Energy Regulatory Board (AERB), Govt of India; BARC committee to evaluate the Development of Reactor for Isotope Production on 7 October 2019 at Mumbai. He was examiner for MD (RT) practical examination at KGMU & Dr RMLIMS, KGMU, Lucknow on 20 and 21 June 2019. He is member of Institute body of AIIMS Bhopal, Governing Body of AIPH university, Bhubaneswar & Super Speciality Cancer institute and Hospital, Lucknow; Governing Bodies of 4 Regional cancer centers (RCC): Acharya Tulsi RCC, Bikaner, Acharya Harihara RCC, Cuttack and RCC, Agartala, and RCC, Allahabad; and Standing Academic and Research Council (SARC) of CNCI, Kolkata.

**Professor Subhash Gupta** was associated with the cancer screening activities of ICPO, Noida; active support to patient care activities by Ashoka mission, associated with patient care Trust at Dharamshala. He was external examiner to conduct the thesis evaluation at Dr SN Medical College Jodhpur on 5 April 2019 and thesis evaluation at Dr SN Medical College Jodhpur on 31 January 2020.

**Dr KP Haresh** is associated with the cancer screening activities of ICPO, Noida; active support to patient care activities by Ashoka mission. He was external examiner to conduct the Thesis evaluation at RNT Medical College, Udaipur on 26 February 2020, DNB Final Practical examination in Radiotherapy at Cancer Institute, Adayar on 9 and 10 May 2019; and evaluation of DNB thesis in Radiotherapy for the year 2019. He was member of Project review committee (PRC) in Oncology of Indian Council of Medical Research (ICMR), New Delhi; Project review committee (PRC) of Research Methodology Cell at ICMR, New Delhi; member of the Thematic Group ‘Diagnostics’ of the India Cancer Research Consortium (ICMR-ICRC) call for proposals 2019 for Detailed Proposal Shortlisting Meeting at DHR, New Delhi on 13 January 2020; member of the thematic group ‘Diagnostics’ for the India Cancer Research Consortium (ICMR-ICRC) for Concept Proposal Shortlisting Meeting under

ICMR-ICRC at the Department of Health Research (DHR) on 5 November 2019. He was member of the panel for the walk-in-Interview for filling up of one post of Scientist 'C' (Medical) in the project entitled, "Indian Cancer Research Consortium (ICRC) under Division of NCD, ICMR Hqs., New Delhi on 8 July 2019; for the walk-in-Interview for filling up of one position of Research Assistant in the project entitled, "India Cancer Research Consortium (ICRC)" at DHR under Division of NCD, ICMR Hqs., New Delhi on 31 October 2019 at Department of Health Research (DHR), New Delhi

**Dr Ahitagni Biswas** was invited as national expert in Pediatric malignancies in the first National Cancer Grid (NCG) research and guideline meeting at Tata Memorial Centre, Parel, Mumbai on 26 and 27 September 2019. He was awarded ICMR travel grant for presenting an oral abstract at the 51st Congress of the International Society of Paediatric Oncology (SIOP) from 23-26 October 2019 at Lyon, France, travel scholarship from Society for Neuro-Oncology (SNO) for attending the SNO 24th Annual Scientific Meeting and Education Day in Phoenix, Arizona, on 20-24 November 2019. He is member of the abstract review committee for the 13th SIOP Asia conference at Mumbai, India, September 2020

**Dr Supriya Mallick** received AROI fellowship of 35-40-years age group in Ahmedabad. 28 November-1 December 2019

### **Surgical Oncology**

**Professor SVS Deo** was elected as Treasurer, Breast Surgery International, Switzerland; President Indian Society of Peritoneal Surface Malignancies; President oAssociation of Breast Surgeons of Indi"; Vice President NCR oncology forum; nominated as visiting professor by AIIMS, Rishikesh. He was invited by National cancer Grid, TMH as subject expert for National guideline development for breast cancer; subject expert for faculty selection by NEIGRIMS, AIIMS Rishikesh and AIIMS Bhubaneswar. He organized a joint meeting with Society of Surgical Oncology, USA and AIIMS – Delhi, Rishikesh, Patna & Bhubaneswar on for standardizing surgical oncology curriculum and training in India. Various awards were received-Sudhakar G: Awarded first prize in quiz in Delhi Oncology forum Annual Meet, 2019; Jyoutishman Saikia: Second Best Prize in Quiz Competition at World Congress of Surgery, Krakow Poland 11-15 August 2019; Jyoutishman Saikia: International travel award from the Department of Science and Technology, India for presenting poster titled "Operated Stages I-IIIB NSCLC among Young Indian Cohorts-Clinical Profile and Outcomes" at World Conference on Lung Cancer, IASLC, Barcelona, Spain from 7 to 10 September 2019 and Manoj Gowda awarded Gita Mittal Prize for Best Thesis. Visting scientist under his headship were Prof. David Wintreat, Professor of Surgical Oncology, University of Wiscocin, USA; Professor Chandrakant Are, Division of Surgical oncology, University of Nebraska, Omaha, USA; Dr Geeta Shetty, Senior Consultant, Breast Surgery, Birmingham, UK; Professor James Howe, President, Society of Surgical oncology, Washington, USA and Dr GarimellaV, Senior Consultant, Colorectal Surgery, UHNM, Stoke-Trent, UK.

## 10.4. Dr Rajendra Prasad Centre for Ophthalmic Sciences

### Chief

Atul Kumar

### Professors

Pradeep Sharma	Ramanjit Sihota	Gita Satpathy (Ocular Microbiology)
JS Titiyal	Radhika Tandon	SK Khokhar
Shakti Kumar Gupta (Medical Supdt.)	Mahesh Chandra	Dilip R Shende (Ocular Anesthesia)
Mandeep Singh Bajaj	Rajpal Vohra	Seema Sen (Ocular Pathology)
Sanjay Sharma (Radiodiagnosis)	Seema Kashyap (Ocular Pathology)	Namrata Sharma
Tanuj Dada	Pradeep Venkatesh	Neelam Pushker
T Velpandian (Ocular Pharmacology)	Praveen Vashist (Community Ophthalmology)	Jasbir Kaur (Ocular Biochemistry)
Rohit Saxena	Viney Gupta	Renu Sinha (Ocular Anaesthesia)
Tushar Agarwal	M Vanathi	Rajesh Sinha
Bhavna Chawla (On leave)		Parijat Chandra
Suraj Singh Senjam (Community Ophthalmology)	<b>Additional Professors</b> Alok Kumar Ravi (Ocular Biochemistry)	Nabanita Halder (Ocular Pharmacology)
Noopur Gupta Rohan Chawla	<b>Associate Professors</b> Rachna Meel Swati Phuljhele	Vinod Kumar Vivek Gupta (Community Ophthalmology)
	Nishat Hussain Ahmed (Ocular Microbiology)	
Shikha Gupta Prafulla Maharana	<b>Assistant Professors</b> Neiwete Lomi Shorya Vardhan Azad	Dewang Angmo Kanil Ranjith Kumar (Ocular Anesthesia)
Arshad Ayub	Amar Pujari	Rebika (Ocular Anesthesia)
	Manpreet Kaur	

### HIGHLIGHTS

Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, the apex centre for ophthalmic care in the country, is recognized as a premier super-specialty institute with state-of-the-art equipment and world class facilities for patient care, teaching and research. Some of the key highlights of Dr RP Centre include:

1. WHO Collaborating Centre for Prevention of Blindness.
1. Largest Postgraduate Teaching Program in the world with over 100 PG residents and over 50 senior residents being trained at any time.
2. Plays a major role in planning and policy development of eye care activities under the National Programme for Control

of Blindness and Visual Impairment, Ministry of Health & Family Welfare, India. The Chief, RP Centre is Advisor to the ministry for the program.

3. Conducted 26 scientific workshops on sub-specialties of Ophthalmology including live interactive surgical sessions and individualized wet lab sessions with hands on training.
4. **Retina and Uvea Services:** Apex referral centre for the management of various sight threatening vitreo-retinal disorders.
5. RP Centre introduced new facilities of Plaque brachytherapy in collaboration of IRCH for treatment of ocular malignancies. Upgradation of Low Vision Services with additional rehabilitation services with support of CBM Christoffel Blinden Mission. New Collaboration for research as requested by Director, AIIMS, by official circular, in keeping with President Obama and PM Modi Vision for Indo-US collaboration, collaborative links have been established with various Institutes of higher learning and excellence that includes Jules Stein Institute, Tufts University, UT Western University of Texas, Massachusetts Eye and Ear Infirmary, Harvard Medical School, NEI, NIH, Bethesda, MD, USA, Sightlife, Seattle, USA, Cleveland Clinic, USA. Assisted ICMR in preparation of Standard Treatment Workflows in Ophthalmology. Assisted National Health Authority in formulating guideline for ABPMJAY packages for Ophthalmology. Community Survey in Leh, Ladakh for eye diseases in the population at high altitude. Multi Centre Community Survey on urban blindness and environment.
6. **Glaucoma Services:** Initiated the National Training Programme for Upgrading Glaucoma Training in the country in collaboration with National Programme for Control of Blindness.
7. **Cornea, Cataract and Refractive Services:** Innovative techniques such as implantation of specialized intraocular lenses for improved visual outcomes for patients with dry AMD have been initiated. Bioengineering on artificial cornea research is going on.
8. **National Eye Bank (NEB):** Actively involved in teaching, research and patient care. Till date, NEB has collected over 30,000 corneas and conducted more than 21,000 corneal transplants. Certain milestones which NEB have achieved while working towards our target of eliminating corneal blindness include 10,500 pledges in north India in a single day, 22 corneal transplantation in a single day and 21 modern corneal surgeries (DSAEK) in a single day. NEB Utilization rate is consistently greater than 70% over the last 10 years. For the last consecutive 4 years more than 1000 corneal transplantation have been performed annually. NEB activities include tissue retrieval, serological investigations (HIV-1, HIV-2, HCV, HBV and Syphilis), tissue processing, tissue storage, tissue evaluation, specular microscopy, slit-lamp microscopy, training and workshop, eye donation promotion, teaching, research and education.
9. **Strabismus and Pediatric Ophthalmology:** Dedicated Strabismus, pediatric ophthalmology, neuro ophthalmology, oculoplasty and ocular oncology services continued to provide compassionate patient care during the year 2019-20. In addition, during the academic year our unit faculty delivered noteworthy amount of expert clinical talks on various topics at various national and international conferences. Throughout the academic year good quality scientific papers were published in various international journal from all our subspecialties with key clinical relevances in mind. Our unit faculty are now conducting various funded, non-funded thesis projects as well as other clinical research work. To conclude, keeping quality clinical work, research and patient care as our high morals the unit faculty continues serve for the better of future.
10. **Ocular Pathology:** Research being done in Role of NF $\kappa$ B (NF $\kappa$ B) pathway in uveal melanoma, Targeting PD-1/PD-L1 Pathway in tumor microenvironment - new immunotherapeutic paradigm for ocular malignancies, Study of lipid metabolism in Ocular Malignancies, Molecular characterization of malignant lacrimal gland tumors, Antiretinal antibodies in autoimmune retinitis, Identification and characterization of molecular targets in orbital tumors: Basis of innovative therapeutic strategies, Study of variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia, Pigmentation marker in uveal melanoma, Tumor DNA sampling from aqueous humour in retinoblastoma.
11. **Ocular Pharmacology & Pharmacy Division:** Providing disposable face shield (sterile and non-sterile both) to protect frontline corona warriors at Dr RP Centre and also has been donated to other centres/departments of our Institute and to Delhi Police in fight against COVID-19. Received BIG GRANT (BIRAC) for the project entitled "Development and validation of TransRecon Technique for sterile pharmaceutical preparation" on 2019. Received Grand Challenges Award for the project entitled 'Pre-clinical safety and efficacy studies for using polyvalent bacteriophage and endolysin therapy for intraocular infections with AMR' towards the call 'Under approaches to address antimicrobial resistance' jointly funded by Bill & Melinda Gates Foundation (BMGF) and DBT. Practicing high sterile dispensing of injectable/topical drug formulations for RPC and various other Departments of AIIMS. Analysis of drugs for research and patient care for RPC and AIIMS. A scientific analysis of bioactive compounds including antibiotics in surface and ground water in Delhi and NCR has been undergoing which is part of the initiative of National Mission for Clean Ganga. This environmental contamination is because of the non-segregated disposal of expired drugs in landfill. Standardized Corneal Storage Media (to enable corneal transplant for Govt. Ophthalmology hospitals in India) and serving it to 79 eye banks across 24 states of India (MHFW-AIIMS) from 2010 till date (enabled more than 15,000 eye donations across the country). Recently longer storage media has been introduced which can preserve donor cornea for a week.
12. **Ocular Microbiology:** The section processed approximately **26,000** specimens during the last year (from April 2019 to March 2020) for various investigations like Bacterial culture and antimicrobial sensitivity testing; Fungal culture; Culture and PCR for *Acanthamoeba* eye and CNS infections; Chlamydia antigen detection, serology, PCR assay from

eye infections and male and female genital tract infections; Herpes simplex virus antigen detection; PCR assays for bacteria, fungi, viruses, *Chlamydia* and *Acanthamoeba* etc. from indoor and outdoor patients of Dr RP Centre for Ophthalmic Sciences. The investigations for Chlamydial infections, viral infections and *Acanthamoeba* infections were also provided to other clinical department of AIIMS on request

13. **Ocular Biochemistry:** Ocular Biochemistry is continuing to provide services in teaching, research and patient care. Clinical Biochemistry laboratory and Research laboratory facility have been upgraded with state-of-the-art equipment. More than 20 parameters are being done in Ocular Biochemistry laboratory which involves lipid profile, LFT, KFT and other specific investigations such as hormones and vitamin B12 etc. The thrust focus is to identify non-invasive/minimal invasive biomarkers for early detection and prognosis of ocular diseases. Identified some of the biomarkers which could be used as prognostic/ therapeutic targets of ocular tumors.
14. **Community Ophthalmology:** Community Ophthalmology is involved in the activities like comprehensive primary eye care services, outreach eye camps in community as well as schools for the blind, school vision screening, low vision rehabilitation, and in epidemiological research and surveys, training and capacity building, community awareness and mobilization apart from academic activities. Outreach services also include screening of diabetic retinopathy in the underserved populations. Community ophthalmology is currently running 20 projects on eye care research & services in partnership with National agencies like NPCB&VI, DHR, ICMR, DST. Close collaborations have been developed with international agencies like World Health Organization, London School of Hygiene and Tropical Medicine UK, ORBIS, Sightsavers, VisionSpring, Operation Eyesight Universal, CBM etc. Community Ophthalmology completed in National Blindness and Visual Impairment (NB&VI) Survey-2018 in 31 districts across the country with support from National Programme for Control Blindness and Visual Impairment (NPCB & VI), Government of India. The executive summaries of the National Blindness and Visual Impairment Survey reports were released by the Hon'ble Minister of Health and Family Welfare of India, Dr Harsh Vardhan on 10 and 11 October 2019. Community Ophthalmology is collaborating with CARE department, IIT-Delhi for developing artificial intelligence, neural network, and vision computing based tools to detect glaucoma and diabetic retinopathy in patients receiving primary eye care services. Conducted an operational research on involvement of Accredited Social Health Activists (ASHA) in delivery of primary eye care amongst urban poor population.
15. **Primary eye care services:** As a part of routine outreach eye care services, it runs 28 Primary Eye Care Clinics in urban slums and underprivileged community of Delhi and National Capital Region in collaboration with Delhi Government and various NGOs. primary eye care services to poor and vulnerable communities as identified locations in Delhi. Patients requiring cataract surgery are transported to RP Centre and get admitted and operated free of charge.
16. **Low Vision Rehabilitation Services:** Under this initiative, vision rehabilitation services are being provided to people with visual disability by a team rehabilitation of Community Ophthalmology. Orientation & Mobility, Reading and writing rehabilitation services, Low vision evaluation, counselling on vocational training, activities of daily living (ADL), Instrumental ADL, issuance of disability certificates, advice for environmental and lighting modification are various components of services being offered to the needy patients and family members etc. All the information about various government scheme and assistance to avail are also provide. Young patients needing admission to schools for the blind are also helped. Community based rehabilitation is also run through networking system with various NGOs. Patients are being referred vocation training to such NGOs.
17. **Health education activities:** Community Ophthalmology has been conducting health education activities for patients utilizing out-patient and inpatient services at the institute. This is in addition to the already ongoing health education activities at the primary eye care clinics. The topics includes as general eye care, care of spectacles, refractive error, care after cataract surgery, glaucoma, retinoblastoma, retinopathy of prematurity etc.
18. Conducted survey in Leh, Ladakh under the project entitled "Multi Centric Study of Impact of exposure of Ultra Violet Radiation (UVR) & aerosol exposure on ocular health in India"

## EDUCATION

The centre is actively involved in teaching and training of undergraduate MBBS, BSc (optometry) and postgraduate in Ophthalmology.

Ophthalmologists and other trainees in RP Centre 2019-20	Number
Senior resident doctors	58
Post graduate students in Ophthalmology	112
Number of MD Passed out	27
BSc Optometrist students- passed out	15
Number of PhD students – Passed out	4
Details of short term/long term trainees in RP Centre	9

## **CMEs/Workshops/Symposia/National and International Conferences**

1. Phacoemulsification and Refractive Surgery update, January 2020. RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
2. Cornea workshop. October 2019. RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
3. Indian Society of Cornea & Keratorefractive surgeons (ISCKRS) 4th Annual ISCKRS Meet, August 2019, New Delhi
4. Strabismus Workshop, Dr RP Centre for Ophthalmic Sciences, AIIMS, 21 July 2019, New Delhi
5. Glaucoma Workshop, Dr RP Centre for Ophthalmic Sciences, AIIMS, 18 August 2019, New Delhi
6. WHO-SEARO meet aimed at preventing glaucoma blindness in South East Asia, 22 and 23 November 2019
7. Annual conference of Indian Neuro-ophthalmological Society (INOS), 30 November-1 December 2019, New Delhi.
8. Glaucoma week, 8-14 March 2020
9. Oculoplasty workshop in November 2019
10. 34th Eye Donation Fortnight, National Eye Bank, Dr RP Centre for Ophthalmic Sciences, JL Auditorium, AIIMS, 3 September 2019
11. A Low Vision Meeting, Low Vision Services Lab, Room No. 133, Dr RP Centre, AIIMS, 12 September 2019
12. Cornea Workshop, Lecture Theatre, 6th & 7th Floor, Dr RP Centre for Ophthalmic Sciences, AIIMS, 20 October 2019
13. Phacoemulsification & Refractive Surgery Update, Lecture Theatre, 6th Floor, Dr RP Centre, AIIMS, 19 January 2020
14. 2nd Investigator Meeting under the project entitled “Multi Centric study of impact of exposure to Ultra Violet Radiation (UVR) and aerosols exposure on ocular health in India”, Seminar Room Community Ophthalmology, 7th Floor, Dr RP Centre, AIIMS, 20 February 2020
15. 53rd Annual Day Celebrations Congress of Dr RP Centre for Ophthalmic Sciences, JL Auditorium, AIIMS, 14 March 2020
16. NPCB&VI National workshops (Two) for orientation of state programme officers on SAFE strategy implementation for Elimination of Trachoma in India on 22 April 2019 and 4 May 2019 at Dr RP Centre, AIIMS
17. Seven workshops in partnership with NPCB&VI for implementation of SAFE strategies for elimination of Trachoma in Gujarat (9-10 May 2019), Rajasthan Haryana & Punjab, Uttaranchal, UP and Himachal Pradesh for training of District Ophthalmologists and District Program Officers
18. Organized an Orientation & Mobility” training program for people with blindness & low vision at Community Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences on 26 and 27 September 2019
19. Organized workshop on “Clear Vision India for Strengthening Refractive error and presbyopia programs” on 6 March 2020 at Seminar Room, Community Ophthalmology Dr R P Centre, AIIMS

### **Lectures delivered**

**Atul Kumar: 20**

**Gita Satpathy: 2**

**S.K. Khokhar: 26**

**Rajpal Vohra: 3**

**Seema Kashyap: 2**

**Neelam Pushker: 4**

**Rohit Saxena: 13**

**M. Vanathi: 31**

**Nabanita Halder: 2**

**Vinod Kumar: 10**

**Vivek Gupta: 12**

**Neiwete Lomi: 3**

**Shorya Vardhan Azad: 4**

**Rebika: 5**

**Pradeep Sharma: 58**

**J.S. Titiyal: 11**

**Dilip R Shende: 11**

**Seema Sen: 1**

**Namrata Sharma: 37**

**T. Velpandian: 4**

**Viney Gupta: 6**

**Parijat Chandra: 13**

**Noopur Gupta: 24**

**Rohan Chawla: 12**

**Nishat Hussain Ahmed: 1**

**Dewang Angmo: 13**

**Kanil Ranjith Kumar: 3**

**Manpreet Kaur: 4**

**Ramanjit Sihota: 11**

**Radhika Tandon: 29**

**Mandeep Singh Bajaj: 4**

**Sanjay Sharma: 1**

**Tanuj Dada: 5**

**Praveen Vashist: 24**

**Renu Sinha: 4**

**Senjam Suraj Singh: 12**

**Rachna Meel: 1**

**Swati Phuljhele: 11**

**Shikha Gupta: 4**

**Prafulla Maharana: 4**

**Amar Pujari: 2**

### **Atul Kumar**

1. Macula Surgery DOS, April 2019, Delhi
2. Retina Diabetic Meeting, April 2019, Kolkata
3. Anti-VEGF's DME with VMT Chief Guest, June 2019, Ahmedabad
4. DR Lecture AFMC Guest Faculty, July 2019, Pune
5. Role of ultrawide field imaging SS-OCT & OCT imaging in Diabetic Retinopathy, DR Allahabad, July 2019, Allahabad
6. Surgical Considerations in diabetic vitrectomy, DR Allahabad, July 2019, Allahabad
7. Myopic Traction Maculopathy–Ngenuity VR visualization system I-Beach Ophthalmic Film Festival, August 2019, Goa
8. Retinal OCT BHU Varanasi Meeting September 2019 Varanasi

9. Anti-VGEF DOS, October Delhi
10. OCT & Beyond Uttara Eye Con, October, Rishikesh
11. Public Lectures Diabetic Blindness World Sight Day, October, AIIMS, Delhi
12. Diabetic Retinopathy VRSI Meeting, December 2019, Lucknow
13. Teachers in Ophthalmology AIOS-ARC ICO Zonal Conclave, January 2020, Delhi
14. Principal of VR Surgery I-FOCUS, January 2020, Delhi
15. Keynote AIOS ARC – ICO Teachers in Ophthalmology & Address Apex Conclave – Session 1 – Teaching Methods, AIOS, February 2020, Gurgaon
16. Eye Shala 2020 PG teaching session, AIOS, February 2020, Gurgaon
17. Advances in Techniques and Instrumentation for Vitreoretinal Surgery & My Top Mistakes in Retina, AIOS, February 2020, Gurgaon
18. Retina Grand Rounds – Interactive, AIOS, February 2020, Gurgaon
19. AIOS – ASRS Symposium AIOS, February 2020, Gurgaon
20. Macular Surgery Update AIOS, February 2020, Gurgaon

### **SK Khokhar**

1. Video based teaching of cataract surgical difficulties including the management of complications, The Midland Ophthalmological Society Medical Education Dept., 29 March-2 April 2019, Worcester, UK
2. Guest Lecture, SAO-POSA Pediatric Ophthalmology & Strabismus (SAARC), 27-29 September 2019, Maldives
3. Relationship Between Corneal Topography and Astigmatism, American Academy of Ophthalmology, AAO Meeting, 12-15 October 2019, San Francisco, USA
4. Guest Lecture, American Association for Pediatric Ophthalmology and Strabismus (AAPOS), 7-12 November 2019, Sydney, Australia
5. Pediatric Cataract Surgery, 70th Annual DOS Conference, 12-14 April 2019, New Delhi
6. Game of ophthalmic thrones, 70th Annual DOS Conference, 12-14 April 2019, New Delhi
7. Ophthalmic Premier League (OPL), 70th Annual DOS Conference, 12-14 April 2019, New Delhi
8. Refractive Surgery-New Era in Modern Ophthalmology, Teaching Army Doctors, 20 June 2019, Base Hospital, Delhi Cantt
9. Correct Pre Op Protocol in Cataract Surgery, AIOS, ARC Cataract and Glaucoma Symposium, 28 July 2019, Nagpur, Maharashtra
10. Multifocal IOL – My work up and Experience, AIOS, ARC Cataract and Glaucoma Symposium, 28 July 2019, Nagpur, Maharashtra
11. Subluxated Cataract – Possibilities and Management, AIOS, ARC Cataract and Glaucoma Symposium, 28 July 2019, Nagpur, Maharashtra
12. Complications of implantable contact lenses, AIOS, ARC Cataract and Glaucoma Symposium, 28 July 2019, Nagpur, Maharashtra
13. SMILE–the way forward!, Annual Conference of Indian Society of Cornea & Kerato-Refractive Surgeons (ISCKRS Meet 2019), 3 and 4 August 2019, New Delhi
14. Cataract, Health Show Programme, 17 August 2019, New Delhi, Rajya Sabha Television
15. Panel discussion, Eye donation, DD News Channel, 1 September 2019, New Delhi
16. Refractive Repertoire, IIRSI Delhi 2019, 7 and 8 September 2019, New Delhi
17. Perfecting Phakic IOL, IIRSI Delhi 2019, 7 and 8 September 2019, New Delhi
18. Pediatric Cataracts–does morphology help in etiology?, DOS (Delhi Ophthalmological Society) Winter Conference 2019, 2 and 3 November 2019, New Delhi.
19. Cataract Surgery in PHPV, Annual Conference for SPOSI (Strabismus and Pediatrics Ophthalmology Society of India), 6-8 December 2019, Chennai
20. IOL in infants Less than 1 year of age, Annual Conference for SPOSI (Strabismus and Pediatrics Ophthalmology Society of India), 6-8 December 2019, Chennai
21. Pearls of Pediatric Cataract Surgery, Annual Conference for SPOSI (Strabismus and Pediatrics Ophthalmology Society of India), 6-8 December 2019 Chennai
22. Post-Refractive Surgery Challenges, Phacoemulsification & Refractive Surgery Update, 19 January 2020, AIIMS, New Delhi

23. Smile, Pros and Cons, 78th Annual Conference of All India Ophthalmological Society (AIOS) Conference 2020, 13-15 February 2020, Gurugram, Haryana
24. Persistent Fetal, 78th Annual Conference of All India Ophthalmological Society (AIOS), Conference 2020, 13-15 February 2020, Gurugram, Haryana
25. Phakic Lens: Tips and Tricks, 78th Annual Conference of All India Ophthalmological Society (AIOS) Conference 2020, 13-15 February 2020, Gurugram, Haryana
26. Vasculature Cataract, 78th Annual Conference of All India Ophthalmological Society (AIOS) Conference 2020, 13-15 February 2020, Gurugram, Haryana

#### **Raj Pal**

1. Diabetic Retinopathy Retina Workshop, 22 September 2019, New Delhi
2. VRSI Conference, 5-8 December 2019, Kanpur
3. Guest faculty 4th Retina Summit 2019, 12 and 13 July 2019, Chennai

#### **Vinod Kumar**

1. Moderator, Retina Diagnostics, Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi
2. Multimodal imaging of pachychoroid spectrum, Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi
3. Spotting a publishable case, Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi
4. Art of publishing, impact factor and which journal to choose, Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi
5. UWF FFA and ICG Retina workshop, 22 September 2019, RPC, AIIMS, New Delhi
6. Understanding pachychoroid spectrum, Mid-term DOS, 23 November 2019, New Delhi
7. Endophthalmitis Refresher Course on PG Teaching, 4-6 October 2019, IHC, Delhi
8. Ultrawide Field Optos Angiography-Clinical Utility in Retinal Pathologies, Retina Workshop, 5-8 December 2019, VRSI, Lucknow, UP
9. Interpretation of OCT and OCTA, AIOC 2020, 12-15 February 2020, Gurugram, Haryana
10. Coinstructor, Clinching a Diagnosis in Retina: Clinical Assessment and Multimodal Imaging: Complement Each Other, AIOC 2020, 12-15 February 2020, Gurugram, Haryana

#### **Shorya Azad**

1. Debate: Anti VEGF in ROP: Against iROP, 21 June 2019, Chandigarh
2. Case discussion Uvea Rheumatology Conclave, 21 July 2019, New Delhi
3. Laser in Retina Workshop, 22 September 2019, RPC, AIIMS, New Delhi
4. Optic nerve Involvement in uveitis, 2nd Annual Conference of Neuro Ophthalmology, 1 December 2019, New Delhi

#### **Parijat Chandra**

1. Surgery for Stage 4 ROP to Operate in Advancing ROP AIOC 2020, 13-16 February 2020, Gurugram
2. Surgical management of stage 4 and 5 ROP AIOC 2020, 13-16 February 2020, Gurugram
3. Photoablation for Retinopathy of prematurity AIOC 2020, 13-16 February 2020, Gurugram
4. Surgeries for Pediatric Detachments, Annual VRSI 2019 Meeting, 5-8 December 2019, Lucknow
5. ROP surgery, Winter DOS Conference, 2 and 3 November 2019, Delhi
6. Evolving Role of Anti-VEGF drugs in ROP, Annual Conference of ACOIN, 18-20 October 2019, Kanpur
7. Bilateral same day Surgeries Pediatric Retina Summit, 12 and 13 July 2019, Chennai
8. Prophylactic Laser for Choroidal Coloboma Pediatric Retina Summit, 12 and 13 July 2019, Chennai
9. Current concepts in ROP Surgery-Surgery for stage 4 ROP, Paediatric Retina Summit, 12 and 13 July 2019, Chennai
10. Updates on FFA, Paediatric Retina Summit, 12 and 13 July 2019, Chennai
11. Combination treatment for ROP- Where, When and What, 4th Annual iROP Meeting 21-23 June 2019, Chandigarh
12. Management of Advanced ROP, CME Indian Academy of Paediatrics, 23 March 2019, Patna

13. Future of ROP Management in India, CME Indian Academy of Pediatrics, 23 March 2019, Patna

#### **Rohan Chawla**

1. Diabetic Vitrectomy, DOS Conference, April 2019, Delhi
2. Immunosuppressive in uveitis in DOS, Conference in April 2019, Bangalore
3. Surgery in Retinoschisis Conference at Bangalore in June 2019, DOS Conference, April 2019, Delhi
4. Giant Retinal Tear in DOS, Midterm Conference in Delhi in November 2019, DOS Conference, April 2019, Delhi
5. Complicated retinal cases (moderator), DOS Conference, April 2019, Delhi
6. Surgery in GRT, RETNET Conference, June 2019, Bangalore
7. Surgery in Retinoschisis, RETNET Conference, June 2019, Bangalore
8. Complicated retinal cases (moderator), RETNET Conference, June 2019, Bangalore
9. Giant Retinal Tear, DOS Mid-term Conference, November 2019, Delhi
10. Complicated retinal cases (moderator), DOS Mid-term Conference, November 2019, Delhi
11. Diabetic vitreo-retinal surgery, AIOS Conference, February 2020, Gurgaon
12. Large lesions of the retina, AIOS Conference, February 2020, Gurgaon

#### **JS Titiyal**

1. Comprehensive capsule for comprehensive ophthalmologist, All India Ophthalmological Society Conference, 13-16 February 2020, Gurugram, Haryana
2. Recent update in Anterior Segment Surgery, Delhi Ophthalmological Society January 2020, New Delhi
3. Understanding Corneal Topography and Biomechanics, Delhi Ophthalmological Society, December 2019, New Delhi
4. Refractive Surgery Session, Delhi Ophthalmological Society, 2 and 3 November 2019, New Delhi
5. Free paper cornea, Asia Pacific Association of Cat & Refractive Surgeons, 3-5 October 2019, Kyoto, Japan
6. Refractive Session, Annual Conference of Rajasthan Ophthalmological Society, 20-22 September 2019, Rajasthan
7. Reconstructive Procedure, Indian Society of Cornea & kerato refractive surgeons, 3 and 4 August 2019, New Delhi
8. Refractive Master Class, Cornea, Cat & Ref & Hospital Admn, Birat Nagar Eye Hospital, July 2019, Nepal
9. ISCKRS session, Intra ocular implant and refractive surgery society of India, 6 and 7 July 2019, Chennai, Tamil Nadu
10. Image Guided Surgery with FLACS, Visakhapatnam Ophthalmic Association, June 2019, Andhra Pradesh
11. Advancement phacoemulsification in cutting edge technology, Delhi Ophthalmological Society, 12-14 April 2019, New Delhi

#### **Namrata Sharma**

1. Lamellar Corneal Surgery, The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12-16 February 2020 Gurugram, Haryana
2. Management of Double Headed and Recurrent Pterygia, The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12-16 February 2020, Gurugram, Haryana
3. Intraoperative OCT in Corneal Surgery", The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12-16 February 2020, Gurugram, Haryana
4. Genetics of Corneal Ectasias, The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12-16 February 2020, Gurugram, Haryana
5. Management Algorithm of Fungal Keratitis, The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12-16 February 2020, Gurugram, Haryana
6. Balancing Clinics, Academics & AIOS" The 78th Annual Conference of All India Ophthalmological Society (AIOS) 12-16 February 2020 Gurugram, Haryana
7. Cataract Surgery in 2020 Phacoemulsification Surgery: New Frontiers, The 78th Annual Conference of All India Ophthalmological Society (AIOS) 12-16 February 2020 Gurugram, Haryana
8. IOCT guided DMEK, The 78th Annual Conference of All India Ophthalmological Society (AIOS), 12 16 February 2020, Gurugram, Haryana
9. IOCT guided management of endothelial keratoplasty, CME Program on Cornea and Ocular Surface, 4 January 2020, Hubli, Karnataka

10. iOCT guided phacoemulsification surgery, CME Program on Cornea and Ocular Surface, 4 January 2020, Hubli, Karnataka
11. Image guided toric intraocular lenses Phaco in Corneal Haze, The 7th Edition of Phaco Festival 2020, 18 January 2020, Bangalore
12. Tenon Patch Graft KERACON 2019, 13-15 December 2019, Kerala
13. Practical points in Medical management of Fungal keratitis KERACON 2019, 13-15 December 2019, Kerala
14. Management of Shield Ulcers, Case Based Discussion KERACON 2019, 13-15 December 2019, Kerala
15. Case Presentation: Tuck-in Tenon's graft KERACON 2019, 13-15 December 2019, Kerala
16. Selective Anterior Lamellar Corneal Replacement in Children: Intraoperative Considerations and Intra Operative Imaging in Lamellar Corneal Surgery, The Pediatric Cornea and Corneal Neurotisation Workshop, 10 November 2019, Hyderabad, Telangana
17. Microbial Keratitis, Dr Agarwal's Grand Round Program, 12 November 2019, Chennai
18. Post-surgical Microbial Keratitis KOSCON 2019, 8 and 9 November 2019, Belagavi, Karnataka
19. Paediatric Cataract KOSCON 2019, 8 and 9 November 2019, Belagavi, Karnataka
20. Toric intraocular lenses: Which one is the best?: Evidence based medicine and experience, The 43rd Annual Conference of MP State Ophthalmic Society, 20 October 2019, Jabalpur, MP
21. TFOS DEWS II what does it teach to the general ophthalmologist about dry eye, The 43rd Annual Conference of MP State Ophthalmic Society, 20 October 2019, Jabalpur, MP
22. Topical, systematic and targeted therapy for fungal Keratitis: TST Protocol CORNEA CONNECT-2019, 7-8 September 2019, Chennai
23. Panelist, Plug and play-Pentacam, Sirius, ASOCT, Biomechanics, Aberrometry, 4th Annual International Conference of Women Ophthalmologists Society, 9 and 10 September 2019, Bangalore
24. Trifocal lens, 4th Annual International Conference of Women Ophthalmologists Society, 9 and 10 September 2019, Bangalore
25. Femto cataract surgery, The 4th Annual International Conference of Women Ophthalmologists Society, 9 and 10 September 2019, Bangalore
26. Enhanced visualization for cataract surgery in corneal haze and opacity, The Annual Conference EYECON 2019, 9-11 August 2019, Salem, Tamil Nadu
27. iOCT Guided DALK DMEK and PDEK IIRSI 2019, 6 and 7 July 2019, Chennai
28. Transition from DMEK to PD EK: Why and How IIRSI 2019, 6 and 7 July 2019, Chennai
29. iOCT Guided DALK IIRSI 2019, 6 and 7 July 2019, Chennai
30. Understanding Premium Surgery IIRSI 2019, 6 and 7 July 2019, Chennai
31. When Medical Therapy Fails in Microbial Keratitis: What Next? IIRSI 2019, 6 and 7 July 2019, Chennai
32. Stem Cells Senescent to Recent IIRSI 2019, 6 and 7 July 2019, Chennai
33. Key Note- DMEK is the way to go Phacoemulsification in corneal haze, The Cornea, Cataract & Refractive 360, 13 and 14 July 2019, Jaipur
34. AIOS guidelines for cataract surgery, The 15th Annual Conference 'Achieving Universal Eye Health for Everyone & Everywhere', 8 June 2019, Chennai
35. What does DEWS II tell us about diagnosis and management? CME on Dry Eye Management-Recent update, 9 June 2019, New Delhi
36. Decision making in Refractive surgery, BOS Summit 2019, 22 June 2019, Bangalore
37. Management of Preexisting and Postoperative Corneal and Ocular Surface Problems during Phacoemulsification: Instruction Course", The Annual Meeting of ASCRS-ASOA 2019, 3-7 May 2019, San Diego, California

#### **Prafulla Maharana**

1. How to prepare for MD exam, DOS AIOS PG Teaching Program, 4-6 October 2019, New Delhi
2. Intra-lenticular lens aspiration in pediatric cataract with lens subluxation, DOS Winter Conference, 2 and 3 November 2019, New Delhi
3. Management of small corneal perforation Cornea Workshop, 20 October 2019, New Delhi
4. iFocus Postgraduate Education Program in Ophthalmology 2020, iFOCUS January 20, New Delhi

### **Manpreet Kaur**

5. Cataract-Basic Workup, Examination & Investigations, DOS AIOS PG Teaching Program, 4-6 October 2019, New Delhi
6. Failed DSAEK-How to Manage', DOS Winter Conference, 2 and 3 November 2019, New Delhi
7. C Collagen Cross Linking' Cornea Workshop, 20 October 2019, New Delhi
8. D Difficulties in Lenticule Extraction during SMILE-Phacoemulsification & Refractive Update, 19 January 2020, New Delhi

### **Ramanjit Sihota**

1. Trabeculectomy AIOS-ARC-Cataract & Glaucoma Symposium, 28 April 2019, Ahmedabad (Gujarat)
2. PACD AIOS-ARC-Cataract & Glaucoma Symposium, 28 April 2019, Ahmedabad (Gujarat)
3. PACD Glaucoma Management Summit-2019, 27 and 28 July 2019, Mumbai, Maharashtra
4. Bleb Revision Annual Conference of BOA Focus-2019, 9 August 2019, Mumbai, Maharashtra
5. Early diagnosis of progression, Annual Conference of BOA Focus-2019, 9 August 2019, Mumbai, Maharashtra
6. Gonioscopy features, Annual Meeting of Glaucoma Society of India (GSI), 20-22 September 2019, Lucknow, UP
7. Target IOP Annual Meeting of Glaucoma Society of India (GSI), 20-22 September 2019 Lucknow, UP
8. PACD Management, 15th Asian Angle Closure Glaucoma Club Seoul Meeting, 1 and 2 November 2019, Seoul, South Korea
9. Target IOP in children, 1st Conference of Indian Pediatric Glaucoma Society (IPGS), 7 and 8 December 2019, Hyderabad, Telangana
10. Interpreting Perimetry Erudio 2020, 11 and 12 January 2020, Bangalore, Karnataka
11. Congenital Glaucoma Erudio 2020, 11 and 12 January 2020, Bangalore, Karnataka

### **Tanuj Dada**

1. Meditation induces changes in Trabecular Meshwork gene expression in Primary Open Angle Glaucoma. ARVO Annual Congress 2019, 28 April-2 May 2019, Vancouver, Canada
2. Meditation as a Polypill for glaucoma, International Glaucoma Symposium organized by Swiss Glaucoma Research Foundation, 6 June 2019, Lausanne, Switzerland
3. Effect of Yoga and meditation in Glaucoma patients, Moorefield International Glaucoma Symposium, 25 and 26 January 2020, London, UK
4. OCT in Glaucoma, Post graduate teaching Programme, November 2019, Chandigarh, India
5. Targeting the brain in glaucoma, All India Ophthalmological Society Conference, February 2020, Gurugram, Haryana

### **Rohit Saxena**

1. Management of III nerve, DOS Annual Conference, 12 and 13 April 2019, New Delhi
2. Myopia Prevalence Stereoacuity outcomes in refractive procedures IIRSI, 6 and 7 July 2019, Chennai
3. Managing paralytic squint Telangana Ophthalmic Society, 12 and 13 July 2019, Hyderabad
4. Decision making in squint AIIMS Strabismus Workshop, 21 July 2019, New Delhi, India
5. Preventing myopia: Reality or gimmick IIRSI, 3 and 4 July 2019, New Delhi, India
6. Restrictive strabismus update Ophthafusion, 24 and 25 August 2019, Coimbatore, India
7. Refractive correction and visual rehabilitation in ped cataract IIRSI, 7 and 8 September 2019 New Delhi
8. Rehabilitation after secondary cataract American Academy of Ophthalmology, 12-15 October 2019, San Francisco, USA
9. Management of IIIH INOS, 30 November-1 December 2019, New Delhi
10. Muscle transposition procedures SPOSI, 7 and 8 December 2019, Chennai
11. Strabismus pearls Erudio, 22 January 2020, Bangalore
12. Neuro-ophthalmology fields Eye Focus, 11 January 2020, New Delhi
13. Understanding Strabismus: The Pediatric eye and Basic Strabismus AIOC Annual Conference, 13-16 February 2020, Gurugram

### **Viney Gupta**

1. Perimetry in Glaucoma for EYESHALA, Post graduate teaching program at the AIOS Annual Conference, 13 February 2019, Indore
2. The Well prepared examination under Anaesthesia: Congenital Paediatric glaucoma World Glaucoma Congress, 27-30 March 2019, Melbourne, Australia
3. Surgical Management of Uveitic Glaucoma World Glaucoma Congress, 27-30 March 2019. Melbourne, Australia
4. Moderator: Surgical Innovations in Glaucoma Annual Meeting of Delhi Ophthalmological Society, 12 and 13 April 2019, Delhi
5. Keynote lecture: Genomics, Machine learning and management of Juvenile Glaucoma, 33rd NZOS Meeting 1-3 November 2019, Jammu
6. Examination under Anesthesia 1st Indian Paediatric glaucoma Society Meeting, 7 and 8 December 2019, Hyderabad

### **Shikha Gupta**

1. Optimizing long term outcomes of glaucoma drainage devices AIOS, February 2020, Gurugram
2. Innovations in glaucoma surgery YOSI, 22 December 2019, Delhi
3. Corneal changes in Primary congenital glaucoma Annual DOS 2019, Delhi
4. Role of goniotomy in adult glaucomas Winter DOS 2019, Delhi

### **Dewang Angmo**

1. When to use Anterior segment OCT Annual DOSCON 2019, 13 April 2019, Delhi
2. Tips to publishing thesis Annual DOSCON 2019, 13 April 2019, Delhi
3. Role of lens extraction in primary angle closure disease, Winter DOS 2019, 3 November 2019, Delhi
4. OCT Guided Glaucoma Surgery Glaucoma Workshop, 19 August 2019, Delhi
5. Phaco GSL and Lens Extraction in Primary Angle Closure Disease Glaucoma Workshop, 18 August 2019, Delhi
6. Essential five points while interpreting gonioscopy findings GSI 2019, 21 September 2019, Lucknow
7. Teachers in Ophthalmology Apex Conclave-Session 5-Specialty Training DOS-AIOS Teaching Program, 6 October 2019, Delhi
8. ASOCT in Glaucoma Uttaraeyecon 2019, 13 October 2019, Rishikesh
9. Comparison of iCare ic200 and Perkin's Tonometry in Pediatric Glaucoma IPGS, 8 December 2019, Hyderabad
10. Target IOP: Medical & lasers for Glaucoma WHO SEARO, 22 November 2019, Delhi
11. Glaucoma curriculum for Ophthalmologists/Optometrists, WHO SEARO, 22 November 2019 Delhi
12. Lasers in Glaucoma: Video assisted Talk: Introduction AIOS 2020, 13 February 2020, Gurgaon, Haryana
13. Newer Lasers in Glaucoma management and postoperative care discussion AIOS, 2020 13 February 2020, Gurgaon, Haryana

### **Rebika**

1. Concepts of Amblyopia DOS-AIOS PG teaching 2019, New Delhi
2. Managing esotropias DOS Winter Conference, 3 November 2019, New Delhi
3. Approach to mononeuropathy INOS, 30 November-1 December 2019, New Delhi
4. Firecracker injuries- The great killer World Congress of Ocular Trauma 14 and 15 December 2019 New Delhi
5. Basic work-up in neuro-ophthalmology All India Ophthalmological Society Conference, 13-16 February 2020 Gurugram, Haryana

### **Pradeep Sharma**

1. Management of Dissociated vertical deviation DOSCON-2019, 13- and 14 April 2019, New Delhi
2. VRT Vs R&R for VI n palsy DOSCON-2019, 13-and 14 April 2019, New Delhi
3. Plication resection DOSCON-2019, 13 and 14th April 2019, New Delhi
4. Basic Workup of a patient with Squint Guest Lecture, 17 April 2019, Gurugram
5. Vision Testing in Children CME- Strabismus & Pediatric Ophthalmology, 19 May 2019, Gwalior
6. Exotropia Mx with Patterns CME- Strabismus & Pediatric Ophthalmology, 19 May 2019, Gwalior
7. Pearls & Pitfalls in Management of Strabismus SPOSI Mid Term Conference 2019, 1 and 2 June 2019, Karnataka

8. Masterclass in Strabismus SPOSI Mid Term Conference 2019, 1 and 2nd June 2019, Karnataka
9. Debates in Strabismus SPOSI Mid Term Conference 2019, 1 and 2nd June 2019, Karnataka
10. Newer muscle transposition procedures CME-“Kaazhcha 2019”, 16 June 2019, Kerala
11. Neuro Ophthalmologic emergencies CME-“Kaazhcha 2019”, 16 June 2019, Kerala
12. Master Class in Strabismus CME BOS SUMMIT 2019, 22 and 23 June 2019, Bangalore
13. Pearls & Pitfalls in Management of Strabismus CME BOS SUMMIT 2019, 22 and 23 June 2019, Bangalore
14. What is new in Strabismus and its Management? 13th Eye India Conference 2019, 13 and 14 July 2019, Pune
15. DRS Squint Workshop, 21 July 2019, New Delhi
16. Nystagmus Squint Workshop, 21 July 2019, New Delhi
17. Targeted Strabismus Surgery Squint Workshop, 21 July 2019, New Delhi
18. New Strabismus Procedures, BOA FOCUS 2019, 9-11 August 2019, Mumbai
19. Neuro Ophthal Emergencies, BOA FOCUS 2019, 9-11 August 2019, Mumbai
20. Adjustable Strabismus Surgery: Indications & Techniques Ophthafusion 2019, 24 and 25 August 2019, Tamil Nadu
21. In the pursuit of stereopsis- What’s new in strabismus? Ophthafusion 2019, 24 and 25 August 2019 Tamil Nadu
22. Brown’s syndrome management, Ophthafusion 2019, 24 and 25 August 2019, Tamil Nadu
23. Complication management in strabismus surgery, Ophthafusion 2019, 24 and 25 August 2019 Tamil Nadu
24. Managing Infantile Nystagmus, Ophthafusion 2019, 24 and 25 August 2019, Tamil Nadu
25. All you need to know about strabismus for the exams, Ophthafusion 2019, 24 and 25th August 2019, Tamil Nadu
26. Effect of Surgeon’s Anisometropia in Phaco surgery, IIRSI Together Towards Tomorrow, 7 and 8 September 2019, New Delhi
27. Monovision in IOLs and Stereopsis, IIRSI Together Towards Tomorrow, 7 and 8 September 2019, New Delhi
28. Strabismus CME on Squint, Neuro Ophtha & Ocular Oncology, 15 September 2019, West Bengal
29. The great Evaluation – How’s the world of Strabismus changing CME on Squint, Neuro Ophtha & Ocular Oncology, 15 September 2019, West Bengal
30. Paralytic Strabismus Decoded, HOS Annual Conference 2019, 21 and 22 September 2019, Haryana
31. Let’s Inspire Before we Expire, HOS Annual Conference 2019, 21 and 22 September 2019, Haryana
32. Stereopsis: The Final Frontier, APOS 2019 Annual Conference, 27-29 September 2019 Andhra Pradesh
33. Strabismus, UTTARA EYECON 2019, 11 and 12 October 2019, Uttarakhand
34. Newer Surgical Procedures in strabismus, UTTARA EYECON 2019, 11 and 12 October 2019, Uttarakhand
35. Restoring 3D Vision Public Lecture, 15 October 2019, New Delhi
36. Targeted Squint Surgery, Winter Conference of DOS 2019, 2 and 3 November 2019, New Delhi
37. Paralytic Strabismus, AAPOS-RANZCO-APSPPOS – 2019, 6-8 November 2019, Australia
38. Difficult Strabismus, AAPOS-RANZCO-APSPPOS – 2019, 6-8 November 2019, Australia
39. Examination of a case of Strabismus, Basic & Beyond CME, 16 and 17 November 2019, Bangladesh
40. Surgical Procedures in Strabismus, CME, 16 and 17 November 2019, Bangladesh
41. Paralytic Strabismus, CME, 16 and 17 November 2019, Bangladesh
42. Nystagmus Simplified, CME, 16 and 17 November 2019, Bangladesh
43. Nystagmus, INOS Annual Conference 2019, 30 November-1 December 2019, New Delhi
44. Newer surgical techniques in strabismus, SPOSI Annual Conference 2019, 6-8 December 2019, Chennai
45. Complex Problems in Strabismus-Interactive iFocus 2020, 22 January 2020, New Delhi
46. Strabismus Surgery - An overview iFocus 2020, 22 January 2020, New Delhi
47. Eye Shala 2020, AIOS 2020, 12-16 February 2020, Haryana
48. Comparative evaluation of effect of postoperative patching v/s no patching after strabismus surgery, AIOS 2020, 12-16 February 2020, Haryana
49. CCC series strabismus, AIOS 2020, 12-16 February 2020, Haryana
50. Effectiveness of various surgical procedures, AIOS 2020, 12-16th February 2020, Haryana
51. Pediatric Ophthalmology in 2020, Timely Management of Eye Movement Disorders, AIOS 2020, 12-16 February 2020, Haryana
52. Strabismus 1, Adjustable surgery 2, From have to have not, AIOS 2020, 12-16 February 2020, Haryana

53. Chopping intelligently, Pediatric Eye Examination, AIOS 2020, 12-16 February 2020, Haryana
54. Incomitant Strabismus – DRS, AIOS 2020, 12-16 February 2020, Haryana
55. Newer techniques of muscle transpositioning, AIOS 2020, 12-16 February 2020, Haryana
56. Master Class in Strabismus, Basics & Beyond CME on Pediatric, 28 and 29 February 2020, Bangladesh
57. Management of Paralytic Strabismus, CME on Pediatric, 28 and 29 February 2020, Bangladesh
58. Complex Strabismus Management, CME on Pediatric, 28 and 29 February 2020, Bangladesh

#### **MS Bajaj**

1. Sclerotherapy for the management of Venolymphatic malformations of the Orbit, 78th Annual Conference of All India Ophthalmological Society, 13 February 2019, India
2. Levator Resection by Cutaneous Approach, 78th Annual Conference of All India Ophthalmological Society, 15 February 2019, India
3. Innovations in Ptosis Surgery, 30th Annual Conference of Oculoplastic Association of India, 7 September 2019, India
4. Minimally invasive approach for the management of Canalicular Blocks Oculoplasty and Ocular Oncology Workshop, RP Centre, 17 November 2019, India

#### **Neelam Pushker**

1. Management of Ectropion & Entropion – practical tips, 15th Annual Conference of HOS, 22 September 2019, Sirsa, Haryana
2. Management of lid retraction – an update Winter Conference of Delhi Ophthalmological Society, 3 November 2019, New Delhi
3. Sentinel lymph node biopsy – where is it relevant? 78th AIOS Annual Conference, February 2020, Gurugram
4. Surgical treatment of entropion – avoid skin scar, 78th AIOS Annual Conference, February 2020, Gurugram

#### **Swati Phuljhele Aalok**

1. Brown's Syndrome Strabismus Workshop, RP Centre, AIIMS 21 July 2019, New Delhi
2. Superior Oblique Palsy Strabismus Workshop, RP Centre, AIIMS, 21 July 2019, New Delhi
3. Optic nerve sheath enhancement: Perineuritis or Infiltration Looking Beyond the eye – VII, 3 and 4 August 2019, LVPEI, Visakhapatnam
4. Disc oedema – Every Lock has a key, SYNAPSE2k19 - Symposium in Neuro-Ophthalmology: Afferents Plus Efferents, 26-28 September 2019, Shankar Nethralaya, Chennai
5. Cortical Visual Loss, Annual Conference of Indian Neuro - Ophthalmology Society, 30 November-1 December 2019, New Delhi
6. Paralytic Strabismus iFocus 2020, 22 January 2020, New Delhi
7. Neuro-Ophthalmic Manifestations of Tuberous Sclerosis Tuberous Sclerosis Alliance of India, 12 February 2020, New Delhi
8. Moderator, Free Paper - Neuro Ophthalmology – I, Annual Conference of All India ophthalmology Society, 13-16 February 2020, Gurgaon
9. Amblyopia Management: Then and Now Annual Conference of All India ophthalmology Society, 13-16 February 2020, Gurgaon
10. Not just resections but Apt-plications too!! Annual Conference of All India ophthalmology Society, 13-16 February 2020, Gurgaon
11. Management of Optic Neuritis, Annual Conference of All India ophthalmology Society, 13-16 February 2020, Gurgaon

#### **Rachna Meel**

1. Surgery in TED – When and what – MODERATOR Oculoplasty and Oncology Workshop, 17 November 2019, Delhi

#### **Amar Pujari**

1. Strabismus work up, DOS Annual Teaching Programme, October 2019, Delhi
2. Pupillary pathway anomalies Indian neuro ophthalmological society Annual Conference, December 2019, Delhi

## Radhika Tandon

1. Smile Update: Tips and tricks in overcoming SMILE issue: another viewpoint, 70th Annual Conference of Delhi Ophthalmological Society – DOSCON 2019: Cutting Edge Technology, 13 and 14 April 2019, New Delhi
2. Infective Vs Non-Infective Keratitis: Viral Keratitis decoded with case-based approach, 70th Annual Conference of Delhi Ophthalmological Society – DOSCON 2019: Cutting Edge Technology, 13 and 14 April 2019, New Delhi
3. Basic to advanced Corneal Surgeries: Pediatric keratoplasty-special issues, 70th Annual Conference of Delhi Ophthalmological Society – DOSCON 2019: Cutting Edge Technology, 13 and 14 April 2019, New Delhi
4. Current Situation of Corneal blindness in India and how can HCRP help India achieve 100,000 Tissue collection by 2025 and Recommendations of Eye Bank Leadership Summit organized by EBAI, supported by WHO and NPCB Reinventing Eye Banking -Consultation on Hospital Cornea Retrieval Programme”, 4 May 2019, Chandigarh
5. Pan-Ophthalmology: Challenging cataract surgery cases in children, IIRSI Chennai 2019, 6 and 7 July 2019, Chennai
6. Cornea Corner: Rare mysteries in cornea, IIRSI Chennai 2019, 6 and 7 July 2019, Chennai
7. Advanced Concepts: Dilemmas in refractive surgery cases and solutions, IIRSI Chennai 2019, 6 and 7 July 2019, Chennai
8. Eye Injuries: Understand and define various types of Eye injuries due to prolonged occupational exposure, “Train the Trainers” Programme on Occupational and Environmental Health for Medical Officers, 24 July 2019, New Delhi
9. Advance in Ophthalmology: Refractive Surgery case selection - Practical pearls Annual Symposium – 2019, Recent Advances in Ophthalmology, 27 and 28 July 2019, Punjab
10. Recent Advances in Infective Keratitis Annual Symposium – 2019, Recent Advances in Ophthalmology, 27 and 28 July 2019, Punjab
11. Corneal Blindness & Eye Banking: Complex Corneal procedures demystified, Annual Conference of Indian Society of Cornea & Kerato-Refractive Surgeons (ISCKRS) – “ISCKRS Meet 2019”, 3 and 4 August 2019, New Delhi
12. Pediatric cornea secrets, Annual Conference of BOA Focus 2019, 9-11 August 2019, Mumbai
13. Therapeutic Keratoplasty, Annual Conference of BOA Focus 2019, 9-11 August 2019, Mumbai
14. Cornea & Refractive Surgery: Recent advances & Innovative technologies in keratoplasty, Annual Conference of KOS 2019, 11 August 2019, Kanpur
15. Refractive Errors and Lasik Surgery, A health talk on the topic of “Refractive Errors and Lasik Surgery” for the officers and staff of Dte. GHS /MoHFW, 22 August 2019, New Delhi
16. Cornea Corner: Cataract surgery after Keratoplasty: Tips and Tricks, IIRSI Delhi 2019, 7 September 2019, New Delhi
17. Pediatric pointers: Tough challenges in pediatric Anterior segment surgeries, First Annual Conference of SAO-POSA, 27-29 September 2019, Maldives
18. Corneal Emergencies and Surgical Care: Acute Graft Rejection Cornea Workshop 20 October 2019 AIIMS, New Delhi
19. Challenging Situations in Corneal Surgeries: Ocular Surface Reconstruction – Surgical Challenges Cornea Workshop, 20 October 2019 AIIMS, New Delhi
20. Challenges in Pediatric Keratoplasty, DOS Winter Conference 2019, 2 and 3 November 2019, New Delhi
21. Penetrating Keratoplasty – Tips and tricks of continuous suturing Keracon 2019 – 7th National Meeting of Cornea Society of India, 13-15 December 2019, Kerala
22. Eye Bank Session – Q & A (4 Questions max) Keracon 2019 – 7th National Meeting of Cornea Society of India, 13-15 December 2019, Kerala
23. Infections (viral): Update on Anti-viral therapy guidelines in HSV/HZO/CMV – relevance of HEDS and ZEDS recommendations & Resistance strains Keracon 2019 – 7th National Meeting of Cornea Society of India, 13-15 December 2019, Kerala
24. Near Live Surgery Session: Femtosecond-LASIK Phacoemulsification & Refractive Surgery Update, 19 January 2020 AIIMS, New Delhi
25. Challenging Case Scenarios in Phacoemulsification (Video Based): Pseudo exfoliation syndrome Phacoemulsification & Refractive Surgery Update 19 January 2020 AIIMS, New Delhi
26. Corneal Dystrophies and Degenerations – Interactive iFocus 2020, 20 January 2020, New Delhi
27. Genetic of corneal disorders, International Global Eye Genetics Consortium (GEGC) Meeting organized by GEGC & Dr Shroff Charity Eye Hospital (SCEH), 7 February 2020, New Delhi
28. Eye Banking Session Genetics in Ophthalmology: Clinical Evaluations and Potential Genetic Treatments, AIOC

2020, – 78th Annual Conference of All India Ophthalmological Society, 13-16 February 2020, Gurugram, Haryana

29. Future Next Generation Ophthalmology: Science & Skill AIOC 2020 – 78th Annual Conference of All India Ophthalmological Society, 13-16 February 2020, Gurugram, Haryana

### **M Vanathi**

1. Insertion Techniques in IC - DSEK/DSAEK - A beginner's Guide, AIOC 2020 - Annual Conference of AIOS, 13-16 February 2020, Gurugram, Haryana
2. Common mistakes in Pterygium in IC - Mistakes in Diagnosis and Management
3. Management of corneal perforation in B2B Series (BACK to BASICS): Basics of Management of Open Globe Injuries
4. Refining TORICs In IC - Dioptric distress: Biometry Solution for All Situations-Targeting Eagle's Eye Vision
5. Common FAQs & Updates In Cornea Practice In General Ophthalmologist's Perspective - Power Capsule
6. Infections of the ocular surface, Update on ocular infections, 26 January 2020, Faridabad, Haryana
7. RPC Phaco & Refractive Workshop, Phacoemulsification in hard cataract, 19 January 2020, AIIMS, New Delhi
8. Keynote address: SICS in difficult cornea scenarios, Cataract Update, 5 January 2020, Guntur, Telangana
9. DALK in keratoconus, Cornea Carnival, 4 January 2020, Hubli, Karnataka
10. Corneal scenarios for general ophthalmologists, EIZOC Annual Meeting, 26-29 December 2019, Kaziranga, Assam
11. Workup in Refractive Surgery, Refractive Meeting, 22 December 2019, Baroda
12. Adenoviral Keratoconjunctivitis – what is new Keracon 2019? 13-15 December 2019, Kumarakom, Kerala
13. Corneal graft rejection, Annual Conference POS 2019, 8 December 2019, Jalandhar, Punjab
14. Skin and eye in Pediatric cornea, Annual Conference POS 2019, 8 December 2019, Jalandhar, Punjab
15. Post intravitreal anti-VEGF cataracts, Annual Conference POS 2019, 8 December 2019, Jalandhar, Punjab
16. Cataract in ROP eyes post intravitreal anti-VEGF injections, Bhopal ophthalmic society monthly clinical Meeting, 30 November 2019, Bhopal, MP
17. Interesting case in cornea, DRISHTICON 2019, Annual Conference of KSOS, 23 November 2019, Cochin, Kerala
18. Practice pearls in DALK
19. Five pearls for biometry in cataract practice
20. Corneal infections for general ophthalmologists
21. Pediatric keratitis Infectious Keratitis – Update, AECS, 3 November 2019, Tirunelveli, TN
22. Therapeutic DALK
23. SLET RPC, Cornea Workshop, 20 October 2019, AIIMS, New Delhi
24. Live surgery penetrating keratoplasty
25. DALK in keratoconus
26. Update on Pediatric Keratoplasty – Guest lecture, RIOGOH Bicentenary Celebrations, 19 October 2019, Chennai, TN
27. Management of Post Keratoplasty Astigmatism Cornea Connect, AECS, 7 and 8 September 2019, Chennai, TN
28. Delhi Film festival – post intravitreal AntiVEGF injections cataract in ROP eyes DOSCON 2019, 12-14 April 2019, New Delhi
29. Keratoconus update
30. When Wrinkles matter – in Court Martial
31. Tear film-oriented diagnosis in dry eye disease

### **Noopur Gupta**

1. Phenotypic classification of trachoma and steps in management NPCB&VI training of ophthalmologist (SPO) and implementation of SAFE strategies for elimination of Trachoma from India, 22 April 2019, New Delhi, India
2. Corneal Donation Organ Retrieval Banking Organization, AIIMS, 10 May 2019, New Delhi
3. Clinical features of Trachoma and surgical management of TT and CO, Training of District Program Officers and District Ophthalmologists of Uttar Pradesh for Implementation of SAFE Strategies for Elimination of Trachoma in India, 16 and 17 May 2019, Sitapur, UP
4. Diagnosis and management of Trachoma NPCB & VI training of District Program Officers and District Ophthalmologists for implementation of SAFE strategies for elimination of Trachoma from India, 3 June 2019,

New Delhi, India

5. Burden of Corneal Disease in India & Way Forward Vision 2020-INDIA's 14th Annual Conference: Advocacy & Inclusive Eye Care Services, 8 June 2019, Chennai
6. Tackling Astigmatism: When should I use a toric intraocular lens versus astigmatic keratotomy/LRI? Vision 2020-INDIA's 15th Annual Conference: Quality Track, 8 June 2019, Chennai
7. Perioperative protocols in Cataract Surgery: Reop and post op protocols followed in the different Centres, Vision 2020-INDIA's 15th Annual Conference: Quality Track, 8 and 9 June 2019, Chennai
8. The success story of Car Nicobar Island, India, 22nd Meeting of the WHO Alliance for GET2020 & TSIW, 25 June 2019, Maputo, Mozambique
9. Corneal Donation Organ Retrieval Banking Organization, AIIMS, 12 September 2019, New Delhi
10. Population based need for donor cornea: Results from the CORE study American Academy of Ophthalmology, 12-15 October 2019, San Francisco, USA
11. Role of Conjunctival Autofluorescence in OSSN, American Academy of Ophthalmology, 12-15 October 2019, San Francisco, USA
12. Approach to Dry eye, RPC Cornea Workshop, 20 October 2019, New Delhi
13. Penetrating Keratoplasty Challenges, RPC Cornea Workshop, 20 October 2019, New Delhi
14. Case of adenoviral conjunctivitis, RPC Cornea Workshop, 20 October 2019, New Delhi
15. Status of Corneal Blindness, Eye banking and Trachoma TIO - WHO IAPB Technical Expert Group Meeting on Eye care aligned with Universal Eye Health, 9-12 December 2019, Kathmandu, Nepal
16. Prevalence of MGD through a novel automated non-invasive ocular surface analyzer: A hospital-based study, 7th National Meeting of Keracon 2019, 13-15 December 2019, Kumarakom, Kerala
17. Tear cytokine levels in patients with keratoconus and vernal keratoconjunctivitis: A case controlled comparative study, 7th National Meeting of Keracon 2019, 13-15 December 2019, Kumarakom, Kerala
18. Spider in the eye, 7th National Meeting of Keracon 2019, 13-15 December 2019, Kumarakom, Kerala
19. Masquerade presentation of a corneal ulcer, DOS Monthly Meeting, 12 January 2020, New Delhi
20. Phacoemulsification in soft cataract, RPC Phacoemulsification and Refractive surgery Workshop, 20 January 2020, New Delhi
21. Scleral lenses in complex corneal disorders, Global Specialty Lens Symposium, 15 January 2020, Las Vegas, USA
22. Correlation of ocular aberrations with PTA in Myopic Femtosecond flap LASIK, 78th Annual Conference of AIOC, 13-15 February 2020, Gurugram, India
23. Dry eye disease and ocular morbidity in individuals with sleep disorders, 78th Annual Conference of AIOC, 13-15 February 2020, Gurugram, India
24. Correlation of percent tissue altered with corneal biomechanics in myopic LASIK, 78th Annual Conference of AIOC, 13-15 February 2020, Gurugram, India

#### **Neiwete Lomi**

1. Plaque brachytherapy in intraocular tumor: An experience from tertiary referral centre in India, Annual DOS Conference, 13 April 2019, New Delhi
2. Challenging Cases: Video presentation Multimodal approach in recurrent OSSN, 7th National Meeting of cornea society of India Keracon-2019, 13-15 December 2019, Kumarakom, Kerala
3. Instruction Course: Choroidal melanoma- What all you can do? 78th AIOC, 13-16 February 2020, Gurugram, Haryana Ocular Microbiology

#### **Gita Satpathy**

1. Investigation of Cluster Endophthalmitis Expert Group Meet AIOS, 29 August 2019, Dr RP Centre, New Delhi
2. Antimicrobial Stewardship MICROCON Odisha Chapter, 29 September 2019, Indian Association of Medical Microbiologists, Bhubaneshwar, Odisha

#### **Nishat Hussain Ahmed**

1. Investigation of Cluster Endophthalmitis Expert Group Meet AIOS, 29 August 2019, Dr RP Centre, New Delhi Ocular Pathology

#### **Seema Sen**

1. Ocular Surface Impression Cytology: Utility and Limitations, 9 November 2019, PGIMER, Chandigarh

**Seema Kashyap**

1. Ocular fluid cytology, challenges and clinical implications, 9 November 2019, PGIMER, Chandigarh
2. Understanding Pathology of Lacrimal gland lesions November 2019, RP Centre, AIIMS Ocular

**Dilip R Shende** (Please see Chapter 9.1)

**Renu Sinha** (Please see Chapter 9.1)

**Kanil Ranjith Kumar** (Please see Chapter 9.1)

**Sanjay Sharma**

1. Investigations for Epiphora, A Radiologists Perspective, Oculoplasty and Ocular Oncology Workshop, Dr RP Centre, 17 November 2019, New Delhi

**T Velpandian**

1. Unsegregated drug disposal affecting hydrologic cycles linking environmental health, 2nd Shimadzu Global Innovation Summit 2019, 9 July 2019, Kyoto, Japan
2. Professor VN Reddy Oration entitled “Decoding the Access Control Systems of Ocular Ports for Xenobiotics”, 26th Annual Meeting of IERG ARVO India Chapter, 28 July 2019, Chennai
3. Recent Trends in Optimization Topical Drug Formulations- Ocular Drugs Guest lecture, Madras Medical College, 1 November 2019, Chennai
4. Identification of strength, novelty, and malpractices in the submitted manuscript? Annual Meeting of Association of Physiologists & Pharmacologists (APPICON), 27 November at 2019, Guwahati, Assam

**Nabanita Halder**

1. Tear Pharmacokinetics of Extemporaneously compounded piperacillin-Tazobactam Eye Drop after Single and Multiple - Dose Topical Instillation in Rabbits, 26th Annual Meeting of IERG ARVO India Chapter, 27 July 2019, Chennai
2. Pre corneal disposition of extemporaneously compounded Piperacillin-Tazobactam after single and multiple-dose topical instillation in human, 65th Annual Meeting of Association of Physiologists & Pharmacologists (APPICON), 29 November 2019 Guwahati, Assam Community Ophthalmology

**Praveen Vashist**

1. Action plan for implementing SAFE strategy for trachoma Elimination, NPCB & VI National Workshop for orientation of state program officers on SAFE strategy implementation for Elimination of Trachoma in India, 22 April 2019 and 4 May 2019, RP Centre, New Delhi
2. National Blindness Survey 2015-2018, Delhi ophthalmic Society Annual Conference, DOSCON, 13 April 2019, New Delhi
3. Reporting and surveillance of Trachoma, Trachoma Elimination activities for district Ophthalmologist and DPMs in State Institute of H & FW, 9 and 10 May 2019, Gandhinagar, Gujarat
4. Reporting and surveillance of Trachoma, Trachoma Elimination activities for district Ophthalmologist and DPMs, 27 May 2019, Dehradun, Uttaranchal
5. Achieving universal coverage for cataract surgery, Using technology and innovation in outreach 15th Annual Conference organized by Vision 2020- The Right to Sight India, 7-9 June 2019, Arvind Eye Hospital Chennai
6. National Trachoma Survey India 2014-2017 and Roadmap for Trachoma, 2nd Meeting of WHO Alliance for the global Elimination of Trachoma by 2020 (GET 2020), 23-29 June 2019, Maputo, Mozambique
7. Integrated Primary Eye Care Services” as an experience of Dr RP Centre Vision Centres. Training program on “Standardizing Primary Eye Care Service” organized by Vision 2020: The Right to Sight India, 6 September 2019, Udaipur, Rajasthan
8. Professor Vinita – Professor Girija Endowment ACOIN UP State Chapter Oration 2019 on “ Primary eye care services at community level- Experience of RP Centre”, “2nd Annual Meeting of the ACOIN, Uttar Pradesh State Chapter, organized by Association of Community Ophthalmologist of India (ACOIN), 14 September 2019, Heritage Institute of Medical Sciences, Varanasi, Uttar Pradesh.
9. Refractive Error in India, Presbyopia & Govt. of India policies for their prevention and control, 8th Reinventing CSR-A Symposium on Collective Action to address CSR leaders, NGOs, Hospitals, Government Officials at a symposium, 20 September 2019, Chandigarh
10. Panel discussion, Put vision first, World Sight Day Campaign on blindness, NDTV expert panel discussion,

21 September 2019, New Delhi

11. Overview of Community Ophthalmology, Low Vision and Rehabilitation Training Program on Orientation & Mobility, 26 and 27 September 2019, Dr RP Centre, AIIMS
12. Panel discussion, Awareness program on blindness, All India Radio expert discussion, 14 October 2019, Delhi
13. National Blindness and Visual impairment survey, Training program for Faculty & Residents, 18 October 2019, Lady Harding Medical College
14. Recent initiatives for Trachoma elimination in India, ACOIN session DOS Winter Conference, 3 November 2019, New Delhi.
15. Results of National Blindness and Visual Impairment Survey in India, 2015-2019 Moderated a panel discussion on “Assessing Government schemes and programmes and working with health departments for sustainable eye care”, CBM Eye care partners Meet “Sustainability strategies and practices for inclusive eye Health”, 15 and 16 November 2019, Bengaluru
16. Developing Action plan for Glaucoma blindness prevention in SEARO countries WHO SEARO Consensus Meeting on Prevention Glaucoma Blindness in South East Asia, 22 and 23 November 2019, Community Ophthalmology, RP Centre, AIIMS
17. Status of Primary and secondary eye care in SEARO region. WHO IAPB expert group meeting on “Eye care aligned with Universal Eye Health”, 9-12 December 2019, Tilganga Institute of Ophthalmology in Kathmandu, Nepal
18. National Program for Control of Blindness and Visual Impairment, AIOS- “I Focus” 2020-National Postgraduate education Program in Ophthalmology, 20 January 2020, New Delhi
19. National Blindness and Visual Impairment Survey, 2015-19, Annual Review Meeting of NPCB & VI, Delhi, 11 February 2020, PDSS Bhawan, Sec-20 Dwarka, New Delhi
20. National Program for Control of Blindness on Visual Impairment Eye Shala 2020 organized by All India Ophthalmic Sciences (AIOS), 12 February 2020, Gurgaon
21. Panel discussion under Vision 2020 symposium, 78th Annual Conference of All India Ophthalmology Society (AIOS) Conference 2020, 14 February 2020, Gurgaon
22. “Ayushman Bharat” in the instruction course on “Issues and challenges of Health Insurance in Eye Care, 78th Annual Conference of All India Ophthalmology Society (AIOS) Conference 2020, 13-15 February 2020, Gurgaon
23. Awareness about Eye donation Training even of Medical officers and ophthalmologist in district Ghaziabad, UP 20 February 2020, Ghaziabad, UP
24. Refractory issues in Children, Government reach and provision of spectacles, 1st Annual Eye Care Initiative Meeting organized by Jiv Daya Foundation, 29 February 2020, New Delhi

### **Suraj Singh Senjam**

1. Training Module for DPM/DPO on elimination NPCB & 6th National Workshop for orientation of state programme officers on SAFE strategy implementation for Elimination of Trachoma in India, 22 April 2019, RP Centre, AIIMS, New Delhi
2. Training Module for DPM/DPO on elimination NPCB & 6th National Workshop for orientation of state programme officers on SAFE strategy implementation for Elimination of Trachoma in India, 17 May 2019, Shimla, Himachal Pradesh
3. Training Module for DPM/DPO on elimination NPCB & 6th National Workshop for orientation of state programme officers on SAFE strategy implementation for Elimination of Trachoma in India, 14 May 2019, Sitapur Eye Hospital, UP
4. Developing a district action plan for Trachoma Elimination NPCB & 6th National Workshop for orientation of state programme officers on SAFE strategy implementation for Elimination of Trachoma in India, 4 May 2019, RP Centre, AIIMS, New Delhi
5. Community Eye Care Services, Referral and Patients Reporting Orbis Meeting on Referral Management, 9 May 2019, RP Centre, AIIMS, New Delhi
6. RIO initiatives on low vision rehabilitation in India, 15th Annual Conference Vision 2020, The Right to Sight India, 9 June 2019, Arvind Eye Hospital, Chennai.
7. Dr M Sanjay Kumar endowment ACOIN, telengana state Chapter oration 2019, Installation Ceremony of Association of Community Ophthalmologists of India (ACOIN), Telengana State Chapter, 4 August 2019, Hyderabad
8. Dealing with people with visually disability DOS Winter Conference, 3 November 2019, India Habitat Centre, New Delhi
9. Assistive Technology (AT) at Schools for the Blind in Delhi, 78th Annual AIOS Conference, 13 February 2020,

Gurugram, Haryana

10. Visual loss due to injury: Managing the post event Rehabilitation National Training program Occupational & Environment Health, 20-24 January 2020, NIHFWS, New Delhi
11. Vision rehabilitation after blind due to injury, National Training program, Occupational & Environment Health, 14 December 2019, NIHFWS, New Delhi
12. Improving referral management for visual impairment Training program, ORBIS Training program, ORBIS, 9 October 2019, Gurugram

### **Vivek Gupta**

1. Reporting and surveillance of Trachoma Trachoma Elimination activities for district Ophthalmologist DPMs in State Institute of H&FW, 13 May 2019, Directorate of H&FW, Punjab, Chandigarh
2. Reporting and surveillance of Trachoma, Trachoma elimination activities for district Ophthalmologist DPMs, 14 May 2019, State Institute of H&FW, Panchkula, Haryana
3. Overview of Training programme, Reporting and surveillance of Trachoma, Training programme of Trachoma, Elimination activities for district ophthalmologist DPMs, 15-17 May 2019, Jodhpur & SMS Medical College, Jaipur, Rajasthan
4. Challenges for achieving universal Eye Health, 15th Annual Conference Vision 2020, The Right to Sight India, 9 June 2019, Arvind Eye Hospital, Chennai.
5. Panel discussion on “Technology and Innovation in Community Outreach”, 15th Annual Conference Vision 2020, The Right to Sight India, 9 June 2019, Arvind Eye Hospital, Chennai.
6. Operational Research and Scientific paper writing, National SORT IT Operational Research Course 2018-2019, 21-28 June 2019, International Union against Tuberculosis and Lung Disease at Chennai.
7. Relevance and scope of Community Ophthalmology for Universal Eye Health ACOIN Karnataka State Chapter Oration Series 2019, 1 September 2019, Goa
8. Visual disability certification Training Program on Orientation & Mobility, 26 and 27 September 2019, AIIMS, New Delhi
9. Case Control Studies MD Workshop, 4 September 2019, AIIMS, New Delhi
10. Case Control Study MD Workshop, 23 October 2019, AIIMS, New Delhi
11. Burden of Refractive Error among Children and Current Status of school vision screening programme in India Clear Vision India Programme for Strengthening |Refractive Error and Presbyopia Services in India, 6 March 2020, AIIMS, New Delhi
12. Mobile data capture sharing experiences IPHACON 2020, 29 February-3 March 2020, CRHS, Ballabgarh

### **Oral papers/posters presented**

1. Agarwal D, Chandra P, Chawla R, Kumar A. Predictors of Surgical Outcomes in Stage 4A Retinopathy of Prematurity. AIOC 2020, 13-16 February 2020, Gurugram
2. Agarwal T, Rathi A, Jain M, Sharma N. Objective Evaluation of Virtual Reality Surgical Simulator in Surgical Skill Development of Ophthalmology Residents, The Annual Meeting of ASCRS-ASOA 2019, 3-7 May 2019, San Diego, California
3. Agrawal S, Das D, Gupta S, Meel R. Repositioning a luxated globe – a simple technique\* (Awarded Best video presentation) Winter Conference of Delhi Ophthalmological Society 2019. 2 and 3 November 2019. New Delhi,
4. Agrawal S, Gupta S, Meel R, Samdani A. Traumatic Globe Luxation with Contralateral Quadrantanopia Cough in the elderly AIOC 2020. 13-16 February 2020. Gurugram
5. Ahmed NH, Basu A, Das BK, Sharma N, Chawla R, Satpathy G. Species Identification, Virulence Factors and Antimicrobial Resistance Profile of Coagulase Negative Staphylococci in Ocular Infections Clinical Infectious Diseases Society of India, National Conference (CIDSCON) 2019, 24 August 2019, Kochi, Kerala Ocular Pathology
6. Angmo D, Bruce G, Sihota R, Gupta V, Dada T. Exploring the role of endocannabinoids in glaucoma –Poster walk presentation, Annual DOSCON 2019, 13 April 2019, Delhi
7. Angmo D, Bruce G, Sihota R, Gupta V, Dada T. The role of endocannabinoids in PACG ePoster I E R G - ARVO 2019, 28 July 2019, Chennai
8. Angmo D, Shakarwal J, Gupta V, Dada T. Dual mechanism glaucoma – DOUBLE TROUBLE IPGS, 8 December 2019, Hyderabad
9. Anjum S, Sen S, Kashyap S, Chosdol K, Pushker N, Bakhshi S, et al. Status of VEGF Expression in Lacrimal gland Adenoid cystic carcinoma” AIIMS-RESMO Conference, 14 February 2020, New Delhi.

10. Azad S. Comparison between OCTA versus FA in patients with diabetic retinopathy, 51st Annual Scientific Congress with AAPOS & APSPOS organized by RANZCO, 7-13 November 2019, Sydney, Australia
11. Azad S. Retinal vascular changes in patients with diabetes mellitus, 51st Annual Scientific Congress with AAPOS & APSPOS organized by RANZCO, 7-13 November 2019, Sydney, Australia
12. Azad S. Suprachoroidal hemorrhage drainage via 25 gauge cannula, 51st Annual Scientific Congress with AAPOS & APSPOS organized by RANZCO, 7-13 November 2019, Sydney, Australia
13. Azimeera S, Vanathi M, Gupta N, Tandon R. Corneal Biomechanics change in safe PTA in myopic LASIK – Scientific Poster Podium AIOC 2020, 13-16 February 2020, Gurugram
14. Bajaj MS, Pushker N, Sen S, Kashyap S, Meel R. Trephination and stent versus canaliculi - DCR in common canalicular block, 51st Annual Scientific Congress of The Royal Australian and New Zealand College of Ophthalmologists, 8-12 November 2019, Sydney, Australia
15. Bajaj MS, Vukkadala T, Pushker N, Meel R. Clinical Profile and Management of Orbitopalpebral Neurofibromatosis Type 1 at a Tertiary Care Centre, 51st Annual Scientific Congress of The Royal Australian and New Zealand College of Ophthalmologists, 8-12 November 2019, Sydney, Australia
16. Banerjee M, Phuljhele AS. A Case Series of Orbital Apex Syndrome [Fp337]”, Annual Conference of All India ophthalmology Society, 13–16 February 2020, Gurgaon
17. Behra A, Selvan H, Pujari A, Gupta S, Dada T. Assessment of diurnal changes in the peripheral circumferential iris area in Indian subjects, AIOS 2020, 13 February 2020, Gurugram
18. Bhardwaj M, Husain M, Sen S, Pushker N, Kashyap S, Bakhshi S. Clinical relevance of aberrant lipid metabolism in eyelid sebaceous gland carcinoma, IERG 2019, 26-28 July 2019, Chennai
19. Bhardwaj M, Husain M, Sen S, Pushker N, Kashyap S, Bakhshi S. Status of lipid metabolizing enzymes in prognosis of uveal malignant melanoma, 7th International Symposium on Current Trends in Drug Discovery Research, Central Drug Research Institute (CDRI), June 2019, Lucknow
20. Bhari A, Phuljhele Aalok S, Sharma P, Saluja G. Unilateral Papilledema in Idiopathic Intracranial Hypertension (Iih): A Rare Entity. Annual Conference of All India Ophthalmology Society, 13-16 February 2020, Gurgaon
21. Bruce G, Angmo D Sihota R, Gupta V, Dada T. Exploring the role of endocannabinoids in adult glaucoma GSI 2019, 21 September 2019, Lucknow
22. Chandra P, Sarath S, Agarwal R, Chawla R, Kumar A. Outcomes of Immediate sequential bilateral surgery in advanced ROP, Annual VRSI 2019 Meeting, 5-8 December 2019, Lucknow
23. Chauhan S, Sen S, Kashyap S, Chauhan SS, Vanathi M, Pushker N, et al. Prognostic significance of cyclins and their association with p53 expression in ocular surface squamous neoplasia, Molecular Pathology Association of India, 8th Annual Conference, 10-12 January 2020, Jaipur
24. Chauhan S, Sen S, Pushker N, Kashyap S, Bakhshi S. Expression Profiling of Receptor Tyrosine Kinases in Orbital Rhabdomyosarcoma, Molecular Pathology Association of India, 8th Annual Conference, 10-12 January 2020, Jaipur **(2nd Best Paper Presentation)**
25. Chauhan S, Sen S, Pushker N, Kashyap S, Bakhshi S. Receptor Tyrosine Kinase Expression Profile in Orbital Rhabdomyosarcoma. Emerging Trends in Translation Oncology 14-15 February 2020 AIIMS, New Delhi and NCI, Jhajjar.
26. Chitra, Jayaraj P, Kashyap S, Sen S. Investigation of the role of Cyclooxygenase-2 in squamous cell carcinoma of the eyelid using Immunohistochemistry National conference of recent advances in biological sciences. (NCRABS-2020) 5 March 2020, Jamia Milia Islamia, New Delhi.
27. Das U, Titiyal JS, Singh B, Sreenivas V, Jayaram B, Halder N, et al. Vitreous penetration of intravenously administered 8 congeneric calcium channel antagonist in rabbits-A high throughput QSPR approach 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019 at Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai
28. Das U, Titiyal JS, Singh B, Sreenivas V, Jayaram B, Halder N, et al. QSPR modelling and prediction of intraocular penetration of fluoroquinolone antibiotics using N-in-One intravenous administration in rabbits. 26th Annual meeting of IERG ARVO India Chapter, 26-28 July 2019, Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai
29. Desai A, Madan K, Tandon R, Gupta N. Dry eye disease and ocular morbidity in individuals with sleep disorders, AIOC 2020, 13-16 February 2020, Gurugram
30. Dhiman R, Gupta V, Chawla R, Saxena R Peripapillary Retinal and Choroidal Perfusion in NAION using Optical Coherence Tomography Angiography\* DOS Winter Conference, 2 November 2019, New Delhi
31. Ganger A, Vanathi M, Tandon R. Topical Rebamipide as an Adjunct Therapy in Chronic Vernal keratoconjunctivitis Patients, AIOC 2020, 13-16 February 2020, Gurugram

32. Gowtham L, Halder N, Dada T, Jayasundar R, Singh B, Velpandian T. Aqueous humor metabolomics in Glaucoma. 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019 Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai
33. Gowtham L, Halder N, Dada T, Jayasundar R, Singh B, Velpandian T. Proteomic Alterations in aqueous humour and plasma of glaucomatous patients. 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019 at Sankara Nethralaya Eye Hospital & Vision Research Foundation, Chennai
34. Gupta D, Chaudhary R, Dhamija E, Sharma S, Hari S Uniqueness of mammography in contrast to routine radiography 7th Annual Conference of the Breast Imaging Society of India (BISI) 15-17 November 2019 Hyderabad. Ocular Pharmacology & Pharmacy Division
35. Gupta S, Desai A, Bhardwaj M, Lakra S, Gupta V. Wavefront aberrometry in primary congenital glaucoma, 1st IPGS 2019, 8 December 2019, Hyderabad
36. Gupta S, Sen S, Titiyal J, Bhardwaj M, Mandal S, Gupta V Descemet's membrane changes in primary congenital glaucoma, 1st IPGS 2019, 8 December 2019, Hyderabad
37. Gupta S, Sethi A, Yadav S, Gupta V, Gupta S. Efficacy and safety of incisional goniotomy and phacoemulsification in adult angle closure glaucomas AIOS 2020, 13 February 2020, Gurugram
38. Gupta V, Gupta S, Pandya I, Sen S, Nag TC. Aqueous outflow channels in unilateral primary congenital glaucoma. Indian Paediatric glaucoma society Meeting, 7 and 8 December 2019, LV Prasad Eye Institute, Hyderabad
39. Gupta V, Senjam SS, Vashist P, Shukla P. Health literacy among recipients of primary eye care services in integrated vision centres in Delhi AIOC 2020, 13 February 2020, Gurugram
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41. Gupta V, Singh A, Sharma A, Gupta S. Long-term functional outcomes of different sub-types of Primary Congenital Glaucoma, 1st IPGS 2019, 8 December 2019, Hyderabad
42. Halder N, Velpandian T. Pre corneal disposition of extemporaneously compounded Piperacillin - Tazobactam after single and multiple-dose topical instillation in human. 65th Annual meeting of Association of Physiologists & Pharmacologists (APPICON) 28-30 November 2019 Guwahati, Assam
43. Halder N, Velpandian T. Tear Pharmacokinetics of Extemporaneously compounded piperacillin-Tazobactam Eye Drop after Single and Multiple-Dose Topical Instillation in Rabbits. 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019, Sankara Nethralaya Eye Hospital & Vision Research Foundation, Chennai
44. Hussain N, Chawla R, Sunder D, Kumar A. OCTA guided PDT AIOS, February 2020, Gurgaon
45. Hussain N, Chawla R, Sunder D, Kumar A. OCTA guided PDT AIOS, February 2020, Gurgaon
46. Jain V, Chandra P et al. Persistent fetal vasculature with vitreous hemorrhage in a preterm baby, 70th Annual DOS Conference, 13-14 April 2019, Delhi
47. Jayaraj P, Sen S, Kashyap S, Pushker N. Immunohistochemical analysis of immune checkpoint regulators PD-1 and PD-L1 and their correlation with p53 mutational status in eyelid sebaceous gland carcinoma, Emerging Trends in Translation Oncology, 14 and 15 February 2020, All India Institute of Medical Science, New Delhi
48. Jha J, Pushker N, Singh KM, Singh L, Sen S, Kashyap S. Association of BAP1 with ATR protein and their clinical significance with patient outcome in uveal melanoma **(Received Merit Award)**, ESMO Asia 2019, 22-24 November 2019, Singapore
49. Jha J, Pushker N, Singh KM, Singh L, Sen S, Kashyap S. The Influential role of BAP1 on DNA damage response pathway in uveal melanoma and its prognostic significance IERG 2019, 26-28 July 2019, Chennai
50. Jha J, Singh MK, Pushker N, Sen S, Kashyap S. ATM as a DNA Damage Response Protein in Uveal Melanoma: Association with Clinicopathological Factors and Prognostic Outcome, APAO Congress 2019, April 2019, Bangkok, Thailand
51. Kashyap S, Singh M, Pushker N, Sen S. BAP-1 protein as an indicator of metastasis in uveal melanoma, AIOC-2020, February 2020, Gurugram, Haryana. **(Best Poster award)**
52. Kaur M, Titiyal JS, Shaikh F. Intraoperative OCT-Guided Management of Intumescent White Cataract American Academy of Ophthalmology (AAO), 12-15 October 2019, San Francisco, USA
53. Kumar A, Sharma P, Tandon R, Saxena R. Comparative evaluation of effect of postoperative patching v/s no patching after strabismus surgery, AIOC 2020, 13-16 February 2020, Gurugram Ocular Microbiology
54. Kumar A. Cutting edge in Posterior segment disorders & DME Management – Unanswered Questions AIOS, February 2020, Gurgaon
55. Kumar A. Rhegmatogenous retinal detachment in an oblate globe and the associated intraoperative difficulties AIOS, February 2019, Indore

56. Kumawat D, Chandra P et al. Disease burden and depression among caregivers of blind retinopathy of prematurity patients, 70th Annual DOS Conference, 13-14 April 2019, Delhi
57. Maharana P, Karmakar S, Titiyal JS. Study of Candidate Gene Mutation in Keratoconus in Indian Subjects Keracon 2019, 13 December 2019, Kumarakom, India
58. Maharana P, Sharma N, Titiyal JS. Microscope Integrated OCT Guided Stromal Fluid Drainage in Non-Resolving Corneal Hydrops, 78th Annual Conference of All India Ophthalmological Society, 13-16 February 2020, Gurugram, New Delhi, India
59. Maharana P, Sharma N, Titiyal JS. Ocular Manifestations in Kindler Syndrome, 78th Annual Conference of All India Ophthalmological Society, 13-16 February 2020, Gurugram, New Delhi
60. Maharana PK, Singhal D, Sharma N. Endophthalmitis Following Descemet-Stripping Automated Endothelial Keratoplasty in case of Pseudophakic Bullous Keratoplasty, The Annual Meeting of ASCRS-ASOA 2019, 3-7 May 2019, San Diego, California
61. Meel R, Surve A, Pushker N. Ultrasound biomicroscopy of normal and ptotic eyelid in Asian population, 70th Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi
62. Mewar S, Sharma S, Dhamijia E, Thulkar S, Panaiyadiyan S, Kumar P, et al Comparison of detection rate of prostate cancer between mpMRI guided in-bore biopsy and routine TRUS biopsy 27th International Society for Magnetic Resonance in Medicine (ISMRM) 11-16 May 2019. Montréal, QC, Canada.
63. Moksha L, Halder N, Kumar A, Singh B, Chawla R, Velpandian T. Proteomic fingerprinting of aqueous humor in the rat model of uveitis. 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019 at Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai
64. Prem Kumar C, Halder N, Das U, Moksha L, Velpandian T Antibiotics usage in poultry around Delhi, 26th Annual meeting of IERG ARVO India Chapter, 26-28 July 2019, Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai
65. Priyanka R, Angmo D, Sihota R, Gupta V, Dada T. Comparison of iCare ic200 and Perkin tonometry in paediatric glaucomas GSI 2019, 21 September 2019, Lucknow
66. Pujari A, Sharma N, Kumar A. OCT in cataract, IIRSI 2019, 7 September 2019, Delhi
67. Pujari A, Sharma N, Kumar A. The smartphone based ophthalmic imaging: Magic of macro lens Delhi Ophthalmological Society, 14 April 2019, Delhi
68. Pujari A, Sharma N. Conical sign in posterior polar cataracts European society of cataract and refractive society, 15 September 2019, Paris
69. Pujari A, Sharma N. Intralenticular changes in mature cataracts ISCKRS 4 August 2019 Delhi
70. Pujari A. OCT innovations Young ophthalmologist Annual Meet, 22 December 2019, Delhi
71. Pujari A. Ocular traumatic injuries: Hypothesis World Ocular Trauma Society Conference, 14 December 2019, Delhi
72. Pujari A. Simple innovations in Ophthalmology SPOSI, 2 December 2019, Chennai
73. Pujari A. The magic of macro lens, AIOS 2020, 14 February 2020, Gurugram
74. Pujari A. No cost modifications to posterior segment OCT, AIOS 2020, 14 February 2020, Gurugram
75. Pujari A. Smartphone based retinal imaging, Delhi Retina Meet, 24 August 2019, Delhi
76. Ramesh P, Angmo D, Sihota R, Dada T. Comparison of iCare tonometry with Goldmann Applanation and Non-contact tonometry AIOS 2020 16 February 2020 Gurgaon, Haryana
77. Rani D, Gupta V, Dada T, Aggarwal P. The impact of Advanced Glaucoma on Caregiver's quality of life and mental health. AIOC 2020 13 February 2020 Gurugram, India
78. Reshma, Rajeshwari, Ranjith K, Singh S. CMAC Pediatric D-Blade- A valuable addition to the Anaesthesiologist's airway armamentarium, AIIMS Anaesthesiology Post Graduate Assembly 29 September 2019 AIIMS, New Delhi Radiology Section
79. Sachan A, Chandra P et al. Endophthalmitis and late recurrence after intravitreal anti-VEGF treatment in retinopathy of prematurity, 70th Annual DOS Conference, 13-14 April 2019, Delhi
80. Saluja G, Phuljhele AS, Sharma P. Effectiveness of various surgical procedures for correction of monocular elevation deficit \* (Best Paper: Poster Podium Presentation) Annual Conference of All India Ophthalmology Society, 13-16 February 2020, Gurgaon
81. Sartan K, Baitha DK, Sen S, Kashyap S, Sharma N, Kabir N. Poster Presentation (CYTOCON 2019) 49th Annual conference of Indian Academy of Cytology 7-10 November 2019 PGIMER, Chandigarh
82. Saxena K, Sen S, Jayaraj P. Utility of TCCA solution as a bleaching agent for assessment of conjunctival melanoma: an immunohistochemical approach to detect tert immunoreactivity, International conference on Frontiers

in Biochemistry and Biotechnology: Strategies to combat human diseases, 12 and 13 February 2020, University of Delhi, Delhi **(2nd Best Award)**

83. Sen S, Anjum S, Bajaj SM, Kashyap S. Clinicopathologic high risk predictors of Adenoid cystic carcinomas: 5 years retrospective analysis, 78th Annual Conference of AIOS, 13-16 February 2020 Gurugram, Haryana.
84. Senjam SS, Shukla P, Vashist P, Gupta V. Assistive technology (AT) at schools for the blind in Delhi, AIOC 2020, 13 February 2020, Gurugram
85. Senjam SS, Vashist P Gupta V. Assistive technology at schools for the blind in Delhi AIOC 2020 in Gurugram 13 February 2020 India
86. Senjam SS, Vashist P Gupta V. Do schools for the blind in Delhi have adequate assistive technology? IPHA 29 February-2 March 2020 AIIMS New Delhi
87. Shah P, Chandra P et al. Retrolental haemorrhage following intravitreal bevacizumab injection in ROP, 70th Annual DOS Conference, 13-14 April 2019, Delhi
88. Shakarwal J, Angmo D, A Shahnaaz, Sihota R, Dada T. Impact of preoperative topical steroids on trabeculectomy outcomes: A Randomised Controlled Trial Winter DOS 2019, 3 November 2019, Delhi
89. Shakarwal J, Angmo D, Sihota R, Dada T. Effect of Mindfulness Meditation on Optic disc perfusion using OCT-a in glaucoma Patients: A RCT AIOS 2020, 15 February 2020, Gurgaon, Haryana
90. Sharma A, Vanathi M, Gupta N, Khokhar S, Tandon R. Evaluation of posterior corneal astigmatism changes in femtosecond LASIK and SMILE, 37th Congress of the ESCRS, 14-18 September 2019, Paris, France
91. Sharma N, Baitha DK, Sartan K, Sen S, Kashyap S, Tandon R, et al. Impression Cytology status in Ocular Surface Squamous Neoplasia. 6th Congress of the Assia Association of Medical Laboratory Scientists (AAMLS-2019) and 43rd Annual Conference of Medical Technologists 29-31 May 2019 Thailand
92. Sharma N, Kabir N, Baitha DK, Sartan K, Sen S, Kashyap S, et al. Role of Immunohistochemistry in the diagnosis of Malignant Round Cell tumours, 2nd Biennial National Conference of Indian Confederation of Medical Laboratory Sciences (ICMLS), April 2019 Bengaluru (Karnataka)
93. Sharma S Orbital cystic disease: An Imaging spectrum 75th Korean Congress of Radiology 18-21 September 2019 Seoul, Korea.
94. Shende DR, Ramkumar, Comparison of Sub-Tenon Block, Peribulbar Block and IV Fentanyl for Perioperative Analgesia in Pediatric Cataract Surgery ASRA's 44th Annual Regional Anesthesiology & Acute Pain Medicine (ASRA-American Society of Regional Anesthesia and Pain Medicine) 11-13 April 2019, Las Vegas, Nevada, USA
95. Shende DR, Velmurgan. End expiratory Occlusion test and Mini fluid challenge for predicting fluid responsiveness in acute circulatory failure 6th SG-ANZICS Asia Pacific Intensive Care Forum 2019 18-22 April 2019 Suntec Singapore Convention & Exhibition Centre, Singapore
96. Shukla P, Senjam SS, Vashist P, Gupta V. Increased service utilization at vision centres after engaging ASHA workers in primary eye care, AIOC 2020, 13 February 2020, Gurugram
97. Sidhu T, Gupta V, Senjam SS, Vashist P. Efficacy of PEEK camera for assessing optic nerve head in Indian eyes. AIOC 2020 13 February 2020 Gurugram, India
98. Singh MK, Kashyap S, Pushker N, Sen S, Chosdol K. Decreased Activation of Non-Canonical NFκB (NC-NFκB) Pathway in Inflammatory Environment of Uveal Melanoma. APAO Congress 2019, April 2019, Bangkok, Thailand
99. Singh MK, Kashyap S, Pushker N, Sen S, Chosdol K. Interaction of BAP-1 with NFκB signaling pathway & their clinical relevance in metastatic and non-metastatic uveal melanoma, International Congress on Cancer Metastasis Trainee Awardee, 25-27 October 2019, San Francisco, USA
100. Singh MK, Kashyap S, Pushker N, Sen S, Chosdol K. Loss of BAP-1 influences the activation of p52 and RelB proteins in the Inflammatory microenvironment of Uveal Melanoma ESMO Immuno-Oncology ESMO Merit Award, 11-14 December 2019, Geneva, Switzerland
101. Singh MK, Kashyap S, Pushker N, Sen S, Chosdol K. Expression of BAP-1 is associated with Activation of Canonical NFκB signaling pathway in metastatic uveal melanoma Society of Melanoma Research (SMR) Travel Grant Award, 20-23 November 2019, Saltlake city, Utah, USA
102. Singh MK, Kashyap S, Pushker N, Sen S, Chosdol K. Prognostic Significance of Loss of NEMO protein in Uveal Melanoma, APAO Congress 2019, April 2019, Bangkok, Thailand
103. Singh R, Manoharan D, Sharma S, Madhusudhan KS, Netaji A, Kalra MK, et al. Multi-institutional study using radiomics and machine learning model to differentiate between benign and malignant focal hepatic lesions on dual energy CT. Radiological Society of North America (RSNA) 2019 31 November-3 December 2019 Chicago USA
104. Singhal D, Maharana P. Management of Corneal Fistula, 78th Annual Conference of All India Ophthalmological Society, 13-16 February 2020, Gurugram, New Delhi, India

105. Sinha A, Chandra P et al. Bilateral advanced familial exudative vitreoretinopathy with vitreous hemorrhage and optic atrophy, 70th Annual DOS Conference, 13-14 April 2019, Delhi
106. Titiyal JS, Brar A, Kaur M, Sharma N. Comparative evaluation of visual quality, ocular surface and corneal biomechanics with small incision lenticule extraction and femtosecond laser keratomileusis European Society of Cataract and Refractive Surgeons, September 2019, Paris, France
107. Titiyal JS, Kaur M, Shaikh F. Comparative evaluation of visual quality in DMEK and Ultrathin DSAEK and its correlation with lenticule thickness Asia Pacific Association of Cataract & Refractive Surgeons (APACRS), 3-5 October 2019, Kyoto, Japan
108. Titiyal JS, Kaur M, Shaikh F. Intraoperative Suction Loss in SMILE: Rescue techniques. American Academy of Ophthalmology (AAO), 12-15 October 2019, San Francisco, USA
109. Titiyal JS, Kaur M, Shaikh F. Posterior Capsule Dynamics and Visual Quality after implantation of hydrophobic acrylic IOL with UV/Ozone posterior surface modification American Academy of Ophthalmology (AAO), 12-15 October 2019, San Francisco, USA
110. Titiyal JS, Kaur M, Shaikh F. Visual and Anatomical Outcomes of Post-Phakic IOL phacoemulsification American Academy of Ophthalmology (AAO), 12-15 October 2019, San Francisco, USA
111. Vanathi M, Azimeera S, Gupta N, Tandon R. Correlation of ocular aberrations with PTA in myopic femtosecond flap LASIK, 37th Congress of the ESCRS, 14-18 September 2019, Paris, France
112. Vanathi M, Azimeera S, Gupta N, Tandon R. Correlation of Ocular aberrations with PTA in Myopic femtosecond flap, LASIK AIOC 2020, 13-16 February 2020, Gurugram
113. Vanathi M, Dwivedi R, Saini M, Gupta V, Dada T, Vivekanandam S. Tear neuromediators in eyes on chronic topical antiglaucoma therapy with and without BAK preservatives, 37th Congress of the ESCRS, 14-18 September 2019, Paris, France
114. Vanathi M, Shukla R, Balakrishnan P, Dwivedi R, Gupta N, Tandon R. Evaluation for thrombospondin-1 Polymorphisms in Asian Indians with immune corneal graft rejections – Poster AIOC 2020, 13-16 February 2020, Gurugram
115. Vanathi M, Shukla R, Dwivedi R, Prahalad B, Gupta N, Tandon R. Evaluation of Thrombospondin – 1 gene polymorphism in corneal allograft rejection in Asian Indian patients, 10th Eucornea Congress, 13 and 14 September 2019, Paris, France
116. Velpandian T. Decoding the Access Control Systems on Ocular Ports for Xenobiotics, 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019, Sankara Nethralaya Eye Hospital & Vision Research Foundation, Chennai
117. Velpandian T. Identification of strength, novelty, and malpractices in the submitted manuscript?, 26th Annual meeting of IERG ARVO India Chapter 26-28 July 2019 at Sankara Nethralaya Eye Hospital & Vision Research Foundation Chennai Community Ophthalmology
118. Venugopal R, Sen S, Mohanty S, Kashyap S, Agarwal T, Sharma N. MMP9 as a prognostic predictor in chronic Stevens Johnson syndrome: A molecular study, IERG 2019, July 2019, Chennai
119. Vingrys A, Kong G, Gupta S, Gupta V. iPad based perimetry in paediatric glaucoma. Indian Paediatric glaucoma society Meeting, 7 and 8 December 2019, LV Prasad Eye Institute, Hyderabad
120. Vingrys AJ, Prea SM, Kong Yu XG, Singh A, Gupta S, Gupta V. Using an iPad to measure Visual Fields in Children, 1st IPGS 2019 8 December 2019 Hyderabad
121. Wadhvani M, Gupta V, Senjam SS, Vashist P. Development of age appropriate visual function questionnaire in childhood visual impairment study AIOC 2020 13 February 2020 Gurugram

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Comparative Study of Efficacy and Acceptability of a New Paradigm Foldscopy & Conventional Microscopy for analysis of Goblet Cells in patients with Limbal stem cell deficiency, JS Titiyal, DBT, 2019-2022, Rs 14 lakhs
2. A comparative study to evaluate the efficacy of Idefenone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients-A Pilot study, Swati Phuljhele Aalok, AIIMS, 2 years, 2018-2020, Rs 4.32 lakhs per year
3. A Multicentre, randomized, double masked, active-controlled, comparative clinical study to evaluate the efficacy and safety of MYL-1701P and Eylea in Subject with Diabetic Macular Edema MYL-1701P-3001, Rajpal, Mylan Inc, September 2019
4. A Phase IV Controlled Clinical Study to Compare the Efficacy and Safety of Cyclosporine (0.05%) Ophthalmic Emulsion against RESTASIS® in Subjects with Moderate to Severe Keratoconjunctivitis Sicca. Namrata Sharma,

New India Biopharma, 1 year, 2019-2020, Rs 4.83 lakhs

5. A pivotal Phase II/III- Randomized double masked sham controlled trial of QPI-007, Rohit Saxena, Quark Pharma, 2017-2019, Rs 32 lakhs
6. A Study of Demographic, Familial, Biochemical & Genetic Pattern of Keratoconus patients in a hospital based Indian Population. JS Titiyal, CSIR, 2020-2022 Rs 30 lakhs
7. A Sustainable Model for Comprehensive Outreach Eye Care Service for underserved population in Delhi Slums and resettlement colonies, Praveen Vashist, Deepalaya, 5 years, 2018-2022, Rs 125.1 lakhs
8. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR, Praveen Vashist, Deepalaya, 5 years, 2017-2022, Rs 77.12 lakhs
9. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR, Praveen Vashist, Hero Motocorp, 5 years, 2018-2021, Rs 37.04 lakhs
10. An Operational Research on Developing Disability Inclusive Eye Health Program in India, Radhika Tandon, Christoffel Blind Mission (CBM), 3 years, 2019-20, Rs 37.61 lakhs
11. An Operational Research on Developing Disability Inclusive Eye Health Program in India, Suraj Singh Senjam, Christoffel Blind mission (CBM), 3 years, 2015-2021, Rs 22.54 lakhs
12. Association of Novel genetic variations with Juvenile onset open angle glaucoma Viney Gupta, ICMR, 2018-2021, Rs 38 lakhs
13. CBM-RPC Disability Eye Health Programme and Strengthening of LV and rehabilitation services, Rohit Saxena, CBM, 2015-2020, Rs 12.42 lakhs
14. Clinical and Epidemiological Profile of Polypoidal Choroidal Vasculopathy (PCV) in a Tertiary Centre, Atul Kumar, AIIMS-IIT, 2 years, 2018-2020
15. Clinical Evaluation and Efficacy for study of Early Generation Gas Permeable Corneal Refractive Therapy Contact Lens for Myopia in Indian Population. JS Titiyal, Vsquare Medi Enterprises, India, 2018-2021, Rs 16 lakhs
16. Comparative evaluation of 0.1% Sodium Hyaluronate drops versus 0.5% carboxy methyl cellulose (CMC) in cases of Steven Johnson Syndrome (SJS) ocular sequelae: A randomized controlled pilot study. Namrata Sharma Microlabs 1 year 2019-2020, Rs 2.67 lakhs
17. Comparative evaluation of 0.1% Sodium Hyaluronate drops versus 0.5% carboxy methyl cellulose (CMC) in cases of Dry eye Disease: A randomized controlled pilot study. Namrata Sharma, Microlabs, 1 year, 2019, Rs 1.22 lakhs
18. Comparative evaluation of combined 0.03% chloroquine phosphate with 0.1% olopatidine drops versus 0.1% olopatidine drops alone in cases of allergic keratoconjunctivitis, Namrata Sharma, FDC Ltd, 1 year, 2018-2019, Rs 10.50 lakhs
19. Comparative evaluation of efficacy of conjunctival stem cell transplantation with cultivated oral mucosal epithelial transplantation in patients with bilateral cicatrizing ocular surface diseases” i.e Steven Johnson syndrome & chemical burns, Radhika Tandon, DBT, 3 years, 2017-2020, Rs 21.05 lakhs
20. Comprehensive primary eye care services in rural areas of Delhi/DJJS, Praveen Vashist, Divya Jyoti Jagrati Sansthan, 4 years, 2016-2020, Rs 34.74 lakhs
21. Correlation between outdoor activity as measured by UV radiation exposure and myopic refractive error in school going children in New Delhi, Rohit Saxena, Orbis, 1.5 years, 2019-2020, Rs 10 lakhs
22. Correlation between outdoor activity as measured by UV radiation exposure and myopic refractive error in school going children in New Delhi, Rohit Saxena, ORBIS, 1 year, 2019-2020, Rs 10 lakhs
23. Descemet’s membrane and trabecular meshwork properties of Primary Congenital Glaucoma (PCG) with respect to Axenfeld Rieger Syndrome (ARS), Shikha Gupta, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
24. Developing quality control parameters and dispensing MK Media for corneal Transplant preservation for Indian Eye banks under ministry of health, T Velpandian, MoHFW, 11 years, 2009-2020, Rs 129 lakhs
25. Development and validation of TransReCon technique for sterile pharmaceutical preparation, T Velpandian, BIRAC (BIG GRANT), Venture Centre, 18 months, 2019-2021, Rs 28.3 lakhs
26. Development of a culturally appropriate health literacy instrument and assessing its validity in Hindi speaking patients receiving general and primary eye care services in New Delhi, Vivek Gupta, AIIMS, 4 years, 2016-2020, Rs 9.96 lakhs
27. Differential role of Pigmentation Markers with the Tumor- Associated Macrophages in Uveal Melanoma, Seema Kashyap, ICMR, 3 years, 2019-2022, Rs 35 Laes
28. Disability Inclusive eye health program in Strengthening of Low Vision and Rehabilitation Services, Radhika Tandon, Christoffel Blind Mission (CBM), 5 years, 2019-20, Rs 10 lakhs
29. Early Macular Reconstruction in Proliferative Diabetic Retinopathy, Atul Kumar, 2 years, 2018-2020

30. Efficacy of prophylactic use of Intracameral Moxifloxacin 0.5% in prevention of post-cataract surgery endophthalmitis in North India: A randomized Control trial. Namrata Sharma, Cipla Ltd, 1 year 2 months, 2018-2020, Rs 24.5 lakhs
31. Epidemiological Study of avoidable blindness in India, Praveen Vashist, MoHFW, 5 years, 2015-2020, Rs 528 lakhs
32. Evaluation of Genetic basis of Congenital Hereditary Endothelial Dystrophy (CHED) by characterization of the effect of homozygous and compound heterozygous SLC4A11 mutations in CHED patients and clinical phenotyping of mutation positive and negative cases, Radhika Tandon, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
33. Exome sequencing based detection of novel and causal mutation(s) associated with juvenile onset open angle glaucoma (JOAG), Viney Gupta, DRDO, 3 years, 2017-2020, Rs 68 Lakhs
34. Exploring the role of endocannabinoids in primary adult glaucoma, Dewang Angmo, AIIMS, 2 years, 2017-2019, Rs 9 lakhs
35. Identification and Characterization of Molecular Targets in Orbital Tumors: Basis of innovative therapeutic strategies, Seema Sen, UGC, 5 years, 2017-2022, Rs 33 lacs
36. Identification of Novel Transcripts and Non-Coding RNA in Fuchs' Endothelium Corneal Dystrophy (FECD). JS Titiyal, SERB-DST, 2017-2020 Rs72,00,000/-
37. Mapping of Human Resource & Infrastructure for Pediatric eye care services in India, Praveen Vashist, ORBIS, 9 months, 2020, Rs 25 lakhs
38. Mitochondrial Genome Variants and Maternal Inheritance in the Pathogenesis of Juvenile-onset Primary Open Angle Glaucoma, Jasbir Kaur, SERB, DST, 3 years
39. Multi Centric Study of Impact of exposure of Ultra Violet Radiation (UVR) & aerosol exposure on ocular health in India Phase-II, Radhika Tandon, ICMR, 5 years, 2018-2023, Rs 90 lakhs
40. Multi Centric study of Impact of exposure of Ultra Violet Radiation (UVR) & aerosol exposure on ocular health in India, Radhika Tandon, ICMR, 5 years, 2018-2022, Rs 428.42 lakhs
41. Novel chemoport for ocular drug delivery, Rohan Chawla, AIIMS-IIT, 2 years, 2019-2021, Rs 10 lakhs
42. Patterns and pathways of care seeking for cataract and common ocular morbidities and impact of local volunteers on the pathways among urban vulnerable population settings of West Delhi, Vivek Gupta, Swami Sivananda Memorial, 2 years, 2017-2020, Rs 20 lakhs
43. Prospective audits of the phenotype, causes and correlates of Trichiasis: A WHO Trachoma Collaborative Study, Noopur Gupta, WHO, 1 year, 2019-2020, Rs 5.92 lakhs
44. Prospective audits of the phenotypes, causes, correlates of trichiasis-WHO Trachoma Collaborative Study, Noopur Gupta, WHO, 1 year, 2019-2020, Rs 5.2 Lakhs
45. Prospective Long-Term Evaluation of Posterior Capsule and Intraocular Lens Dynamics with IOL Vivinex Inset XY1, Hoya Surgical Ltd, 3 years, 2018-2021, Rs 17.10 lakhs
46. Rationalizing the development of newer intravitreal agents/formulations for diabetic neovascular conditions, T Velpandian, Saksin Lifesciences, 1 year, 2018-2019, Rs 18 lakhs
47. Rationalizing the usage of extemporaneously prepared topical solution of piperacillin and tazobactam combination based on their ocular kinetics, Nabanita Halder, AIIMS, 1 year, 2018-2019, Rs 4.5 lakhs
48. Role of 3D Heads-up Digitally Assisted Vitreoretinal Surgery (DAVS) in Primary and Recurrent Rhegmatogenous Retinal Detachment with Proliferative Vitreoretinopathy - A Prospective Randomised Trial. Atul Kumar, AIIMS-IIT, 2 years, 2018-2020
49. Role of circulating endothelial progenitor cell markers in human retinoblastoma, Jasbir Kaur, AIIMS, 2 years
50. Role of Low dose heparin eye drops in chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomized controlled trial, Namrata Sharma, ICMR, 3 years, 2019-2022, Rs 47 lakhs
51. Role of miRNA in corneal graft rejection, Namrata Sharma, CSIR, 3 years, 2019-2020, Rs 25 lakhs
52. Safety and Efficacy of the Presbyopia IPCL for correction of Presbyopia with Moderate Myopia and Hyperopia, JS Titiyal, Care Group, 2018-2021, Rs 41.95 lakhs
53. Species identification, antifungal susceptibility profile and biofilm formation of Rhodotorula species isolates from ocular infections, Nishat Hussain Ahmed, AIIMS, 1 year, 2019-20, Rs 5 lakhs
54. Strengthening of Low Vision and Rehabilitation Services, Suraj Singh Senjam/Praveen Vashist, Christoffel Blindenmission (CBM), 1 year, 2018-2021, Rs 15.45 lakhs
55. TB DNA RNA in presumed ocular tuberculosis, Rohan Chawla, AIIMS, 2 years, 2018-2020, Rs 9 lakhs
56. To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children, Rohit Saxena, DST, 4 years, 2016-2020, Rs 31.10 lakhs
57. To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children,

- Praveen Vashist, DST, 4 years, 2016-2020, Rs 48.63 lakhs
58. To evaluate the effect of low dose atropine eye drops for childhood myopia, Rohit Saxena, Entod Pharma, 3 years, 2019-2022, Rs 16 lakhs
  59. To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients-An In-Vitro Study, Radhika Tandon, AIIMS, 2 years, 2019-20, Rs 5 lakhs
  60. To Investigate the Molecular Mechanisms of Keratoconus amongst Indian Subjects. Prof. JS Titiyal, ICMR, 2018-2021, Rs 70 lakhs
  61. Transcriptome profiling in Trabecular meshwork of Juvenile onset Open Angle glaucoma patients by RNA Sequencing Viney Gupta, ICMR, 3 years, 2019-2022. Rs 111 lakhs
  62. Tumor DNA Sampling From Aqueous Humor In Retinoblastoma, Rachna Meel, AIIMS, 1 year, 2019-2020, Rs 5 lacs
  63. Vision Screening and Eyeglasses Dispensing Program for Students in Delhi Schools, Praveen Vashist, Vision Spring, 1 year, 2017-2019, Rs 6.4 lakhs

### **Completed**

1. A 12 months, phase III, randomized, double-masked, multi-centre active-controlled study to evaluate the efficacy and safety of two individualized regimens of 0.5 mg ranibizumab vs. Verteporfin PDTG in patients with visual impairment due to choroidal neovascularization secondary to pathologic myopia, Rajpal, Novartis Health Care Private Limited, 2 years, 2015-2017
2. A Sustainable Model for Comprehensive Outreach Eye Care Service for underserved population, Praveen Vashist, Sparsh, 3 years, 2018-2020, Rs 39.42 lakhs
3. Assistive Technology Study, Senjam Suraj singh, Commonwealth Eye Health Consortium UK, 1 year, 2017-2018, Rs 2lakhs
4. Cascade screening of family members of JOAG patients, Viney Gupta, ICMR, 3 years 2015-2018, Rs 45 lakhs
5. Diabetic Retinopathy: An Epidemiological Study of its Risk Factors and Biological Markers in Delhi, Atul Kumar/ Praveen Vashist, MoHFW, 2 years, 2017-2020, Rs 109.25 lakhs
6. Establishment of Multiplex PCR for Detection of Herpes Simplex Viruses Type 1 and Type 2, Cytomegalovirus, Varicella-Zoster Virus and Adenovirus in Ocular Viral Infections, Nishat Hussain Ahmed, AIIMS, 2016-2018, Rs 7.7 lakhs
7. Evaluation of role Eplerenone as an adjunct to Photodynamic therapy in Central Serous Chorioretinopathy: An open label randomized control trial, Atul Kumar, AIIMS, 2 years, 2017-2019
8. Exploring the role of tumor microenvironment in retinoblastoma, Rachna Meel, AIIMS, 1 year, 2018-2019, Rs 5 lakhs
9. High-resolution Photoreceptor and Microvascular Imaging Using Adaptive Optics Fundus Camera and OCT-angiography in Early Stages of Diabetic Retinopathy, Atul Kumar, AIIMS, 2 years, 2017-2019
10. In vivo Based QSPR model for the In-Silico Prediction of Drugs Penetrating Through Blood Retinal Barriers for High-throughput Ocular Drug Development, T Velpandian, DBT, 3 years, 2015-2019, Rs 51 lakhs
11. Molecular and mutational studies in the uveal melanoma and their correlation with clinicopathological parameters, Neelam Pushker, ICMR, 3 years, 2018-2020, Rs 30 lakhs
12. Operational Research project on strengthening integrated primary eye care in urban vulnerable populations of Delhi, Praveen Vashist, Sightsavers, 3 years, 2016-2019, Rs 163.74 lakhs
13. RAINBOW Study: A randomized, controlled study evaluating the efficacy and safety of RAInbizumb compared with laser therapy for the treatment of INfants BOrn prematurely with retinopathy of prematurity, Rajpal, Novartis Health Care Private Limited, 2016-2018
14. TB DNA RNA in presumed ocular tuberculosis, Rohan Chawla, AIIMS, 2 years, 2018-2020, Rs 9 lakhs

### **Departmental projects**

#### **Ongoing**

1. Community based operational research study on involvement of Accredited Social Health Activists (ASHAs) in strengthening Primary Eye Care services for Urban Vulnerable Population of Delhi
2. Epidemiological Study on Childhood Visual Impairment in Delhi
3. A comparative double-arm randomized controlled study to assess the effect of Evolve™ Pure Eyelid wipes in subjects with meibomian gland dysfunction
4. A Multicentre, randomized, double masked, active-controlled, comparative clinical study to evaluate the efficacy

- and safety of MYL-1701P and Eylea in Subject with Diabetic Macular Edema
5. A Population based study to assess the prevalence of glaucoma in Delhi
  6. An ambispective study of profile, gaps in care and outcomes in Stage 5 Retinopathy of prematurity
  7. An ambispective study of profile, gaps in care and outcomes in stage 5 ROP.
  8. Anatomical and functional outcomes of drainage through posterior retinotomy versus PFCL assisted drainage through pre-existing break in vitrectomy for rhegmatogenous Retinal detachment.
  9. Anatomical and functional outcomes of drainage through posterior retinotomy versus PFCL assisted drainage through pre-existing break in vitrectomy for rhegmatogenous Retinal detachment.
  10. Anti-Fungal susceptibility testing in fungal keratitis
  11. Assessment of different tonometers for IOP measurement in Post LASIK patients
  12. Assessment of Outdoor Ultraviolet Light Exposure and Serum Melatonin levels in Young Myopes
  13. Assessment of the extent of environmental exposure of potential endocrine disruptor (Bisphenols) in the waters of Delhi/NCR
  14. Association of Hippo pathway with pigmentation in the tumor microenvironment of uveal melanoma and its clinical relevance
  15. Automated detection of ROP and Quantification of Plus Disease
  16. Bacteriological profile of Central Line Associated Blood Stream Infections, with specific reference to biofilm formation and resistance pattern, and their correlation with response and outcome.
  17. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis?
  18. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology.
  19. Clinical and epidemiological profile of PCV in a tertiary centre.
  20. Clinical outcomes of retropupillary Iris claw IOL fixation in pediatric age group.
  21. Clinical performance and ocular surface homeostasis study with gas permeable scleral contact lens for ocular surface disease.
  22. Community based assessment of disability among adult population of Delhi using WHO-ICF
  23. Comparative evaluation of corneal biomechanical aberrations following corneal cross linking between thin corneas vs corneas with thickness >400 microns in patients with keratoconus
  24. Comparative evaluation of corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome.
  25. Comparative evaluations of different formulations of liposomal amphotericin B for the treatment of fungal keratitis
  26. Comparative profile of early vs late onset primary angle closure glaucoma
  27. Comparing the efficacy and safety of ketamine and dexmedetomidine in bariatric surgery without the use of opioids; A randomized clinical trial.
  28. Comparison of iCare ic200 and Perkin tonometry in paediatric glaucomas
  29. Comparison of Recovery Characteristics With Desflurane And Sevoflurane In Preterm And Ex-Preterm Infants Undergoing Retinopathy Of Prematurity Surgery: A Prospective Randomized Study
  30. Comparison of serum and vitreous biomarker in patients of Type-1 and Type-2 Diabetes Mellitus with Diabetic Retinopathy.
  31. Correlation of AS OCT changes in trabecular meshwork with SLT outcomes among JOAG
  32. Correlation of light microscopic features of the trabecular meshwork in different glaucomas with baseline IOP
  33. Determinants of Optic disc morphometry among JOAG patients
  34. Dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis.
  35. Effect Of Low Dose Ketamine On Inflammatory Markers and On Perioperative Analgesia In Patients Undergoing Laparoscopic hernia surgery -A prospective, randomized, comparative study
  36. Endocyclophotocoagulation in refractory glaucoma
  37. Epidemiology of Pediatric Blindness
  38. Estimation of rate of progression and projected life time risk of blindness among JOAG patients
  39. Evaluation of anisometropia & amblyopia risk factor in congenital nasolacrimal duct
  40. Evaluation of combined resection & recession of same muscles in patient with near distance disparity.

41. Evaluation of corneal tomography and Biomechanics following Intrastromal Lamellar Keratoplasty in Keratoconus
42. Evaluation of Donor characteristics and Graft Outcomes of corneal transplant from multi organ donors and cadaveric donors under hospital cornea retrieval program
43. Evaluation of effect of refractive error correction on quality of life in school going children
44. Evaluation of Frontalis Sling Surgery using Silicone Rod in Single Triangle versus Pentagonal configuration for the correction of Congenital Ptosis
45. Evaluation of levator plication as compared to frontalis sling surgery in severe congenital ptosis
46. Evaluation of levels of topical atropine in aqueous humour and vitreous humour- A pilot study
47. Evaluation of medical therapy vs surgical therapy in primary adult glaucomas
48. Evaluation of Optical Coherence Tomography-Angiography (OCT-A) Changes in Non Arteritic Anterior Ischemic Optic Neuropathy (NAION)
49. Evaluation of PPMB in various types of optic neuropathy
50. Evaluation of risk factors causing Residual Refractive Error in Corneal Refractive Surgery.
51. Evaluation of the effects of Trabeculectomy on Corneal Topography, aberrometry, Biomechanics, and Ocular Surface
52. Evaluation of the involvement of phthalates in the development of insulin resistance using cell culture experiments
53. Evaluation of the role of Intralesional Bleomycin in Periocular and adnexal vascular lesions.
54. Evaluation of the role of RPE/BM angle as a definitive marker of true papilledema using spectral domain OCT
55. Exploring the application of artificial intelligence in differentiating developmental variants of Anterior Segment Dysgenesis presenting with infantile corneal opacities
56. Gene expression profiling in retinopathy of prematurity
57. Genomic alterations among JOAG patients
58. Genomic alterations in juvenile open angle glaucoma
59. Imaging and functional outcomes post vitrectomy at differential Air infusion pressure
60. Intra-operative monitoring of cerebral oxygen saturation using Near Infra-Red Spectroscopy (NIRS) and Assessment of risk factors for Low cerebral oxygen saturation in preterm and very preterm infants with Retinopathy of prematurity during Vitreo retinal surgeries: An observational prospective study.
61. Intraoperative monitoring of cerebral oxygen saturation using near infrared spectroscopy (NIRS) and assessment of risk factors for low cerebral oxygen saturation in preterm and very preterm infants with retinopathy of prematurity during vitreoretinal surgeries: an observational prospective study.
62. In vivo Based QSPR model for the In-Silico Prediction of Drugs Penetrating Through Blood Retinal Barriers for High-throughput Ocular Drug Development
63. Lenticular changes with use of statins- A Hospital based prospective cohort study
64. Long term outcomes of Optic Capture in Pediatric Traumatic Cataracts due to Open Globe Injuries.
65. Longitudinal Comparison of Tablet based perimetry with Humphery Analyser among Paediatric glaucomas
66. Macular imaging in Glaucoma suspects and Early glaucoma
67. Metabolomic and pharmacogenomic evaluation of glaucoma therapy
68. Molecular alterations in Glaucoma
69. Molecular Characterization of Malignant Lacrimal Gland Tumors
70. Molecular Characterization of NFκB pathway in Uveal Melanoma.
71. Molecular insights into complications of Basal Ganglia Calcification with respect to Idiopathic Hypoparathyroidism
72. Molecular mechanism of melanogenesis pathway in uveal melanoma
73. Notch signalling deregulation in lacrimal gland tumors.
74. OCT angiography in POAG and PACG
75. Ocular Surface evaluation in Vernal Keratoconjunctivitis
76. Optic disc Morphometry among eyes with BRVO
77. Optical coherence tomography angiography in primary open angle glaucoma and primary angle closure glaucoma
78. Outcomes of keratoplasty in trachomatous keratopathy
79. Outcomes of primary ranibizumab vs laser for treatment of zone 2 Type 1 ROP
80. Pilot study to evaluate efficacy of subthreshold micropulse laser (577nm) in cases of central serous chorioretinopathy.

81. Pilot study to evaluate efficacy of subthreshold micropulse laser (577nm) in cases of non-resolving centre involving DME
82. Pneumatic vitreolysis vs pars plana vitrectomy in vitreomacular traction syndrome.
83. Predicting visual field deterioration based on progression analysis
84. Prevalence of glaucoma in patients having diabetic retinopathy
85. Prevalence of Visual disability among juvenile onset open angle glaucoma patients
86. Prospective pilot study comparing subtenon triamcinolone and intravitreal Methotrexate in Uveitis
87. Psychosocial impact of paediatric strabismus on caregivers and the effect of strabismus
88. Pulmonary arterial velocity time integral and effect of sigh breaths in predicting fluid responsiveness in acute circulatory failure
89. Role of 3D Heads up Digitally Assisted Vitreoretinal surgery in primary and recurrent rhegmatogenous retinal detachment with proliferative vitreoretinopathy – a prospective randomized trial
90. Role of anti-VEGF post vitrectomy in stage 4 ROP
91. Role of tacrolimus eye ointment in chronic VKC
92. Role of ultrasound and advanced MRI in evaluation of prostate cancer
93. Severity of Congenital glaucoma among Consanguineous births
94. Steroids in persistent diabetic macular edema
95. STL for CSR
96. STL for diabetic macular oedema
97. Study of Congenital Hereditary Endothelial Dystrophy Patients with and without SLC4A11 gene mutation
98. Study of Tear Film and Ocular Surface Changes after long term use of rose K lenses in patients with keratoconus
99. Study of the effect of red tinted filters on colour discrimination in congenital colour vision deficiency
100. Surgical outcomes of Anti-VEGF with vitrectomy in stage 4 ROP
101. To comparatively evaluate corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome
102. To compare the Extrusion Rate of Silicone implant Versus PMMA (Mule's) Implant following Myoconjunctival Technique of Enucleation - A Randomised Control Trial.
103. To compare the outcomes of 0.1mg vs 0.25mg Intravitreal Ranibizumab in Aggressive Posterior Retinopathy of Prematurity.
104. To Compare the Outcomes of Laser vs Combined Laser & Ranibizumab in Threshold Retinopathy of Prematurity
105. To determine the association between altered cerebral blood flow in the frontal cortex during sevoflurane anaesthesia and incidence of postoperative emergence delirium in children: an fNIRS based observational study.
106. To study the outcomes of immediate sequential bilateral vitreo retinal surgery (isbvs) in advanced ROP
107. To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patient with myopia worth is normal population
108. Topical autologous platelet lysate drops for severe dry eye disease in chronic ocular graft versus host disease (GVHD)
109. Topo guided custom ablation treatment in the management of post keratoplasty astigmatism
110. Ultrasound guided costoclavicular block in paediatric population: A prospective observational study
111. Ultra-wide field Indocyanine green angiography in central serous Chorioretinopathy
112. Understanding the drug transporter functions in blood ocular barriers during ocular inflammation in the experimental model of uveitis.

### ***Completed***

1. A comparative study of Panretinal photocoagulation using PASCAL and conventional Laser
2. Bleb morphology among JOAG patients
3. Characterization of secondary/ idiopathic choroidal neovascular membranes and their response to anti- VEGF therapy using optical coherence tomography angiography.
4. Clinical Profile of Normal pressure juvenile glaucomas
5. Combined mechanism glaucoma: A Comparative evaluation with POAG and PACG
6. Combined resection-recession in true divergence excess sensory exotropia.

7. Comparative Evaluation of Levels of Dopamine in Vitreous and Tears among Cases of Myopic Retinal Detachment and Non Myopic Retinal Detachment- A Pilot Study
8. Comparative evaluation of SF6 versus partial air tamponade on structural and functional outcomes of epiretinal membrane surgery.
9. Comparison of 3 intravitreal drugs for endophthalmitis
10. Comparison of OCTA and fluorescein angiography in patient of diabetic retinopathy
11. Comparison of time to intubate and intubation conditions with CMAC Miller blade size1 and CMAC Macintosh blade size 2 in paediatric patients– A Prospective randomized controlled study
12. Comparison of Ultrasound guided femoro-sciatic nerve block versus epidural analgesia for post-operative analgesia following excision of knee tumours- A randomized control study
13. Corneal Changes in Diabetes
14. Correlation of 360 degrees Cassia ASOCT parameters with clinical parameters in PAC and PACG
15. Correlation of Antibiotic Resistance patterns of Ocular bacterial isolates and Antibiotic use in patients admitted to hospital- A step towards Antimicrobial Stewardship
16. Effect of Valproic acid in end stage glaucomas
17. Effectiveness of Citicoline as adjuvant therapy to patching in the management of amblyopia
18. Efficacy of Eplerenone in polypoidal choroidal vasculopathy.
19. Evaluating vitreous seed regression using intravitreal melphalan in combination with standard intravenous chemotherapy for persistent/partially regressing vitreous seeds in group c and d retinoblastoma
20. Evaluation of efficacy of silicone intubation after probing with adjunctive mitomycin-c in adults with primary acquired nasolacrimal duct obstruction
21. Evaluation of medical therapy vs surgical therapy in chronic primary adult glaucomas
22. Evaluation of Mitomycin-c in Anophthalmic contracted socket reconstruction with Mucous membrane grafting
23. Evaluation of the role of Intralesional Bleomycin in Orbital Lymphangioma
24. Imaging and Intervention in Pediatric Budd Chiari Syndrome
25. In vivo Trabecular meshwork morphology in congenital glaucoma, juvenile and adult onset open angle glaucoma
26. Multimodal retinal imaging of eyes with metamorphopsia after retinal detachment surgery.
27. Outcomes of selective laser trabeculoplasty among juvenile open angle glaucoma
28. Predicting visual field deterioration based in progression analysis
29. Prognostic predictor and surgical outcomes of cataract surgery in pediatric uveitis
30. Prospective Observational Study of Cases of Aggressive Posterior Retinopathy of Prematurity (APROP) and Zone 1 Retinopathy of Prematurity.
31. Prospective observational study of cases of APROP and zone 1 ROP.
32. Prospective observational study to validate IOL power using optiwave refractive analysis (ORA) system & compare it with conventional IOL power calculation methods
33. Serum Procalcitonin, Interleukin-6 and sTREM-1 as diagnostic and prognostic markers in sepsis in Intensive Care unit
34. Species identification and determination of virulence factors of Coagulase negative Staphylococci in ocular infections
35. Study of posterior corneal astigmatism in normal and post refractive surgery corneas
36. Surgical outcomes of sutureless clear corneal microincision vitrectomy surgery in end stage 5 ROP
37. To characterize treatment Naive Choroidal Neovascular Membranes Using Optical Coherence Tomography-angiography
38. To study the outcomes of immediate sequential Bilateral ROP surgery
39. To study the predictors for surgical outcomes in stage 4A retinopathy of prematurity
40. Use of advanced genomics in Microbiology of culture negative infections

### **Collaborative projects**

#### ***Ongoing***

1. A comparative study to evaluate the efficacy of idebenone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients-A pilot study', Ophthalmology
2. A Randomized controlled trial to evaluate the effect of low dose atropine eye drops for childhood myopia,

## Ophthalmology

3. Analysing levels of cytokines in tears of keratoconus patient population. Ophthalmology
4. Antifungal susceptibility testing in fungal keratitis Ophthalmology
5. Autologous fat grafting for the correction of cicatricial ectropion, Dermatology
6. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? IRCH
7. Bortezomib in plasma with multiple myeloma, Pharmacology
8. Clinical Significance cancer stem cell markers and its proteins in different grades of Astrocytoma Ophthalmology
9. Clinicopathological Significance of Melanogenesis in Uveal Melanoma Ophthalmology
10. Community based assessment of disability among adult population of Delhi using WHO International Classification of Functioning, Physical Medicine, ENT
11. Comparative Evaluation of 0.1% Sodium Hyaluronate Drops Versus 0.5% Carboxy Methyl Cellulose (CMC) in chronic ocular sequelae of SJS: A randomized Controlled Pilot Study Ophthalmology
12. Comparative evaluation of 26 gauge needle versus Kimura spatula for corneal scraping in infective keratitis: a randomized controlled trial Ophthalmology
13. Comparative evaluation of different formulations namely sonicated gel form, unsonicated drop and sonicated drop of liposomal Amphotericin B for the Treatment of Fungal Keratitis. Ophthalmology
14. Comparative evaluation of dopamine levels in vitreous humor and tears among the cases of myopic retinal detachment and non-myopic retinal detachment- A pilot study (Dr Rohit Saxena) Ophthalmology/AIIMS
15. Comparison of nucleosomes and tissue inhibitor of metalloproteinase1 in predicting sepsis severity and mortality in adult critically ill patients: a pilot study, Anesthesiology
16. Correlation of Levator Muscle Thickness on UBM with response to Botulinum toxin injection in patients with Severe Eyelid Retraction due to Thyroid Eye Disease, Endocrinology
17. C-phycoerythrin from Spirulina using LC-MS/MS, DRDO
18. Detection of Mycobacterium Tuberculosis DNA and RNA from Vitreous/aqueous of cases of Definite and Presumed Ocular Tuberculosis Ophthalmology
19. Effect of ACE inhibitor on plasma levels of norepinephrine, Physiology
20. Effect of Garlic extract in mice model of chronic pancreatitis, Anatomy
21. Efficacy of low dose versus standard regimen of oral betamethasone pulse therapy in rapidly progressive vitiligo: A randomized controlled trial. Dermatology
22. Efficacy of Pulse Dexamethasone in addition to standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomised controlled trial Pediatrics
23. Efficacy of three different antiseptic solutions in neonates admitted in NICU: A randomised non-inferiority trial, Pediatrics
24. Efficacy of two different Chlorhexidine Gluconate Preparation for skin antisepsis in neonates, Pediatrics
25. Establishing a Technical Support Unit (TSU) for Verbal Autopsy based Cause of Death Ascertainment in the Sample Registration System, Registrar General of India, Registrar General of India
26. Estimation of ceramides in autosomal recessive congenital ichthyosis, Dermatology
27. Estimation of Drug Quantity of anticancer drugs/antibiotics in marketed formulations, IRCH
28. Estimation of Neurotransmitters & Metabolites in epileptic brain tissues, Neurosurgery
29. Estimation of neurotransmitters, metabolites and phospholipids from epileptic brain tissues, Neurosurgery
30. Evaluating ocular motion as a tool for characterizing visual field defects, IIT Delhi
31. Evaluation of Corneal Concentration of Antifungal Drugs and Its Correlation with Minimum Inhibitory Concentration (MIC) Values in Cases Undergoing Therapeutic Penetrating Keratoplasty Ophthalmology
32. Evaluation of cystinosis by estimating leukocyte cystine, Pediatrics
33. Evaluation of donor characteristics and graft outcomes of cornea transplant from multi-organ donors and cadaveric donors under HCRP Ophthalmology
34. Evaluation Of Factors Affecting the Outcome Of Optic Nerve Sheath Fenestration Surgery (ONSF) In Patients With Idiopathic Intracranial Hypertension (IIH), Neurology
35. Evaluation of Genetic basis of Congenital Hereditary Endothelial Dystrophy (CHED) by characterization of the effect of homozygous and compound heterozygous SLC4A11 mutations in CHED patients and clinical phenotyping of mutation positive and negative cases

36. Evaluation of the outcome of Intralesional Bleomycin in orbital lymphangioma Ophthalmology
37. Exploring the role of endocannabinoids in primary glaucoma, Ophthalmology
38. Exploring the Role of Tumor Microenvironment in Retinoblastoma Ophthalmology
39. Exploring the tryptophan metabolism via kynurenine pathway and correlation with clinical outcome in keratoconus and Fuchs corneal dystrophy patients undergoing corneal transplantation Ophthalmology
40. Hormonal response during oscillatory lower body negative pressure, Physiology
41. Identification of endothelial progenitor cell markers in RB Ocular Biochemistry
42. Identification of endothelial progenitor cell markers in RB Ophthalmology
43. Micro RNAs as Novel Biomarkers for the prediction of corneal graft rejection. Ophthalmology
44. Molecular and Mutational Studies in the Uveal Melanoma and their correlation with Clinicopathological Parameters Ophthalmology
45. Pharmacokinetics of Abiraterone levels with food, Pharmacology
46. Pharmacokinetics of second-line anti-tubercular drugs in children, Pediatrics
47. Phospholipids estimation resected brain tissue samples, Biophysics
48. Plasma Drug levels of Isoniazid, Ethambutol, Rifampicin and Pyrizinamide, Microbiology
49. Psychosocial factors among patients undergoing orbital exenteration, Psychology and Dental
50. Quantification of Sphingolipids in Human umbilical veins, Biochemistry
51. Serum Benzathine Penicillin G levels in Indian Children and adolescence with Rheumatic heart disease, Pediatric Cardiology
52. SNOMED-CT: NRCeS – Development of National Drug Repository database, MoHFW & C-DAC Pune
53. Study of endothelial progenitor cell (EPC) tetrahydrobiopterin (BH4) levels and its association with EPC number and function in coronary artery disease (CAD) patients. Cardiac Biochemistry
54. Study of Lipid Metabolism in Ocular Malignancies Jamia Milia
55. Study of Ocular Microbial flora in contact lens wearers using metagenomics Ophthalmology
56. Study on Health-Related Quality of Life and Costing of cataract surgery for treatment of age-related cataract in India, DHR, ICMR
57. Sustainable model for orientation and mobility among students with visual disability in schools for the blind, PMR
58. Targeting PD-1/PD-L1 Pathway in Ocular Malignancies as a New Paradigm for Immunotherapy Jamia Milia
59. The pattern of visual impairment in spectrum of hypoxic ischaemic encephalopathy Ophthalmology
60. To estimate the 8-Oxo-dg and 8-Oxo-Guo in plasma, Pulmonary Medicine
61. To estimate the levels of N-Carboxymethyl lysine, arginine and Di-tyrosine in autistic children, Pediatrics
62. To Evaluate the effects of a preoperative carbohydrate drink on postoperative vomiting in paediatric strabismus surgery: A randomised controlled observer blinded trial, Anaesthesiology
63. To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - An In-Vitro Study, IIT Delhi
64. To study Nilotinib Drug interaction with fatty acid meal, IRCH
65. To study the association of tetrahydrobiopterin (BH4) levels in endothelial progenitor cell (EPC) with the functional activity of EPC in coronary artery disease (CAD) patients. Cardiac Biochemistry
66. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population, Medicine
67. To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia vs. normal population Ophthalmology
68. Tools to Diagnose-Eye-Development and assessment of image analysis tools for identification of retinal disorders- Diabetic Retinopathy, IIT Delhi
69. Tools to Diagnose-Eye-Development and assessment of image analysis tool for identification of glaucoma, IIT Delhi
70. Traditional medicine in India and South Africa: A comparative Study. University of Delhi
71. Ultrasound Assessment of Gastric Emptying of Clear Fluids with Different Energy Content in Children: A Crossover Pilot Study. Anesthesiology

### **Completed**

1. Autologous fat transfer for orbital volume augmentation in sockets with small non-seeing eye, Dermatology

2. Assessment of outdoor ultraviolet light exposure and serum melatonin levels in young myopes, Ophthalmology
3. Comparison of three antibiotic drug regimens, Ophthalmology/AIIMS
4. Ocular Pharmacokinetics of topical Bromofenac 0.09% in cataract surgery patients, Ophthalmology
5. Pharmacological evaluation of selected Ayurvedic formulation, NMR
6. Toxicological analysis and distribution pattern of alcohol and different drugs in various biological samples and their neurobiological effects in suicidal deaths, Forensic medicine and technology
7. Therapeutic drug monitoring & evaluation of clinical response in abdominal tuberculosis, Microbiology
8. Serum & Bal Colistin Levels, Medicine
9. Estimation of Aspirin and salicylic acid in plasma of ischemic stroke patients, Neurology
10. To analyze cell bacteria lipid mixture 1 and 2, Biomedical Engineering/IIT Delhi
11. To study the microsomal stability of GDS-390S, Dept. of Chemistry /Delhi University
12. A temporal evaluation of structural and functional changes of optic nerve in acute cases of idiopathic intracranial hypertension and the impact of weight reduction on the same, Neurology
13. The spectrum of visual impairment in Hypoxic Ischemic Encephalopathy and their relationship with clinical classification, Paediatric Neurology
14. Evaluating vitreous seed regression using intravitreal melphalan in combination with standard intravenous chemotherapy for persistent/partially regressing vitreous seeds in group c and d retinoblastoma, IRCH
15. Study of Tear Film and Ocular Surface Changes after Long Term use of Rose K Lenses in Patients with Keratoconus, Ophthalmology
16. Baseline and post neoadjuvant chemotherapy imaging of optic nerve in extraocular retinoblastoma. Can MRI Predict Prognosis? (RPC), Ophthalmology
17. Role of MR guided biopsy in detection of prostate cancer, NMR
18. Retrospective Study Evaluating Correlation between Proposed MRI based Optic Nerve Staging in Extraocular Retinoblastoma with Clinical Outcome and Prospective Evaluation of Optic Nerve Enhancement without Optic Nerve Thickening, Ophthalmology
19. Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous nephrolithotomy Urology

## PUBLICATIONS

**Journals: 390**

**Abstracts: 3**

**Chapters in Books: 15**

**Books: 4**

## PATIENT CARE

		<b>New Cases</b>	<b>Old Cases</b>	<b>Total</b>
1.	General O.P.D.	159709	172803	332512
2.	Emergency	11697	47701	59398
3.	Specialty Clinics	40428	138832	179260
	<b>Total</b>	<b>211834</b>	<b>359336</b>	<b>571170</b>
<b>Details of Specialty Clinics</b>				
1.	Cornea Clinic	6560	12126	18686
2.	Lens Clinic	1076	2947	4023
3.	Uvea Clinic	1133	5134	6267
4.	Contact Lens Clinic	792	1870	2662
5.	Glaucoma Clinic	3711	9280	12991
6.	Oculoplasty Clinic	4796	3924	8720
7.	Paed. Ophthalmology Clinic	11	4	15
8.	Retina Clinic	4166	6350	10516
9.	Neuro-Ophthalmology	3156	3422	6578

10.	Clinic	3949	5171	9120
11.	Vitreous Retinal Clinic	1225	4040	5265
12.	ROP	250	633	883
13.	Ocular Oncology Clinic	3500	1715	5215
14.	Low Visual Aid	505	21920	22425
	a) Orthoptic Clinic	5598	20396	25994
15.	b) Squint Clinic	0	39900	39900
	<b>Total Cases</b>	40428	138832	179260
<b>Admissions</b>				
1.	General Admissions			16896
2.	Casualty Admissions			3504
3.	Private Admissions			1278
4.	Short Admissions			15541
5.	Day Care Admissions			11064
	<b>Total</b>			<b>48283</b>
<b>Operations</b>				
1.	Major			20004
2.	Day Care			10029
	<b>Total</b>			30033
3.	Minor			20477
	<b>Grand Total</b>			<b>50510</b>
	<b>Deaths</b>			01
<b>Other figures</b>				
1.	Average Bed occupancy Ratio			82%
2.	Average length of stay			04 days
3.	Average OPD Attendance per working day			1904
4.	Average No. of Indoor Admission per day			132 per day
5.	Average No. of Surgeries per day			138 per day

#### Casualty services

Total number of new cases seen in casualty	7494
Number of patients admitted in emergency ward	3321
Minor procedures done in casualty operating room	434
Intravitreal injections	7906
Examination under anesthesia	2513

#### Investigative Laboratories:

Investigations	Total No
Pupillometry + MRI Scanning + ON Clinic	1405
Schirmer + BUT + Flaremeter	2080

Contact lens work up	2752
ROP Clinic	4469
Anterior Segment Photography	4701
Contrast Sensitivity	4980
Colour Vision	4989
ECG	5562
HRT 3 + GDx ECC	6126
Corneal Topography	7126
Electrophysiology	8654
Laser Procedures	8705
OCT Angiography	9990
Laser Interferometry	10105
FFA + ICG+FAF	10251
Low Vision Aid Services	10565
Fundus Photo + AF+ Adaptive Optics	10605
Specular Microscopy	11568
Pentacam + CORVIS	17465
Perimetry (HVF+GVF+Micro)	18565
Pachymetry	24256
Axial Length	26056
UBM +USG B Scan	28708
Keratometry	30869
Autolensometry	33769
101. Master + Lens Star	38261
OCT (AS + PS)	77925
Refraction	106985
Auto Refraction	123982
Tonometry	157963
<b>Grand Total</b>	<b>809437</b>

### Community Ophthalmology:

<b>Primary Eye Care Services through Vision Centres</b>	
Number of Vision Centres	28
Attendees at Vision Centres	82166
Refractions Conducted	
Spectacles prescribed	33497
Patients referred to RP Centre	9816
<b>Primary Eye Care Volunteer training events</b>	
Volunteers Training Programmes organized	42
Volunteers Trained	414
<b>Eye Health Education Events</b>	
Eye Health Education Events conducted in Vision Centres	1106

Eye Health Education Events conducted in RPC	184
<b>Reach-in-Programme for cataract surgery in Rural and remote areas</b>	
Cataract screening camps organized	Nil
People examined	Nil
Refraction	Nil
Patients referred to RP Centre	Nil
<b>School Eye Screening (SES) Programme</b>	
Schools covered under SES Programme	67
Numbers of Children screened	58110
Refractions Conducted	5838
Spectacles Prescribed	5142
Spectacles Booked	5142
<b>Diabetic Retinopathy Screening Camps</b>	
Total number of DR screening camps organized	257
Diabetic patients screened in camps	3405
Total DR Patients identified	409
Total DR Patients referred to R.P Centre	405
<b>Patient Reported for treatment at Dr RP Centre under Community Ophthalmology</b>	
Total Patient Reported under community ophthalmology:	5251
Total Patient Operated for cataract surgeries under community ophthalmology	2156
Follow-up camps organized	48
Patients examined in Follow-up camps	1437
Total Patient Reported under community ophthalmology:	5251
<b>Low Vision Rehabilitation</b>	
Total Enrolled	1207
Mobility Training	581
ADL Counselling	1085
Visual Disability Certification	388
Vocational Training	45
Special School Admission	49

#### Ocular Biochemistry:

Sl.No.	Tests Name	IPD	OPD	Total
1.	Sugar (R,F,PP, GTT)	7105	6196	13301
2.	HbA1c	1424	1970	3394
3.	TBIL	8428	4570	12998
4.	DBIL	8427	4570	12997
5.	ALT or SGPT	8427	4570	12997
6.	AST or SGOT	8427	4570	12997
7.	ALP	8427	4570	12997
8.	TP	3265	4380	7645
9.	ALB	3265	4380	7645
10.	Creatinine (CRE)	8566	4836	13402

11.	Urea (UREA)	8566	4836	13402
12.	Uric Acid (UA)	8565	4836	13401
13.	Sodium (Na <sup>+</sup> )	8566	4836	13402
14.	Potassium (K <sup>+</sup> )	8567	4836	13403
15.	Chloride (Cl <sup>-</sup> )	8565	4836	13401
16.	TCHOL	956	1607	2563
17.	LDL-C	956	1607	2563
18.	HDL-C	956	1607	2563
19.	Triglyceride (TRIG)	956	1607	2563
20.	Free T3	379	732	1111
21.	Free T4	380	738	1118
22.	TSH	390	798	1188
23.	Vitamin B12	71	379	450
	<b>TOTAL</b>	<b>113634</b>	<b>77867</b>	<b>191501</b>

### Ocular Microbiology

S. No.	SAMPLES PROCESSED FROM 1.4.2018 TO 31.03.2019	
1	Bacterial culture & sensitivity	18131
2	Fungal culture	4892
3	Specimens processed for cytology	2570
4	Specimens processed for Chlamydia Ag detection using DFA	28
5	Specimens processed for HSV ag detection using DFA	2
6	Viral PCR for herpes simplex virus, adeno & coxsackie virus (conjunctivitis/corneal ulcer)	132
7	Specimens processed for microsporidia	17
8	Specimens processed for mycobacteria	22
9	Culture for acanthamoeba	26
10	Automated (BACTEC) culture for endophthalmitis	14
11	Broad range PCR for endophthalmitis	13
	<b>TOTAL</b>	<b>25,877</b>

### Ocular Pathology:

Blood	1,16,870
Urine	4,787
Cyto + Cyto research	2,114
Histo + Histo research	26,714
<b>Total number of Investigations</b>	<b>1,50,505</b>

**Ocular Pharmacology:**  
**Drugs Supplied/ Dispensed through Ocular Pharmacy during the year**

<u>Drug Dispensed</u>	<u>Total Vials (5ml)</u>
<b><u>1. Drugs purchased by the patient &amp; fortified at the pharmacy</u></b>	
Capsosfungine acetate 0.5%	41 vials
Colistemetate	01 vial
Acetyl Cysteine (10, 20%, 2.5%, 5%)	252 vials
Amikacin (1.3%, 2.5%,1%,5%)	22 vials
Amphotericin B (0.25, 0.15%)	57 vials
Betaxolol (0.25%)	365 vials
Cefazolin (5%)	3027 vials
Conc. Tobramycin (1.3%)	6183 vials
Mitomycin (0.02%, 0.04%)	120 vials
Pilocarpine (.125%, 0.5% , 0.25%, 1%)	89 vials
Polymixin B (20,000µ-30,000µ/ml, 50,000µ/ml) 174 vials	174 vials
Chlorhexidine	10 vials
Glycerin 10%	01 vial
Cefuroxime 5%	04 vials
PovidoneIodine 5%	01 vial
Vancomycin (5%)	3653 vials
Timolol 0.25	14 vials
Ceftazidine	48 Vials
Bevacizumab/Avastin	5928 Ampules
Interferon	239 vials
Voriconazole (1%)	1102 vials
Gentamycin 1.3%	01 vial
Cefpodoxime 100mg/kg/day sachet	14 vials
Cefuroxime 5%-	04 vials
Proparacaine (0.5%, preservative free)	03 vials
Heparin (1300 IU/ml)	03 vials
<b><u>2. Dispensed from pharmacy free of cost</u></b>	
Autologous Serum	92 vials
Artificial Tears	47977 vials
Ciprofloxacin (0.3%)	10460 vials
Corneal storage media (M.K. Media )	4222 vials
Cyclosporine2%, 1%	106 vials
EDTA (1.1%)	73 vials
Homatropine (2%)	12726 vials
Hypertonic Saline (5%)	5531 vials
Methyl Cellulose (2%)	72 L (for manf. AT + Cipro + methylcellulose)

Methyl Cellulose (2%)	595 vials
Pilocarpine (2%)	141 vials
Acetazolamide 30Mg, 10, 25, 40, 50, 60, 80mg	1055 Pkt
Sodium Ascorbate (10%)	316 vials
Sodium Citrate (10%)	354 vials
Thimerosal Solution (0.005%)	74 Lits
Tropicamide (1%)	29269 vials
Pipracillin	73 vials
Tropac+ Phenylepherine(0.5%+2.5% (ROP)	8095 Vials
Gancyclovair vials 100mg	48 vials
Gancyclovair ampoules 20mg/ml-	
PHMB	116 vials
Meropenam 5mg/ml	58 vials
Piloclonidine	198 vials
Atropine 1%	-
Atropine 2%	-
Atropine 0.01%	-
Mycophenolatemofetil-	
Sodium benzoate	28
Propranolol (Ciplar) 4mg -	
Pyroximate-	
Isoniazis-	
Ethambutol-	
Isomac-	
Diazoxide 10 mg, 12.5mg	69
Amlodipine	-
Hisone	-
Albumin	-
Glycerin 20%	1
Olopatadin	8117
RPC CMC	10
RPC Pred	10
Sodium hypochlorite (1:10)	500ml
Glycerin 50%	2 vials
<b>3. Kit items dispensed</b>	
Botox	332 ampules
Ethyl alcohol 20%	462 x 5ml
Gold chloride	91
Hydrazine Hydrate	91
Sod. Chloride 20% solution	25 ml X 2 vials

Intraocular Injection (Buffy coat)	6 vials
PRP (Autologous serum eye drops)	450 vials
Tab. Citrizen 2.5 mg	4 sachets
Tab. Acyclovir 1/8	16 sachets
Liposomal Amphoterecin B (0.15%)	03 vials
Linezolid 2%	2
Azathiaptine	-
Donalac	-
2% Sodium offoside	-
Voriconazole 25mg	63 sachets
Bind power 1gm	-
TPA (Injection, 1mg/ml)	28 ampoules
Tissue plasminogen Activator	
Infliximab Inj 10mg	-
Nasal wash (sod. Chloride 4mg)	-
K-Bind Powder (1packet)	-
Limezolin 5%	02 vials
Folicacid 0.5%	04 vials
Cilastin 5%	-
Ethyl alcohol 100%	5ml x 3vials
Xylistin 0.15%	01 vial
Formalin 10%	3 litres
Imeperam 5%	05 vials
Timolol Maleate Point 0.5%	66 ointments
Augmentin Tab. In parts	8 sachets
Cap Idebenon	180
Acyclovir 120 mg	12 sachets
Valganciclovir Tablet	85 sachets
Sirolimus Powder	28 sachets
Glibenclamide	-
Indomethacintab	-
Nitisinone Capsule	-
Lanzoprazol Tablet	-
Spiranolactone Tablet	-
L-Arginine	38 sachets
Sodium Banzoates	30 sachets
Lanolidomide Powder	20 sachets
Cindamycin 40 mg	28 sachets
Voriconazole in parts	13 pkt
Propanolol in parts	28 pkt

Valgancyclovir	39 sachets
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### Ocular Radiology:

Total number of patients for X rays:	8695
Total number of patients for CTs:	1472

### Ocular Anesthesia:

S. No.	G.A. CASES	Number
1	Routine + EUA	5720
2	Emergency	1667
3	Monitored Anaesthesia Care	485
4	DR RPC Casualty-O.T.	3137
	<b>TOTAL</b>	<b>11009</b>

### National Eye Bank

National Eye Bank (Neb):-	
Total Collection of Cornea	2138
Total Utilization for Cornea Transplantation	1530
Other Eye Bank (Oeb):-	
Total Collection of Cornea	329
Total Utilization for Cornea Transplantation	312
Total Number of Peoples Pledged For Eye Donation At Neb:-	
Total Number of People Pledged For Eye Donation	137

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rajpal Vohra** was member of expert's panel of National retinopathy of prematurity Task force with collaboration of PHFI; Member of Task Force to suggest a concrete Action Plan for early diagnosis and prompt treatment of retinal diseases in the country under National Programme for Control of Blindness (NPCB); Invited as Faculty in various National Conferences. Member of Editorial Board. DOS & DJO; Examiner for MBBS and MS for Delhi University and DNB, Examiner of Vitreo-retina Fellowship. Appointed assessor for accreditation of hospital by NBE; Member of selection board of ESIC Hospital; Chairman of Pediatric high dependency unit (IVA ward); Administrative Activities:- Member of selection Committee & DPC appointed by the Director, AIIMS, National Board of Examination. Liaison Officer SC and ST cell at AIIMS; Member of Vigilance and inquiry Committee, Store Purchase Committee, Sub- Technical committee., standing medical board, main technical evaluation committee; Co-chairman of Annual Report committee, Budget & Accounts; Chairman-Free Paper Retina Session 70th Annual DOS Conference 13th to 14th April 2019 New Delhi; Chairman-Retina Session Dos Winter conference 2018 2 and 3 November 2019 New Delhi; Co-chairman in Retina Session 1. Free Paper - Diabetic Retinopathy & Medical Retina – I 2. Free Paper - Vitreo Retinal Diseases – I 78th AIOS Conference 13 and 16 February 2020 Gurugram; Chairing Session IROP 2019 21 and 22 June 2019 Chandigarh

**Dr Vinod Kumar** was elected as Editor Delhi Journal of Ophthalmology; Assistant editor Indian Journal of Ophthalmology; IJO honor award at AIOC 2020 Gurugram; Participated in OPL and won best educational video award Annual Conference of Delhi Ophthalmological Society, 12-14 April 2019, New Delhi; Co-author of the case intraocular cyst with pearls, which was awarded case of the year Retina workshop 5-8 December, VRSI, Lucknow, UP

**Dr Shorya Vardhan Azad** was awarded International APAO Fellowship – National University Hospital, Singapore

## Unit-II

**Professor Atul Kumar was** Guest Faculty POS Annual Meeting “Dr Rajan Akhaury Oration, Patna 7 April 2019; Delivered Dr Narendra Swarup Oration by Hyderabad Ophthalmic Association “Anti-VEGF’s in DME, 21 December 2019

**Professor Parijat Chandra was** Convener. IC Retina Grand Rounds. 70th Annual Conference of Delhi Ophthalmological Society, Delhi [13 and 14 April 2019]; Chair. Session: ROP Basics for Beginners, 4th Annual iROP Meeting, Chandigarh, [21-23 June 2019]; Chair. Session: Treatment of ROP - How I do it, 4th Annual iROP Meeting. Chandigarh, [21-23 June 2019]; Judge- Poster Session - Pediatric Retina Summit, Chennai, [12-13 July 2019]; Judge – Free Papers (Misc); Winter Conference of Delhi Ophthalmological Society, [2 and 3 November 2019]; Panelist. Cases Presentations. iROP Meeting, Lucknow, [5 December 2019]; Convener, Free Paper - Vitreo Retinal Diseases – III, AIOC 2020 Gurugram, [13-16 February 2020]; Member - Technical Expert Group for development of clinical practice guidelines, National Neonatology Forum, (July 2019); Examiner FAICO (Retina), (2 January 2020), AIIMS, New Delhi

**Dr Rohan Chawla** was Chair instruction course on advanced retinal imaging at AIOS, February 2020 held at Gurgaon.

## Unit-III

**Professor JS Titiyal** received T Agarwal Gold Medal by Intra ocular implant and refractive surgery society of India, (IIRSI Meeting, September 2019, Delhi; Dr MM Joshi Oration, Belgavi, Karnataka. KOSCON Annual Meeting, 8 November 2019; Best Paper/Poster/Video award: Titiyal JS, Kaur M. Intraoperative OCT-Guided Management of Intumescent White Cataract. American Academy of Ophthalmology Annual Meeting, San Francisco (USA), October 2019; Community Work & Honours: “Arogya Bharat” Holi colours and its effects on eyes, March 2020, Door Darshan, National, Mandi House, New Delhi and “Arogya Bharat” “Diwali pollution and effect on Eyes October 2019, Door Darshan, National, Mandi House, New Delhi; Guest of honor at iBeach Film Festival, August 2019, Goa

**Professor Namrata Sharma was** awarded “IIRSI GOLD MEDAL” for contribution in American Academy of Ophthalmology; “Best Scientific Video” by judges at AAO 2019; “Best Scientific Video” by audience at AAO 2019; Awarded “3rd OSA Oration” by Ophthalmological Society of Assam at Guwahati; Awarded “Cure Sight Laser Center ORATION” at the Annual Gujarat State Conference held at Mahsana, Gujarat on 29 September 2019; “Best Scientific Video” at OPL titled “Hey there is an eye”, Depicting SLET: Simple limbal epithelial transplantation- IIRSI 2019 at Pullman, Aerocity; “AIOS HERO AWARD” at the iBeach Ophthalmic Film Festival at Goa; “The best video award for scientific content” at OPL in BOA Focus; Awarded “Best Surgical Video medal” in OPL- The audience choice at IIRSI Chennai 2019; Awarded “Reviewer Certificate” for reviewing 3 Manuscripts in 2019 of Stem Cells Translational Medicine; Awarded “Dr AM Gokhale Oration Award: Phacoemulsification in Corneal Haze” at NIO PUNE EYECON-2019 held at Pune on 21 April 2019

**Dr Manpreet Kaur received** Achievement Award- American Academy of Ophthalmology (AAO) 2019; International Heroes Award 2019- All India Ophthalmological Society Annual Meeting 2019, Gurgaon, India

## Unit-IV

**Professor Tanuj Dada** Oration – Vidharbha Ophthalmic Society: Looking beyond IOP. October 2019

**Professor Rohit Saxena** was Best of Show Video at American Academy of Ophthalmology 11-14 November 2019; Best video presentation award SPOSI Annual Conference 7 and 8 December 2019

**Dr Shikha Gupta** was best of paper Session at AIOS 2020 in glaucoma for “Efficacy and safety of incisional goniotomy and phacoemulsification in adult angle closure glaucomas”

**Dr Dewang Angmo** chaired and delivered successful Instruction Course in AIOS 2020 Lasers in Glaucoma; Elected as Youngest Executive member in DOS; Actively participated in WHO SEARO meet 2019; Glaucoma section editor for IJO; Glaucoma section editor for RPC Newsletter; Assistant Editor in DOS Times; Editor for INOS newsletter

## Unit-V

**Professor Pradeep Sharma** was Awarded the Prof. S K Lal oration Gold Medal by Haryana Ophthalmological Society on 22nd Sept. 2019; awarded with the Prestigious Prof. Siva Reddy Oration Gold Medal on 28 September 2019; Visiting Professor and Speaker by National Institute of Ophthalmology, Dhaka, Bangladesh 15-17 November 2019; Invited Speaker for Inaugural address by Bangladesh Society of PedOphthalmology and Strabismus, Dhaka, Bangladesh 28– and 29th February 2020; Installed as the President of Strabismus and Pediatric Ophthalmological Society of India, SPOSI December 2018-December 2019.

**Professor Neelam Pushker** was Co-chairman in a session on, ‘Oculoplasty’ – ‘Tackling the adnexal problems tips’ in the 15th Annual Conference of HOS, 2019, held from 21-22 September 2019 at Sirsa, Haryana; Co-instructor in 2 Instruction

Courses, 'A Quick appraisal of recent trends for common ophthalmic tumors' & 'The oculoplasty tutorial – step by step approach', respectively, in 78th AIOS Annual conference, February 2020, Gurugram.

**Dr Swati Phuljhele** was Joint organizing secretary for Annual Conference of Indian Neuro-Ophthalmology Society; Best Paper: Poster Podium Presentation Titled "Effectiveness of Various Surgical Procedures For Correction Of Monocular Elevation Deficit [Fp108]" At The Squint Session On 14.02.2020, Annual Conference of All India ophthalmology Society 13-16th February 2020, Gurgaon

**Dr Rachna Meel** was Awarded best Video presentation in Winter Conference of DOS 2019 held on 2 and 3 November 2019; Chief instructor for Instruction course titled: A Quick Appraisal of Recent Trends for Common Ophthalmic Tumors; conducted at AIOC 2020 14 February 2020, Gurugram; Co instructor for Instruction course titled: The Oculoplasty Tutorial – Step by step approach; conducted at AIOC 2020 14 February 2020, Gurugram

**Dr Amar Pujari received** AC Agarwal trophy Award for best Delhi state Paper, DOSCON 2019, Delhi; Professor Pradeep Sharma International hero at SPOSI Annual Conference, Chennai 2019; AIOS- Vision-Sante Award at AIOC 2020, Best paper in Cataract section

#### **Unit-VI**

**Professor Radhika Tandon** was Immediate Past President of Eye Bank Association of India; Immediate Past Vice - President of Association of Eye Banks of Asia; Member of Apex Technical Committee of National Organ and Tissue Transplant Organization, Govt. of India; Advisory Member for the Global Alliance of Eye Bank Associations (GAEBA); Appointed as Chairperson of the Committee for Standard Treatment Workflows (STWs) conferred by ICMR; Invited to participate in the framing of Barcelona principles for Ethical Practices in Usage of donated tissue released in collaboration with Global Alliance of Eye Bank Associations and WHO; Appointed as Member of the Advisory Committee for National Programme for Control of Blindness & Visual Impairment (NPCB&VI), Ministry of Health and Family Welfare, Government of India; Appointed as Chairperson of the Inspection Team of Delhi Organ Transplant Cell; Appointed as an Expert for Project Review Committee (PRC) conferred by ICMR; Nominated as Member for DBT Bioengineering Task Force, Department of Biotechnology, Ministry of Science & Technology, Govt. of India; Appointed as Member for Reconstitution of the Dean's Research Committee (DRC); Nominated as a Member of the Editorial Board of the Indian Journal of Medical Research (IJMR) from July 2018; Nominated as Member of a Task Force for Women Safety and Gender Sensitization at AIIMS, New Delhi; Nominated as Faculty Member of Committee to oversee the sanitation and hygiene at AIIMS Campus (Asiad Village); Nominated as Member of the AIIMS Endowment Fund Scientific Advisory Committee; Nominated as Chairperson of Committee for compilation of information and coordination with various agencies for National/International Institutional Rankings/Awards/Honours etc.; Appointed as an External Expert for Standing Selection Committee Meeting of AIIMS Jodhpur, Jodhpur on 10 May 2019; Appointed as an External Expert for National Board of Examinations; Nominated as a Subject Expert of Sub-Committee's on Medicines, Medical Devices, Medical Consumables/Disposables and Hygiene and other Health Care Products. The Standing National Committee on Medicine (SNCM) – Sub-Committee – Medical Devices Meeting on 6 August 2019 in Committee Room, 2nd Floor, DHR, Red Cross Building, New Delhi; Appointed as an External Expert for Standing Selection Committee Meeting of AIIMS Jodhpur; Appointed as Examiner to evaluate the thesis of the Degree of MS-Ophthalmology of Delhi University; Nominated as Member of Committee of Special Medical Board to ascertain suitability of qualified PWBD candidates for the post of Nursing Officer under PWBD category at the AIIMS, New Delhi; Appointed as a Subject Expert in Standing Selection Committee Meeting of AIIMS Patna organized at the Institute of Liver and Biliary Sciences (ILBS); Nominated as Member of Internal Committee comprising for taking care of day to day needs of differently-abled persons as well as for implementation of Schemes passed in the W.P. (C) No.292/06, titled "Disabled Rights Group and Anr. Vs. UOI & Ors."; Nominated as Co-Chairperson of Ocular Brachytherapy Committee at Dr RP Centre, AIIMS, New Delhi.

**Professor M Vanathi** was internal Examiner for MD-Ophthalmology exams May 2019; Expert on Technical Specifications Vetting Committee–Dept of Ophthalmology, JIPMER 2020; Elected as DOS representative to AIOS 2-19 – 202; Completed 3 years term as AIOS Jt Treasurer and Scientific Committee Member 2017 -2020

**Dr Noopur Gupta** was invited by WHO SEARO as WHO Regional Eye Expert for developing recommendations for promoting eye health and elimination of blindness and visual impairment; Nominated as Ophthalmology Expert for Project Review Committee Meeting for the field of Ophthalmology for reviewing extramural projects at ICMR headquarters; Invited as Expert for developing Standard Treatment Workflow for Ophthalmology under Ayushman Bharat Scheme, Govt. of India; Nominated by Vision 2020-Right to Sight-India to develop national guidelines for cataract management in the country; Invited as Evaluator for Cataract Free Papers at AIOC 2020; Winner at the AIOS ARC Young researcher's award for the second-best thesis at AIOC 2020 (Chief Guide: Noopur Gupta); Awarded the Best of best poster podium presentation at AIOC 2020, Gurugram; Awarded the best poster podium presentation at the Comprehensive Ophthalmology Session at AIOC 2020; Invited as Consulting Editor for Community Eye Health Journal for SEARO; Invited as Consulting Advisor

for Community Eye health Journal for the SEARO Region as a Board Member of South Asia Advisory Committee; Lead Cornea expert at the WHO SEARO IAPB-Technical Expert Group Meeting on Eye Care aligned with the Universal Eye Health at Nepal; Invited as Resource Faculty at the workshop on Trachoma elimination- way forward with international Trachoma Expert, Dr Solomon from WHO, Geneva; Invited as an expert for WHO's Working Group on Monitoring, Evaluation and Research (WG-MER) for neglected tropical diseases; Invited as Cornea expert For Vn2020 SightLife panel on outreach models for awareness and screening for corneal opacity

**Dr Neiwete Lomi was** awarded best free paper presentation at DOS Winter Conference 2019, New Delhi on “Interesting cases” titled- Conjunctivo- Iridociliary Melanocytoma: An usual presentation. Vatika Jain (Presenting author), Neiwete Lomi (Co-author)

**Dr Nishat Hussain Ahmed** of Diagnostic services at Ocular Microbiology are accredited by NABL (National Accreditation Board for Testing and Calibration Laboratories), in accordance to ISO 15189:2012; Certificate no. MC-3267

**Professor Seema Sen and Professor Seema Kashyap**, Mithalesh Singh and Neelam Pushker “BAP-1 protein as an indicator of metastasis in uveal melanoma” Presented a PPP in AIOC 2020 February at Gurugram. This was awarded Best Poster award in the Poster Podium Presentation session; Mithalesh Kumar Singh, Seema Kashyap, Neelam Pushker, Seema Sen, Kunzang Chosdol Poster presentation at ESMO Immuno-Oncology 2019 held in Geneva, Switzerland from 11-14 December 2019. Abstract entitled ‘ Loss of BAP-1 influences the activation of p52 and RelB proteins in the Inflammatory microenvironment of Uveal Melanoma’ ESMO Merit Award; Jha Jayanti, Pushker Neelam, Singh Kumar Mithalesh, Singh Lata, Sen Seema. *Association of BAP1 with ATR protein and their clinical significance with patient outcome in uveal melanoma*. ESMO Asia 2019 22-24 November 2019 Singapore. (Received Merit Award); Expression Profiling of Receptor Tyrosine Kinases in Orbital Rhabdomyosarcoma. Molecular Pathology Association of India 8th Annual Conference. 10-12 January 2020 Jaipur (2nd best paper award)

**Professor Jasbir Kaur was** Examiner, PhD: University of Madras and Sher-i-Kashmir Institute of Medical Sciences (SKIMS); Editorial Board Member: Journal of Ophthalmology: Open Access; Journal of Ophthalmology and Vision; Annals of Clinical Oncology; Journal of Ocular Diseases and Therapeutics; International Journal of Hematology and Blood Research; Annals of Stem Cell Research; Reviewer: DNA and Cell Biology; Genomics; Executive Council Member of Biotechnology Society of India; Member, Institutional Ethical Committee, CARICD (CCRAS, Ministry of AYUSH, Govt. of India), New Delhi

**Professor Sanjay Sharma received** ‘Best reviewer award’ of the year 2019, for *Indian Journal of Urology*. Urological Society of India Conference (USICON 2020), at Kochi on 24 January 2020; Editorial Board Member J Clin Interv Radiol: Uro-Radiology Section; Editorial Board Member Ind J Radiol Imaging: Uro-Radiology Section; Consulting Editor (Radiology), Ind J Urology; Subject Expert (Radiodiagnosis) for faculty Selection at AIIMS Patna and Bhopal 2019; External Expert (Radiodiagnosis) the faculty selection at Super Specialty Cancer Institute & Hospital, Lucknow (November 2019, February 2020)

**Professor T Velpandian** received Prof. VN Reddy Oration award in 26th Annual Meeting of IERG ARVO India Chapter in 28th July 2019, Chennai; Received Best Poster Award at 65th Annual meeting of Association of Physiologists and Pharmacologists of India (APPI), APPICON at, Guwahati, Assam, 2019; Received Grand Challenges Award for the project entitled ‘Pre-clinical safety and efficacy studies for using polyvalent bacteriophage and endolysin therapy for intraocular infections with AMR’ towards the call ‘Under approaches to address antimicrobial resistance’ jointly funded by Bill & Melinda Gates Foundation (BMGF) and DBT; Member Secretary of IPR and Technology Transfer Division; Member Secretary, AIIMS Innovation Facilitation Division, New Delhi; Member, Dean research Committee, AIIMS, New Delhi; Chairman of The CCRF Bioanalytical Subcommittee and member of CCRF committee, AIIMS, New Delhi; Member of Innovation Committee of ICMR, Govt of India; Member of Biohazard panel of FSSI, Govt of India; Member Human Ethics Board, Institute of Home Economics, Delhi University; Member of project monitoring committee, Grand Challenges, BIRAC, Govt of India; Member human ethics committee in INMAS, DRDO, Govt. of India

**Dr Nabanita was** Member of CCRF Bioanalytical Subcommittee

**Professor Praveen Vashist was** selected as Chairman Research and Academic Committee in Association of Community Ophthalmologist in India for the period 2019-2021; Invited by WHO SEARO South Asia Eye Health Experts Meeting as a technical expert and representative of Dr RP Centre, AIIMS at Kathmandu, Nepal; Felicitated by CBM, an International NGO for achievements under the project on disability inclusive eye health; Delivered Prof Vinita – Prof. Girija Endowment ACOIN UP State Chapter Oration 2019 at Varanasi Uttar Pradesh; Awarded by MoHF&W, Nirman Bhawan for taking “Initiatives for eye care awareness for MOH&FW; Received “Ophthalmic Ratna award” by Manthan Eye Healthcare Foundation at Gurgaon; Member of the AIIMS Intramural project review committees for the faculty members in clinical

research. Member of the AIIMS Research section selection committee; Nodal person of the annual report committee for R P Centre and WHO Collaborating Centre for Prevention of Blindness. Nodal person for R P Centre for the Institute Hindi Rajbhasha committee; Appointed as member of Vision 2020-Right to Sight India- Governing body member to represent R P Centre, AIIMS for the year 2020-2023; Chairperson, Scientific Committee in the 15th Annual Conference organized by Vision 2020- The Right to Sight India on 7-9 June 2019 at Arvind Eye Hospital Chennai. Also Chaired three sessions on Models for community outreach, Public private partnership in eye care and RIOs recent initiative for low vision rehabilitation under CBM-RPC disability inclusive eye health program; Invited in 2nd Meeting of WHO Alliance for the global Elimination of Trachoma by 2020 (GET 2020) from 23-29 June 2019 attended Trachoma scientific workshop on 24 June in Hotel Radisson, Maputo, Attended the WHO Global Elimination of Trachoma meeting from 26-28 June 2019. It was attended by representatives of nearly 50 countries and Participated in the workshop of country representatives to discuss strategies for elimination of trachoma; Member NPCB&VI committee for provide technical assistance in developing benchmarks for States/UTs wise cataract burden and designing protocol for evaluation process for verification cataract backlog free claims of states/districts for awards and incentivization; Involved in organization of WHO SEARO Consensus Meeting on Prevention Glaucoma Blindness in South East Asia at Community Ophthalmology, R P Centre, AIIMS on 22-23 November 2019; Submitted final report for the “PCB&VI-National Blindness Survey (2015-18)” conducted by Dr R P Centre for Ophthalmic Sciences, AIIMS, New Delhi to MoH&FW, Govt of India. Report on National Blindness and Visual Impairment survey was released by Honorable Health Minister of India Shri; Harshvardhan ji in the 13th Conference of Central council of Health & family Welfare on 10 October 2019; Felicitated by Arunodaya Charitable trust, Gurgaon on occasion of World Sight day on 10 October 2019; Chairperson of the Venue committee for the IPHA National Conference (IPHACON 2020) organized in AIIMS from 28 February-2 March 2020; Chaired session on Neuro Optometry in Neuro Ophthalmology conference on 2 December 2019 at India Habitat Centre, Lodhi Road; Participated in WHO IAPB expert group meeting on “Eye care aligned with Universal Eye Health” at Tilganga Institute of Ophthalmology in Kathmandu, Nepal from 9- 12 December 2019.

**Dr Suraj Singh Senjam** was Member of Technical Working Group for Vision Rehabilitation, WHO, Geneva, Rehabilitation 2030: Action Plan 2019; Awarded MSc in Public Health for Eye Care at London School of Hygiene Tropical Medicine for the year in March 2019; Achieved a recommendation from WHO SEARO and ICEH, LSHTM London on the book published on Assistive technology for people with visual disability to use across SEARO; Chosen a sole Editor by Nova Science Publisher USA for the book An Introduction to Assistive Technology 2019; Nominated as expert member in revision of Indian Public Health Standard Guideline sub-committee meeting in AIIMS Bhopal and National Health Systems Resource Centre (NHSRC); Dr Sanjay Kumar Oration in Association of Community Ophthalmology of India, Telangana state chapter 2019; Participated in the Training programme of Trachoma Elimination activities for district Ophthalmologist DPMs in State Institute of H&FW on 16-17 May 2019 at Sitapur Eye Hospital Uttar Pradesh and Shimla on 23 May 2019; Organized an Orientation and Mobility Training program on Low Vision and Rehabilitation (LVR) Service at Community Ophthalmology Dr RP Centre, AIIMS on 26 and 27 September 2019; Organized a function to release a handbook of Assistive Technology for people with visual disability at Chief board room on 26 September 2019; Visited RIO Ahmedabad to discuss setting up Low Vision Rehabilitation Services in Ahmedabad on 31 October 2019 with Director RIO followed by interactive session with PG students; Participated in Eye care partners meet “Sustainability strategies and practices for inclusive eye Health” on invitation of CBM on 15 and 16 November 2019 at Bengaluru; Involved in organization of WHO SEARO Consensus Meeting on Prevention Glaucoma Blindness in South East Asia at Community Ophthalmology, R P Centre, AIIMS on 22-23 November 2019; Organized a Program for Handing over Smartphones and Tablets from CBM to RPC for Vision Rehabilitation Training held on 11 February 2020 at Community Ophthalmology, 7th Floor, Dr R P Centre, AIIMS

**Dr Vivek Gupta** participated in the Training programme of Trachoma Elimination activities for district Ophthalmologist DPMs in State Institute of H&FW in Shimla, Himachal Pradesh on 13 May 2019, in Panchkula Haryana on 14 May 2019, in AIIMS Jodhpur & SMS Medical College, Jaipur, Rajasthan from 15-17 May 2019; Constituted as a member of sub-committee on legal and policy frameworks for the utilisation of artificial intelligence in public health under the Chairmanship of Dr Savita Davar, DDG, NIC. The role of this committee is to assess global precedents in legal and policy frameworks as well as contracts for data management (privacy, sharing) for research and product development in AI for healthcare

**Professor SK Khokhar** was Chairperson Session on “Refractive: Learning the Tricks” Annual Conference of Indian Society of Cornea & Kerato-Refractive Surgeons (ISCKRS Meet 2019) 3 and 4 August 2019 Le Meridien, New Delhi; As Chairman session “Orations” 70th Annual DOS Conference 12-14 April 2019 at Ashok Hotel Chanakyapuri, New Delhi; As Chairman Session “Managing complications of phaco surgery” 70th Annual DOS Conference 12-14 April 2019 at Ashok Hotel Chanakyapuri, New Delhi; As Chairman Session “Master class” 70th Annual DOS Conference 12-14 April 2019 at Ashok Hotel Chanakyapuri, New Delhi; As a Chairperson Strabismus and Pediatric Ophthalmological Society of India (SPOSI) 1 and 2 June 2019 Hubli, Karnataka; Chairman, Session “Cataract & IOLs-1” DOS (Delhi Ophthalmological Society) Winter Conference 2019 2 and 3 November 2019 The Ashok Hotel, Chanakyapuri, New Delhi. Pediatric cataract surgery with PCCC and anterior Vitrectomy (as chairperson) Phacoemulsification & Refractive Surgery Update 19 January

2020, AIIMS, New Delhi; Small pupil & floppy iris (as chairperson) Phacoemulsification & Refractive Surgery Update  
19 January 2020 AIIMS, New Delhi; Post-RK Cataract (as chairperson) Phacoemulsification & Refractive Surgery Update  
19 January 2020 AIIMS, New Delhi

#### **VISITING SCIENTIST**

1. Guest Lecture by Dr Shigero Kinoshita of Japan on 22 February 2020
2. Guest Lecture by Dr Arun D Singh, Cole Eye Institute, Cleveland Clinic, Cleveland, Ohio, USA on 10 February 2020
3. Guest Lecture by Dr V K Raju, West Virginia University, USA on 30 December 2019
4. Guest Lecture by Dr Shree Kurup, University Hospitals Cleveland Medical Center on 07 January 2020
5. Guest Lecture by Professor Algis Vingrys, University of Melbourne on 3 December 2019

## 10.5. Jai Prakash Narayan Apex Trauma Centre

### Chief

Rajesh Malhotra

### Additional Medical Superintendent

Amit Lathwal

### Professors

#### Anaesthesiology

Babita Gupta  
Chhavi Sawhney

#### Laboratory Medicine

Arulselvi S  
Purva Mathur

#### Radiodiagnosis

Shivanand G.  
Atin Kumar

#### Obstetrics and Gynaecology

Garima Kachawa

#### Nephrology

Soumita Bagchi

#### Trauma Surgery

Pratyusha Priyadarshini  
Abhinav Kumar  
Narendra Choudhary  
Dinesh Kumar Bagaria

#### Orthopaedics

Samarth Mittal

#### Emergency Medicine

Sanjeev K Bhoi

#### Neurosurgery

Deepak Aggrawal  
Deepak K Gupta

#### Trauma Surgery

Sushma Sagar  
Subodh Kumar  
Amit Gupta  
Biplab Mishra

#### Associate Professors

##### Cardiology

Neeraj Parakh

##### Neuroanaesthesia

Keshav Goyal  
Navdeep Sokhal  
Ashish Bindra  
Gyanendra Pal Singh  
Neeraj Kumar

#### Assistant Professors

##### Transfusion Medicine

Rahul Chaurasia

#### Neurosurgery

Kokkula Praneeth

#### Forensic Medicine

Sanjeev Lalwani  
Adarsh Kumar

#### Orthopaedics

Kamran Farooque  
Vijay Sharma  
Buddhadev Chowdhry  
Vivek Trikha

#### Burns and Plastic

Maneesh Singhal

#### Critical Care

Kapil Dev Soni  
Richa Aggarwal

#### Neurosurgery

GD Satyarthee  
Pankaj K Singh

#### Paediatric Surgery

Shilpa Sharma

#### Emergency Medicine

Tej Prakash Sinha  
Junaid Alam

#### Anaesthesia

Yudhvir Singh

### HIGHLIGHTS

Jai Prakash Narayan Apex Trauma Centre, AIIMS continues to provide holistic care to the victims of trauma. It continues to be flag bearer in quality patient care services, research, teaching and training. Trauma center constitutes dedicated team of doctors, paramedics and other supporting staff whose prime motto is to achieve excellence and develop novel ideas and techniques in field of trauma managements.

A total no. of 71476 patients visited casualty in the year 2019-2020. Among these, 7532 patients were admitted with an increase of 452 patients compared to the previous year. A total of 7458 surgical operations were performed. The follow up clinic/OPD attendance of trauma patients was 47310.

A new emergency section (ED) was inaugurated, with provision to cater to more patients in the trauma emergency. This new ED has the provision of an operation theatre and a seminar hall for academic activities.

Faculty members and residents are involved in various research projects, with 33 ongoing research projects and over 300 research papers published in national and international journals.

This year an international academic program was started with Japan under the “Human resources Exchange Project in Trauma and Acute Medicine” with an aim to enhance our trauma systems. This year six trauma surgeons from Japan has visited our centre and four surgeons of our institute has visited various trauma hospital of Japan.

Towards the end of March, the Trauma Centre was geared up to become a dedicated Covid treatment Centre. The New ED on the ground floor was converted to a dedicated COVID ICU, with facilities for ventilation and dialysis.

A dedicated Central Trauma research Facility was also commissioned this year. This would help in state-of-the-art integrated and translational trauma research.



Inauguration of the New ED at JPNA Trauma Center



Inauguration of the Central Trauma Research Facility



Central Trauma Research Facility

## EDUCATION

### CMEs/National/International Conferences

#### Organized by the Centre

1. 10th International Conference “MeLeCoN-2019” joint collaboration with Medicolegal Society of Nepal held at Kathmandu, Nepal on 12-15 September 2019 and also organized CME on “Medical Negligence” during conference
2. 5th world academics congress for emergency medicine, 20-24 October 2019, Dubai, UAE
3. Acute Critical Care Course, 30-31 October 2019
4. Advanced point of care ultrasound course held from 5-6 December 2019 at Texas, USA
5. AIIMS Basic Emergency Care course (AIIMS-BECC)
6. AIIMS Basic Ultrasound for Surgeons
7. AIIMS Disaster Ultrasound Course for doctors, nurses and paramedics
8. AIIMS EM-SONO Workshop on Emergency & Point of care Ultrasonography, 14-15 September 2019, LHMC, New Delhi
9. AIIMS First Responder Course for paramedics and lay persons
10. AIIMS Pediatric Ultrasound Course for Pediatricians and Emergency Physicians
11. AIIMS Trauma Life Support with Power of Ultrasound for doctors
12. AIIMS Triage Protocol Workshop for doctors, nurses and paramedics
13. AIIMS Ultrasound Trauma Life Support (AUTLS)
14. AIIMS Ultrasound Trauma Life Support course for nurses (AUTLSN)
15. AUTLS (Advanced Ultrasound and Trauma life support) Workshop, 6-7 September 2019, Pune
16. Basic ECG Workshop for Nurses
17. Cadaveric Airway management workshop, 18 October 2019
18. Cadaveric workshop, Advanced Surgical skill module for residents in surgical disciplines, on 10 August 2019, SET facility AIIMS, New Delhi
19. Cadaveric workshop, Advanced Surgical skill module for residents in surgical disciplines, 21 December 2019, SET facility, AIIMS, New Delhi
20. Cadaveric Workshop as part of National Conference of American College of Surgeons – India Chapter (ACSCON 2020) on 1 January 2020, New Delhi
21. Capacity Building for the Strengthening Emergency Care in Primary Health Care Setting for doctors, nurses and paramedics
22. CBI: Investigation of crime against Women and Children from 11-15 February 2020, Olsolan
23. CDTI: Post Blast Investigation w.e.f. 13-17 January 2020
24. CME on Advances in Imaging Technology, 4th AIIMS MAMC PGI Imaging Course Series, 5-6 April 2019, AIIMS, New Delhi
25. CME on Blood Safety & Quality: Infectious Diseases, 5 April 2019, New Delhi

26. CME on Trauma Update and AUTLS workshop, 9-10 April 2019, AIIMS, Jodhpur
27. Compressive life support course for (CRPF), 26-27 November 2019, AIIMS
28. Compressive life support course for (CRPF), 20-21 November 2019, AIIMS
29. Delhi University: 4 September 2019, Add on course: Medical Biotechnology, 2019-2010, Miranda House, Delhi University
30. Disaster Ultrasound, 6th International conference on preparedness & response to emergency & disaster, 12-15 January 2020, Tel Aviv Israel
31. DOA Basic Spine Cadaveric Workshop, 12 April 2019, JPNATC, AIIMS, New Delhi
32. DOA Hands on Microscopic Spine Cadaveric Workshop, JPNATC, AIIMS, New Delhi, 14 September 2019
33. Emergency Sonography Workshop from 12 to 13 April 2019 at AIIMS, Rishikesh
34. Emergency Sonography Workshop from 6 to 7 May 2019 at AIIMS, Rishikesh
35. First Amputee peer mentor program on 20 May 2019, JPNATC, AIIMS, New Delhi
36. Global experts Emergency Network conference held from 11 to 13 May 2019 at Ann Arbor, Michigan USA
37. Haryana Institute of Public Administration: For public prosecutors of Haryana from 19 to 30 August 2019: DNA technology and evidentiary value of DNA reports
38. In Hospital management of Mass Casualty Incidents (A module for disaster responsiveness and mitigation prepared by us in collaboration with CDC Atlanta)
39. International workshop on strengthening trauma and emergency in Southeast Asian region held from 25 to 29 November 2019 at Khon Kaen, Thailand
40. ISTAC Consensus Meeting for formulation of management guidelines for Solid Organ Injuries on 19 January 2020, New Delhi
41. LNJNI-NICFS: Advancing justice through DNA technology w.e.f. 16-19 December 2019
42. MASHAV meeting, 21 June 2019, JPNATC, AIIMS
43. MILAP (Multi Institutional Learning and Practice), 5 September 2019, New Delhi.
44. National Emergency Medicine Conference, 31 July to 4 August 2019, AIIMS, New Delhi
45. Pre conference workshop, Trauma Master Class: Gutsy Decision Making Under pressure, 10th Asian Conference on Emergency Medicine (ACEM 2019), 5-6 November 2019, New Delhi.
46. Spine intervention and pain management international conference and workshop, 20-22 December 2019
47. Tactical combat course for CRPF, 5 April 2019, JPNATC, AIIMS
48. Triage workshop, 2 August 2019, JPNATC, AIIMS
49. Ultrasound Guided Nerve Block in Emergency for doctors
50. Ultrasound Guided Vascular Access for doctors
51. Ultrasound in Primary Health Care for Primary care Physicians
52. Workshop on basic ECG on 2 August 2019 at new seminar room 1st floor JPNATC, AIIMS
53. Workshop on Yoga for Amputees on the occasion of World Yoga Day on 21 June 2019, JPNATC, AIIMS, New Delhi

#### **AIIMS CADAVERIC SURIGICAL SKILLS TRAINING**

Chair: Rajesh Malhotra

Members: Babita Gupta, Deepak Gupta, Vijay Sharma

Total Participants: 706 Courses conducted: 37

Professor Incharge: Sanjeev Lalwani

Coordinator: Nasim Mansoori

#### **Lectures delivered**

<b>Rajesh Malhotra: 40</b>	<b>Narendra Choudhary: 06</b>	<b>Abhinav Kumar: 07</b>	<b>Navdeep Sokhal: 08</b>
<b>Adarsh Kumar: 11</b>	<b>Niraj Kumar: 11</b>	<b>Amit Gupta: 30</b>	<b>Pankaj Singh: 02</b>
<b>Ashish Bindra: 08</b>	<b>Purva Mathur: 13</b>	<b>Babita Gupta: 02</b>	<b>Richa Aggarwal: 14</b>
<b>Biplab Mishra: 11</b>	<b>Rahul Chaurasia: 01</b>	<b>Chhavi Sawhney: 05</b>	<b>S Arulselvi: 04</b>
<b>Deepak Gupta: 03</b>	<b>Samarth Mittal: 16</b>	<b>Dinesh K Bagadia: 10</b>	<b>Soumita Bagchi: 04</b>
<b>Gyaninder P Singh: 09</b>	<b>Subodh Kumar: 16</b>	<b>Junaid Alam: 02</b>	<b>ushma Sagar: 12</b>
<b>Kamran Farooque: 09</b>	<b>Vijay Sharma: 14</b>	<b>Kapil Dev Soni: 12</b>	<b>Vivek Trikha: 54</b>
<b>Keshav Goyal: 13</b>	<b>Yudhvir Singh: 02</b>		

**Rajesh Malhotra** (*Please see Chapter 9.25*)

### **Abhinav Kumar**

1. ATLS: 10th Edition Update, National Emergency Medicine Conference “EMINDIA 2019”, 3-4 August 2019, AIIMS, New Delhi
2. Advance Trauma Life Support: An Overview, Annual Conference of ASI – Rajasthan Chapter “ASIRAJ 2019”, 18-20 October 2019, AIIMS, Jodhpur
3. Surgical Anatomy of Thorax:, National Conference of American College of Surgeons – India Chapter “ACSCON 2020”, 1 January 2020, JPNATC, AIIMS, New Delhi
4. Disaster Management: Surgical Education Programmed 2020. 108th Foundation Day, 14 February 2020, KGMU, (UP)
5. Pediatric Trauma and Management, ATLS Provider Course, RML Hospital, 27-29 February 2020, New Delhi
6. ATLS: An Overview, 19th Annual Conference of ASI – CG chapter “CG ASICON 2020”, 6- 7 March 2020, AIIMS, Raipur
7. AIIMS Advance Surgical Skill in Trauma, SET facility, AIIMS, January2020, AIIMS

### **Adarsh Kumar**

1. Forensic Toxicology–Issues related to poisoning, National Symposium on Poisoning as a public health problem, National Poison Information Centre, Dept. of Pharmacology, 26 April 2019, AIIMS, New Delhi
2. Organization of Forensic medicine and Custodial death investigation system in India, 52nd Krsek Conference of Forensic Medicine with international participation on the occasion of the hundred-years anniversary, Institute of Forensic Medicine of Faculty of Medicine of Comenius University, 29 May-1 June 2019, Bratislava Slovakia
3. Human Rights Violation in Medical Negligence Cases- NHRC Experience, BAFMCON-IV, 2019 4th Annual State Conference of West Bengal, NRS Medical College, 27-28 June 2019, Kolkata
4. Medicolegal Issues in Child Abuse, International Conference of Forensic Odontology and Child Abuse, Department of Oral Pathology & Microbiology, King George’s, 31 July – 3 August 2019, Lucknow, UP
5. Forensic Anthropologists perspective, DVI Procedures and Interpol Guide with Hands on Workshop, Department of Oral Pathology & Microbiology, King George’s Medical university, 2 August 2019, Lucknow, UP
6. ICRC Asia Pacific Meeting, Forensic Human Identification in India, International Committee of Red Cross, 20-22 August 2019, Colombo, Sri Lanka
7. Crime Against Woman in Indian perspective-Journey from womb to tomb, International Conference on Police Science ICPS-2019, Raksha Shakti University, 6-7 September 2019, Gandhi Nagar, Gujrat
8. Legal aspects to be dealt by Medical Officers, CME Speaker for CHS Medical Officers, National Institute of Health & Family Welfare, 19 October 2019, Munrika, New Delhi
9. Custodial Death Investigation- NHRC Experience, 13th International Conference of Indo-pacific Association of Law, Medicine and science ( INPALMS), Medicolegal Society of Bangladesh, 9-11 December 2019, Dhaka, Bangladesh
10. Digital Autopsy (Virtopsy) services at AIIMS, New Delhi—a concept of Humanitarian Forensics, 41st Annual National Conference of Indian Academy of Forensic Medicine-“FORENSIC MEDICON-2020”, Apollo Medical College, 30 January-1 February 2020, Hyderabad, Telangana
11. Forensic Anthropology-An overview wrt Identification, All India Forensic Science Meet- 2020, SGTB Khalsa College, Delhi University, 22-23 February 2020, Delhi

### **Amit Gupta**

1. Road traffic injuries - distribution, determinants and dynamics in India. Role of Trauma Registries and Trauma Quality Improvement, Training Program of MPH (NCD and Public Health Module, PHFI, 10 April 2019, Gurugram, India
2. FAST & basic Radiology in Trauma, VIMS Trauma Update-2019, VIMS, 20 April 2019, Kolkata
3. Basic management of Shock in Trauma, VIMS Trauma Update-2019, VIMS, 20 April 2019, Kolkata
4. Road Accident Victims – Injury Trends and Costing, Workshop On “Road Accident Costing – Trends And Insights, India International Centre, 26 April 2019, New Delhi
5. Planning for Emergency Department, Mass Gathering Care and Mass Fatality Management, Training course on “Hospital Preparedness for Health Emergencies for Senior Hospital Administrators”, NIHFW, 6 May 2019, New Delhi
6. Planning of Disaster Risk Communication, “Hospital Preparedness for Health Emergencies for Senior Hospital Administrators”, NIHFW, 6 May 2019, New Delhi

7. Extended First Aid in Trauma Care: Empowering the bystanders in handling and transfer of Road Crash Victims, Road Safety Audit training program, CSIR – CRRI, 9 May 2019, New Delhi
8. Vulnerable Road Users and the need for bystander training in Post rash Care, 5th Smart Cities India 2019 Expo, Pragati Maidan, 24 May 2019, New Delhi
9. Improving Trauma Care outcomes in a developing economy like India: A Systems Approach, 33rd Annual meeting of Japanese Association for the Surgery of Trauma (JAST), 6-7 June 2019, Japan
10. Course Director and Faculty, Skill Based, Trauma Care Workshop, BCPS, 4-6 August 2019, Dhaka, Bangladesh
11. Donald D Trunkey Oration, Development and Challenges in the Evolution of Trauma Care Systems in an Emerging Economy like India, 48th World Congress of Surgery (WCS-2019) - IATSIC Lecture, 11-15 August 2019, Krakow, Poland
12. High Impact Research Publications in Trauma, Trauma 2019, Annual National Conference of the ISTAC & Inaugural Conference of ISTAC UP Chapter, King George's Medical University, 28-30 August 2019, Lucknow
13. Trauma Care Systems and Trauma Quality Improvement programs, Trauma 2019, Annual National Conference of the ISTAC & Inaugural Conference of ISTAC UP Chapter, King George's Medical University, 28-30 August 2019, Lucknow
14. Management of Pancreatic Injuries, TRAUMASICON 2019, Annual Conference of the Indian Association of Trauma & Critical Care (IATCC), 7-8 September 2019, Ahmedabad
15. Planning for Emergency department, Mass gathering care and mass fatality management in hospital, Training course on “District Preparedness for Public Health Emergencies Management” for District Health Officers, NIHFWS, 21 September 2019, New Delhi
16. Planning for hospital evacuation plan, Mass gathering care and mass fatality management in hospital, Training course on “District Preparedness for Public Health Emergencies Management” for District Health Officers, NIHFWS, 22 September 2019, New Delhi
17. Course Director and Faculty, Advanced Trauma Life Support Course (Provider), 26-28 September 2019, AIIMS Rishikesh
18. Course Convener & Faculty, Asian Conference of Emergency Medicine ACEM 2019 –Workshop Trauma Masterclass – Gutsy decision making under pressure, 5-6 November 2019, AIIMS, New Delhi
19. Trauma Systems - A to Z of Trauma Centres, Asian Congress of Emergency Medicine ACEM 2019, The Leela Ambience Convention Hotel, 8 November 2019, New Delhi
20. Exciting new Developments in Trauma Systems research, Annual Region XVI ATLS Asia- Pacific Meeting, Tan Tock Seng Hospital, 15-16 November 2019, Singapore
21. Pancreaticoduodenal Trauma, Surgicon 2019, Institute of Liver & Biliary Sciences, 2-6 December 2019, New Delhi
22. Management of Pancreatic Injuries, Indian Chapter of Hepato-Pancreato-Biliary Association Certificate Course in Hepato-Pancreato-Biliary Surgery, Institute of Liver & Biliary Sciences, 2-6 December 2019, New Delhi
23. Importance of Post Crash Care in Road Safety, Conference on Trauma Care : 31st Road Safety Week Celebrations, FICCI Auditorium, 15 January 2020, New Delhi
24. Panelist, ISTAC Consensus meeting on framing the Guidelines for Management of Solid Organ injuries, DELNET, J.N.U Campus, 18-19 January 2020, New Delhi
25. Course Director and Faculty, Advanced Trauma Life Support Course (Provider), 23-25 January 2020, AIIMS, Jodhpur
26. Course Director and Faculty, Advanced Trauma Life Support Course (Provider), 19-20 February 2020, JIPMER, Pudducherry
27. Trauma Care for Road Traffic Accident Victims, MoVACon 2020 - Motor Vehicle Accident Conference 2020, 21 February 2020, AMA Complex, Ahmedabad, India
28. Expectations & Achievements of EMS in India, NiEMS2020 – National Industrial Emergency Medical Services Conference 2020, 22 February 2020, AMA Complex, Ahmedabad, India
29. Role of Trauma Registries and Trauma Quality Improvement in improving Road Traffic Injury Care, Training Program of MPH (NCD and Public Health Module), 26 February, PHFI, Gurgaon, India
30. Victim Support Management & Capacity Development in Trauma Systems, National Workshop Highway Accidents & Emergency Medical Management, India International Centre, 28 February, New Delhi

#### **Ashish Bindra**

1. Sedation in Neurotrauma ICU, Neurotrauma 2019, Jaypee Palace, 22 August 2019, Agra
2. Targeted temperature management in Neurotrauma, Neurotrauma 2019, Jaypee Palace, 24 August 2019, Agra

3. Clinical applications of Cerebral microdialysis in neurotrauma, Neurotrauma2019, Jaypee Palace, 24 August 2019, Agra
4. Status epilepticus, Acute Neuro care Course, PGIMER, 25 August 2019, Chandigarh
5. Video presentation :Cerebral microdialysis, ISACON, NIMHANS, 25 October 2019, Bengaluru
6. Management of Spinal cord injury, ISACON Rajasthan, September
7. Non-trigeminal Oraofacial Neuralgias, 5th Annual Conference of Indian Society of Pain Clinicians, JL Auditorium, 9 November 2019, AIIMS, New Delhi
8. Moderator for panel discussion : Decompressive Craniectomy: Where do we stand now, ISNACC 2020, Radisson Temple Bay, February 2020, Mahabalipuram, Chennai

#### **Atin Kumar**

1. Tools and drugs in Interventional Radiology, AIIMS-MAMC-PGI Imaging Course Series – Advances in Imaging Technology, 5-6 April 2019, New Delhi
2. Imaging of leucodystrophy, Pediatric CME of IRIA, West Bengal Chapter, 28 April 2019, Kolkata
3. Imaging of congenital brain malformations, Pediatric CME of IRIA, West Bengal Chapter, 28 April 2019, Kolkata
4. Potpourri of interesting neuroradiological cases, Pediatric CME of IRIA, West Bengal Chapter, 28 April 2019, Kolkata
5. IR in trauma, IRIA Outreach program and IR CME, 7 July 2019, New Delhi
6. Radiological Handles for white matter disorders, Neuropedicon 2019, 19th Annual Conference of Neurology Chapter of IAP, 26-28 July 2019, Hyderabad
7. Finding Zebras: Using Radiology to diagnose and manage systemic infection, CME on Emerging and Reemerging Infections, 10-11 August 2019, Pune, Maharashtra
8. Film Reading Session, Delhi IRIA Resident Education Program, 23-25 August 2019, New Delhi
9. Leukodystrophy-An Algorithmic Approach, XVII National Conference ISPR, 7-8 September 2019, New Delhi
10. Faculty Film Reading Session, XVII National Conference ISPR, 7-8 September 2019, New Delhi
11. How to read MRI Brain: Learn the basics, Clinical Approach in Pediatric Neurology: What all Pediatricians must know, 22 September 2019, Rohtak
12. Workshop on Neuroradiology, Electroencephalography, Neuroradiology, Demystifying Diagnostics in Paediatric Neurology: A Practical approach - Workshop, 27 September 2019, New Delhi
13. Leukodystrophies Part I-Dysmyelinating disorders, 1st National Symposium on Pediatric Neuroradiology – “Bridging Clinical & Radiological Perspectives, 19-20 October 2019, New Delhi
14. Malformations of Cortical Development, 1st National Symposium on Pediatric Neuroradiology – “Bridging Clinical & Radiological Perspectives, 19-20 October 2019, New Delhi
15. Pediatric Neuroradiology: Imaging in Malformations of Cortical Development, 21st Annual Meeting of Indian Society of Neuroradiology (ISNR 2019), 31 October - 3 November 2019, New Delhi
16. Film Reading Session – Neuroradiology, Budding Radiologists Training Program of ICRI, 3 November 2019, Gurugram.
17. Imaging of urinary tract trauma, AIIMS-MAMC-PGI Imaging Course Series – Genitourinary Imaging, 15-16 November 2019, New Delhi
18. Interventional radiology in abdominal trauma-key concepts, Annual Meeting of Society for Emergency Radiology, 30 November 2019, New Delhi
19. Radiology in Splenic Injury, Consensus Meeting to Formulate ISTAC Guidelines for the management of solid organ injuries, 18-19 January 2020, New Delhi
20. Imaging approach in blunt vs penetrating abdominal injuries, 73rd Annual Conference of Indian Radiological and Imaging Association, 23-26 January 2020, Ahmedabad

#### **Babita Gupta**

1. Damage control resuscitation, 2nd Royal Hospital International Conference, 12 April 2019, Oman
2. Recent changes in the guidelines of trauma management, 2nd Royal Hospital International conference, 12 April 2019, Oman

#### **Biplab Mishra**

1. Shock management in pelvic fracture, 4th Pelvic acetabulum course, 27-28 April 2019, JPNATC, New Delhi

2. Open abdomen: A plan in management or disease itself, 6th WSES Congress 2019, 25-28 June 2019, Nijmegen, The Netherlands
3. Initial Assessment and Management of Trauma, Meeting of Education, 22-24 August 2019, AIIMS, Rishikesh
4. Management of complex pelvic fracture, National conference of Indian Society of Trauma and Acute Care, 28 August 2019, KGMU, Lucknow
5. Approaches and issues with surgical lung biopsy, CME on ILD, 7 September 2019, AIIMS, New Delhi
6. Basic Anatomy of Thorax, Capacity building collaborative programme for General Thoracic Surgery, 30 September 2019, AIIMS, Rishikesh
7. Access into Thoracic cavity, Capacity building collaborative programme for General Thoracic Surgery, 30 September 2019, AIIMS, Rishikesh.
8. Thoracic trauma and Cardiac trauma, Capacity building collaborative programme for General Thoracic Surgery, 30 September 2019, AIIMS, Rishikesh
9. Principles of triage and triage, Trauma quality insurance program, 26 November 2019, JPNATC, AIIMS
10. Initial Assessment and Management of Trauma, Meeting of Education, 28 November 2019, AIIMS, Rishikesh
11. Management of Traumatic liver injury, HPB Surgery Post graduate course, 3 December 2019, ILBS, New Delhi

#### **Chhavi Sawhney**

1. Donor screening and management, In House training of Nurses on Deceased organs and tissue Donation, 12 September 2019, AIIMS, New Delhi
2. Basics of Ultrasound and ultrasound guided axillary nerve and infraclavicular nerve block, Ultrasound guided regional anesthesia workshop, 18 May 2019, MAMC, New Delhi
3. Maintenance of Brain dead potential organ donor, Workshop on critical care in trauma, 20-21 July 2019, PGIMER, Chandigarh
4. MCI: Time to get prepared, 1st International Conference of Indian College of Anesthesiology, 7 September 2019, Sir Ganga Ram Hospital, New Delhi
5. Anesthesia for remote locations (CT/MRI/ERCP), 2nd AIIMS PG ASSEMBLY, 3 October 2019, AIIMS, New Delhi

#### **Deepak Gupta**

1. Imaging of Lumbar degenerative scoliosis DRE Zotomy for Brachial plexus neuralgia, 4th Superspeciality CME of NSI Society 2019, 6-7 July 2019, Guwhati, Assam
2. First successful craniopagus twin separation surgery of India (closed doors open windows): Time to say goodbye to venous bypass in shared circular sinus, AANSIM (NSICON ) 2019, 5-8 December 2019, Mumbai
3. Nuances of Craniopagus twin separation, INDSPNCON 2020, 6-8 February 2020, Kolkata

#### **Dinesh Kr. Bagadia**

1. Advanced trauma and assessment management (ATAM) course, Healthcare worker's training for ICMR Project, 1 April 2019, Ballabgarh
2. Children's Workshop on First Aid/ CPR", FICCI Scrapbook-Children's Publishing Conclave, 10 August 2019, New Delhi
3. Essential Surgical Skills To Manage Acutely Injured Patient, TRAUMACON 2019, 30 August 2019, Lucknow
4. Chest Wall Trauma, When Thoracic Surgeon Comes In? SELSICON 2019, 15 September 2019, New Delhi
5. Master Technique video of "Mattox manoeuvre", SURGILAPCON 2019, 8 December 2019, Lucknow
6. Management of Thermal Injuries, ATLS and ATCN Provider Course, 20 December 2019, AIIMS, Rishikesh
7. Management of Pediatric Trauma, ATLS Provider Course, 13 February 2020, MGUMST, Jaipur
8. Management of Spine and Spinal Cord Trauma, 14 February 2020, MGUMST, Jaipur
9. Management of Liver injury diagnosed post imaging, Consensus meeting to formulate ISTAC guidelines for Solid Organ Injury Management, 18 February 2020, New Delhi
10. Management of Splenic Injury Diagnosed Post Imaging, Consensus meeting to formulate ISTAC guidelines for Solid Organ Injury Management, 19 February 2020, New Delhi

#### **Gyaninder Pal Singh**

1. Neurological Monitoring During non-neurological surgery- What, Why and When? ISACON 2019, 13-14 April

2019, New Delhi

2. Neuromonitoring - Concept and Practice, ISACON 2019, 26-28 July 2019, Tamil Nadu, Chennai
3. Initial Approach to a Neurotrauma Patient, Neurotrauma 2019, 22-25 August 2019, Agra
4. Cerebral Oxygen Monitoring in acute severe TBI, Neurotrauma 2019, 22-25 August 2019 Agra
5. Basic Life support and Maternal CPR, 41st Annual Conference of AOGD, 28-29 September 2019, New Delhi
6. Neuromonitoring, 7th AIIMS Neuroanaesthesia & Neurocritical Care Update 2019, 18-20 October 2019, New Delhi
7. Airway and Breathing, Acute Neuro Care, 16-17 November 2019, Hyderabad
8. Status Epilepticus, Acute Neuro Care, 16-17 November 2019, Hyderabad
9. Fluid stewardship in Neuroanaesthesia and Neurocritical care, 21st Annual Conference of ISNACC, 30th Jan-2nd February 2020, Mahabalipuram, Chennai

#### **Junaid Alam**

1. Advise on discharge in blunt liver injury, ISTAC CONSENSUS MEETING, 18 January 2020, New Delhi
2. Advise on discharge in blunt splenic injury, ISTAC CONSENSUS MEETING, 18 January 2020, New Delhi

#### **Kamran Farooque**

3. Faculty for Iliac and S2 Alar Screw, 2nd CIO Advanced Spine Cadaveric Workshop, 14 April 2019, VMMC, SJH, New Delhi
4. PeriProsthetic Humerus Fracture, 9th National AO Trauma Meeting, 21 April 2019, Chandigarh
5. Decision Making and implants in IT Fractures, DOA Advance Trauma Course, 2 June 2019, JPNATC, New Delhi
6. Faculty for 'Workshop on TFNA- Nail' for IT Fractures, DOA Advance Trauma Course, 2 June 2019, JPNATC, New Delhi
7. MIS in TL Trauma, 'NAVESCON 2019', 14 July 2019, Rohilkhand Medical College, Bareilly
8. DOA Hands on Microscopic Spine Cadaveric Workshop, 14 September 2019, JPNATC, AIIMS, New Delhi
9. Posterior Dorso Lumbar Exposure, D- L Spine Workshop, IOACON 2019, 19 November 2019, Kolkata
10. Video Presentation on TLIF at 'Dorso Lumbar Spine Workshop' D- L Spine Workshop, IOACON 2019, 19 November 2019, Kolkata
11. Ant. Approach to TL Fractures', NZOACON, 16 February 2020, AIIMS, Rishikesh

#### **Kapil Dev Soni**

1. Basics of Ultrasound, Use of Linear probe in critical care, Annual Delhi ISA Chapter, 12 April 2019, New Delhi
2. Role of ultrasound in lung pathologies, CME on Trauma Update, 9 April 2019, Jodhpur
3. Focused Echo, CME on Trauma Update, 9 April 2019, Jodhpur
4. How to write impactful medical article, 4th National symposium on clinical research methodology, 24 August 2019, Coimbatore
5. Damage control resuscitation: restarting machinery of life, RAJCRITICON 2019, 31 August 2019, Jodhpur
6. Lactate Guided Resuscitation Should Be Abandoned in Favour of Peripheral perfusion guided One", Resuscitation, 1 December 2019, Faridabad
7. Management of Polytrauma.(Panelist), Resuscitation, 1 December 2019, Faridabad
8. Endpoints of resuscitation, 26th Annual Conference of Indian Society of Critical Care Medicine – Criticare 2020, 26 February 2020, Hyderabad
9. Initial management of trauma victim, 26th Annual Conference of Indian Society of Critical Care Medicine – Criticare 2020, 26 February 2020, Hyderabad
10. EFAST, 26th Annual Conference of Indian Society of Critical Care Medicine – Criticare 2020, 26 February 2020, Hyderabad
11. Trauma Radiology, 26th Annual Conference of Indian Society of Critical Care Medicine – Criticare 2020, 26 February 2020, Hyderabad
12. Life threatening hemorrhage, acute coagulopathy of trauma and massive transfusion in ICU, 8th Annual Critical Care Refresher Course, 8 March 2020, Gurugram

#### **Keshav Goyal**

1. Neuro monitoring in nutshell, Neuroanesthesiology and Neuro-Critical Care Update 2019, 6-7 April 2019, AIIMS, New Delhi

2. Traumatic Brain Injury: Acute Emergency Management, Acute Neuro Care (ANC), Auditorium, PGIMER, 25-26 August 2019, Chandigarh
3. Neurotrauma and ATLS- An Update, 1st Bilasa Criticon 2019, 14-15 September 2019, Bilaspur (CG)
4. Spirometry, AIIMS Anaesthesiology Post Graduate Assembly 2019, 29 September- 3 October 2019, AIIMS, New Delhi
5. Traumatic Brain Injury: Acute Emergency Management, Acute Neuro Care (ANC), Yashoda Hospitals, 16-17 November 2019, Secunderabad
6. Sodium and fluid management in Surgical ICU patients, Acute Critical Care Course (ACCC) For Interns, SET Facility, Convergence Block, 30-31 October 2019, AIIMS, New Delhi
7. Blood gases on ABG interpretation made easy, Acute Critical Care Course (ACCC) For Interns, SET Facility, 30-31 October 2019, AIIMS, New Delhi
8. Raised ICP and Herniation – Moderator, AIIMS NANC Update 2019, JLN Auditorium, 18-19 October 2019, AIIMS, New Delhi
9. Quiz Master, AIIMS NANC Update 2019, JLN Auditorium, 18-19 October 2019, AIIMS New Delhi
10. Fiber optic Bronchoscopy Guided intubation, Cadaveric Airway workshop, 18-19 October 2019, JPNATC, AIIMS, New Delhi
11. Chin Chest deformity (Case Discussion), AIIMS Neuroanaesthesia Update 2018, JLN Auditorium, 2-4 November 2018, AIIMS, New Delhi
12. Focused session on Neuroanaesthesiology, ISCAON 2019, Gayatri Vihar, Palace Grounds, Gayatri Vihar, Bangalore
13. Basic concepts of Neuroanaesthesiology and Neurocritical Care, Rewa CME, 24 May 2019, Rewa M.P.

#### **Narendra Choudhary**

1. Hypotensive Resuscitation in Emergency Department, National Emergency Medicine Conference “EMINDIA 2019”, 3-4 August 2019, AIIMS, New Delhi
2. Chest Injuries and Chest tube drainage – Review and appraisal of current practice, Annual Conference of ASI – Rajasthan Chapter “ASIRAJ 2019”, 18-20 October 2019, AIIMS, Jodhpur
3. Resuscitative Thoracotomy in ED – Incisions and Approaches, National Conference of American College of Surgeons – India Chapter “ACSCON 2020”, 1 January 2020, JPNATC, AIIMS
4. Legal Implications of Medical Records, CME on Impact of EMR in AIIMS, 27 January 2020, JPNATC, AIIMS
5. Thoracic Trauma and Management, ATLS Provider Course, 27-29 February 2020, RML Hospital, New Delhi
6. Management of Torso Trauma, 19th Annual Conference of ASI – CG chapter “CG ASICON 2020”, 6- 7 March 2020, AIIMS, Raipur

#### **Navdeep Sokhal**

1. Percutaneous Tracheostomy, Airway management Workshop, 18 October 2019, New Delhi
2. Update: Best of old with a promise of new, AIIMS Neuroanaesthesia & Neurocritical Care Update, 19 October 2019, New Delhi
3. Respiration - applied physiology, Acute Critical Care Course, 30 October 2019, New Delhi
4. Airway and ventilatory management, ATLS 2019, 19 December 2019, Rishikesh
5. Spine and spinal cord trauma, ATLS 2019, 20 December 2019, Rishikesh
6. Stabilise - Hemodynamic monitoring: Tools and tricks, ISNACC 2020, 31 January 2020, Mahabalipuram, Chennai
7. Vascular Access, Acute Critical Care Course, 30 October 2019, New Delhi
8. Basic and advanced airway management, ATLS 2019, 19 December 2019, Rishikesh

#### **Niraj Kumar**

1. Non-operative acute cervical spinal cord trauma - challenges in the management, ISACON DELHI 2019, 13 April 2019, New Delhi
2. Central venous cannulation, EMINDIA 2019, 31 July to 1 August 2019, New Delhi
3. Donor Screening And Maintenance, ORBO, 8 August 2019, New Delhi
4. USG in Neurological emergencies, ANC, 25 August 2019, Chandigarh
5. Vascular access, AIIMS – EM-SONO, 15 September 2019, New Delhi
6. Anesthetic Management of Craniosynostosis, 32nd ISACON Bihar -Jharkhand – 2019, 29th September 2019, Bokaro, Jharkhand

7. Donor Screening and Maintenance, ORBO, 4th October 2019, New Delhi
8. USG as an aid to airway, Myth and controversies in brain death through real life, AIIMS Neuroanaesthesia and Neurocritical care update -2019, 18-20 October 2019, New Delhi
9. Traumatic spine injury USG in Neurological emergencies, ANC, 16-17 November 2019, Hyderabad
10. Basic statistics, sample size calculation and basic statistical tool, ISNACC 2020, 31 January 2020, Mahabalipuram
11. Diagnosis and certification of brain stem death criteria, ORBO, 24 February 2020, New Delhi

### **Pankaj Singh**

1. Evolution in management of hangmans fracture, 9th AIIMS complex spine live operative workshop, 21-22 October 2019, AIIMS, Delhi
2. Evolution in management of hangmans fracture: From C2 Pedicle alignment to C2 pedicle reformation, INCONESON 2019, 5 and 6 April 2019, Kathmandu

### **Purva Mathur**

1. Role of IT in patient safety, Workshop on Patient Safety Goals, LT-7, Dr. R.P. Centre, AIIMS, 17 September 2019, New Delhi
2. Candida in Indian ICUs CME on “Antimicrobial Resistance, the 59th annual conference of National Academy of Medical Sciences (NAMS) NAMSCON 2019, 11 October 2019, AIIMS, Bhopal
3. Bone and Joint Infection. Updates on surgical site infection in Orthopedic, OTA-AAOS Live Program, Hotel Andaz Hyatt, 13-14 September 2019, Aerocity, New Delhi
4. Core activities of an Infection control program and their implementation, ICMR AMSP project workshop- Anti-Microbial Stewardship amongst the practicing physicians and hospitals around our hospital, Sir Ganga Ram Hospital Auditorium, 10 September 2019, New Delhi
5. Surveillance of HAI in Delhi session on “AMR Containment in Delhi-focus on key area”, ICMR AMSP project workshop- Anti-Microbial Stewardship amongst the practicing physicians and hospitals around our hospital, Sir Ganga Ram Hospital Auditorium, 10 September 2019, New Delhi
6. Surveillance of HAI in Delhi session on “AMR Containment in Delhi-focus on key area”, Stakeholders Workshop to Develop Strategic Action Plan to Combat Antimicrobial Resistance in Delhi (SAP-CARD), 26 August 2019, New Delhi
7. Hospital Acquired Infection (HAI) Surveillance in India, The India WHO-Epidemic Intelligence Service (EIS) Training Program, 22 August 2019, New Delhi
8. “HAI and AMR : The Indian Scenario- Results from India AMR Surveillance Network”, 3rd Manipal International Infectious Diseases conference, Medicine & Unit Chief Kasturba Medical College, 10 August 2019, Manipal
9. Infection Prevention & Control Certificate Course (Workshops- Hospital acquired infections & Antimicrobial stewardship), Fortis Healthcare & SRL, Basement auditorium, Fortis Escorts Heart Institute, 26 -28 July 2019, Okhla, New Delhi.
10. Introduction of Prevention and Control of Hospital Acquired Infections to new Joining Nursing Officers, Induction Programme for New Joining Nursing officers, 23 July 2019, JPN Apex Trauma Centre, AIIMS
11. Introduction to Automated software-based surveillance system for device associated infections, Delhi Society for Promotion of Rational Use of Drugs and Government of NCT of Delhi (Certificate Course Hospital Infection Prevention And Control), Medical Education Cell, MAMC, 08-12 July 2019, Delhi
12. Development of HAI and IPC standards for India, National Patient Safety expert group meeting MOHFW, 23 and 24 April 2019, New Delhi

### **Richa Aggarwal**

1. Do balanced salt solutions really maintain balance, CLUE emodynamic conference 2019, Institute of Liver and Biliary sciences, 24 November 2019, New Delhi
2. ARDS in Emergency Department, EMINDIA 2019, 4 August 2019, AIIMS Delhi
3. ARDS – new strategies, CME – Critical care in trauma, 21 July 2019, PGIMER, Chandigarh
4. As chairperson – Role of hypothermia in neuro ICU, AIIMS Neuroanaesthesia neurocritical care update, 19 October 2019, AIIMS, New Delhi
5. Diagnosis and Certification of Brain Stem Death Criteria, Training on Deceased Organ & Tissue Donation, 14 February 2020, AIIMS, New Delhi
6. Donor Screening & Maintenance, Training on Deceased Organ & Tissue Donation, CMET AIIMS, 20 January

2020, New Delhi

7. Initial assessment of the sick patient, Acute critical care course, SET facility, AIIMS, 30 October 2019, New Delhi
8. Renal dysfunction in surgical patient, Acute critical care course SET facility, AIIMS, 30 October 2019, New Delhi
9. Approach to a surgical patient with altered sensorium, Approach to a surgical patient with altered sensorium, SET facility, AIIMS, 30 October 2019, New Delhi
10. Airway skill station, Acute critical care course, SET facility, AIIMS, 30 October 2019, New Delhi
11. Donor Screening & Maintenance, Training on Deceased Organ & Tissue Donation, CMET AIIMS, 14 October 2019, New Delhi
12. Donor Screening & Maintenance, Training on Deceased Organ & Tissue Donation, CMET AIIMS, 10 May 2019, New Delhi
13. Donor Screening & Maintenance, Training on Deceased Organ & Tissue Donation, CMET AIIMS, 15 April 2019, New Delhi
14. Statistical tools in QI studies, Workshop and CME on QI, 3 March 2020, AIIMS, New Delhi

### **Rahul Chaurasia**

1. Massive Blood Transfusion Protocol, EMINDIA2019 (National Emergency Medicine Conference), 3 August 2019, New Delhi

### **S Arulsevi**

1. Utility of biomarkers to measure nutritional status, Indian Association for Parenteral and Enteral Nutrition (IAPEN) Clinical Nutrition Update Symposium-2019, 22 May 2019, AIIMS, New Delhi
2. Characterization of analytical errors in classical thromboelastography (TEG) interpretation, 60th Annual conference of Indian Society of Hematology and Blood transfusion (HAEMATOCN 2019).
3. A quality improvement initiative to improve critical value notification in the hematology laboratory, 60th Annual conference of Indian Society of Hematology and Blood Transfusion (HAEMATOCN 2019), 9 November 2019, New Delhi
4. Acute traumatic brain injury induced endotheliopathy and its impact on clinical outcome, 2nd International Conference on Surgery and Transplantation, Allied Academies, 17-18 February 2020, Paris, France.

### **Samarth Mittal**

1. TFNA in Intertrochanteric Fractures, AO Trauma Hands on workshop, 19 April 2019, Chandigarh
2. Surgical Tips and handling bicondylar proximal tibia fractures, POACON 2019, 20 October 2019, Ludhiana, Punjab
3. Ilioinguinal Approach, 4th AIIMS Pelvic Acetabulum Course, 27 April 2019, AIIMS, New Delhi
4. Iliofemoral Approach, 4th AIIMS Pelvic Acetabulum Course, 27 April 2019, AIIMS, New Delhi
5. High Load management in Emergency using technology, International Conference on Healthcare Technology, 18-19 July 2019, Bandung, Indonesia
6. Case presentation in Proximal humerus fracture, OTA/ AAOS best of orthopaedic techniques, 13-14 September 2019, Gurgaon
7. Case presentation in Hip fracture, OTA/ AAOS best of orthopaedic techniques, 13-14 September 2019, Gurgaon
8. Case presentation in Ankle fracture, OTA/ AAOS best of orthopaedic techniques, 13-14 September 2019, Gurgaon
9. Basic principles of plating, DOA Basic Trauma Course, 22 December 2019, Delhi
10. Fractures of the clavicle - When to fix and how to fix, AO Trauma Course—Advanced Principles of Fracture Management, 5-7 February 2020, Jodhpur
11. Femoral shaft fractures with ipsilateral fracture neck femur, AO Trauma Course—Advanced Principles of Fracture Management, 5-7 February 2020, Jodhpur
12. Neglected Patellar tendon Repair, 5th Annual Jammu Trauma Meet 2020, 29 February- 1 March 2020, Jammu
13. Intra articular fractures of distal femur, 5th Annual Jammu Trauma Meet 2020, 29 February- 1 March 2020, Jammu
14. Acute Patellar fracture: treatment options, 5th Annual Jammu Trauma Meet 2020, 29 February- 1 March 2020, Jammu
15. Floating knee, 5th Annual Jammu Trauma Meet 2020, 29 February- 1 March 2020, Jammu
16. Approaches to proximal tibia, 5th Annual Jammu Trauma Meet 2020, 29 February- 1 March 2020, Jammu

### **Shivanand Gamangatti**

1. Embolization in GI bleed, CME on Interventional Radiology, 7 July 2019, Delhi
2. Basics of Non-Vascular Interventions, IREP, 23-25 August 2019, Delhi
3. Pediatric Trauma Imaging, Annual Conference of ISPR, 7-8 September 2019, Delhi
4. IR in abdominal Trauma, Annual Conference of ISGAR, 27-29 September 2019, Kochi
5. Radiology for GIS surgeons, Annual conference of IASGCON, 9-13 October 2019, Delhi
6. MR imaging of TFCC tears, Annual IRIA conference (UP branch), RICON, 12-13 October 2019, Agra
7. Imaging of Prosthetic Joints, Annual IRIA conference (UP branch), RICON, 12-13 October 2019, Agra
8. Fibrin sheath Angioplasty, Quarterly meeting of ISVIR (Delhi state Branch), 19 October 2019, Delhi
9. Imaging in glenoid labral tears, MSK imaging. Delhi State IRIA, 20 October 2019, Delhi
10. Understanding and diagnosing TFCC tears, MSK imaging. Delhi State IRIA, 20 October 2019, Delhi
11. Chemical Ablation is it relevant in the era of thermal ablation? Ablation Workshop, 8 November 2019, Chandigarh
12. MR imaging of Wrist: Intrinsic ligaments and TFCC, IRIA -Chandigarh State Branch, 8 November 2019, Chandigarh
13. Vascular Interventions in Genitourinary tract, AIIMS-MAMC-PGI imaging course on Genitourinary imaging, 15-16 November 2019, Delhi
14. Peripheral Vascular Injuries: Imaging and Interventions, Annual Conference of SER, 30 November 2019, Delhi
15. IR in Abdominal Trauma, APDW 2019, 12-15 December 2019, Kolkata
16. Novel use of Interventional Radiology in Trauma, 73rd Annual Conference of IRIA, 23-26 January 2020, Gujrat
17. Radiology in Liver Injury, Consensus meeting to formulate ISTAC guidelines for Solid Organ Injury Management, 18-19 January 2020, Delhi
18. Peripheral Vascular Injuries: Imaging and Interventions, CME on Peripheral Vascular Interventions. ISVIR, 23 February 2020, Delhi

### **Soumita Bagchi**

1. Antimicrobial dose adjustment in acute kidney injury, Critical Care Nephrology Conference 2020, 15 March 2020, Indore
2. Novel Biomarkers of AKI beyond creatinine : what and when should be used? ISN-NZ 2020, 1 March 2020, Lucknow
3. Infectious complications after renal transplantation, CAST 2019, 29 September 2019, Delhi
4. Mechanisms of AKI and therapeutic interventions, AKI and CRRT update, 8 April 2019, Delhi

### **Subodh Kumar**

1. Vascular Trauma, VIMS Trauma Update 2019, Vivekanand Institute of Medical Sciences, 20 April 2019, Kolkata
2. Airway in Trauma, Vivekanand Institute of Medical Sciences, 20 April 2019, Kolkata
3. Training in Trauma Care in India beyond ATLS, CME during 1st Foundation day of Apex Trauma Center, SGPGI of Medical Sciences, 31 July 2019, Lucknow
4. Initial Assessment & Management of a Trauma Victim, Skill Based Trauma Care Workshop, Bangladesh College of Physicians & Surgeons, 4 August 2019, Dhaka, Bangladesh
5. Current status of Trauma Education in India- Need for Trauma Residency Program, TRAUMA 2019, K G Medical University, 28 August 2019, Lucknow
6. Damage Control Surgery in Trauma, TRAUMASICON-2019, 7 September 2019, JB Auditorium, Ahmedabad
7. Trauma Thoracotomy, SURGERY UPDATE 2019, Maulana Azad Medical College, 24 September 2019, New Delhi
8. Management of Pancreatic- Trauma, Chinese Surgical Week-2019, Chengdu City International Convention Center, 18-20 October 2019, Chengdu, China
9. Damage Control Surgery in Trauma, Chinese Surgical Week-2019, Chengdu City International Convention Center, 18-20 October 2019, Chengdu, China
10. Adult Teaching & Learning, ATLS Instructor Course, 3 November 2019, RML Hospital, Delhi.
11. Abdominal Compartment syndrome-Recognition & Management, 35th Annual Conference of the Northern Chapter of Association of Surgeons of India (NC-ASI), 16 November 2019, PGIMER, Chandigarh
12. Ethics in Medical Practice, 41st Annual conference of AOGD, 28 September 2019, New Delhi

13. Management of Pelvic Trauma, SURGICON 2019 of Delhi chapter of ASI, 23 November 2019, Manekshaw Center, New Delhi
14. Algorithmic approach to management of a Trauma Victim, ACSCON-2020 of American College of Surgeons (Indian Chapter), Railway Museum Auditorium, 4 January 2020, New Delhi
15. What's new in Trauma Management Guidelines, CRITICARE 2020 26th Annual National Conference of Indian Society of Critical Care Medicine, Hyderabad International Convention Center, 28 February 2020, Hyderabad
16. Mass Casualty Management, HELP Course of ICRC, 3 March 2020, IIHMR, New Delhi

### **Sushma Sagar**

1. Mass Casualty Management, Emergency Medical Response & Psychosocial Care in Disaster Situation, 11 April 2019, JPNATC, AIIMS
2. Leadership for Change, 5th United Nations Global Road safety week, Indian road safety campaign(IRSC), 17 May 2019, IIT, Delhi
3. Thermal Injuries, ATLS Provider Course, 29 June to 1 July 2019, AIIMS, Rishikesh
4. Reproductive Health in Disasters, National Institute of Disaster Management (NIDM), 25 July 2019, YWCA, NIDM Hall, Delhi
5. ABCDE in maxillofacial trauma (ATLS way), AO CMF Course: Management of Facial Trauma, 23 August 2019, JPNATC, AIIMS
6. Maxillofacial Trauma from Airway to Cosmesis, TRAUMA 2019, 28-30 August 2019, KGMU, Lucknow
7. Role of Youth in Road safety, iSAFE Launch- The Safer India Challenge'19, 7 September 2019, IIT, New Delhi
8. First Aid for Children in school, National Institute of Disaster Management (NIDM), 17 September 2019, YWCA, NIDM Hall, Delhi
9. Looking Back, Looking Forward, ATLS Instructor Course, 4 November 2019, Dr. RML Hospital, Delhi
10. Critical Gaps in Trauma Care- Plugging the holes, Trauma Quality Improvement (TQIP), 26 November 2019, JPNATC, AIIMS
11. Early Physiotherapy protocols in Trauma: An outcome predictor, 8th INCPT AIIMS-2019, 21 December 2019, JPNATC, AIIMS
12. Holistic approach to Maxillofacial Trauma: A decade's experience at JPNATC, Clinical Grand Round, 14 January 2020, AIIMS, New Delhi

### **Vijay Sharma**

1. Symphyseal Plating, Current Concepts of Trauma 2019 Under the aegis of Trauma Society of India, 6 April 2019, Westin, Gurgaon
2. Case presentation, Posterior Wall Reconstruction in Acetabulum, Current Concepts of Trauma 2019 Under the aegis of Trauma Society of India, 6 April 2019, Westin, Gurgaon
3. Decision Making in management of acetabular fractures, 4th Pelvic Acetabulum Cadaveric Course, 27-28 April 2019, AIIMS, New Delhi
4. Definitive fixation of Anterior pelvic ring, 4th Pelvic Acetabulum Cadaveric Course, 27-28 April 2019, AIIMS, New Delhi
5. Current trends in the management of fractures of Patella, Advance Trauma Course under the aegis of Delhi Orthopedic Association, 2 June 2019, AIIMS, New Delhi
6. Delayed presenting Pelvi-Acetabular fractures: How to manage, MIDCON under the aegis of Delhi Orthopedic Association, 7 July 2019, Jamia Milia University, New Delhi
7. Fragility Fracture Liasion Service: Need for the hour, India Arthritis and Osteoporosis Conclave 2019 under the aegis of Bone and Joint Society, 13 October 2019, New Delhi
8. Proximal Humeral Fractures in Elderly, DOACON 2019 Annual Conference of Delhi Orthopaedics Association, 19 October 2019, New Delhi
9. Pipkin Type 3 Fracture, DOACON 2019 Annual Conference of Delhi Orthopaedics Association, 19 October 2019, New Delhi
10. Decision Making in management of acetabular fractures, Workshop on Pelvi-Acetabular Trauma 2019, 26 October 2019, Sir Ganga Ram Hospital, New Delhi
11. Modified Stopa Approach for Acetabular Fractures, Workshop on Pelvi-Acetabular Trauma 2019, 26 October 2019, Sir Ganga Ram Hospital, New Delhi
12. Current trends in the management of fractures of Patella, 12th International Conference on Orthopaedics,

Osteoporosis & Trauma, 13-14 November 2019, London

13. Management of Ipsilateral Neck and Shaft of Femur Fractures, 23rd Annual Conference of Trauma Society of India (CCT 2020), 28 February – 1 March 2020, Jodhpur, Rajasthan
14. Moderator, Complex Fractures of Proximal Femur, 23rd Annual Conference of Trauma Society of India (CCT 2020), 28 February – 1 March 2020, Jodhpur, Rajasthan

#### **Vivek Trikha**

1. Glenoid, Scapula & SSSC Injuries, CCT 2019, 5-7 April 2019, Gurugram
2. Complex Proximal Humerus Fracture, 45th Korean Fracture Society Meeting, 26-27 April 2019, Pusan, South Korea
3. Combined Pelvi-acetabular Injuries, 45th Korean Fracture Society Meeting, 26-27 April 2019, Pusan, South Korea
4. Combined Pelvi-Acetabular Injuries, AAOS IOA Trauma Conclave, 15-16 June 2019, Delhi
5. Complex Pelvic Injuries, AAOS IOA Trauma Conclave, 15-16 June 2019, Delhi
6. Venous Thromboembolism in Trauma, AAOS IOA Trauma Conclave, 15-16 June 2019, Delhi
7. Transverse and T type fractures, North East Pelvic Course, 6-7 September 2019, Guwahati
8. Pathophysiology of Pelvic injuries, North East Pelvic Course, 6-7 September 2019, Guwahati
9. SI Joint and Crescent Fractures, North East Pelvic Course, 6-7 September 2019, Guwahati
10. Radiology and Classification of Acetabular Fractures, North East Pelvic Course, 6-7 September 2019, Guwahati
11. Iliioinguinal Approach, North East Pelvic Course, 6-7 September 2019, Guwahati
12. Different Approaches in pelvi-acetabular injuries, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
13. Complications in acetabular injuries, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
14. Floating hip injuries, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
15. K-L approach and its modifications, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
16. Anatomy and radiology of normal acetabulum, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
17. First hour in ED-unstable pelvic fractures, AO Alliance Pelvi Acetabular Seminar, 14-15 September 2019, Dhaka, Bangladesh
18. Combined Pelvic Ring and Acetabular Injuries, APOA Trauma Conference, 20-22 September 2019, Bangkok, Thailand
19. 4 Part Humeral Fracture in the Young Adults, APOA Trauma Conference, 20-22 September 2019, Bangkok, Thailand
20. Posterior Fixation in Proximal Tibia Fractures, CIOS, 4-6 October 2019, Kochi
21. Induced Membrane (Masquelet) Technique for Bone Defects, CIOS, 4-6 October 2019, Kochi
22. Anterior Column & Wall Injuries: Stoppa Approach, CIOS, 4-6 October 2019, Kochi
23. Violation of Principles, AO Alliance AOT Basic Principles of Fracture Fixation, 19-21 October 2019, Dhaka, Bangladesh.
24. Radiation in the operating room—appropriate use and hazards, AO Alliance AOT Basic Principles of Fracture Fixation, 19-21 October 2019, Dhaka, Bangladesh
25. Introduction to tibial plateau fractures, AO Alliance AOT Basic Principles of Fracture Fixation, 19-21 October 2019, Dhaka, Bangladesh
26. Bone healing and the effect of patient factors and injury mechanism on fracture management, AO Alliance AOT Basic Principles of Fracture Fixation, 19-21 October 2019, Dhaka, Bangladesh
27. What Makes a Great Paper, 64th IOACON, 19-24 Nov, 2019, Kolkata
28. Mid Shaft and Distal femur Fractures: Forgotten Fractures in Elderly, 64th IOACON, 19-24 November 2019, Kolkata
29. Osteoporotic Acetabular Fractures: when to replace? 64th IOACON, 19-24 November 2019, Kolkata
30. Iliosacral Screw Fixation : How to do? 64th IOACON, 19-24 November 2019, Kolkata
31. How to Take Pus Culture and Read the Culture Report, 64th IOACON, 19-24 November 2019, Kolkata
32. Analyzing distal femur fractures, 64th IOACON, 19-24 November 2019, Kolkata

33. Approaches for Coronal Fractures of Femur, 64th IOACON, 19-24 November 2019, Kolkata
34. Posterior Wall injuries tips n pearls, 33rd NEOSCON, 29-30 November 2019,
35. Pilon Fractures: How to avoid Complications, 33rd NEOSCON, 29-30 November 2019, Kohima
36. Proximal Humerus Fracture Fixations, 33rd NEOSCON, 29-30 November 2019, Kohima
37. Iliosacral Screw Fixation: How to do? 33rd NEOSCON, 29-30 November 2019, Kohima
38. Current trends in Pelvi-acetabular injuries, 33rd NEOSCON, 29-30 November 2019, Kohima
39. Pelvic Injuries in India: How do we manage? SICOT World Congress, 5-7 December 2019, Muscat, Oman
40. Delayed Presentation in India: Problems and solutions, SICOT World Congress, 5-7 December 2019, Muscat, Oman
41. Delayed presentation of Isolated closed injuries: A Challenge, SICOT World Congress, Muscat, Oman
42. Pelvis fracture management, CGIOACON 2020, 18-19 January 2020, Raipur
43. Pilon fracture management, CGIOACON 2020, 18-19 January 2020, Raipur
44. Mistake I learnt from, CGIOACON 2020, 18-19 January 2020, Raipur
45. Principles of Management of Transverse fracture & T type fractures of acetabulum, TOSACON 2020, 24-25 January 2020, Nizamabad
46. Talus fractures - Route map to get it right, TOSACON 2020, 24-25 January 2020, Nizamabad
47. Pelvic and Acetabular fractures with femur fractures, OSSAPCON 2020, 1-2 February 2020, Vijayawada
48. Morel Lavallee lesion, OSSAPCON 2020, 1-2 February 2020, Vijayawada
49. Dissertation - How to choose, pearls on writing and how to convert your thesis to a paper? OSSAPCON 2020, 1-2 February 2020, Vijayawada
50. Basic Principles of Management of Acetabular Surgery, GOACON 2020, 7-9 February 2020, Rajkot
51. Stoppas Approach and Other Anterior Approach, GOACON 2020, 7-9 February 2020, Rajkot
52. Dealing with Gaps - Masquelet technique, GOACON 2020, 7-9 February 2020, Rajkot
53. Oops In OT, GOACON 2020, 7-9 February 2020, Rajkot
54. C3 Distal Femur Fractures: Planning And Management, GOACON 2020, 7-9 February 2020, Rajkot

#### **Yudhvir Singh**

1. ATLS, AIIMS Anesthesiology PG Assembly 2019, 29 September- 3 October New Delhi
2. Hands on Scanning Session as Faculty, Comprehensive Symposium on Ultrasound for Anesthesiologists (CUSA) 2019, 6-8 December 2019, New Delhi

#### **Oral papers/posters presented: 86**

1. Malhotra R, Mahato A, Gautam D. Trunionosis in Total Knee Arthroplasty – A Case Report, 20th EFORT Congress, 5-7 June 2019, Lisbon, Portugal
2. Malhotra R, Gautam D. Comparison of 3D Model Based Total Hip Arthroplasty Vs Conventional Total Hip Arthroplasty in Patients with Fused Hips and Spinopelvic Deformity – A Prospective Cluster Randomized Controlled Trial, 20th EFORT Congress, 5-7 June 2019, Lisbon, Portugal
3. Gupta M, Garg B, Mehta N, Malhotra R. Influence of Etiology and Onset of Deformity on 3D Gait pattern of Patients with Complex Spinal Deformity, 3rd International Conference on spine & Orthopaedic Biomechanics, 26-28 April 2019, New Delhi
4. Dhanda A, Singh GP, Bindra A. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: an observational study, AIIMS Neuroanesthesia Neurocritical Care Update 2019, 19 October 2019, JL Auditorium, AIIMS
5. Brahma R, Kumar S, Sengupta D, Bindra A, Kumar N, Sokhal N. Ultrasound assessment of diaphragmatic function in cervical spine trauma, AIIMS Neuroanesthesia Neurocritical Care Update 2019, 19 October 2019, JL Auditorium, AIIMS
6. Gupta DS, Bindra A, Chaturvedi A, Routary S. Evaluation of respiratory morbidity and outcome in Cervical Spine Injury, AIIMS Neuroanesthesia Neurocritical Care Update 2019, 19 October 2019, JL Auditorium, AIIMS
7. Burman S, Kumar N, Rath GP, Bindra A, Chaturvedi A, Goyal K. Cardiovascular complications after traumatic spinal cord injury, AIIMS Neuroanesthesia Neurocritical Care Update 2019, 19 October 2019, JL Auditorium, AIIMS
8. Gabra P, Kesav RP, Gupta AK, Sharma R, Kumar A, Gupta N, et al. Normal Imaging appearances in perinatal post-mortem magnetic resonance imaging, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi

9. Goyal A, Sangwan A, Kumar A, Singhal M, Arava S. Fibro-Adipose Vascular Anomaly: Old Wine or New Cocktail Cum Laude award, 119th ARRS Annual Meeting, 5-10 May 2019, Honolulu Convention Center, Hawaii, USA
10. Goyal A, Sangwan A, Kumar A, Kandasamy D, Seith A. Vascular Anomalies: Avoiding Misdiagnosis and Missing the Diagnosis, 119th ARRS Annual Meeting, 5-10 May 2019, Honolulu Convention Center, Hawaii, USA
11. Kumar A, Yadav R, Chakrabarty B, Pediatric brain and spinal tuberculosis - A radiological review, 2nd Annual meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
12. Kumar A, Kumar J, Dawani A, Sherwani P, Jana M, Aggarwal B. Imaging manifestations of 3 cases of Encephalocraniocutaneous lipomatosis: a rare neurocutaneous syndrome, 2nd Annual meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
13. Kumar A, Kumar J, Chakrabarty B. Hypomyelinating disorders: Radiological diagnosis and pattern approach, 2nd Annual meeting of American Society of Pediatric Neuroradiology, 10-12 January 2020, Miami, Florida, USA
14. Kumari M, Gupta AK, Kumar A, Jana M, Yadav R. Macrocephaly in pediatric population - spectrum of diseases, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi
15. Murugan N, Kumar A, Gamanagatti S, Patel RK, Kumar A, Kumar S. Pancreatic injuries- A never ending story, Radiological Society of North America, 1-6 December 2019, Chicago, USA
16. Sangwan A, Goyal A, Sharma R, Kandasamy D, Bhalla AS, Kumar A, et al. A step by step approach to solve the riddle of managing vascular anomalies, Radiological Society of North America, 1-6 December 2019, Chicago, USA
17. \*Sangwan A, Goyal A, Sharma R, Kandasamy D, Bhalla AS, Kumar A, et al. Contrast-enhanced Ultrasound in Vascular Anomalies: A New Paradigm, 19th KSR Gold Medal Competition for Best Paper Presentation by a Postgraduate in Radiology, 9 November 2019, Hyderabad, India
18. Yadav R, Kumari M, Gamanagatti S, Kumar A, Gupta AK. Pediatric Spinal Trauma - An uncommon entity SCIWORA, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi
19. Pallavi T, Gupta B, Rewari V, Ramachandra R, Arulselvi S, Kailaivani M, et al. Release of pro & anti-inflammatory cytokines and development of SIRS with different anesthetic techniques in major orthopedic trauma surgeries, 40th SICOT Orthopedic World Congress, 4-7 December 2019, Oman
20. Bagaria D, Banerjee N, Ud P, Gupta A, Joshi M, Sagar S. Train Related Injuries: Growing Concern in Developing Countries and Five-year Experience at Level-1 Trauma Center in India. At WADEM 2019 (7-9 May 2019) at Brisbane, Australia
21. Kumar N, Sengupta D, **Singh GP**, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed unilateral hydrothorax: An uncommon complication of central venous catheterization, College of Anaesthesiologists and Intensitivist of Sri Lanka Annual Academic Congress 2020, 18-20 January 2020, Colombo, Sri Lanka
22. Khandelwal A, Mahapatra R, Singh GP, Chaturvedi A. Perioperative anaesthetic and intensive care management of Giant Craniopharyngiomas-a case Series, AIIMS Neuroanaesthesia & Neurocritical Care Update 2019, 18-19 October 2019, New Delhi
23. Khandelwal A, Dhanda A, Singh GP, Bindra A. Correlation between invasive and technique of intracranial pressure measurement in children with traumatic brain injury: an observation study, International CME and Workshop on USG guided Nerve Block in Paediatrics, 16 October 2019, Noida
24. Farooque K, Neglected Bifacetal Cervical Dislocation with intact Neurology, ISCOS, 5 November 2019, Nice, France
25. Farooque K. Complete Corpectomy from Posterior Approach, ISCOS meeting, 6 November 2019, Nice, France
26. Soni KD. Patterns and Outcomes of Pediatric Trauma Victims Admitted to General Intensive Care Unit at Level I Indian Trauma Center, 2019 ASA Annual Meeting, 19 October 2019, Orlando, Florida
27. Soni KD. Risk factors and outcomes of post-traumatic acute kidney injury requiring renal replacement therapy: a matched case-control study, World Congress of Intensive Care 2019, 15 October 2019, Melbourne, Australia
28. Kumar N, Singh GP, Goyal K, Sokhal N, Bindra A. Anatomic variations of internal jugular vein in relation to carotid artery and its implications on ultrasound guided cannulation: An Observational Study, Australian Society of Anesthetists, 20-24 September 2019, Convention Center, Sydney, Australia
29. Chaturvedi A, Khandelwal A, Goyal K, Sokhal S, Dube S, Tandon V, et al. Perioperative Anaesthetic Management of a Patient with Chin-On-Chest Deformity Presenting for Reconstructive Spine Surgery: A Case Report, SNACC 2019, 12-14 September 2019, Phoenix, Arizona, USA
30. Shukla R, Mahajan C, Goyal K, Chaturvedi A. Serum Lactate, Base deficit and glucose levels as prognostic markers in Severe Traumatic Brain Injury, SNACC 2019, 12-14 September 2019, Phoenix, Arizona, USA
31. Barman S, Kumar N, Bindra A, Goyal K, Rath GP, Chaturvedi A. Cardiovascular complications after traumatic spinal cord injury, SNACC 2019 and ASA 2019, 12-14 September 2019, Phoenix, Arizona, USA
32. Kumar N, Sengupta D, Singh GP, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed hydrothorax:

- An uncommon complication of central venous catheterization, 36th Annual Academic Congress 2020, 18 January 2020, Colombo, Sri Lanka
33. Khandelwal A, Chaturvedi A, Sokhal N, Singh A, Sharma HB. Comparison of propofol and ketofol on transcranial motor evoked potentials (TcMEPs) in patients undergoing thoracolumbar surgery, ISNACC 2020, 1 February 2020, Mahabalipuram, Chennai
  34. Kumar N, Singh GP, Goyal K, Sokhal N, Bindra A. Anatomical variations of internal jugular vein in relation to carotid artery and its implication on ultrasound guided cannulation: an observational study, ASANSC 2019, 21 September 2019, Sydney, Australia
  35. Kumar N, Sengupta D, Singh GP, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed unilateral hydrothorax: an uncommon complication of central venous catheterization, 36th Annual Academic Congress – 2020, 18 January 2020, Colombo, Sri Lanka
  36. Singh PK. Long Term (> 5 years) Surgical Outcome Of Symptomatic Paediatric Vertebral Haemangiomas, AASPN, 10-12 May 2019, Incheon
  37. Singh PK. C2 Pedicle Reconstruction in Management of Old Hangmans Fracture with Reabsorbed Bilateral C2 Pedicle, AASPN, 10-12 May 2019, Incheon
  38. Singh PK, Sawarkar DS, Chandra PS, Kale SS, Verma S, Kumar A. From Pedicle Alignment to Pedicle Reformation For Pediatric Hangmans Fracture, INDSPNCON, 6-8 February 2020, Kolkata
  39. Singh P, Katyal S, Pandey S, Dhyani N, Khatri S, Walia K, et al. Antimicrobial consumption in intensive care unit patients at Level-1 trauma in india, 2nd Chapter meeting of IAMM 2019, Delhi Chapter, 20 July 2019, India Habitat Center, New Delh
  40. Khurana S, Mathur P, Veeraraghavan B, Kumar S, Sagar S, Aggarwal R, et al. Molecular & Clinical Epidemiology of Colistion Resistant Klebsiella pneumonia at an Apex Trauma Patients, 2nd Chapter meeting of IAMM 2019, Delhi Chapter, 20 July 2019, India Habitat Center, New Delhi
  41. Singh P, Katyal S, Pandey S, Dhyani N, Khatri S, Walia K, et al. Antimicrobial consumption in intensive care unit patients at Level-1 trauma in india, HISICON 2019, 15 September 2019, Kolkata
  42. Chaurasia R, Akhtar N, Arya V, Karjee S, Arulselvi S. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock, TRANSMEDCON 2019, 10 January 2020, Mumbai
  43. Gupta S, Sengar K, Arulselvi S. TEG Versus Conventional Coagulation Tests in Liver Trauma: A comparison of TEG in cases, ISTH-ILBS Symposium on coagulopathy in liver disease 2019 organized by International Society of Thrombosis and Hemostasis and Department of Hematology, Institute of Liver and Biliary Sciences, A.P.J. Abdul Kalam Auditorium, ILBS, 2 and 3 March 2019, New Delhi
  44. Gupta A, Trikha V, Arulselvi S. Evaluation of Functional Outcome and Histological Features of Induced Membrane in Patients Managed with Masquelet Technique, 20th EFORT Congress, 4-7 June 2019, Lisbon, Portugal
  45. Albert V, Arulselvi S, Agrawal D, Pati HP, Mukopadhyay AK. Endothelial disruption and Glycocalyx shedding in traumatic Subarachnoid Hemorrhage, 15th International Conference on Subarachnoid Hemorrhage (ISAH 2019) 25-28 June 2019, Amsterdam
  46. Trikha V, Gupta A, Arulselvi S. Prospective Evaluation of Functional Outcome Along with Histological Features of Induced Membrane in Patients with Infective Nonunion Managed with Masquelet Technique, OTA International Trauma Care Forum, 2019, 25-28 September 2019, Denver, Colorado
  47. Sharma M, Arulselvi S, Lalwani S, Agrawal D. Post mortem histopathological study of post TBI (traumatic brain injury) induced axonal injury using  $\beta$  app stains in corpus callosum, thalamus and brain stem, Institute research day, 26 March 2019
  48. Mukhopadhyay T, Arulselvi S. Impact of platelet transfusion on platelet function in thrombocytopenic trauma patients: A flowcytometry based assessment, Institute Research Day, 26 March 2019
  49. Krishna A, Arulselvi S, Chaurasia R, Sinha TP, Gupta A, Malhotra R. Correlation of blood component transfusion ratio with outcome in severely injured thoracoabdominal injury patients, EMINDIA 2019, 31 July-4 August 2019, AIIMS, New Delhi
  50. Mukhopadhyay T, Arulselvi S, Kumar A, Bhoi S, Gupta A, Pati HP, et al. Comparison of conventional coagulation parameters, thromboelastography and flow cytometry methods to study the improvement in platelet function in thrombocytopenic trauma patients post platelet transfusion, 30th Annual Conference, Delhi Society of Hematology (DSH), 15 September 2019, New Delhi
  51. Albert V, Arulselvi S, Pati HP. Flow cytometric assay for detection of prothrombotic Coated platelets in Healthy Volunteers, 2nd Annual TCS Meeting followed by hands-on workshops on “Flow cytometry” organized by SGPGL, 9-12 October 2019, Lucknow
  52. Acharya S, Kumar K, Sarkar A, Ningombam A, Brijwal M, Choudhary A, et al. Dengue and high fluorescence

- lymphocyte count percentage in blood: a fascinating association, 60th Annual conference of Indian Society of Hematology and Blood Transfusion (HAEMATOCON 2019), 7-10 November 2019, New Delhi
53. Mukhopadhyay T, Arulselvi S. A quality improvement initiative to improve critical value notification in the hematology laboratory, 60th Annual Conference of Indian Society of Hematology and Blood Transfusion (HAEMATOCON 2019), 7-10 November 2019, New Delhi
  54. Arulselvi S, Mukhopadhyay T. Characterization of analytical errors in classical thromboelastography (TEG) interpretation, 7-10 November 2019, New Delhi
  55. Gupta S, Arulselvi S, Gupta S. International Update on Renal & Transplantation Pathology, 15-16 February 2020, New Delhi
  56. Umesh R, Kumar S, Sharma H, Gordini P, Arulselvi S, Goyal A. Blast Induced Brain Traumatic Injury: Current Progress and Challenges, NSSW2020: 6th National Symposium on Shock Waves, 26-28 February 2020, IIT, Madras, Chennai
  57. Albert V, Arulselvi S, Agrawal D. Effect of early endothelial cell damage markers on surgical and conservative treatment outcome for isolated severe traumatic brain injury patient management, 2nd International Conference on Surgery and Transplantation, 17-18 February 2020, Paris, France
  58. Arulselvi S, Albert V, Agrawal D, Bhoi S. Acute traumatic brain injury induced endotheliopathy and its impact on clinical outcome, 2nd International Conference on Surgery and Transplantation, 17-18 February 2020, Paris, France
  59. Mittal S, Kumar A, Trikha V. CT based morphometric study of scaphoid and its implications for safe passage of screws for fixation, BIOS UK, 28-29 June 2019, Leicester, UK
  60. Mittal S, Kumar A, Trikha V. MORPHOMETRIC STUDY OF SCAPHOID, 40th SICOT Orthopaedic World Congress, 4-7 December 2019, Muscat, Oman
  61. Mittal S, Trikha V. CT Based Study To Define Applicability of Iliosacral and Transsacral Screws in Non Dymorphic Pelves, 20th EFORT Congress, 5-7 June 2019, Lisbon
  62. Mittal S, Kumar A, Trikha V. CT Based Morphometric Study of Scaphoid and Its Implications for Safe Passage of Screws for Fixation, 20th EFORT Congress, 5-7 June 2019, Lisbon
  63. Mittal S. Safe corridor for Iliosacral and Trans-sacral screw placement: A preliminary CT based anatomical study, 4th AOTAP Congress, 24 May 2019, Taipei, Taiwan
  64. Mittal S, Case series of femoral fracture in post-polio residual paralysis Patients and review of literature, 7th Congress of the Asia Pacific Trauma Society & 1st Scientific Meeting of the APOA Foot & Ankle, 20-22 September 2019, Bangkok, Thailand
  65. Mittal S. CT Based Morphometric Study of Scaphoid and Its Implications for Safe Passage of Screws for Fixation, 7th Congress of the Asia Pacific Trauma Society & 1st Scientific Meeting of the APOA Foot & Ankle, 20-22 September 2019, Bangkok, Thailand
  66. Mittal S, Trikha V. Pelvic Acetabular trauma, APOA Young Surgeon's Forum 2020, 19 January 2020, Varanasi, UP
  67. Murugan N, Kumar A, Gamanagatti S, Patel RK, Kumar A, Kumar S. Pancreatic injuries- A never ending story, Radiological Society of North America, 2019, 1-6 December 2019, Chicago, USA
  68. Razik A, Sharma R, Gamanagatti S, Goyal A, Kandasamy D. Unusual primary neoplasms of the adult liver: Can imaging come to the rescue? Annual conference of the Chandigarh chapter of IRIA, 22 and 23 February 2020, Chandigarh
  69. Yadav R, Kumari M, Gamanagatti S, Kumar A, Gupta AK. Pediatric Spinal Trauma - An uncommon entity SCIWORA, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi
  70. Kumar S, Bagaria V, Mathur P, Madan K, Kumari M, Sagar S, et al. A prospective study to assess Cytokines (IL-1B, IL-6, IL-8, IL-10 & TNF-A) & Biomarkers (vWF& CC-16) in patients with Chest Trauma and their correlation with Thoracic Trauma Severity Score & patients' outcome, 78th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery, 18-21 September 2019, Dallas, Texas, USA
  71. Sagar S, Katiyar A, Kumar S, Kumar A, Priyadarshi P, Gupta A, et al. Surgical Site infection at Traumatic amputation stump resulting in prolongation in hospital stay and delayed rehabilitation: A Study from Tertiary care Level 1 Trauma Centre, Symposium on Advanced Wound Care Fall Meeting (SAWC Fall), 12-14 October 2019, Las Vegas, Nevada, USA
  72. Banerjee N, Rattan A, Priyadarshini P, Kumar S, Sagar S, Gupta A, et al. Post Traumatic Bronchobiliary Fistula, European Congress of Trauma and Emergency Surgery (ECTES), 2-5 May 2019, Prague, Czech Republic
  73. Banerjee N, Kumar A, Sagar S, Kumar S, Gupta A, Mishra B. Traumatic aortic injuries: A 5-year analysis from a Level 1 trauma center in India, European Congress of Trauma and Emergency Surgery (ECTES), 2-5 May 2019, Prague, Czech Republic
  74. Katiyar A, Sagar S. Surgical site infection rates in patients undergoing traumatic lower limb amputations, 6th

WSES Conference, 25-28 June 2019, Nijmegen, Netherlands

75. Jogendra B, Priyadarshini P, Anand K, Kumar S, Sagar S. Traumatic Pseudoaneurysm of Axillary artery combined with Brachial plexuses injury: A Case report, ISTAC UP Chapter 2019, 28-30 August 2019, KGMU, Lucknow
76. Katiyar A, Sagar S. Primary Versus delayed primary closure in patients undergoing lower limb amputation following trauma: A Randomized control study, TRAUMASICON 2019, 6-8 September 2019, Ahmedabad
77. Banerjee N, Bagaria D, Agarwal H, Gupta A, Sagar S, Kumar S, et al. Grading of complications in trauma management: A prospective study based on the adapted Clavien Dindo in Trauma (ACDiT) scale, TRAUMASICON 2019, 6-8 September 2019, Ahmedabad
78. Kumar S, Bagaria V, Mathur P, Madan K, Kumari M, Sagar S, et al. A Prospective to Assess Cytokines (IL-1B, IL-6, IL-8, IL-10 & TNF-A) And Biomarkers (vWF& CC-16) In Patients with Chest Trauma and Their Correlation with Thoracic Trauma Severity Score and Patients' Outcome, 78th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery, 18-21 September 2019, Dallas, Texas, USA
79. Sagar S, Gupta S, Dutta N. "An Indigenous and Affordable Wound Healing Technology for Accelerated Healing of Medically Complex Wounds: A Boon for Developing Nations, Symposium on Advanced Wound Care Fall Meeting (SAWC Fall), 12-14 October 2019, Las Vegas, Nevada, USA
80. Sagar S, Katiyar A, Kumar S, Kumar A, Priyadarshi P, Gupta A, et al. Surgical Site infection at Traumatic amputation stump resulting in prolongation in hospital stay and delayed rehabilitation: A Study from Tertiary care Level 1 Trauma Centre, Symposium on Advanced Wound Care Fall Meeting (SAWC Fall), 12-14 October 2019, Las Vegas, Nevada, USA
81. Sagar R, Mir M, Sagar S, Sharma U, Mir N. Impact of Yoga Therapy on psychopathology and behaviour of patients undergoing lower limb amputation following trauma : An RCT from a tertiary care trauma center, Symposium on Advanced Wound Care Fall Meeting (SAWC Fall), 12-14 October 2019, Las Vegas, Nevada, USA
82. Khatri G, Mir N, Sagar R, Sagar S. Depression, Anxiety and Stress among lower limb Amputation in Males vs Females at level-1 Trauma Centre, National Annual Conference of Indian Association of Clinical Psychologists (NACIACP), 21 March 2020, Chandigarh
83. Trikha V, Arulselvi S, Gupta P. Prospective Evaluation of Functional Outcome Along With Histological Features of Induced Membrane in Patients With Infective Nonunion Managed With Masquelet Technique, OTA Annual Meeting, 25-28 September 2019, Denver, USA
84. Trikha V. Morphometric Analysis and Safety of Anterior Column Screw of Acetabulum in Indian Population: A Preliminary Report, OTA Annual Meeting, 25-28 September 2019, Denver, USA
85. Trikha V. Evaluation of functional outcome of failed or neglected intracapsular neck femur fractures treated with valgus intertrochanteric osteotomy using a double angle blade plate. OTA Annual Meeting, 25-28 September 2019, Denver, USA
86. Singh Y, Kumar S, Khanna P. The study of feasibility of ultrasound guided catheterization of right brachiocephalic vein in adult patients, 73rd New York State society of Anaesthesiologists, 13-17 December 2019, New York, US
87. Singh Y, Kumar S, A Comparative study of two doses of intrathecal clonidine with hyperbaric bupivacaine in lower segment cesarean section, 73rd New York State Society of Anaesthesiologists, 13-17 December 2019, New York, US

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Rajesh Malhotra, ICMR, 3 years, 2019- 2022, Rs 139.03 lakhs
2. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Rajesh Malhotra, ICMR, 3 years, 2019-2022, Rs 50 lakhs
3. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty, Rajesh Malhotra, Zimmer, 7 years, 2015-2022, Rs 24 lakhs
4. To study efficacy of amniotic membrane as an alternative wound dressing in patients with post traumatic raw area admitted in trauma surgery unit, Abhinav Kumar, AIIMS, 1 year, 2018-2019, Rs 5 lakhs
5. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt Chest Trauma– A Prospective, cohort, feasible and exploratory study, Abhinav Kumar, AIIMS, 2 years, 2019-2021, Rs 5 lakhs
6. An Intervention Study on Comprehensive Emergency Care and Trauma Registry for Road Traffic Injuries in India. ICMR-National Task Force Project, Amit Gupta, ICMR, 2 ½ years, 2017-2019, Rs 75 lakhs
7. An interventional study of developing robust trauma care systems in India, Amit Gupta, ICMR, 3 years, 2019-

2022, Rs 53 lakhs

8. Enhancing the success and safety of endotracheal intubation by development of an innovative intubation system: A Pilot Project, Babita Gupta, ICMR, 2 years, 2020-2022, Rs 55 lakhs
9. ADAPT, Deepak Gupta, National Institute of Health, 5 years, 2015-2022, Rs 105.49 lakhs
10. CENTER-TBI, Deepak Gupta, Universitair Ziekenhuis Antwerpen (UZA), Belgium, 2 years, 2016-2020, Rs 3.75 lakhs
11. RESCUE ASDH, Deepak Gupta, Cambridge University, 3 years, 2017-2020, Rs 9.52 lakhs
12. Estimation of occurrence of intra abdominal hypertension and its implication on Non operative management protocol in patients with solid organ injury following blunt trauma abdomen, Dinesh Bagaria, AIIMS, 1 year, 2019-2020, Rs 4.8 lakhs
13. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in posttraumatic sepsis and septic shock-defined by sepsis-3 classification A exploratory study in major trauma patients, Kapil Dev Soni, AIIMS, 1 year, 2019, Rs 5 lakhs
14. Comparison of laparoscopic feeding gastrostomy versus Percutaneous endoscopic gastrostomy for long term assisted enteral feed in trauma patients – A randomized pilot study, Narendra Choudhary, AIIMS, 2 years, 2019-2021, Rs 4.75 lakhs
15. Effect of Decompressive Craniectomy on Jugular Venous Oximetry in Patients With Severe Traumatic Brain Injury, Navdeep Sokhal, AIIMS, 3 years, 2018-2020, Rs 2.5 lakhs
16. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Niraj Kumar, AIIMS+IIT Delhi, 2 years, 2019-2020, Rs 20 lakhs
17. Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India, Purva Mathur, Centers for Disease Control and Prevention, 5 years, 2015-2020, Rs 882.59 lakhs
18. Development and Validation of an Electronic Surveillance System for Surgical Site Infections Developing During Hospital Stay and After Discharge: A Multi-Centric Study, Purva Mathur, ICMR, 3 years, 2017-2020, Rs 131.58 lakhs
19. Role of Post-Trauma Lymphocyte - Monocyte Response and Programmed Death- 1 Levels in Early Diagnosis of Sepsis and Prognosticating Outcome in Trauma Patients, Purva Mathur, ICMR, 3 years, 2018-2021, Rs 45.10 lakhs
20. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
21. Evaluation of cytokines IL17 and IL 22 in polytrauma patients with ventilator associated pneumonia admitted in Trauma ICU, Richa Aggarwal, AIIMS, 2 years, 2019-2021, Rs 9.0 lakhs
22. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment, S Arulselvi, ICMR, 2 years, 2019-21, Rs 42.23 lakhs
23. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, S Arulselvi, ICMR, 3 years, 2020-2023, Rs 50.64 lakhs
24. Correlation between preoperative CSF melatonin levels and post operative delirium in geriatric hip fractures, Samarth Mittal, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
25. Incidence of Heterotropic Ossification in Pelvi - Acetabular fractures – Can It be predicted and prevented? A prospective, clinical research, Samarth Mittal, AO Trauma, 2 years, 2018-2020, Swiss Francs 8000.
26. The association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
27. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-2021, Rs 1.98 lakhs per patient
28. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, Novartis Ltd, 3 years, 2019-2022, Rs 2 lakhs per patient
29. To study the impact of Yoga on Pulmonary Functions, Immune Response & Quality of Life in Chest trauma patients at Level-1 Trauma Center, Subodh Kumar, DST, 3 years, 2016-19, Rs 40 lakhs
30. Role of neutrophils and new immune cells in the outcome of Chest trauma patients, Subodh Kumar, ICMR, 3 years, 2019-2022, Rs 36 lakhs
31. A Randomized Control Trial to study the impact of Yoga Intervention in lower limb amputees following trauma

in relation to postsurgical outcome, behavior and quality of life at Level-I Trauma Center, Sushma Sagar, DST, 3 years, 2017-2020, Rs 54 lakhs

### **Completed**

1. CV185-158: Phase IV, Open-Label, Multi-center Study to Evaluate the Safety of Apixaban in Indian Subjects Undergoing Elective Total Knee Replacement or Total Hip Replacement Surgery, Rajesh Malhotra, PPD, 4 years, 2015-2019, Rs 33 lakhs
2. Comparison of yearly zoledronic acid Versus Weekly Alendronate in Preference, Convenience, compliance, persistence and Bone Turnover Markers in Indian Postmenopausal Osteoporotic Women, Rajesh Malhotra, ICMR, 3 years, 2016-2019, Rs 39 lakhs
3. A system biology approach using Proteomic, metabolomics and metagenomics of saliva of oral cancer patients for identification of potential biomarkers, Abhinav Kumar, ICGEB core Fund, 3 year, 2015-2018, Rs 25 lakhs
4. Assessment of effect of cerebral perfusion pressure augmentation in severe head injuries by monitoring of regional energy metabolism by cerebral microdialysis, Ashish Bindra, AIIMS, 2 years, 2016-2018, Rs 4.95 lakhs
5. Cerebroprotective role of Dexmedetomidine in Epilepsy Surgery, Ashish Bindra, AIIMS, 2 years, 2012-2014, Rs 2.62 lakhs
6. A randomized controlled study of the effects of single dose preoperative vitamin C versus placebo on postoperative morphine consumption after spine surgery, Niraj Kumar, AIIMS, 3 years, 2014-2017, Rs 2.8 lakhs
7. Incidence of posterior vessel wall punctures during ultrasound guided vascular access: short axis versus long axis approach, Niraj Kumar, AIIMS, 2 years, 2015-2017, Rs 3.7 lakhs
8. Evaluation of Urinary Biomarkers TIMP-2 and IGFBP7 for early prediction of acute kidney injury after traumatic crush injuries, Richa Aggarwal, AIIMS, 2 years, 2017-2019, Rs 3.5 lakhs
9. Utility on novel Coated Platelets as a marker for early prognostication of neurocognitive impairment following traumatic injury, S Arulselvi, DST-CSIR, 3 years, 2016-19, Rs 37.11 lakhs
10. Prospective monitoring of BK virus replication in the first year following renal transplantation in Indian patients, Soumita Bagchi, AIIMS, 2 years, 2014-2016, Rs 6.2 lakhs
11. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: a case control study, Soumita Bagchi, AIIMS, 1 year, 2017-2018, Rs 5 lakhs
12. To evaluate Results of Soft Tissue Reconstruction and Augmentation with Structural Fat Grafting in Patients with Post Traumatic Facial Disfigurement, Sushma Sagar, DST (Women Scientist), 3 years, 2015-2018, Rs 30 lakhs

### **Departmental projects**

#### **Ongoing**

1. A pilot study to evaluate the need of post operative systemic anticoagulation in patients with post traumatic medium size peripheral artery repair: A randomized control trial
2. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8 mL/kg vs 12-15 mL/kg) on the time to wean from ventilator in patients with cervical spine injury (C1-C5)
3. A Quality Improvement Initiative to Reduce Fibrin Clot Formation in Blood Collection Tubes Received in the Clinical Laboratory
4. A Randomised pilot study comparing surgical stabilization of rib fractures with standard non-operative management among mechanically ventilated patient with severe rib fractures
5. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients
6. A Randomized Controlled Trial to Study the Clinical And Radiological Outcomes of Single Lag Screw Versus Helical Blade Cephalomedullary Nailing in the Treatment of Intertrochanteric Femur Fractures (Commenced in January 2019)
7. A Randomized Pilot study comparing surgical stabilization of Rib Fractures with standard non-operative management among mechanically ventilated patients with severe rib fractures
8. A study comparing contrast enhanced computed tomography abdomen versus diagnostic laparoscopy in patients with penetrating abdominal trauma: A randomized controlled trial
9. A study to evaluate the predictors of outcome in patients with blunt liver trauma
10. A study to Evaluate Utility of Routine use of contrast enhanced computed tomography scan torso in patients presenting with dangerous mechanism of injury in level I trauma centre
11. A study to find minimum effective volume of 0.5% ropivacaine for ultrasound guided costoclavicular block

12. A study to grade management related complications in acutely injured patients and their correlation with the outcomes at a level 1 trauma centre
13. Abbreviated Discharge Protocol in patients with Blunt Liver and Splenic Injury- A pilot Study
14. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury
15. An Ambispective observational study to evaluate the outcomes of management of traumatic pancreatic injuries at a level I trauma center
16. An Exploratory Study to Evaluate Surgical Outcome and Financial Burden in Patients Treated with 3D Printing Technology Assisted Surgery versus Conventional Surgery for Facial Fractures at Level 1 Trauma Centre, AIIMS, New Delhi
17. Assessment of physician satisfaction for the laboratory services in JPNATC, AIIMS, New Delhi
18. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of organ dysfunction and sepsis
19. Assessment of splenic function in blunt splenic injury: prospective observational study
20. Assessment of splenic immune function in patients with blunt splenic injury
21. Association Between Perioperative Hypertension, Length of Hospital Stay And Perioperative Cardiovascular Complications: A Prospective Observational Study From Tertiary Care Centre
22. Bilateral Ultrasound guided erector spinae plane block for postoperative pain relief in traumatic spine surgery: A randomised controlled trial
23. Cardiovascular complications after traumatic spinal cord injury
24. Cellular prion protein as a potential bio-marker of traumatic brain injury and its co-relation with the severity of traumatic brain injury
25. A Prospective Randomized Study to compare Computer Assisted Navigation Vs Free Hand Surgical Technique of Total Hip Replacement
26. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
27. Double Blind Randomized Control Trial to Assess the Outcome of Open Vs. Arthroscopic Excision of Dorsal Wrist Ganglion
28. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
29. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: A randomized study
30. Comparison of ultrasound guided cannulation of subclavian vein (supraclavicular approach) versus internal jugular vein in neuro-intensive care patients on mechanical ventilation. A randomized study
31. Correlation of NIRS With Intraoperative Transfusion Trigger in Pediatric Patients Posted For Posterior Fossa Tumour Excision
32. Correlation of serum Immunoglobulin A/complement factor 3 (IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
33. Effect of decompressive craniectomy on jugular venous oximetry (SJVO<sub>2</sub>) in patients with severe Traumatic brain injury (TBI)- Funded by AIIMS, Rs 5 lakhs
34. Effect of Different Dose Regimens of Tranexamic Acid on blood loss in Pelvicacetabular Fracture Surgery: A Randomized Clinical Trial
35. Effect of Neuroradiologic interventions on regional cerebral oxygenation in patients with anterior circulation aneurysms: An observational Study
36. Effect Of phrenic nerve stimulation on diaphragmatic strength and thickness in mechanically ventilated patients
37. Effect of Virtual Reality Therapy (VRT) in improving Balance and Quality of life among the lower limb amputees- A Randomized Control Trial
38. Effects of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications
39. Effects of Severity of injury on the Dynamics of Immune Effector Cells (Th1, Th2, Th9, Th7, Th22) and neutrophils and their Correlation with Outcome in Patients with Blunt Thoracic Trauma
40. Electrolyte and acid base disturbances in post renal transplant patients: prospective study
41. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in posttraumatic sepsis and septic shock-defined by sepsis-3 classification: A exploratory study in major trauma patients
42. Evaluation of diagnostic characteristics of point of care ultrasound in identification of Maxillofacial fractures as compared to CT scan

43. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients
44. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
45. Evaluation of the role of a Capacity building program for initial assessment and management of trauma patients in Emergency Department in improving knowledge, skills and attitude of Doctors and Nurses
46. Feasibility and Implementation of Hospital based Trauma Registry for Road Traffic Injuries at different levels of healthcare settings and its effect on quality of care
47. Focused airway sonography for evaluation of laryngeal mask airway placement: an observational study
48. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study
49. Impact of enhanced recovery after emergency surgery - A study comparing enhanced recovery protocol versus standard care inpatients undergoing laparotomy following trauma
50. Incidence and risk factors of deep vein thrombosis in patients undergoing intracranial tumor surgeries – A prospective study
51. Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study
52. Isolation of Characterization of Leishmania or Leishmania like parasite(s) from seropositive goat (printed but not submitted/viva cond)
53. Multipara metric approach to identify a predictive Biomarkers of sepsis and septic shock in trauma patients
54. Outcome correlation of initial arterial blood gas analysis in isolated thoracic injury
55. Outcome of Transjugular Intrahepatic Portosystemic Shunt in Budd Chiari Syndrome: An Ambispective Study
56. Postural Impact on Gastric Ultrasound assessment in pregnancy: An observational study
57. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study
58. Prevalence of Beijing & Non-Beijing genotypes of Mycobacterium tuberculosis isolated from different human body sites submitted but defence is pending
59. Primary versus Delayed Primary Closure in patients undergoing lower limb amputation following trauma: A Randomized control study
60. Raising mono & polyclonal antibodies against novel antigens of Mycobacterium tuberculosis and their diagnostic value in clinical samples 1st draft submitted
61. Randomized Control Trial comparing Radiological, Clinical and Functional Outcomes following Uniaxial vs Polyaxial Plating in Management of Tibial Plateau Fractures and CT Guided Mapping of Proximal Tibial Fractures in Indian Population
62. Randomized Control Trial: Comparative analysis of orbital volume in 3D-model assisted mesh adaptation versus conventional technique in reconstruction of orbital floor fracture
63. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock
64. Role Interventional radiology in Obstetric related Hemorrhage
65. Role of imaging for clinical outcome evaluation in pelvic fracture patients.
66. Role of lung ultrasound in estimating extravascular lung water as an early predictor of sepsis in Neurotrauma patients- An observational study
67. Role of Microdialysis in accurate and early detection of a compromised free flap
68. Role of T-Helper Cells and Neutrophils in the Outcome of Patients with Chest Trauma
69. Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury
70. Significance of Severe Thrombocytosis in North Indian Trauma Patients
71. Study of Oligodendroglial Linage, Myelination and remyelination in brain tissue in head injury cases
72. Study of role of biochemical parameters to determine outcome in elderly hip fracture patients
73. Study of the parameters, intervention and outcome in cases of Genito urinary injuries at level 1 trauma centre
74. Supportive management of IgA nephropathy-a prospective study
75. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
76. To compare the efficacy of Air- Q versus proseal in children (1-18 years) undergoing elective ophthalmic procedures – A randomized clinical trial
77. To establish sexual dimorphism & estimate age from Hyoid bone using anthropological and radiological techniques
78. To evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia

79. To evaluate the role of age-adjusted Charlson Comorbidity index in predicting 30 day postoperative outcome in patients undergoing surgery under general and regional anesthesia
80. To see the prevalence of microsporidia in stool samples of HIV sero negative adults, pediatric patient with diarrhoea May 2018 submitted
81. To study splenic functions & complications in patients with blunt splenic injury at level -1 trauma
82. To study the correlation between clinical parameters, and intra-abdominal pressure and their effect on the non-operative managements of patients with blunt abdominal trauma at Level I trauma center
83. To study the diagnostic characteristics of point of care ultrasound in blunt trauma chest patients
84. To study the effect of external pelvic fixation on the outcome of patients with pelvic fractures undergoing damage control surgery
85. To Study the effect of Yoga on Pulmonary functions, Respiratory muscle strength and endurance, chest wall mobility, inflammatory markers and Quality of life in blunt chest trauma patients and their correlation with thoracic trauma severity score at level-I Trauma Centre
86. To Study the management, outcome and Quality of life in patients with pelvic trauma at A level 1 Trauma Center
87. To study the risk factors and causes of extubation failure in head injury patients
88. To Study the Role of Prophylactic Antibiotics in patients with chest trauma at a level 1 Trauma Centre: A Pilot Randomized trial
89. To study the role of T helper-9, T helper-17, T helper-22, T- Regulatory lymphocytes in Post-Trauma Immunopathogenesis
90. To study the role of Vitamin D levels on disease severity and outcome in Indian patients with primary IgA nephropathy from the AIIMS Primary IgA Nephropathy(APIgAN) cohort

### ***Completed***

1. A Prospective Randomized Study to Evaluate Kinematic and Mechanical Alignment in Total Knee Arthroplasty
2. A study comparing enhanced recovery protocol versus standard care in patients undergoing laparotomy following trauma- A randomized controlled trial
3. A study to Analyse CD27 expression on T cells to differentiate active and latent Tuberculosis
4. A Study to assess the Impact of Educational Interventions on the Incidence of Central Line Associated Blood Stream Infections (CLABSI) at an Intensive Care Unit of Jai Prakash Narayan Apex Trauma Centre of AIIMS, New Delhi
5. A Study to Grade management related complications in Acutely injured patients and their correlation with the outcomes at a level 1 Trauma Center
6. Abbreviated discharge protocol in patients with blunt liver and splenic injury: a pilot study
7. Age Estimation Between age 1-18 years by radiological study of Epiphyseal Union around Elbow & Wrist joints
8. Assessment of the Critical value notification Process in a Clinical Laboratory for Quality Improvement
9. Assessment of the Handover Process in a Clinical Laboratory for Quality Improvement
10. Characterization of analytical errors in classical thromboelastography (TEG) interpretation
11. Chief Guide in A prospective randomized clinical trial to compare clinical, fluoroscopic and radiological outcome between medial pivot and lateral pivot knee
12. Clinical characteristics and outcome of patients with fat embolism syndrome in level- 1 Apex Trauma Centre – A prospective observational study
13. Clinico-radiological assessment of arthroscopic repair for recurrent anterior shoulder instability – A pilot study
14. Comparison of propofol and ketofol on transcranial motor evoked potentials in patients undergoing thoracolumbar spine surgery
15. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: an observational study
16. Development of new molecular test(s) for rapid diagnosis of India specific Pre-XDR/XDR-TB
17. Diagnostic and prognostic role of MRI in acute cervical cord trauma
18. Evaluation of the role of a Capacity building program for initial assessment and management of trauma patients in Emergency Department in improving knowledge, skills and attitude of Doctors and Nurses
19. Functional and radiological outcomes following plating for displaced fractures of patella
20. Histology of Lumbar Inter Vertebral Disc in Degenerative Disc Disease and its Correlation with Clinical and Radiological Findings

21. Outcome correlation of initial arterial blood gas analysis in isolated thoracic injury
22. Outcome of trauma patients with acute kidney injury with renal replacement therapy in surgical ICU: Our experience
23. Primary versus Delayed Primary Closure in patients undergoing lower limb amputation following trauma: A Randomized control study
24. Prospective observational study of transfusion practices in severely injured trauma patients in emergency Department in level 1 Trauma Center
25. QI project – to improve the CLABSI rate in ICU
26. Role of T-Helper Cells and Neutrophils in the Outcome of Patients with Chest Trauma
27. Serum Procalcitonin, Interleukin-6 and sTREM-1 as diagnostic and prognostic markers in sepsis in critically ill patients
28. To compare the effect of goal directed fluid therapy versus standard fluid regimen on the cuff leak volume in patients undergoing spine surgery
29. To study management, outcomes and quality of life in patients with pelvic fractures at level 1 trauma center
30. To study the clinical and neurophysiological outcomes after using platelet rich plasma in acute peripheral nerve injury repair, Plastic Surgery, JPNATC, AIIMS
31. To study the correlation between clinical parameters and Intra-abdominal pressure and their effect on the non-operative management of patients with blunt trauma abdomen at level 1 trauma centre
32. To study the efficacy of serratus anterior plane block in patients undergoing trunk based flap surgeries-a pilot study
33. To Study the management, outcome and Quality of life in patients with pelvic trauma at A level 1 Trauma Center
34. Use of intratracheal lignocaine to reduce emergence reaction in the patients undergoing endoscopic transphenoidal pituitary surgery: a randomized controlled study

## **Collaborative projects**

### ***Ongoing***

1. Ultrasound guided suprainguinal fascia iliaca block in ace tabular fracture surgery- randomized controlled pilot study
2. Understanding Differences in the Patterns of Osteoarthritis in Indian and Western Population: Impact on Symptoms, Treatment Options and Their Outcome, UKIERI-DST
3. Morphometric and Morphoscopic Study of Ear & Nose in Brahmin & Rajput population of Mandi, Himachal Pradesh- A Forensic Anthropological Investigation, Department of Anthropology, Panjab University, Chandigarh
4. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Dept. of Forensic Medicine & Toxicology, KMC, Manipal
5. Estimating Post- Crash Accessibility to Trauma care Facility in Delhi, Transport Research and Injury Prevention Program (TRIPP), Indian Institute of Technology, Delhi
6. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial, Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada
7. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gall stone disease, Surgery
8. Sensitivity and specificity of Focussed Assessment with Sonography for Trauma (FAST) in determining pediatric solid organ injury following blunt trauma abdomen, Pediatric Surgery
9. A study to evaluate the predictors of outcome in patients with Blunt Liver Trauma, Trauma Surgery
10. Etiological Evaluation of Microcephaly in Young Patients, Pediatrics
11. Diagnostic Accuracy of Transcranial Ultrasound to Detect Clinically Significant Condition in post Craniectomy Patient, Emergency Medicine
12. Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH<sup>®</sup>) in reducing the incidence of central line associated blood stream infection (CLABSI), Microbiology, JPNATC, AIIMS
13. Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital, Microbiology, JPNTC, AIIMS
14. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi
15. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Critical and intensive Care, Anesthesiology, Pain Medicine and Critical Care, Laboratory

Medicine, Emergency Medicine, Surgery, JPNATC

16. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients, Laboratory Medicine, Emergency Medicine, Surgery JPNATC
17. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care
18. Risk factors and outcome of patients with ventilator associated events and complications in trauma ICU, Anaesthesia and critical care
19. Abbreviated discharge protocol in patients with liver and or splenic injury following blunt trauma abdomen, Trauma surgery and critical care
20. Correlation of the gastric residual volume determined by ultrasound and acceptance of enteral tube feed in medical /surgical ICU – an observational study, Anaesthesia and critical care
21. Outcome correlation of initial arterial blood gas analysis in isolated thoracic injury, Trauma surgery and critical care
22. comparison of positive pressure extubation with traditional extubation in critically ill patients- a randomised control study, Anaesthesia and critical care
23. Role of T-helper cells and neutrophils in the outcome of patients with chest trauma, Trauma Surgery
24. To study the effect of Yoga on Pulmonary functions, Respiratory muscle strength and endurance, Chest wall mobility, Inflammatory markers and Quality of life in blunt chest trauma patients and their correlation with Thoracic Trauma Severity Score at level-I trauma centre, Trauma Surgery
25. To study clinical and immunological parameters in predicting short term outcomes in polytrauma patients admitted to Trauma Surgery, Trauma Surgery
26. To study splenic functions and complications following blunt splenic trauma at level -I trauma centre, Trauma Surgery
27. To study the impact of Yoga on pulmonary functions, immune response and quality of life in chest trauma patients at level-I trauma Centre, Trauma Surgery
28. Histology of Lumbar Inter Vertebral Disc in Degenerative Disc Disease and its Correlation with Clinical and Radiological Findings, Orthopedics
29. Detection and genotype distribution of BK polyomavirus in renal transplant recipients, Microbiology
30. Study of muscle enzyme elevation in neurosurgery and its relevance in postop acute kidney injury: a pilot study, Neuroanaesthesia
31. An immunohistochemical and ultrastructural study of glomerular capillary endothelial injury in cellular rejection, Pathology
32. Prospective observational study of transfusion practices in severely injured trauma patients in Emergency Department at level 1 Trauma Center, Lab Medicine

### **Completed**

1. Histology of Lumbar Inter Vertebral Disc in Degenerative Disc Disease and its Correlation with Clinical and Radiological Findings, Orthopaedics
2. Age Estimation Between Age 1-18 years by Radiological Study of Epiphyseal Union Around the Elbow and Wrist Joints, Forensic Medicine
3. Utility on novel Coated Platelets as a marker for early prognostication of neurocognitive impairment following traumatic injury, Neurosurgery, Neuropsychology, Psychiatry
4. Prognostic Significance of Cytokines and Biomarkers in Patients with Traumatic Lung Injuries, Lab. Medicine
5. Primary versus delayed primary closure in patients undergoing lower limb amputation following trauma, a randomized controlled trial, Trauma surgery and critical care
6. Membranous nephropathy: A study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation, Pathology

### **PATIENT CARE**

<b>I.</b>	Total Bed Strength of facility:	278	Total Admission beds:	248
	Ward beds:	194		
	ICU beds 2nd floor:	12	ICU beds 3rd floor:	20
	Private ward:	22	Emergency (Triage):	30

<b>II</b>	<b>Statistics at a Glance</b>			
	Total attendance at ED:	71476	Average patients per day:	195
	Total admissions:	7532	Average admissions per day:	21
	Average Length of Stay:	10 days	Total follow-up OPD cases:	47310
	Average follow up OPD cases/day:	159		
	Total Deaths Registered:	868	Brought Dead Cases:	324
	Total Death (Registered–Brought Dead):	544 (868–324)	Deaths over 48 hours:	348
	Deaths under 48 hours:	196	Net Death Rate:	5%
	Gross death rate:	12%	Bed Turnover rate: 29 patients/bed	
	Bed occupancy rate:	84%		
<b>III</b>	<b>Total cases in ED:</b>	<b>71476</b>		
	Males:	46287	Females:	17381
	Male Child:	5075	Female Child:	2697
	MLC:	39768	Non-MLC:	31708
	Other:	36		
	<i>Triage category</i>			
	Green:	38630	Yellow:	23544
	Red:	5506	Black:	73
	OPD:	3684	Radiology:	39
<b>IV</b>	<b>Total Follow-up OPD Cases :</b>	<b>47310</b>		
	New:	18482	Old (Re-visit):	28828
	Male:	31662	Female:	10273
	Male Child:	3625	Female Child:	1750
	<i>Specialty-wise break-up</i>			
	Orthopaedics:	27400	Surgery:	4844
	Neurosurgery:	6829	PRS:	8141
	BPI:	96		
<b>V</b>	<b>Total Admissions:</b>	<b>7532</b>		
	Regular:	7407	Short admissions:	125
	MLC:	5367		53
	Non-MLC:	2040		72
	Male:	5406		84
	Female:	1246		28
	Male Child:	461		7
	Female Child:	292		6
	Other:	2		
	<i>Specialty-wise break-up</i>			
	Orthopaedics:	2620		7
	Surgery:	1860		38
	Neurosurgery:	2049		2
	PRS:	746		77
	Paediatrics:	132		1
<b>VI</b>	<b>Total Operations performed:</b>	<b>7458</b>		
	Major:	7297	Minor:	161
	Male:	5678	Female:	1149
	Male Child:	421	Female Child:	210
	<i>Specialty-wise break-up</i>			
	Orthopaedics:	3236	Surgery:	1825
	Neurosurgery:	1294	PRS:	1103

<b>VII</b>	<b>Total Discharges:</b>	<b>7323</b>		
	MLC:	4970	Non-MLC:	2353
	Male:	5115	Female:	1169
	Male Child:	703	Female Child:	335
	Others:	1		
	<i>Department wise distribution</i>			
	Orthopaedics:	2602	Surgery:	1840
	Neurosurgery:	1943	PRS:	806
	Paediatrics:	132		
<b>VIII</b>	<b>Days of Care:</b>	<b>76685</b>		
	Orthopaedics:	22116	Surgery:	20440
	Neurosurgery:	26618	PRS:	6241
	Paediatrics:	1270		

### **Main Medical Records Division**

In addition to above, Medical Record Section (MRS) of JPNATC which is the FIRST Govt. Hospital that started Online Registration of Deaths at NDMC since year 2008 is running successfully and also coordinating the amendments pertaining to deceased/ discharged and admitted patient after due legal procedure (name correction - 664). ICD-10 coding of all deaths reported at JPNATC which was started earlier was done online. MRS is regularly disposing of summons from various Hon'ble Courts in Delhi as well as other neighbouring states. Total 1769 (Within Delhi – 1519 and 250-outside Delhi, for Doctors & Record Clerk 1467, for Record Clerk only - 302) summons were disposed during this period. MRS is also handling various Insurance Policy matters of patients who attended JPNATC in both cases—alive or dead. Total 53 such cases were disposed during this period. During the preceding year MRS has entertained 836 police requests for Discharge records/ Bed Head Ticket and also issuing X-rays; coordinating for collection of X-rays from Radio-diagnosis unit & handing over to police. Total 978 such cases were disposed during this period. MRS is furthermore involved in issuing information (for assistance/compensation etc.) to Delhi State/ Central Govt. pertaining to the patients/victims attended JPNATC during the year. The replies of questions raised under Right to Information Act 2005 by various applicants, were also provided by MRS in 48 cases. MRS has provided the basic framework as well as continuous inputs to computer facility; so as to computerize whole registration process in a phased manner. Retrieval of case files for research purpose to faculties/residents/nursing staff/lab staff/computer facility as and when requested. Total 1167 cases were disposed.

### **Critical & Intensive Care**

Approximately 700 patients were admitted in Trauma 2 ICU (including readmissions) and 104 haemodialysis sessions were performed. A 6-bedded high dependency unit is also run which provides additional ventilated beds in times of disaster and mass casualty event.

### **Forensic Pathology and Molecular DNA Laboratory**

#### **A. Emergency Services:**

Division of Forensic Pathology and Molecular DNA Laboratory at JPNATC is providing round-the-clock medico-legal services like in cases of injury, sexual offences etc reported to Emergency Services of JPNATC.

#### **B. Autopsy Services**

A total of **818** medico-legal autopsies were conducted at mortuary of JPNATC.

#### **C. Clinical Forensic Medicine**

Subsequent opinions in complicated cases including reference from Casualty etc. were **335** cases at JPNATC.

#### **D. Summons**

Doctors of the Division attended court of law in cases from Delhi and other states.

#### **E. Medical Toxicology**

About **67** sample tests were performed for blood alcohol referred from the Emergency Department in academic/ research cases.

#### **F. Forensic Pathology in collaboration with Department of Laboratory Medicine**

Total samples of **75** cases were processed and reported during this period.

## G. Community Services

The Division continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.

## H. Organ Retrieval for Therapeutic Transplantation

The Division of JPNATC facilitated eye donation, heart valve donation and organ retrieval in brain dead trauma patients for transplantation by National Eye Bank and ORBO.

## I. DNA Laboratory

The division is in process of Establishing Molecular DNA Laboratory at JPNATC as a part of Disaster Victim Identification.

### Laboratory medicine

**Total Tests done: 13,06,229**

#### 1. Haematology

Hemoglobin, TLC, Differential Count, HCT, RBC, MCH, MCHC, MCV, RDW, Platelet Count:			51924 each
Reticulocyte count:	32	ESR:	4727
Peripheral smear and MP:	3811		
<b>Total:</b>	<b>5,27,806</b>		

#### Coagulation

PT and APTT:	29532 each	TT:	10
Fibrinogen:	20	D-dimer:	45
Thromboelastography (TEG):	597		
<b>Total:</b>	<b>59,736</b>		

#### Clinical pathology

Urine routine and Microscopy:	3460	Urine myoglobin:	927
CSF microscopy:	938	Fat globules:	20
<b>Total:</b>	<b>5345</b>		

**Total tests done in haematology section: 5,92,887**

#### 2. Biochemistry

Sugar:	16006	Urea:	53253
Creatinine:	53540	Calcium:	52251
Phosphorous:	51732	Uric Acid:	48841
Total and direct bilirubin:	44261 each	Sodium and potassium:	53511 each
Total protein, albumin, SGOT, SGPT and ALP:	43586 each		
Cholesterol:	6904	Amylase:	5825
HDL:	641	LDL:	543
TG:	1049	VLDL:	1049
CK:	30	CRP:	3666
Mg:	3586	Lipase:	50
CK-MB:	10	CSF Sugar and protein:	644 each
Peritoneal fluid sugar:	8	Peritoneal fluid Protein:	3
Ascitic Fluid Protein:	6	Pleural Fluid Sugar:	1
Pleural fluid Amylase:	2	Pleural Fluid Protein:	2
Urinary spot sodium:	292	Urine Ca:	3
Urinary creatinine:	70	Peritoneal fluid amylase:	11
24 hours urine protein:	14	24 hours urine sugar:	14
Urine osmolality:	162	Serum osmolality:	68
Drain fluid amylase:	45	Lactate :	14
Phenytoin:	5		

#### ABG

PO<sub>2</sub>, PCO<sub>2</sub>, PH, H<sup>+</sup>, Potassium (K), Sodium (Na), Calcium (Ca), CL: 5500 each

**Total tests done in Biochemistry section: 7,13,405**

### 3. Histopathology

Specimens processed:	837	No. of blocks:	1772
No. of histopathology slides:	1817	Immunohistochemistry slides:	711
Cytology slides:	155		

### 4. Microbiology

Total Culture	19,984	HIV (Spot+Vidas)	4,341
Positive	5,842	HBsAg (Spot+Vidas)	4,345
Sensitivity	5,842	HCV	2,178
Procalcitonin	2,206	Hospital Infection Control	5,739

### Blood Bank

Month	Donor screened	Donor bled	Replacement donors			Voluntary donors			Indoor voluntary donor	Outdoor voluntary donor
			Males	Females	Total	Males	Females	Total		
Apr 19	882	675	574	4	578	93	4	97	97	Nil
May 19	1063	836	731	8	739	90	7	97	97	Nil
June 19	998	794	672	2	674	112	8	120	120	Nil
July 19	1405	1147	857	20	877	245	24	269	123	146
Aug 19	1054	856	635	9	644	207	5	212	111	101
Sep 19	953	723	644	3	647	81	35	116	77	39
Oct 19	1128	891	767	9	778	103	3	106	106	Nil
Nov 19	1032	855	693	8	701	145	9	154	119	35
Dec 19	1018	843	730	12	742	96	5	101	101	Nil
Jan 2020	1060	886	740	7	747	134	5	139	96	43
Feb 2020	1067	853	737	8	745	104	4	108	108	Nil
Mar 2020	748	578	503	5	508	65	5	70	70	Nil
<b>Total</b>	<b>12408</b>	<b>9937</b>	<b>8283</b>	<b>95</b>	<b>8380</b>	<b>1475</b>	<b>114</b>	<b>1589</b>	<b>1225</b>	<b>364</b>

No. of voluntary blood donation camps: 5

### Component Separation Laboratory

Item prepared	Units
Total packed RBC prepared	9937
Total fresh frozen plasma prepared	9659
Total platelets prepared	8746
Total cryoprecipitate prepared	662

### Infectious Marker Laboratory and Donor Counselling

Month	HIV		HBsAg		HCV		VDRL		MP	
	Done	reactive	done	reactive	Done	reactive	Done	reactive	done	reactive
Apr 19	637	0	642	13	641	4	636	0	636	0
May 19	872	0	878	12	878	4	870	3	870	1
June 19	775	3	780	9	780	7	776	3	773	0

July 19	1164	1	1176	10	1172	9	1162	1	1160	1
Aug 19	869	1	875	8	875	6	863	4	863	0
Sep 19	767	2	767	9	771	2	762	2	759	0
Oct 19	898	1	902	12	903	8	893	2	893	0
Nov 19	874	1	880	12	879	7	874	4	870	0
Dec 19	832	1	838	22	842	10	832	0	831	0
Jan 2020	990	1	941	17	947	4	910	2	858	0
Feb 2020	1202	0	1156	9	1166	9	1075	3	976	1
Mar 2020	669	1	629	7	634	4	607	4	562	0
<b>Total</b>	<b>10549</b>	<b>12</b>	<b>10464</b>	<b>140</b>	<b>10488</b>	<b>74</b>	<b>10260</b>	<b>28</b>	<b>10051</b>	<b>3</b>

### Emergency Issue Counter

Month	No. of PRBC issued	FFP Issued	PRC Issued	Cryo Issued
Apr 19	890	632	585	59
May 19	792	517	598	43
June 19	938	739	683	82
July 19	1012	614	841	73
Aug 19	910	515	711	42
Sep 19	812	389	560	42
Oct 19	925	551	651	42
Nov 19	853	1221	701	28
Dec 19	857	779	713	17
Jan 2020	898	650	603	22
Feb 2020	954	574	774	81
Mar 2020	1161	1132	578	16
<b>Total</b>	<b>11002</b>	<b>8313</b>	<b>7998</b>	<b>547</b>

### Blood and Components issued to other Hospital Blood Bank (Main AIIMS, CNC, GB Pant, LNJP Hospital, ESI Hospital, Dr. Hedgewar)

Month	Blood		FFP		PRC		Cryoprecipitate	
	Issued	Received	Issued	Received	Issued	Received	Issued	Received
Apr 19	127	35	170	0	0	49	0	0
May 19	15	11	60	0	0	0	0	0
June 19	15	11	230	0	0	32	0	0
July 19	38	0	60	0	0	0	0	0
Aug 19	0	45	0	0	0	56	0	0
Sep 19	77	0	0	0	0	20	0	0
Oct 19	0	33	40	0	15	0	3	0
Nov 19	19	19	764	0	34	79	0	0
Dec 19	20	28	75	0	40	10	0	0

Jan 20	30	38	190	0	50	0	0	0
Feb 20	78	496	50	0	108	172	0	0
Mar 20	495	3	865	0	260	0	0	0
<b>Total</b>	<b>1589</b>	<b>719</b>	<b>2504</b>	<b>0</b>	<b>507</b>	<b>418</b>	<b>3</b>	<b>0</b>

### Investigations done in Radiology

Month	CT Scan	USG	MRI	Casualty X-Ray (NMLC)	Casualty X-Ray (MLC)	OPD X-Ray	Ward X-Ray	Portable X-Ray	Fluoro	DSA
<b>April, 2019</b>	1939	2229	89	3121	2157	1409	143	1342	25	6
<b>May, 2019</b>	2421	2738	97	3415	2717	1332	195	1682	22	20
<b>June, 2019</b>	2136	2445	83	3415	2582	1170	179	1540	11	9
<b>July, 2019</b>	2107	2362	99	3785	2473	1271	284	1578	21	10
<b>Aug, 2019</b>	2018	2717	98	3777	2772	1020	215	1576	32	14
<b>Sept, 2019</b>	2212	3056	111	4349	2753	1245	189	1488	10	5
<b>Oct, 2019</b>	2551	3272	122	4242	2997	1337	209	1686	15	15
<b>Nov, 2019</b>	2247	3081	123	3661	2670	1266	232	1667	32	17
<b>Dec, 2019</b>	2192	2751	92	3477	2305	1345	246	1751	21	7
<b>Jan, 2020</b>	2475	2920	111	3786	2282	1405	246	1684	19	12
<b>Feb, 2020</b>	2406	2944	94	3829	2520	1234	241	1777	21	7
<b>March 2020</b>	1741	2210	80	3550	2500	841	132	1521	12	5
<b>Total</b>	<b>26445</b>	<b>32725</b>	<b>1199</b>	<b>44407</b>	<b>30728</b>	<b>14875</b>	<b>2511</b>	<b>19292</b>	<b>241</b>	<b>127</b>

### AWARDS HONORS & SIGNIFICANT EVENTS

**Professor Rajesh Malhotra** received best paper award for the paper entitled: “Influence of Etiology and Onset of Deformity on 3D Gait Pattern of Patients with Complex Spinal Deformity” during the 3rd International Conference on Spine & Orthopaedic Biomechanics on 26-28 April 2019 at New Delhi; Awarded IMA Doctor’s Day Award 2019 for Most Distinguished Services during the Doctor’s Day Celebration on 1 July 2019 at IMA, New Delhi; Awarded the CME Educator Award (Individual) during CME Excellence Summit and Awards with media partner CNN News 18 at New Delhi on 7 August 2019; Awarded First Prize in the Exhibition Category- Universal Healthcare during 64th Foundation Day Celebration at AIIMS, New Delhi on 25 September, 2019; Awarded First Prize for Hindi Dictation during the Hindi Week Celebration at AIIMS, New Delhi from 2 September to 14 September 2019.

**Dr Abhinav Kumar** chaired the session in “Trauma 2019” 9th National Conference of Indian Society for Trauma & Acute Care, organized by Department of Trauma Surgery, King George Medical University, Lucknow (29-30 August 2019); Participated as Faculty at pre conference workshop on “Essential Surgical Skills to Manage Acutely Injured Patient” organized by Department of Trauma Surgery, King George Medical University, Lucknow (30 August 2019); Conducted workshop as faculty on “Basic Skills in Ultrasound for Surgeons” during Annual Conference of ASI – Rajasthan Chapter on 18 October 2019; Conducted workshop as faculty on “VATS for General Surgeons” during Annual Conference of ASI – Rajasthan Chapter on 18 October 2019; Successfully Completed ATLS Instructor Course of American College of Surgeons on 3-4 November 2019; Organized Pre conference “Trauma Mater Class: Gusty Decision Making Under pressure” for 10th Asian Conference on Emergency Medicine (ACEM 2019) on 5-6 November 2019; Conducted Cadaveric Workshop as part of National Conference of American College of Surgeons – India Chapter (ACSCON 2020) on 1 January 2020; Awarded as the Fellow of American college of Surgeons (FACS) in 2019; Instructor faculty of EUSIM. SAFER Netherland; Developed a training skill module “Advanced Surgical skill module” for residents in surgical disciplines and successfully conducted two rounds of the module at SET facility AIIMS, ND; National Coordinator of the Multi Institutional Learning and practice (MILAP) academic session; Member of Ethical Committee of International Center for Genetic Engineering & Biotechnology (ICGBE) ND.

**Professor Amit Gupta** was Awarded the Donald D Trunkey Oration of the International Association of Trauma Surgery & Intensive Care (IATSIC): Delivered at the 48th World Surgery Congress on 14 August 2019 at Krakow, Poland; Awarded the JAST 2019 International Invited Lecture: Delivered at the 33rd Annual meeting of Japanese Association for the Surgery of Trauma on 6 June 2019 held at Aomori, Japan; Re-elected Honorary Secretary: Indian Society for Trauma and Acute Care – ISTAC®. August 2019 – 2021; Visiting Professor: Department of Trauma Surgery and Critical Care, All India Institute of Medical Sciences, Rishikesh. July 2019 – till date; Expert: To develop future Trauma Education Programs at All India Institute of Medical Sciences, Raipur. March 2020 – to date; Member, International Relations Committee: American Association for Surgery of Trauma (AAST), American College of Surgeons – Committee on Trauma, USA 2018 – Till date; Member: Technical sub-committee for developing National Trauma System Plan, Dte. General of Health Services, MoHFW, Govt. of India. 2014 – till date; Regular Member: H-1 Committee: Transport Planning, Traffic Engineering of the Indian Roads Congress 2015-till date; Member Technical Resource Group: for Finalization of Minimum Standards for Trauma Care Facilities in India. Trauma & Burns Care Division, Ministry of Health and Family Welfare, Govt. of India. 2018 – till date; Member Expert Group: For development of materials under the IEC activities of National Programme for Trauma Care, Ministry of Health and Family Welfare, Govt. of India. 2018 – till date; Member: Steering Committee for commissioning of Trauma Centre at SGPGI Lucknow. 2018 Onwards – till date; Member: Experts Group NIHF, for the Course on Hospital preparedness for Health Emergencies for Senior Hospital Administrators. 2018 – till date; Member: Experts Group NIHF, for the Training on Hospital preparedness for Health Emergencies for District Health Officers. 2018 – till date; Member, Medical board for Medical/Psychological Examination at AIIMS for Antarctic Expedition Team. 2016 – till date; Member, Committee on Hindi Rajbhasha at Jai Prakash Narayan Apex Trauma Centre, AIIMS, New Delhi. 2016 – till date.

**Dr Ashish Bindra** is Organizing Secretary for AIIMS Neuroanesthesia Neurocritical Care Update from 18th to 20th October 2019 at JL Auditorium, All India Institute of Medical Sciences, New Delhi; Organized AIIMS- AIM P, Cadaveric Interventional Pain Management Workshop on 22 October 2019 at Cadaveric Training and Research Facility, JPNA Trauma Centre, New Delhi.

**Professor Atin Kumar** was Elected as President Elect of Delhi State Chapter of Indian Radiological and Imaging Association; Elected as Governing body member of Indian College of Radiology and Imaging; National Leadership Award by Delhi state chapter of Indian Radiological and Imaging Association; Organising Secretary of AIIMS-MAMC-PGI Imaging Course Seried on Advances in Imaging Technology held at AIIMS, New Delhi from 5 to 6 April 2019.

**Professor Biplab Mishra** is External Expert & Visiting Professor in Capacity building collaborative programme for General Thoracic Surgery with AIIMS, Rishikesh; Internal examiner for MCh examination of Trauma Surgery and Critical Care at AIIMS, New Delhi; Internal examiner for MBBS examination (Pre-professional and final) at AIIMS, New Delhi; Reviewer of articles for BMC-Emergency Medicine journal; Reviewer of articles for Case reports in Radiology.

**Professor Deepak Gupta** received PhD degree for: Development and Validation of Finite Element Analysis Model (FEM) of Craniovertebral Junction: Experimental Biomechanical Cadaveric Study ( AIIMS-IIT Joint study) : First faculty member (in service) from Dept of Neurosurgery to receive PhD in Neurosurgery; Elected as Member of National Academy of Medical Sciences (NAMS) September 2019; Jaga Balia Craniopagus twins were successfully discharged after 2 years of stay at AIIMS and sent back to their home state in Odisha on 6th Sept 2019: This was first successfully surgery on Craniopagus twins from India wherein both children survived. Surgical team of 125 members for separation surgery was led by Dr Deepak Gupta and Dr AK Mahapatra jointly; Featured in featured in the 2020 edition of Limca Book of Records. First craniopagus surgery: A team of 125 doctors and paramedical staff, led by Dr Deepak Kumar Gupta and Dr Ashok Kumar Mahapatra, from the Department of Neurosurgery at AIIMS, New Delhi, successfully separated 28-month-old twins Jaggia and Kalia, who were joined to each other at the cranium. The complex surgery was conducted in two stages, on 28 August 2017 and 25 October 2017. [Hachette Book Publishing India Pvt Ltd, lbr.entries@hachetteindia.com]; Invited as Guest for Swearing-in Ceremony of the Hon'ble Chief Minister, Odisha and the members of the Council of Ministers, on 29.05.2019 at 10.30 AM at the IDCO Exhibition Ground, Unit-3, Bhubaneswar, Odisha; Selected as Adjunct Professor for Indian Institute of Technology ( IIT, Delhi) 2020-2022.

**Dr Dinesh Kr Bagadia** is International Member: Eastern Association for the Surgery of Trauma (EAST); Member: Doctoral Committee for Ph. D. thesis in Div. of Trauma Surgery & Critical Care; Medical expert: faculty meets on basic training on CBRN Emergency Management (EM) for airports and seaports by NDMA; Medical Expert: 31st National Road Safety Week Paper Presentation by Ministry of Road Transport and Highways (MoRTH) and Indian Road Safety Campaign, Solve; Faculty: Trauma First Responder training at National Road Safety Week organised by Ministry of Road Transport and Highways and Indian Road Safety Campaign; Medical expert: Paper Presentation on road safety organized by World Health Organization and Indian Road Safety Campaign; Faculty: Trauma Master Class in 10th Asian conference of emergency medicine; Faculty: Annual Conference of the Association of Surgeons of India - Rajasthan Chapter, at AIIMS, Jodhpur; Medical expert: Shanghai cooperation organization (SCO) joint exercise on urban earthquake search

and rescue for all SCO member countries by NDRF; Participated in endoscopy workshop in IASGCON 2019; Participated in ATLS Instructor course, at Dr. RML Hospital & ABVIMS, New Delhi; Faculty: Trauma First Responder training at Road safety stalls at “Paryatan Parv” installed by Ministry of Road Transport and Highways; National Convener: Multi Institutional Learning and Practice (MILAP) academic session; Completed BLS and ACLS Provider Course; Member: Association of Surgeons of India; Participated in Basic Course Workshop in Medical Education & Health Profession’s Education at CMET, AIIMS, New Delhi.

**Dr Gyaninder P Singh** was awarded the “Outstanding Scientist Award in Anaesthesiology” by Venus International Research Award (VIRA-2019) at Chennai on 3 August 2019; Awarded Certificate of Appreciation for contribution in the e-skill modules development at SET Facility, AIIMS; Appointed Assistant Editor for Journal of Neuroanaesthesiology and Critical Care.

**Dr Keshav Goyal** was appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anesthesiology; Advanced Trauma Life support (ATLS) Instructor Recertification, April 2019; Emergency Neurological Life Support (ENLS) Instructor Recertification; Course director cum National Coordinator of 1st Acute Neuro Care (ANC) affiliated by National society (ISNACC) 2019 at PGIMER Chandigarh and Yashoda Hospital, Hyderabad; Member of Trainee Engagement Committee of SNACC, USA; Reviewer of International Journal of Respiratory and Pulmonary Medicine.

**Dr Narender Choudhary** chaired the session in “Trauma 2019” 9th National Conference of Indian Society for Trauma & Acute Care, organized by Department of Trauma Surgery, King George Medical University, Lucknow. (29-30 August 2019); Participated as Faculty at pre conference workshop on “Essential Surgical Skills to Manage Acutely Injured Patient” organized by Department of Trauma Surgery, King George Medical University, Lucknow. (30 August 2019); Participated as a member of Urban Research and Rescue (USAR) INDIA Team capacity assessment mission under National Disaster Response Force (NDRF) from 24 to 27 September 2019; Conducted workshop as faculty on “Basic Skills in Ultrasound for Surgeons” during Annual Conference of ASI – Rajasthan Chapter on 18 October 2019; Successfully Completed ATLS Instructor Course of American College of Surgeons on 3-4 November 2019; Organized Pre conference “Trauma Mater Class: Gusty Decision Making Under Pressure” for 10th Asian Conference on Emergency Medicine (ACEM 2019) on 5-6 November 2019; Conducted Cadaveric Workshop as part of National Conference of American College of Surgeons – India Chapter (ACSCON 2020) on 1 January 2020.

**Dr Navdeep Sokhal** received Best paper award for the poster “Comparison of propofol and ketofol on transcranial motor evoked potentials (TcMEPs) in patients undergoing thoracolumbar surgery” presented by a student in ISNACC 2020 in Chennai; Course Director-Successfully organized “AIIMS Critical Care Course for Interns” as Course Director on 8-9th December 2018. In this course interns and residents were trained for various lifesaving skills like basic and advanced cardiac life support, airway management, vascular access and cricothyrotomy on mannequins and were taught basic concept of critical care management.

**Dr Niraj Kumar** is pursuing fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi for the session January 2019; Instructor (Faculty) of –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS, AIIMS cadaver airway; As a faculty of ORBO team facilitates knowledge, awareness amongst the hospital staff and also actively involved in procedures related to organ procurement.

**Professor Purva Mathur** won First Prize in Best Free poster Award of Indian Association of Medical Microbiologist: “Antimicrobial consumption in intensive care unit patients at Level-1 trauma in India”. Singh P, Katyal S, Pandey S, Dhyani N, Khatri S, Walia K, *Mathur Pat* 2nd Chapter meeting of IAMM 2019, Delhi Chapter, India Habitat Center, New Delhi on 20 July 2019; Won Dr. Shrinivas Award for outstanding scientific work in antibiotic susceptibility testing in Oral & Poster presentations: “Molecular & Clinical Epidemiology of Colistin Resistant *Klebsiella pneumoniae* at an Apex Trauma Patients”. Khurana S, *Mathur P*, Veeraraghavan B, Kumar S, Sagar S, Aggarwal R, Soni K D, Malhotra R at 2nd Chapter meeting of IAMM 2019, Delhi Chapter, India Habitat Center, New Delhi on 20 July 2019; Won 2nd Prize in Abstract presentation: “Trends of Infection control Measures and their Impact on Incidence of Ventilator Associated Pneumonia in a Neuro-Trauma ICU over a period of 5 year”. Dhakal R, Victor D, Gunjiyal J, Singh P, Bajpai P, Lathwal A, *Mathur P*, Malhotra R at AIIMS Neuroanesthesia & Neurocritical care update 2019 on 19 October 2019.

**Dr Pratyusha Priyadarshini** is Faculty incharge of Academic roster of residents in division of trauma surgery and critical care; Also faculty incharge of internal assessment of residents in division of trauma surgery and critical care; Developed a training skill module “Advanced Surgical skill module” for residents in surgical disciplines and successfully conducted two rounds of the module at SET facility AIIMS, ND; National Coordinator of the Multi Institutional Learning and practice (MILAP) academic session; Participated as faculty in consensus meeting to formulate ISTAC guidelines for solid organ injury management in New Delhi.

**Professor S Arulselvi** received Patient safety champion award for “*Quality Improvement of the Laboratory Handover Process to Improve Patient Care*” on occasion of Quality & Accreditation Institute Celebrating: “1st World Patient Safety Day: SPEAK UP FOR PATIENT SAFETY!” on 17 September 2019 for demonstrating patient safety culture in actions. (Certificate No.: QAI-WPSD-017); Co-authored a Paper presentation on a study “TEG Versus Conventional Coagulation Tests in Liver Trauma: A comparison of TEG in cases.” in ISTH-ILBS Symposium on coagulopathy in liver disease 2019 organized by International Society of Thrombosis and Hemostasis and Department of Hematology, Institute of Liver and Biliary Sciences, A.P.J. Abdul Kalam Auditorium, ILBS, New Delhi on 2nd and 3rd March 2019 and won the first Paper award; Co-authored a Paper presentation on a study “Comparison of conventional coagulation parameters, thromboelastography and flow cytometry methods to study the improvement in platelet function in thrombocytopenic trauma patients post platelet transfusion” in 30th Annual Conference, Delhi Society of Hematology (DSH), Hotel Holiday Inn New Delhi - 110037, India on 15 September 2019 and won the second best paper award.

**Dr Samarth Mittal** was elected as the Executive committee member of Indian Orthopaedic Association which is the national Orthopaedic association of India; Elected as executive member of Delhi Orthopaedic Association for representing south Delhi; Elected as Treasurer of APOA (Asia Pacific Orthopaedic Association) YSF India Chapter; Selected as a part of delegation from AIIMS to study Trauma systems in Japan; Continued as Associate Editor of JCOT (Journal of Clinical Orthopaedics and Trauma) which is the official journal of Delhi Orthopaedic society and is a Pubmed Indexed journal; Awarded the 2nd Prize for best podium presentation at BIOS (British Indian Orthopaedic Society) conference held in Leicester, UK on 28-29 June 2020; Completed the prestigious IOA- BIOS – UK Junior fellowship in June 2019 in London, UK; Nominated for Imparting first aid training under national Programme for trauma care; Awarded second prize in the prestigious DR ROBERT BAUZE TRAUMA GOLD MEDAL for best paper presentation in 7th Congress of the Asia Pacific Trauma Society & 1st Scientific Meeting of the APOA Foot & Ankle in Bangkok, Thailand; Won best prize for best Oral presentation at APOA Young Surgeon’s Forum 2020 in Varanasi, UP, India on 19 January 2020.

**Professor Subodh Kumar** was awarded International Fellowship of American Association for the Surgery of Trauma (AAST), USA 2019; Nominated as Vice President of Indian Society for Trauma & Acute Care (ISTAC) 2019 during TRAUMA 2019 at Lucknow; Nominated as Visiting Professor in Department of Trauma Surgery at All India Institute of Medical Sciences, Rishikesh 2019; Nominated as the Co-Chair of the Trauma/ ICU specialty committee for seamless implementation of AB PM-Jay Scheme by the National Health Authority, Govt. of India; Invited as visiting faculty for delivering a lecture on the occasion of first anniversary of Apex Trauma Centre, SGPGI on 31 July 2019 by Sanjay Gandhi Post Graduate Institute of Medical Science (SGPGIMS) Lucknow; Nominated as member of Institute Ethics Committee of All India Institute of Medical sciences, New Delhi, 2019; Invited as member of Scientific Advisory Group (SAG) of National Biopharma Mission (NBM) by Department of Biotechnology, Govt. of India; Appointed as Managing Editor of Indian Journal of Surgery official journal of Association of Surgeons of India; publisher Springer.

**Professor Sushma Sagar** was Member of Expert Group, “Development of First Aid for the Community”, a WHO project in association with the Ministry of Health and Family Welfare; Invited as Judge for Paper Presentation on Road Safety on 27 December 2019 at IIT, New Delhi; Appointed as Visiting Professor in Department of Trauma Surgery at AIIMS, Rishikesh, 2019 onwards; Appointed as Principal Secretary’s nominee for hospital based authorization committee of Transplantation of organs and tissues, Govt. of NCT Delhi 2019-2020.

**Professor Vivek Trikha** was awarded the Prestigious Dr Balu Sankaran Oration for Basic Science and Orthopaedics Research in IOACON 2019 November, at Kolkata; Member Editorial Board of Indian Journal of Orthopedics national Journal of Indian Orthopedic Association; Associate Editor of Journal of Clinical Orthopedics & Trauma.

## 10.6. National Drug Dependence Treatment Centre

### Professor and Chief

Rakesh K Chadda

### Professor

Rakesh Lal

Raka Jain  
Sonali Jhanjee

Anju Dhawan  
Atul Ambekar

### Additional Professors

Ravindra Rao  
Gauri Shanker Kaloiya

Yatan Pal Singh Balhara  
Rachna Bhargava

Ashwani K Mishra  
Prabhoo Dayal

### Associate Professors

Alok Agrawal

Biswadip Chatterjee  
Siddharth Sarkar

Rizwana Quraishi  
Piyali Mandal

### Assistant Professors

Roshan Bhad

Shalini Singh

### Scientist

Monica Mongia

### Medical Social Service Officer

Braham Prakash  
Ratnesh Kumar

Deepak Yadav  
Dinesh Kumar

### Senior Administrative Officer

Renu Bharadwaj

### Accounts Officer

Meenakshi Dabral (up to June 2019)

Prem Pal (from June 2019)

### Medical Records Officer

Harish Chander

### Assistant Nursing Superintendent

Beena Rawat

### Assistant Store Officer

Yatendra Kumar Meena

## HIGHLIGHTS

NDDTC continues to be the WHO Collaborating Centre on Substance Abuse since 2012. In addition to patient care, the centre has progressed with regard to treatment, training and research in area of substance use disorder. A total of 3,02,416 patients were seen: 13,413 new patients and 2,89,003 old patients inclusive of regular OPD, 3 community clinics, Mobile Methadone Clinic and 5 speciality clinics. The NDDTC laboratory attended to more than 150,000 tests during the year in its toxicology, haematology, biochemistry and HIV screening labs. The laboratory has currently the facility to detect 14 types of addictive substances.

From 25 November 2019 NDDTC has initiated 'Consultation Liaison Addiction Psychiatry' services to improve services for addictive disorders in medically ill patients. The CL Addiction Psychiatry services have started an exclusive outpatient service from psychiatry OPD every day in the forenoon where all patients of addictive disorders referred from other departments would be seen. Similarly, inpatient services are provided through management of addictive disorders in patients admitted in other departments of AIIMS.

Some major ongoing activities of NDDTC involve: Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India, funded by the Department of Revenue, Ministry of Finance, Government of India, conducting "training of trainers" workshops for nursing personnel in Delhi and other regions of India funded by MOH & FW. NDDTC continued with the Adverse Drug Reactions Monitoring Centre for the Pharmacovigilance Programme of India.

Many faculty members are technical experts and also holding key positions in national and international professional bodies and editorial boards in prestigious peer reviewed journals. Several faculty members are recipient of professional honors and awards.

The faculty of the Centre are actively involved in research. Currently, many National and International agencies are funding ongoing research projects in the centre. More than 69 research articles and 8 abstracts in peer reviewed national and international journals of repute and chapters in various books/reports have been published during this period.

NDDTC also offers PhD in Addiction Psychiatry. One student was awarded PhD in Addiction Psychiatry in April 2019. The centre is also running Doctorate of Medicine (DM) course in Addiction Psychiatry. Currently, 6 PhD students and 13 DM students are enrolled for the degree.

The 16th Annual Day of National Drug Dependence Treatment Centre was celebrated at NDDTC, Ghaziabad on 16th April 2019. The findings of the recently conducted “2nd National Drug Use Survey of India” were presented and a book entitled “Basics of Addiction Psychology” was also released on this occasion.

Shri Jai Pratap Singh, Minister of Excise & Liquor Prohibition, UP State, visited the Centre on 26 June 2019, **International Day Against Drug Abuse.**

A public lecture “Dealing with Addiction” was organized on 26 June 2019 on the occasion of the **International Day Against Drug Abuse.**

NDDTC day care exhibit got the third prize on the occasion of 64th Institute Day Exhibition and Award function 2019.

National Drug Dependence Treatment Centre (NDDTC) and the Department of Psychiatry organized the 21st Annual Conference of the International Society of Addiction Medicine (ISAM 2019), New Delhi (13-16 November 2019). The Theme of the conference was “Addiction in a Rapidly Changing World”. The conference was attended by more than 500 delegates from 37 countries.

## **EDUCATION**

### ***Undergraduate***

MBBS students are posted for a day in the centre during their Psychiatry posting.

### ***Postgraduate***

Residents doing MD (Psychiatry) are posted in the centre for 6 months. Eleven candidates are doing DM in Addiction Psychiatry.

### ***PhD and Postgraduate teaching***

- \*Journal club -Weekly joint activity with psychiatry
- \*CCR and CGR two in every semester at AIIMS

Seminar- Weekly

Case Conference- Weekly

Seminars/ Journal Club

*\*Joint activities of the Department of Psychiatry and the Centre*

## **CMEs/Workshops/Symposia/National and International Conferences**

1. NDDTC and Department of Psychiatry, AIIMS, New Delhi organized an International Conference titled “21st Annual Conference of the International Society of Addiction Medicine (ISAM 2019)”, New Delhi, 13-16 November 2019.
2. NDDTC conducted three National workshops “Training of Trainers” for nursing personnel in Delhi and other regions of India funded by MoHFW (28 September-5 October 2019 and 28 November-5 December 2019 at AIIMS, New Delhi and 20-27 January 2020 at LHMC & Kalawati Hospital, New Delhi).
3. NDDTC also organized two one-day workshops, first on 17 February 2020 for delegates from Holy Family Hospital, Defence Ministry and RAK College of Nursing, and second on 9 March 2020 for PG students Nursing from AIIMS at NDDTC Ghaziabad.





### Lectures delivered

**RK Chadda** (Please see chapter 9.34)

### Raka Jain

1. Effect of hydro-alcoholic extract of *Delphinium denudatum* (Jadwar) on nicotine withdrawal in nicotine dependent rats Society of Research for Nicotine and Tobacco (SRNT) Europe 12-14 September 2019, Oslo, Norway
2. Drug Dependence and its problem: Detection of Drugs of Abuse in Biological Fluids for PG (MSc) students of Forensic Science LNJN National Institute of Criminology & Forensic Science 6 September 2019, NDDTC, Ghaziabad
3. Role of Lab-investigations in SUD National workshop on training of trainers for nurse educators 3 October 2019, Ghaziabad
4. New Psychoactive Substances: Diagnostic issues and challenges in detection, Symposium entitled: Challenges in Alcohol and Substance Use Testing in De-addiction Programs, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
5. Analytical approaches for testing drugs in substance use disorder: An overview, Workshop entitled: Advances in Analytical Methods for Detection of Alcohol and Substance Use in Biological Matrices, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
6. Role of Lab investigations in treatment of SUD, National Workshop on training of trainers for nurse educators, 4 December 2019, Ghaziabad
7. Point of Care Devices for testing Drugs of Abuse in De-addiction Programs: Limitations and Pitfalls Indo-Pacifc Association of Law, Medicine and Science (INPALMS) Congress 2019, 9-13 December 2019, Dhaka, Bangladesh
8. Critical Issues in Alcohol and Drugs of Abuse Testing in De-addiction Programs 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS 2020) 22-25 January 2020, Kolkata
9. Role of Lab investigations in treatment of SUD, National Workshop on training of trainers for nurse educators, 25 January 2020, LHMC & Kalawati Hospital, New Delhi
10. Role of Laboratory Services Training Program for MSc Students "Holy Family College of Nursing", 19 February 2020, NDDTC Ghaziabad
11. Biochemical Assessment of Tobacco use in Routine clinical care Training on Tobacco Cessation Interventions in Oncology Practice, 11 March 2020, Jhajjar

### Rakesh Lal

1. Ethics in Medical Practice UKRSSDICON, 6 May 2019, Rudrapur
2. Workplace Intervention TATA motors, 7 May 2019, Rudrapur
3. Recent advances in tobacco control National Conference on Tobacco and lung health 31 May 2019, New Delhi
4. Naltrexone implant in Addiction Psychiatry, 21st International Society of Addiction Medicine (ISAM 2019), 13 November 2019, New Delhi
5. Expanding access to evidence-based treatment of Stimulant Use Disorder, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
6. New Psychoactive substances, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
7. Alcohol Policies: What is the impact? 21st International Society of Addiction Medicine (ISAM 2019), 17 November 2020, New Delhi

8. Ethics in Medical Practice, CMC Alumni Meeting, 17 January 2020, Dubai
9. Psychiatric comorbidity among Substance Users in India, UNODC Meeting, 2 March 2020, Vienna, Austria

#### **Anju Dhawan**

1. Symposium on Intervention for Substance Use Among Adolescents across Settings, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
2. Symposium by ISAM Education and Training Committee: Training and Education in Addiction Medicine: global overview and state of affairs, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
3. Addressing addiction among street children, 21st International Society of Addiction Medicine (ISAM 2019), 16 November 2019, New Delhi
4. Working with Drug Use in Adolescents National CME on Addictive disorders by Bombay Psychiatric Society, Indian Psychiatric Society Addictive Disorders Specialty Subsection, 5 January 2020, Mumbai

#### **Sonali Jhanjee**

1. Smokeless tobacco characteristics and related cultural myths amongst disadvantaged women in India SRNT Europe Conference, 12-14 September 2019, Oslo, Norway
2. Co-existence of Harm Reduction and Punitive Justice Addiction Treatment Programs: Experience from India, 21st International Society of Addiction Medicine (ISAM 2019), 13 November 2019, New Delhi
3. The e-cigarette debate: The Indian perspective, 21st International Society of Addiction Medicine (ISAM 2019), 13 November 2019, New Delhi
4. Scope and rationale of Internet based tobacco Cessation interventions, 26th National Conference of the Indian Association for Social Psychiatry, 1 December 2019, Bhubaneswar
5. An overview of tobacco use and vulnerable populations, 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 24 January 2020, Kolkata

#### **Atul Ambekar**

1. Epidemiology of Substance Use in India National CME of Society for Rural Mental Health, 21 April 2019, Hisar
2. Magnitude of Substance Use in India. South Asia Regional Consultation on Drug Use organized by United Nations Office on Drugs and Crime (UNODC), 24 April 2019, New Delhi
3. Preventing Substance Use: What Works, What doesn't, Annual CME of Indian Psychiatric Society – West Zone, 27 April 2019, Nashik
4. Drug Use in India: What role could police play? Orientation program on National Action Plan for Police key coordinators organized by the NISD, MOSJE, Govt of India, 18 June 2019, New Delhi
5. Drug Use in India: What role could police play? Training of Delhi Police Officers organized by the State training Centre – Delhi Police, 9 and 11 July 2019, New Delhi
6. Substance Use situation in India: Evidence-informed prevention strategies National workshop on Substance Use Prevention for State Council of Education Research and Training (SCERTs) organized by the NCERT, 2 August 2019, New Delhi
7. Substance Use and Sexual Dysfunction, National Mid Term CME of Indian Psychiatric Society, 10 August 2019, Mysore
8. Substance use among Students: An Overview, Awareness program for school teachers, 18 August 2019, Mathura
9. Size estimation of Injecting Drug users in India, Meeting of Technical Experts organized by NACO, Govt. of India, 26 August 2019, New Delhi
10. Integrated Package of Services for Injecting Drug users, National consultation organized by NACO, Govt. of India, 3 September 2019. New Delhi
11. Drug use in India: What role could police play? Training of Delhi Police Officers organized by the State training Centre – Delhi Police, 9 September 2019, New Delhi
12. Drug Testing: A New Harm Reduction Intervention at the Interface of Toxicology and Addiction Psychiatry Conference of Indian Association of Medico Legal Experts and Medico Legal Conference Nepal, 13 September 2019, Kathmandu
13. Outpatient management of Opioid Dependence, Annual National Conference of Indian Association for Biological Psychiatry, 20 September 2019, Agra

14. Drug Policy responses in India Asian Regional Forum Against Drugs, 25 September 2019, Kochi
15. Drug use Situation in India. South Asia Regional Conference on Comprehensive Approach to Combating Illicit Trafficking of Afghan Opiates and Drug Situation in North East, organized by UNODC, 30 September 2019, Imphal
16. Drug Use in India: What Role Could Police Play? Training of Delhi Police Officers organized by the State training Centre – Delhi Police, 11 October 2019, New Delhi
17. Concept and Philosophy of Drug Harm Reduction: Application in India. Stakeholder consultation on substance use harm reduction, organized by Knowledge Action Change (KAC), 17 October 2019, New Delhi
18. Drug Use in India: What role could police play? Training of Delhi Police Officers organized by the State training Centre – Delhi Police, 30 October 2019, New Delhi
19. Drug Laws and Policies: International trends. Annual Conference of Indian Psychiatric Society, North Zone, 3 November 2019, Amritsar
20. Drug Use in India: From Epidemiology to Action, 21st International Society of Addiction Medicine (ISAM 2019), 16 November 2019, New Delhi
21. Debate: OST is the most evidence-based, ethical and appropriate treatment for opioid dependence (For). PSCHIATRICKS, 24 November 2019, New Delhi
22. Pharmaceutical drug use disorders Training Workshop for Drug Law Enforcement officers from Afghanistan, National Academy of Customs, Indirect Tax and Narcotics (NACIN), 5 December 2019, Faridabad
23. Long term pharmacotherapy for alcohol use disorders, PG CME of Indian Psychiatric Society, West Zone, 7 December 2019, Goa
24. Opioid Substitution Treatment with Buprenorphine: An Overview. National Consultation on OST organized by the Ministry of Health, Myanmar, 11 December 2019, Yangon
25. Substance use Disorders: An Overview, Workshop for undergraduate Medical students of Rajasthan, 21 December 2019, Jaipur
26. Classification of Psychoactive Substances: Based on Science? National CME of Addictive Disorder Specialty section, Indian Psychiatric Society, 5 January 2020 Mumbai
27. Pharmaceutical drug addiction. Training Workshop for Police officers from Sri Lanka, National Academy of Customs, Indirect Tax and Narcotics (NACIN), 20 January 2020, Faridabad
28. Behavioural Addiction: A Primer for Mental Health Professionals Workshop at the National CME during the Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 22 January 2020, Kolkata
29. Alcohol: Evidence for impact of Prohibition. National Conference ‘From Neurons to Neighbourhood’, by Sun Pharma Research Foundation, 27 January 2010, New Delhi
30. Services for Drug Use among youth. Moderated Panel Discussion, during the Indo Scotland Mental Health Conclave, 29 January 2020, New Delhi
31. Alcohol Policies in India. International Symposium on Innovating Care for Addictions and Gender - based violence, 31 January 2020, Goa
32. Addiction: The road to recovery Symposium on recovery in mental illness, 16 February 2020, Jaipur

#### **YPS Balhara**

1. MAT for Alcohol Dependence, The Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan Drug Advisory Programme (CPDAP), 10–18 April 2019, Kuala Lumpur, Malaysia
2. Introduction to Alcohol use. The Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan Drug Advisory Programme (CPDAP), 10–18 April 2019, Kuala Lumpur, Malaysia
3. Endogenous Opioid System. The Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan Drug Advisory Programme (CPDAP), 10–18 April 2019, Kuala Lumpur, Malaysia
4. The Limbic System. The Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan Drug Advisory Programme (CPDAP), 10–18 April 2019, Kuala Lumpur, Malaysia
5. Neurobiology of the Brain. The Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan Drug Advisory Programme (CPDAP), 10-18 April 2019, Kuala Lumpur, Malaysia
6. Dual disorders in context of behavioural addictions: Clinical, research and policy implications 3rd World Congress and 6th International Congress on Dual Disorders, 19-22 June 2019, Madrid, Spain
7. Co-morbidity of behavioural addictions and psychiatric disorders: Cross-sectional observational study to explore pattern of Internet use for health and non-health related issues among persons with mental and substance use disorders, 3rd World Congress and 6th International Congress on Dual Disorders, 19-22 June 2019, Madrid, Spain
8. SUD treatment and family involvement, Advance UTC training for Central Asia National Trainers, 23-31 July

2019, Dubai, United Arab Emirates

9. Special issues in family therapy, Practice Integration Plan, Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
10. Review of family therapy approaches, Advance UTC training for Central Asia National Trainers 23-31 July 2019, Dubai, United Arab Emirates
11. Applying family therapy without training, Advance UTC training for Central Asia National Trainers 23-31 July 2019, Dubai, United Arab Emirates
12. Family therapy approaches. Advance UTC training for Central Asia National Trainers 23-31 July 2019, Dubai, United Arab Emirates
13. Family system perspective and coping. Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
14. Inter-Agency Case Management. Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
15. Using a Strength-Based Approach Advance UTC training for Central Asia National Trainers 23-31 July 2019, Dubai, United Arab Emirates
16. Strengthening coping Defining Case Management Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
17. My family strengths individual and family developmental tasks, Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
18. Effect of substance use on individual family members, Advance UTC training for Central Asia National Trainers, 23-31 July 2019, Dubai, United Arab Emirates
19. Overview on training the gatekeepers of suicide, Regional Workshop on Suicide Prevention at Dhaka, Bangladesh from 11 September 2019, Dhaka, Bangladesh
20. Preventing suicide: A community engagement toolkit, Regional Workshop on Suicide Prevention at Dhaka, Bangladesh from 12 September 2019, Dhaka, Bangladesh
21. Internet-based platform for strengthening the capacity on prevention and management of addictive disorders, Regional workshop on Prevention and Management of Substance use, 15 October 2019, New Delhi
22. Mental health and NCDs, 2nd South-East Asia Regional Forum to Accelerate NCD Prevention and Control in the Context of the SDGs, New Delhi, India, 31 October 2019, New Delhi
23. National Suicide Prevention Strategy for Maldives Stakeholders' meeting on development of national suicide prevention strategy for Maldives, 11 November 2019, Male, Maldives
24. Establishing the suicide attempt surveillance system: Why is it important to know about attempted suicide, The gatekeepers' training for suicide prevention for Bhutanese stakeholders is being organized by WHO, Regional Office for South East Asia from, 22 November 2019, Paro, Bhutan
25. Understanding suicide Why it is important to prevent suicide, suicide and socio-cultural context, role of gatekeepers in suicide prevention, the gatekeepers' training for suicide prevention for Bhutanese stakeholders is being organized by WHO, regional Office for South East Asia from 22 November 2019, Paro, Bhutan
26. Internet addiction and online safety panel discussion organized by Child Rights and You (CRY), 14 February 2020, Nairobi, Kenya
27. What is Addictive Behavior Disorders, terminologies, types, pathology & their Diagnosis, Workshop on Role of Nurse in Management of Addictive Behavior Disorders for Nursing Personnel of AIIMS. 9 March 2020, New Delhi

#### **Gauri Shanker Kaloyia**

1. Comparison of Medications used to treat Alcohol Dependence, the Regional Training of Trainers for Asia Pacific and Central Asia by the Colombo Plan, Drug Advisory Programme (CPDAP), 10-18 April 2019, Kuala Lumpur, Malaysia
2. Psychosocial Treatment strategies for Addictive Behaviours, Workshop on "Role of Nurse in Management of Addictive Disorders, 9 March 2020, New Delhi
3. Management of Cognitive Deficits in Substance use Disorder, 46th National Annual Conference of Indian Association of Clinical Psychologists (NACIACP-2020), 21-23 February 2020, Chandigarh
4. Alcohol Craving & Relapse: How to curb Craving? 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 22-25 January 2020, Kolkata
5. Childhood Trauma & Risk of Substance Abuse in Boys National ToT on Psychological Trauma Assessment & Intervention in Child Abuse, 7-11 January 2020, New Delhi

6. Psychological Intervention in Substance Abuse, 29th Annual Convention of National Academy of Psychology (NAOP), 20-22 December 2019, Pondicherry
7. Psychosocial Treatment strategies for Addictive Behaviours, workshop on “Role of Nurse in Management of Addictive Disorders”, 4 December 2019, New Delhi
8. Management of addictive disorders in India: Current status 21st Annual Meeting of International Society of Addiction Medicine (ISAM-2019), 13-16 November 2019, New Delhi
9. Psychosocial Interventions for managing Tobacco Dependence, 45th National Annual Conference of Indian Association of Clinical Psychologists (NACIACP-2019), 25–27 May 2019, Dehradun
10. Psychosocial Treatment strategies for Addictive Behaviours, Workshop on “Role of Nurse in Management of Addictive Disorders”, 4 October 2019, New Delhi

#### **Ravindra V Rao**

1. Scientific basis of addiction Lecture delivered at LNJNI National Institute of Criminology and Forensic Sciences, 17 February 2020, New Delhi
2. Minimum Standards of Care: Health and Rights-based Response to HIV and Drug Use Advancing Health and Rights based approaches and Harm reduction services amongst people who use drugs organized by SAARC Secretariat, Government of Nepal, 15-17 December 2019, Kathmandu
3. Portrayal of psychoactive substances in Bollywood movies – A mixed-methods study National Conference of Indian Association of Social Psychiatry, 29 November-1 December 2019, Bhubaneswar
4. Assessment of Standards of care in services for people who use drugs in India, National Consultative Meet on Bridging the gap on prevention, treatment and care for people who use drugs, 26 February 2020, New Delhi
5. Magnitude of Substance Use in India, Indian Psychiatric Society North Zone Conference, 2 and 3 November 2019, Amritsar

#### **Ashwani Kumar Mishra**

1. Techniques of Randomization, Orientation Workshop for Departmental Residents, 20 July 2019, New Delhi
2. Statistical Methods in Psychiatric Epidemiology Orientation, Workshop for Departmental Residents, 22 July 2019, New Delhi
3. Measures of Association Research Methodology Course, 21 October 2019, New Delhi
4. Application of Shannon Diversity Index for understanding, Substance use in Street children in Delhi, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
5. Methodological approaches for epidemiology of substance use: Advances and innovations, New Delhi, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
6. A Behavioural Economics Approach for understanding the Phenomena of Delay, Discounting Rates among Alcohol and Opioid Dependence Syndrome, 37th Annual Conference of the Indian Society for Medical Statistics (ISMS), 5 January 2019, Patna
7. Biostatistical Approaches in Molecular Epidemiology, Workshop on Molecular Techniques of Integrative Biology, sponsored by the Department of Health Research (DHR), Government of India and organized by the National Institute for Research in Environmental Research (NIREH), Indian Council of Medical Research (ICMR), Bhopal, India, 9 January 2019, Bhopal
8. Graphical Visualization of Data, Research Methodology Course, 4 March 2019, New Delhi

#### **Rachna Bhargava**

1. Work life Balance Workshop on Mental Health at workplace, 12 April 2019, New Delhi
2. Intervention among students in school setting in Symposium, ‘Intervention for substance use among adolescents across settings: Scope and relevance’ in 21st Annual Meeting of International Society of Addiction Medicine, 13-16 November 2019, New Delhi
3. Gaming: Public health Implications & Challenges in Intervention, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
4. Workshop on Multidimensional Family Therapy (MDFT) for Children with Substance use in: 21st International Society of Addiction Medicine (ISAM 2019), 17 November 2019, New Delhi
5. Psychotherapy, Seminar on Mind Body Healing, 1 December 2019, New Delhi
6. Resolution: Managing the ill effects of misuse of technology, 26th National Conference of Indian Association for Social Psychiatry, 29 November-1 December 2019, Bhubaneswar
7. Role & Interpretation of Children’s Drawing in Child Abuse Training of Trainer’s Programme on Psychological

Trauma Assessment and Intervention in Child Abuse, 11 January 2020, New Delhi

8. Hands on Soft Skills Workshop on Soft Skills, 10 February 2020, New Delhi
9. Dealing with patients in Crisis, Workshop on Communication Skills for Nurses, 21 February 2020, New Delhi

#### **Prabhoo Dayal**

1. Medico legal issues in Addiction Psychiatry: An Indian Perspective, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019 New Delhi
2. Alcohol Craving & Relapse: How to Curb Alcohol Cravings? 72<sup>nd</sup> Annual Conference of Indian Psychiatry Society (ANCIPS 2020), 22-25 January 2020, Kolkata
3. Cognitive Functioning in Individuals with Alcohol Use disorder. 46th National Annual Conference of Indian Association of Clinical Psychologists 21-23 February 2020, Chandigarh

#### **Biswadip Chatterjee**

1. Substance abuse in school children training program for EVGCs, 12 December 2019, Delhi

#### **Alok Agrawal**

1. Prevention and treatment of substance abuse National Orientation on National Action Plan on Drug Demand Reduction (NAPDDR) for Coordinators of State Police Training Directorates organized by National Institute of Social Defence (NISD), 18 June 2019, New Delhi
2. Diagnosis and Treatment of Substance use Disorders Capacity Building Workshop on Drug Abuse Prevention for Police Officers of Delhi, organized by Commissioner of Police Training, New Delhi, 16 August 2019, New Delhi
3. Drug Abuse Management Strategies and Treatment Principles, Induction, Training Programme for Deputy Directors/ Zonal Directors of NCB organized by NACIN, 20 September 2019, Ghaziabad
4. Extent and Pattern of Substance use in India, Capacity Building Workshop on Drug Abuse Prevention for Police Officers of Delhi, organized by Commissioner of Police Training, New Delhi, 24 September 2019, New Delhi
5. Magnitude of Substance Use - Methodology and Operational aspect, Annual conference of North Zone Indian Psychiatric Society, 2 November 2019, Amritsar
6. Buprenorphine Maintenance Treatment: Delivery Models and Operational Aspects National Stakeholder' Meeting on Implementation of Buprenorphine Maintenance Treatment organized by Ministry of Health and Sports, Government of Myanmar, 11 December 2019, Yangon, Myanmar
7. Overview of Drugs and Drug-use Disorders Workshop on Narcoterrorism for Police Officers of Narcotics Control Bureau organized by Central Detective Training Institute, 8 January 2020, Ghaziabad
8. Basics of Drugs and Process of Addiction National Training of Trainers Programme on Drug Abuse Prevention for Transgender Community organized by National Institute of Social Defence (NISD), 19 and 20 February 2020, New Delhi

#### **Rizwana Quraishi**

1. Symposium on "Genetic underpinnings of addiction: Update and experience", 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
2. Workshop on "Utility of dried urine and blood for testing of drugs in substance use disorder.", 21st International Society of Addiction Medicine (ISAM 2019), 16 November 2019, New Delhi
3. Symposium on "Addiction psychiatry and genetics", 72<sup>nd</sup> Annual Conference of Indian Psychiatry Society (ANCIPS 2020), 25 January 2020, Kolkata

#### **Siddharth Sarkar**

1. Comorbidities in Bipolar Disorders–Diagnostic and Management Difficulties, Annual Conference of Indian Psychiatric Society Assam State Branch, 13 October 2019, Guwahati
2. Selecting a Journal & Responding to Reviewers' comments. IAN Conference, 18 December 2019, New Delhi

#### **Piyali Mandal**

1. Overview of substance use disorders and relevance to the police force Invited lecture for battalion 49B, PAC, 12 April 2019, Gautam Budh Nagar
2. Symposium on Intervention for Substance Use Among Adolescents across Settings: Interventions in the community, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
3. Addressing the need: More women psychiatrists to fill the gap, 21st International Society of Addiction Medicine

(ISAM 2019), 15 November 2019, New Delhi

4. Opioid dependence syndrome, Nurses training of trainers program on substance use disorders, AIIMS, Delhi College of Nursing, 30 November 2019, New Delhi
5. Tobacco and gender in India 72nd Annual Conference of Indian Psychiatry Society (ANCIPS 2020), 24 January 2020, Kolkata

#### **Roshan Bhad**

1. Symposium: Legal framework for Drug Control 10th International IAMLE, 13 September 2019, Kathmandu
2. Symposium: Drug Treatment Policy Perspective from India 1st ISSDP, Asian Regional Meeting, Centre for Criminology, 15 October 2019, Hongkong
3. Symposium: India-Canada Opioid Substitution Therapy Experience, 21st International Society of Addiction Medicine (ISAM 2019), 14 November 2019, New Delhi
4. Symposium: Challenges in Alcohol and Substance Use Testing in De-addiction Programs, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
5. Symposium: Mobile methadone dispensing unit: An innovative model for opioid Agonist Maintenance Treatment in India, 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 24 January 2019, Kolkata
6. Addiction from the Science Lens Invited lecture by National Institute of Criminology and Forensic Science (NICFS), 17 February 2020, New Delhi

#### **Shalini Singh**

1. Naltrexone Implant in Addiction Psychiatry, 21st International Society of Addiction Medicine (ISAM 2019), 13 November 2019, New Delhi
2. Super-Specialty course in Addiction Psychiatry in India, 21st International Society of Addiction Medicine (ISAM 2019), 16 November 2019, New Delhi
3. Pharmacological management of opioid dependence syndrome, Nurses training of trainers program on substance use disorders, AIIMS Delhi College of Nursing, 30 November 2019, New Delhi
4. Opioid dependence syndrome: concepts and treatment, Substance Use Disorder Nursing Training Program, Lady Hardinge Medical College, 21 January 2020, New Delhi
5. Clinical communication with patients and overcoming challenges, Workshop for junior nursing officers working in AIIMS Main Hospital to enhance soft skills, 21 February 2020, New Delhi
6. Epidemiology of behavioral addictions Nurses' training of trainers programme on behavioral addictions, AIIMS Delhi College of Nursing, 9 March 2020, New Delhi

#### **Oral papers/posters presented**

1. Agrawal A. Ethical Issues in Management of Substance Use Disorders, International Society Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
2. Ambekar A, Rao R, Agrawal A, Mishra A. A road map for evidence informed drug supply control response in India, Asia Regional Meeting of International Society for the Study of Drug Policy, 15 October 2019, Hong Kong
3. Ambekar A, Rao R, Agrawal A, Mishra A. Evidence-informed drug supply control response in India, 21st International Society of Addiction Medicine (ISAM 2019), 13 November 2019, New Delhi
4. Ambekar A. Substance Use Disorders in ICD 11: Concerns, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
5. Ambekar A, Rao R, Agrawal A, Mishra A. Magnitude of drug use in India and the existing policy and program framework for response: A road map for evidence-informed drug supply control and demand reduction, Symposium at the Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 24 January 2020, Kolkata
6. Balhara YPS, Deb KS, Nebhinani N, Ranjan R, Sarkar S. Tele-medicine in addiction psychiatry: Current use and potential applications, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
7. Bhad R, Parmar A, Gupta P, Panda U. Correlates & characteristics of exclusive cannabis dependent treatment seekers in India, 50th Annual Conference of American Society of Addiction Medicine, 6 April 2019, Orlando, USA
8. Bhad R. Addiction Psychiatry Training in South Asia: An Update 5th International Conference on Medical and Health Sciences (ICMH), 26 October 2019, Thimphu, Bhutan
9. Bhad R, Jain R, Rao R, Dhawan A. Novel Biomarkers for Inhalant Addiction: Preliminary Investigation of Stress Biomarker Response in Adolescent Inhalant Users from India, 21st International Society of Addiction Medicine

(ISAM 2019), 14 November 2019, New Delhi

10. Chatterjee B, Chawla N. Corticotrophin Releasing Factor (CRF) and its correlates in detoxified opioid-dependent subjects: A comparative study, Annual National Conference of Indian Association of Biological Psychiatry (ANCIABP), 20-21 September 2019, Agra
11. Dayal P. Stress, Coping, and Strain in Family Members of Patients with Substance Use Disorder in India, the Mental Health Services Conference, American Psychiatric Association; 3-6 October 2019, New York, USA.
12. Dayal P, Kaloiya GS. Executive Cognitive Functioning in Individuals with Alcohol Use disorder, 46th National Annual Conference of Indian Association of Clinical Psychologists, 21-23 February 2020, Chandigarh
13. De Jong C, Pinxten L, Quirishi R, Sarkar S, Teck JTW. ISAM Education and Training Committee: Research on Addiction Medicine Training: methodology and outcomes, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
14. Dhawan A, Bhargawa R, Mandal P, Chatterjee B. Intervention for Substance Use among Adolescents Across Settings, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November, 2019, Delhi
15. Enara A, Garg K, Sarkar S. Improving access to care through training of primary care doctors - Insights from India, 23rd Congress of the World Association of Social Psychiatry, 25 October 2019, Bucharest, Romania
16. Ghosh S, Jain R, Rao R, Jhanjee S, Mishra AK. Does ethyl glucuronide in hair correlate with alcohol consumption? A cross-sectional study from India, 21st International Society of Addiction Medicine (ISAM 2019), 3-16 November 2019, New Delhi
17. Ghosh S, Jain R. At symposium: Challenges in Alcohol and Substance Use Testing in De-addiction Programs, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
18. Ghosh S, Jain R. At symposium: Alcohol Biomarkers and its relevance in Clinical Settings, 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS2020), 22-25 January 2020, Kolkata
19. Gupta S, Chatterjee B, Sarkar S, Dhawan A. Trends in the Profiles of the Patients Visiting a Community Based Substance Use Treatment Centre in an Urban Resettlement Colony in India: A Retrospective Chart Review, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, Delhi
20. Kathiresan P, Quraishi R, Sarkar S, Sharma A, Singh R. Genetic underpinnings of addiction: update and experience, 21st International Society of Addiction Medicine (ISAM 2019), 15 November 2019, New Delhi
21. Mathur R, Parmar A, Tundup T, Bhad R, Rao R. Use of Sildenafil for psychoactive purposes: A myth or a reality?, 72nd Annual National Conference of Indian Psychiatric Society (ANCIPS 2020), 24 January 2020, Kolkata
22. Patil V, Patra BN, Sarkar S, Verma R. Suicidal behaviour in current scenario. 26th National Conference of the Indian Association for Social Psychiatry, 1 December 2019, Bhubaneswar
23. Quraishi R, Jain R, Ambekar A. Use of filter paper in substance abuse treatment setting. 15th Asia Pacific Federation of Clinical Chemistry and laboratory Medicine Congress, 17-20 November 2019, Jaipur
24. Raghav R, Jain R, Roy TS, Dhawan A. Role of mixed  $\mu/\kappa$ -agonist in suppressing the rewarding effects induced by  $\mu$ -opioid agonist in rats, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi
25. Sagar R, Patra BN, Chatterjee B, Rajhans P. Substance Use in Externalizing Disorders in Adolescence, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, Delhi
26. Singh A, Ambekar A, Jain R, Rao R, Mishra AK, Agrawal A. Oral Methadone vs. Sublingual Buprenorphine for Treatment of Acute Opioid Withdrawal: A Triple-Blind, Double-Dummy, Randomized Controlled Trial, 21st International Society of Addiction Medicine (ISAM 2019), 13-16 November 2019, New Delhi

## RESEARCH

### Funded projects

#### Ongoing

1. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick – India - Canada (WIC) Network, RK Chadda, National Institute of Health Research, UK, 3 years, 2017-2020, Rs 252 lakhs
2. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, RK Chadda, Department of Revenue, Govt of India, 4.5 years, 2017-2022, Rs 651 lakhs
3. Role of Delphinium denudatum (Jadwar) in a Rat Model of Nicotine Dependence, Raka Jain, AYUSH, 3 years, 2017-2020, Rs 29.16 lakhs
4. Naltrexone Implant, Rakesh Lal, Rusan Pharma, 5 years, 2017-2022, Rs 38.84 Lakhs
5. Extent of Mental Health issues & Addictive Behavior among Adolescents seeking help in Adolescent Friendly Health Clinics in Delhi, Anju Dhawan, Adolescent Health Division, Directorate of Family Welfare, Govt of NCT of Delhi, 1 year, 2019-2020, Rs 18.85 lakhs

6. Survey on Substance use among School and College Students, Anju Dhawan, Ministry of Social Justice and Empowerment, Government of India, 6 months, 2019-20, Rs 14.85 lakhs
7. Screening and Intervention for Drug/Substance Use among Secondary School going Children, Anju Dhawan, UEE Mission, Education Department Delhi, 1 year, 2020-21, Rs 40 lakhs
8. National Survey on Extent and Pattern of Substance Use in India, Atul Ambekar, Ministry of Social Justice and Empowerment, Government of India, 4 years, 2016-2020, Rs 2241 lakh
9. Field Testing of ICD-11 Classification for Disorders related to Substance Use and Addictive Behaviours, Atul Ambekar, WHO, 3 years, 2017-2020, Rs 3.25 lakhs
10. Developing Training Mechanisms for use of Essential Narcotic Drugs (Methadone) for the treatment of Opioid Dependence, Atul Ambekar, Department of Revenue, Ministry of Finance, Government of India, 3 years, 2017-2020, Rs 76.21 lakhs
11. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Yatan Pal Singh Balhara, DBT, 3 years, 2017-2019, Rs 83 lakhs
12. Use of online web-based applications as a platform to strengthen the services for management of addictive disorders in the state of Odisha, Yatan Pal Singh Balhara, Department of Health, Government of Odisha, 1 year, 2019-2020, Rs 12 lakhs
13. Rates and pattern of psychoactive substance use among prisoners in India, Ravindra Rao, Ministry of Social Justice and Empowerment, Government of India, 6 months, 2019, Rs 30 lakhs
14. Developing and testing an online training programme for medical officers on treatment of substance use disorders, Ravindra Rao, Ministry of Social Justice and Empowerment, Government of India, 14 months, January 2019-March 2020, Rs 14.59 lakhs
15. Screening and intervention in school students of elementary classes for substance use in Delhi, Rachna Bhargava, Samagra Shiksha, DOE, 2019-2020, Rs 40 lakhs
16. Development of Cognitive Retraining Module for Improving Cognitive Deficits of Abstinent Patients with Alcohol Dependence Syndrome, Cannabis Dependence Syndrome and Opioid Dependence Syndrome in a Tertiary Care De-Addiction Centre of Northern India, Gauri Shanker Kaloiya, DST, 3 years, 2017-2020, Rs 20.45 Lakhs
17. Internal Consistency and Divergent Validity of the Hindi Version of the Addiction Severity Index-Lite among Individuals with Alcohol and Opioid Dependence Syndrome, Ashwani Kumar Mishra, AIIMS, 2 years, 2019-2021, Rs 3.25 lakhs
18. Development of Indian Anxiety and Mania Questionnaire, Ashwani Kumar Mishra, ICMR, 3 years, 2018-2021, Rs 62.29 lakhs
19. Brain Stimulation as a Novel Technique for Cognitive Dysfunction and Craving Management to Enhance Treatment Outcome in Patients with Alcohol Dependence: a Prospective, Randomized Controlled Trial, Prabhoo Dayal, DST, 3 years, 2018-2021, Rs 25.80 lakhs
20. Role of genetic polymorphism in determining risk and severity of opioid dependence: A case-control study, Biswadip Chatterjee, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
21. Study on substance use among homeless population in India, Alok Agrawal, Ministry of Social Justice & Empowerment, Government of India, 2 years, 2018-2020, Rs 52 lakhs
22. A study among emerging opioid using populations in India, Alok Agrawal, The Colombo Plan, 5 years, 2018-2023, Rs 350 lakhs
23. A functional polymorphism of dopamine beta-hydroxylase gene and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study, Rizwana Quraishi, AIIMS, 2 years, 2018-2020, Rs 4.5 lakhs
24. An evaluation of mu-opioid receptor gene polymorphism (A118G) and long term naltrexone treatment response in North Indian Alcohol dependent patients, Rizwana Quraishi, ICMR, 3 years, 2019-2022, Rs 26 lakhs
25. Development of an Indian Scale to Assess Substance Related Problems, Siddharth Sarkar, ICMR, 3 years, 2019-2022, Rs 42 lakhs
26. Barriers and Facilitators of Addiction Treatment: A qualitative study, Siddharth Sarkar, ICSSR, 2 years, 2019-2021, Rs 4 lakhs
27. An explorative study of knowledge, perceived attitude and risk of addiction potential among different stakeholders concerning recreational cannabis use among youth in India, Roshan Bhad, AIIMS, 2 years, 2019-2021, Rs 8 lakhs

### ***Completed***

1. Portrayal of psychoactive substance use in Bollywood movies: a mixed methods study, Ravindra Rao, AIIMS, 1.5 years, 2016-2019, Rs 1.441 lakhs
2. Assessment of HIV, other Blood-borne Viruses, TB and Risk Behaviours among Prison Inmates in Gujarat,

- Ravindra Rao, UNODC, Regional Office for South Asia, 7 months, 2018-2019, Rs 21 lakhs
3. Comparison of serum Corticotrophin Releasing Factor (CRF) level in detoxified Opioid-dependent subjects with healthy controls. Biswadip Chatterjee, AIIMS, 2 years, 2017-2020, Rs 2 lakhs
  4. Development of National Suicide Prevention Strategy for the Maldives , Yatan Pal Singh Balhara, WHO SEARO, 4 months, 2019, Rs 4 lakhs
  5. Review of Mental Health Services in Sri Lanka, Yatan Pal Singh Balhara, WHO SEARO, 3 months, 2019, Rs 4 lakhs
  6. Relationship of serotonin pathway polymorphisms with self-harm behaviour among patients with opioid dependence, Siddharth Sarkar, DST, 2 years, 2017-2019, Rs 20.68 lakhs
  7. Peripheral Blood Inflammatory Cytokines and Markers of Neuroinflammation in Alcohol Dependence and Their Association with Behavioural Markers and Alcohol Dependence Treatment Outcome, Prabhoo Dayal, AIIMS, 1 year, 2018-2019, Rs 4.63 lakhs
  8. Psycho-social correlates of drug use among attendees of Women's Clinic of National Drug Dependence Treatment Centre, Piyali Mandal, AIIMS, 3 years, 2017-2020, Rs 0.5 lakhs

## **Departmental projects**

### ***Ongoing***

1. A clinical trial to find the effect of transcranial direct current stimulation (tDCS) on craving to smoke tobacco among opioid dependent smokers maintained on Buprenorphine
2. A Comparative Study of Alcohol Biomarkers & Their Clinical Applicability in Alcohol Dependence a Comparative Study of Alcohol Biomarkers and their Clinical Applicability in Alcohol Dependence
3. A comparative study of Ethyl glucuronide (EtG) and Fatty acid ethyl ester (FAEE) with other conventional biomarkers in Alcohol Dependent subjects.
4. A comparative study of serum brain-derived neurotrophic factors levels in-patients with alcohol dependence, depression and co-morbid alcohol dependence and depression.
5. A comparative study to assess the psycho-social correlates of gaming disorder among college students
6. A Pilot Follow-up Study on Retention and Outcome of Patients with Opioid Dependence after Discharge from Treatment Centre
7. A prospective study to assess the factors associated with short term retention of opioid dependent syndrome on oral Naltrexone
8. A Study to Assess Effectiveness of Advocacy Skill Building Programme on Prevention of Tobacco Use among Adolescents in selected schools of Delhi
9. An Assessment of Stress Biomarkers in Opioid Dependent Youth and its association with stress and coping: An exploratory study.
10. Assessing client related factors influencing initiation of opioid substitution therapy among Injecting Drug Users: A Community based, Cross Sectional, Comparative Study
11. Assessment of clinical and neuroendocrine response to induced stress in detoxified opioid dependent subjects.
12. Assessment of sexual behavior among patients seeking treatment for opioid dependence at NDDTC
13. Assessment of treatment response, inflammatory cytokine (TNF-alpha) and mtDNA 10398A/G polymorphism in Familial Bipolar Disorder.
14. Association of Tobacco Smoking with Psychiatric Co-morbidities among Patients with Chronic Obstructive Pulmonary Disease
15. Brain Derived Neurotrophic Factor gene polymorphism (Val66Met) association with peripheral BDNF levels and clinical variables in major Depressive Disorder Patients.
16. Clinical and Biochemical Assessment of Compliance to Disulfiram and Abstinence for Alcohol: A Longitudinal Study in Alcohol Dependent Subjects
17. Clinical laboratory profile of opioid dependent patients: A retrospective chart review study.
18. Cognitive functioning in buprenorphine maintained opioid dependent patients at peak and trough buprenorphine levels: an experimental study
19. Concordance of ICD 11, ICD 10 and DSM 5 Diagnostic Guidelines for Alcohol and Opioid Use Disorders
20. Correlates of family functioning in adolescent substance users
21. Correlates of Recovery Capital in patients with dual diagnosis – an explorative study
22. Course of depressive symptoms in patients with alcohol dependence undergoing detoxification.

23. Development of Cognitive Behavioral Based psychological intervention module for adolescents in conflict with law
24. Development of Psychological Intervention Module among adolescents with Dissociative Disorder
25. Effect of Cannabis on serum Brain Derived Neurotrophic Factor level and its relation with psychosis – A cross-sectional exploratory study.
26. Effectiveness of reminders using Phone call versus Short Message Service on treatment retention in patients with Substance Use Disorders: An open label randomised trial
27. Endorsement and Concordance of ICD 11, ICD 10 and DSM 5 Diagnostic Guidelines for Alcohol and Opioid Use Disorders
28. Experience with Treatment among patients with substance use disorders
29. Factors associated with treatment retention amongst alcohol dependent patients
30. Family Interventions Addressing Expressed Emotions in Treatment Seeking Men with Opioid Dependence
31. Indigenously produced psychoactive substances in India: Patterns of use and Profile of users
32. Knowledge, Risk factors and experience of non-fatal overdose among Injecting Drug Users: A community-based, cross-sectional study
33. Outcomes in Treatment with Tramadol for Opioid Use Disorder over 12 weeks: A Prospective Observational Study
34. Rates and Pattern of Psychoactive Substance use among Prison inmates in India
35. Substance use among homeless men receiving services from shelter homes in Delhi
36. Substance use among school and College students
37. Substance use among Transport Workers
38. Substance Use in Children and Adolescents with Attention Deficit Hyperactive Disorder: An Exploratory Study
39. The clinical and laboratory predictors of Alcohol withdrawal syndrome
40. Tobacco use in alcohol dependent patients

### ***Completed***

1. A comparative study to assess the psycho-social correlates of gaming disorder among college students
2. A Longitudinal Observational Study to Assess Treatment Retention Rate & Predictors of Treatment Retention among Patients with Opioid Use Disorder
3. A pilot follow-up study on retention and outcome of patients with Opioid Dependence
4. Adult ADHD in patients with opioid dependence: An exploratory study
5. Assessing client perceived barriers to initiate opioid substitution therapy among Injecting Drug Users a cross-sectional, comparative, community-based study
6. Assessment of Biochemical Measures in Adolescent Inhalant users.
7. Assessment of Cannabis use among Alcohol and Opioid Dependent subjects based on Urinalysis- A Retrospective Chart Review
8. Association between serum C-reactive protein level and alcohol consumption among patients of Alcohol Use Disorders: a cross-sectional, exploratory study
9. Behavioral and Biological Assessment of Vulnerabilities to acquisition of HIV, Blood Borne viruses and Tuberculosis among Prison Inmates of Gujarat
10. Cognitive Functioning in Buprenorphine maintained Opioid Dependent Patients at Peak and Trough Blood Buprenorphine Levels: An Experimental Study
11. Cognitive Representations and Feasibility of Cognitive Therapy among Individuals with Alcohol Dependence Syndrome
12. Delay Discounting Rates among Patients with Alcohol and Opioids Dependence: A Cross Sectional Comparative Study
13. Effectiveness of Intravenous Naloxone in Attenuating Agonist Effects of Intravenous Buprenorphine: A Double blind, Within-subject, Randomized, Cross-over Study in Opioid Dependent Subjects
14. Gambling disorder and its socio- demographic correlates among treatment seeking patients with alcohol use disorders
15. Neurological soft signs and their correlates among patients with cannabis use disorder with and without psychosis: a cross-sectional comparative study
16. Out-patient Management of Acute Opioid Withdrawal with Buprenorphine in Community-Based Setting: A Retrospective Chart Review
17. Prevalence and characteristics of self-harm and suicidal attempts among patients with substance use disorder at

a tertiary care hospital

18. Psychological Correlates of Caregiving among the caregivers of patients with Schizophrenia
19. Psychosocial factors associated with Internet Use Behavior among Medical & Engineering Undergraduate Students: A comparative study
20. Stigma among men and women seeking treatment for substance use disorder and their family members: a cross-sectional comparative study
21. Trazodone for sleep disturbance in opioid dependent patients maintained on buprenorphine: a double-blind placebo control trial

### **Collaborative projects**

#### ***Ongoing***

1. A hermeneutic phenomenological study on experiences of living donors post kidney transplant at AIIMS New Delhi, College of Nursing
2. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, College of Nursing
3. Comparison of Different Anti-platelet Drug Regimes on Platelets Aggregation and Urinary 11-Dehydrothromboxane B2 levels in Stable Ischemic Heart Disease Patients, Cardiology
4. Comparison of Double “J” and infant feeding tubes as stents in open Cohen’s ureteric reimplantation in terms of hospital stay - a Randomized study, Pediatric Surgery
5. HRV and autonomic parameters for supplementing clinical assessment of opioid withdrawal, Physiology
6. Study on the association of polymorphism, methylation and expression status of the genes of monoamine pathways in Alcohol dependence, Anatomy

#### ***Completed***

1. A vignette based cross-sectional study to assess health care professional’s perspective on various ethical dilemma clinical situation, Medical Oncology
2. Default Mode Network of addictive disorders: A Quantitative EEG study, Physiology
3. The Effect of Prosthodontic Rehabilitation of Completely Edentulous Geriatric Patients on Their Working Memory Process - A Functional MRI Based Pilot Study, CDER
4. Evaluation of Eating Disorders and their Association with Metabolic Parameters and Glycemic Control in Adult Patients with Diabetes Mellitus Type 2, Endocrinology

### **PUBLICATIONS**

**Journals: 55**

**Abstracts: 8**

**Chapters in Books: 3**

**Books: 1**

### **PATIENT CARE**

#### **Biochemistry Laboratory**

Total biochemistry tests: 81269

Total Serum Electrolytes tests: 5135

Total haematology tests: 48995

Total HIV screened: 735

#### **Drug Screen Laboratory**

**Total number of drugs of abuse screened in urine= 29606**

<b>S . No.</b>	<b>Drug</b>	<b>Nos.</b>
	Morphine	3626
	Codeine	2606
	Buprenorphine	3106
	AvitPheniramine	2964
	Tramadol	3294
	Pentazocine	2964

	Benzodiazepines	5992
	Cannabis	1020
	Cotinine	358
	Barbiturate	340
	Amphetamine	340
	Cocaine	380
	Naltrexone	2606
	Inhalants	10
	<b>Total number of drugs tested in urine</b>	<b>29606</b>

#### OUT-PATIENT SERVICES

<b>GENERAL OPD</b>	New Cases	Old Cases	Total
NDDTC	11874	76187	88061
Trilok Puri (Community clinic)	263	33904	34167
Sunder Nagri (Community clinic)	846	153907	154753
Kotla Mubarakpur (Community clinic)	136	22236	22372
<b>Total cases</b>	<b>13119</b>	<b>286234</b>	<b>299353</b>

<b>SPECIALITY CLINIC</b>			
Adolescent	90	558	648
Dual diagnosis	110	1202	1312
Tobacco cessation	61	674	735
Women	19	291	310
Family empowerment	14	44	58
<b>Total cases</b>	<b>294</b>	<b>2769</b>	<b>3063</b>
<b>Grand total of cases</b>	<b>13413</b>	<b>289003</b>	<b>302416</b>

#### OTHER PATIENT CARE STATISTICS

Total no. of admissions	1224
Total no. of operation theatre/ operation cases	NIL
Total no. of patients visited at Day care ward	2132
Total no. of deaths	NIL
Average no. of admissions per working day	04
Average no. of OPD attendance per working day at NDDTC (new patients)	41
Average no. of OPD attendance per working day at NDDTC (old patients)	255
Average no. of OPD attendance per working day at Trilok Puri community clinic (new patients)	1
Average no. of OPD attendance per working day at Trilok Puri community clinic (old patients)	113

Average no. of OPD attendance per working day at Sunder Nagri community clinic (new patients)	3
Average no. of OPD attendance per working day at Sunder Nagri community clinic (old patients)	515
Average no. of OPD attendance per working day at Kotla Mubarakpur Community clinic (new patients)	0.46
Average no. of OPD attendance per working day at Kotla Mubarakpur Community clinic (old patients)	74
Bed occupancy in a year	87%
Average length of stay	14 days

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Chadda** (*please see Chapter 9.34*)

**Professor Raka Jain** was appointed as steering Committee member of the Guru Gobind Singh Indraprastha University, Govt. of Delhi (July, 2019-2021); Special Invitee for Center research and Consultancy (CRC) Committee meeting Guru Gobind Singh Indraprastha University, Govt. of Delhi (July 2019); Organizing Co-Chair for the 21st Annual Conference of International Society of Addiction Medicine, 13-16 November 2019, Hotel Pullman, New Delhi. Chaired a session in 21st International Society of Addiction Medicine New Delhi, India (13-16 November 2019); Chaired a session in INPALMS Congress 2019 Dhaka, Bangladesh (9-13 December 2019); Re-appointed as a member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation): World Health Organization, Geneva, November 2019-2023; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the 6th Working Group of the Expert Committee on Drug Dependence (ECDD) WHO Headquarters Geneva, Switzerland, 5-7 June 2019; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the World Health Organization (WHO) “42nd Expert Committee Meeting on Drug Dependence (42nd ECDD, 21-25 October 2019, WHO Headquarters, Geneva, Switzerland. As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the 7 Working Group of the Expert Committee on Drug Dependence (ECDD)WHO Headquarters Geneva, Switzerland, 10-21 February 2020.

**Professor Anju Dhawan** was Organizing Secretary for the 21st Annual Conference of the International Society of Addiction Medicine, 13-16 November 2019 at Hotel Pullman, New Delhi; Membership International Society of Addiction Medicine (ISAM) Training and Education Committee; Conducted DM Addiction Psychiatry examination in NIMHANS on 21 November 2019.

**Professor Sonali Jhanjee** got Luke Clack award for presentation of paper titled: Tobacco use in children and adolescent in Attention deficit hyperactive disorder: An exploratory study in the 15th Biennial National Conference of Indian Association of Child and Adolescent Mental Health (IACAM) in which I was co-author; Part of a meeting group for drafting White paper on Alcohol and cancer under ICMR-ICR India Cancer Research Consortium (ICMR-ICRC).Red Cross Road, New Delhi; Part of a Sub Group for Health Effects on Electronic Nicotine Delivery Systems (ENDS) constituted by MOH& FW; Part of a Committee for finalization of draft ‘Guidebook for Nurses on Tobacco Cessation and Drug Dependence Treatment’ constituted by MOH& FW.

**Professor Atul Ambekar** represented Ministry of Health and Family Welfare, Government of India as a part of Indian delegation at the 63rd session of the Commission on Narcotic Drugs (CND), Vienna, 2-6 March 2020; Awarded “Venus International Medical Award 2019 (VIMA 2019)” for Excellence in Psychiatry, April 2019; Provided expert advice to World Health Organization (Geneva) on Public Health Issues related to Addictive Behaviours and attended the Expert Group Meeting at Abu Dhabi, UAE (November 2019); Nominated as member Scientific Committee, Asia Regional Meeting of International Society for Study of Drug Policy Conference, October 2019, Hong Kong; Nominated as member Scientific Committee – INEBRIA (International Network on Brief Interventions for Alcohol & Other Drugs) International Conference, September 2020 (Goa); Engaged as an Expert to provide technical assistance to Ministry of Health, Myanmar in collaboration with Community Partners International and UNAIDS for Demonstration Project on ‘Opioid Substitution Treatment with Buprenorphine’ (December 2019 – ongoing)

**Dr Yatan Pal Singh Balhara** is Technical Reviewer. Standard Treatment Guidelines for the Management of Substance Use Disorders & Behavioural Addictions, 2020. Developed by Ministry of Health and Family Welfare, Government of India, 2020. Member, Expert Working Group for finalising the Advanced Level Universal Treatment Curriculum (UTC)

for Substance Use Disorders of the Colombo Plan Drug Advisory Programme (CPDAP); Member, WPA Committee on Psychiatric Education for Medical Students; Nominated as Zonal Representative of World Association of Dual Disorders (WADD). Elected Member, Advisory Committee of World Association of Dual Disorders (WADD), 2018-2021.

**Dr Ashwani K Mishra** is external examiner for paper of Research Methodology for examination of MPhil course in Clinical Psychology, Institute of Human Behavior and Allied Sciences (IHBAS); Continuing as the Elected Member of International Institute; Continuing as the Elected Member of International Association for Statistical Education; Continuing as Member–International Society for Clinical Biostatistics; Scientific Reviewer – Indian Journal of Medical Research, National Medical Journal of India, Health, the American Journal of Alcohol and Drug Abuse.

**Dr Rachna Bhargava** was Associate-cum-Speciality Editor in Journal of Indian Association of Social Psychiatry; Attended Regional Workshop on UNFT organized by UNODC at Maldives between 23-27 September 2019; Jury member for eRaksha Contest 6 September 2019.

**Dr Prabhoo Dayal** was nominated expert member, speciality sub-group TB-Tobacco & Substance abuse, National Technical working group on TB-Co-morbidities for development of framework, guidelines on management and capacity building materials for India, Ministry of Health and Family Welfare, Government of India; Technical expert to provide technical support and facilitate on-site training for strengthening services on management of addictive disorders in Sri Lanka, Ministry of Health, Nutrition & Indigenous Medicine, Sri Lanka with the support of WHO country office, Sri Lanka; Successfully Completed course on Buprenorphine and Office-Based Treatment of Opioid Use Disorder, conducted by American Psychiatric Association 2019 IPS: Mental Health Services Conference from 3-6 October 2019 at New York USA. Member – Organizing Sub-Committee: 21st Annual Meeting of the International Society of Addiction Medicine –ISAM 2019 on “Addiction in a Rapidly Changing World” held at Hotel Pullman, New Delhi, India from 13-16 November 2019; Involved in Training of Trainers’ workshop for training senior nurses and nursing teachers on “Substance Use disorder Nursing” from 28 November to 5 December 2019: Funded by MOH & FW, Govt. of India; Conducted workshop on Tobacco cessation and Substance use on 14 December 2019 at VMMC & Safdarjung Hospital: Sponsored by MOH & FW, Govt. of India.

**Dr Alok Agrawal** got Tilak Venkoba Rao Oration Award by the Indian Psychiatric Society; Provided expert advice to Ministry of Health and Sports, Government of Myanmar for implementation of Buprenorphine maintenance treatment for management of opioid dependence in the country; Conducted two training workshops on management of substance use disorders for doctors and nurses working in government healthcare facilities on invitation of the Government of Himachal Pradesh; Provided expert advice to Ministry of Social Justice and Empowerment, Government of India for accreditation of Integrated Rehabilitation Centres for Addicts through National Accreditation Board for Hospitals and Healthcare Providers (NABH); Provide expert advice to State AIDS Control Societies of Punjab, Haryana and Chandigarh on improving quality of harm reduction services for Injecting Drug Users; Member, Editorial Board, National Journal of Social Defense, National Institute of Social Defense, Ministry of Social Justice & Empowerment, Government of India.

## 10.7. Neurosciences Centre

### Chief

MV Padma Srivastava

### Neurology

#### Professor and Head

MV Padma Srivastava

#### Professors

Kameshwar Prasad  
Achal Kumar Srivastava

Manjari Tripathi  
Garima Shukla (on leave)  
Mamta Bhushan Singh

Vinay Goyal (upto January 2020)  
Rohit Bhatia

#### Additional Professor

Deepti Vibha

#### Assistant Professors

Vishnu VY  
Awadh Kishor Pandit  
Elavarasi

Roopa Rajan  
Rajesh Kumar Singh  
Animesh Das  
Bhargavi Ramanujam

Deepa Dash (upto July 2019)  
Anu Gupta  
Divya MR

### Neurosurgery

#### Professor and Head

Shashank Sharad Kale

#### Emeritus Professors

Prakash Narain Tandon                      Ajit K Banerji

#### Professors

P Sarat Chandra  
Manmohan Singh

Ashish Suri  
Deepak Agrawal (JPNATC)  
Gurudutt Satyarthee (JPNATC)

Rajinder Kumar  
Deepak Gupta (JPNATC)

#### Additional Professors

Pankaj Kumar Singh (JPNATC)

Vivek Tandon

Sachin Borkar

#### Associate Professors

Hitesh Gurjar  
Rajeev Sharma  
Dattaraj Sawarkar

Amandeep Kumar  
Shweta Kedia  
Kanwaljeet Garg

Shashwat Mishra  
Ramesh Doddamani  
Manoj Phalak

#### Assistant Professors

Amol Raheja  
Santanu Kumar Bora

Satish Verma

Rajesh Meena  
Kolulla Praneeth

### Neuroimaging and Interventional Neuroradiology

#### Professor and Head

SB Gaikwad

#### Professor

Ajay Garg

#### Additional Professor

S Leve Joseph Devarajan

### Neuroanaesthesiology

#### Professor and Head

Arvind Chaturvedi

<b>Professors</b>		
Mihir Prakash Pandia Girija Prasad Rath		Rajendra Singh Chouhan Hemanshu Prabhakar
<b>Additional Professors</b>		
Gyaninder Pal Singh (JPNATC) Keshav Goyal (JPNATC)	Ashish Bindra (JPNATC)	Niraj Kumar (JPNATC) Navdeep Sokhal (JPNATC)
<b>Associate Professors</b>		
Charu Mahajan	Indu Kapoor	Surya Kumar Dube
<b>Assistant Professors</b>		
Vanitha Rajgopalan		Suman Sokhal
<b>Clinical Neuro-psychology</b>		
<b>Additional Professor</b>		
Ashima Nehra		
<b>Neurobiochemistry</b>		
<b>Associate Professor</b>		
Ashok Sharma		
<b>Neuropathology</b>		
Chitra Sarkar	Mihir Chand Sharma	Vaishali Suri
<b>Hospital Administration</b>		
IB Singh		
<b>Chief Medical Officer</b>		
Anjali Hazarika		

### Neurology

#### **HIGHLIGHTS**

In the year 2019-20, the Neurosciences center continued to scale newer heights in the domains of patient care, research and training. This year was notable for the initiation of Tele OPD services for follow up patients amidst the COVID-19 crisis in March 2020. Department of Neurology was the first department in AIIMS to do so. Two major publications on CONSENSUS statements on management of Multiple Sclerosis and other primary demyelinating disorder and on STROKE were published by the department of Neurology.

Stalwarts like Professor Fred Gentili (Canada), an expert in neuro-endoscopic procedures and Professor Ali Krisht (US) an expert in skull base and vascular microneurosurgery came to perform surgeries during 22nd AIIMS Microneurosurgery workshop. Professor Alexi Peleganchuk and Professor Alexander Krutko (Russia) both experts in spine surgery demonstrated their surgical skills during successfully conducted 9th AIIMS complex spine surgery workshop. Department of neurosurgery featured in 2020 edition of *Limca book of records* for performing first craniopagus surgery in which a team of 125 doctors and paramedical staff led by Professor Ashok K. Mahapatra (former Head of Department).

A state-of-the-art 128 slice dual energy CT scanner installed in the department of Neuroimaging and Interventional Neuroradiology. The existing 1.5T MR was upgraded to 'silent MR' system.

Neuro-anesthesiology department managed a record number of 4063 (2760 at the Neurosciences Centre and 1303 at the JPNATC) neurosurgical procedures and 662 neuroradiological procedures (378 in Angiography lab and 284 in MRI suite).

Neuropathology department has added new facilities for the molecular diagnosis and cytogenetic work-up in routine work up in neuro-oncology.

#### **HIGHLIGHTS**

In the year 2019-20, the Department of Neurology continued to scale new heights in patient care, research and training. This year was notable for the initiation of Tele OPD services for follow up patients amidst the COVID-19 crisis in March 2020. Department of Neurology was the first department in AIIMS to do so. Using the module of **teleneurology OPD** services, publications were sent on the experience, the utility and satisfaction index of the users on the novel aspect of

TELE OPD in Neurology. Under the lock down period due to COVID pandemic, several webinars were conducted nationally for educational purpose. Two major publications on consensus statements on management of Multiple Sclerosis and other primary demyelinating disorder and on stroke were published recently, from the department under the aegis of Indian Academy of Neurology and Indian Stroke Association. In the research arena, the department continued to excel with several other publications in high impact factor journals.

## **EDUCATION**

### **Change brought about in academic activities**

1. **Fellowship in Stroke:** Running successfully. We have trained 4 fellows in Stroke till now and the last Stroke Fellow has been inducted into contract faculty in the department in the month of April 2020.
2. Under **short term and long-term Dissertation program with MSc Nursing**, KAP studies and awareness and educational protocols have been made and conducted successfully amongst ER personnel, care givers for stroke patients and for stroke patients.
3. Under **DM Dissertation, Awareness and Educational program for Stroke Triage** and acute management has been conducted successfully with ER personnel and Stroke Nursing staff.

### **Innovative educational activities**

1. Under the lock down period due to COVID pandemic, a number of webinars have been conducted nationally for educational purposes dealing in the following subjects:
  - a) Tele neurology
  - b) Various aspects of stroke and its management issues.
  - c) Various aspects of epilepsy
  - d) Various aspects of EEG and other electrophysiological monitoring.
  - e) COVID and Neurology
  - f) COVID and Stroke
2. Two major publications on CONSENSUS statements on management of Multiple Sclerosis and other primary demyelinating disorder and on STROKE have been published recently, from the department under the aegis of Indian Academy of Neurology and Indian Stroke Association.
3. Using the module of Teleneurology OPD services initiated in the month of March 2020, publications have been sent on the experience, the utility and satisfaction index of the users on the novel aspect of TELE OPD in Neurology.
4. Department of Neurology is the first department in AIIMS to have initiated the Tele OPD services.
5. One senior resident published a systematic review and meta-analysis on effects of tenecteplase in acute ischemic stroke, which prompted 'Up to date' and 'Dynamed' to change its recommendation along with citation of the publication.
6. Organized half day workshops on 'Diagnosis and Management of Epilepsy' for undergraduates and postgraduates through the CMETi training program on 27 August 2019

### **Lectures delivered**

<b>M.V. Padma Srivasatava: 15</b>	<b>Kameshwar Prasad: 21</b>	<b>Manjari Tripathi: 1</b>
<b>Achal Kumar Srivastava: 11</b>	<b>Rohit Bhatia: 16</b>	<b>Mamta Bhushan Singh: 4</b>
<b>Deepti Vibha: 10</b>	<b>Vishnu VY: 1</b>	<b>Roopa Rajan: 6</b>
<b>Awadh Kishore Pandit: 3</b>	<b>Rajesh Kumar Singh: 2</b>	<b>Anu Gupta: 1</b>
<b>Animesh Das: 1</b>	<b>Bhargavi: 2</b>	

### **MV Padma Srivasatava**

1. Atherosclerosis and migraine: an emerging risk National Headache Symposium, April 2019, Kolkata
2. Stroke management Conclave on Health Sciences NASI-Local Chapter, April 2019, Jaipur
3. An update on ICH management Asian Society of CME – Cross Connect East, April 2019, Kolkata
4. Neurosonology in stroke Annual Conference of the Society of Neuro-sonology, June 2019, Kolkata
5. Thrombolysis in ischemic stroke – difficult decisions National stroke CME, June 2019, New Delhi
6. Stroke induced movement disorder: Lightning does strike twice First Movement Disorder Conclave of Uttarakhand, July 2019, Rishikesh
7. Post stroke seizures – management issues Epilepsy conclave August 2019, Bengaluru

8. Pragmatic treatment approach to multiple sclerosis ICTRIMS, August 2019, Kolkata
9. Course Director, Stroke summer school September 2019, Bengaluru
10. Stroke hub spoke model – role of physicians, Physician training in stroke care for MSUs, September 2019, Guwahati
11. Thrombolysis in ischemic stroke beyond 4.5 hours IANCON, October 2019, Hyderabad
12. NOACs – an update RAJAPICON, October 2019, Jaisalmer
13. Intravenous thrombolysis in AIS - the art and science of practice TS Srinivasan-NIMHANS Knowledge Conclave February 2020, Bengaluru
14. Management of AIS – how far have we reached? National neuro update February 2020, Rishikesh
15. Clinical approach to language dysfunction SHINE February 2020, Chennai

#### **Kameshwar Prasad**

1. Evidence-Based Management of acute ischemic stroke AINA Neurology Workshop and 2nd AIIMS, PGI (BRAINSTROM-2019), 13th April 2019, PGIMER, Chandigarh
2. Designing randomized controlled trials, Research Methodology Workshop, 20-22 May 2019, Kolkata West Bengal
3. Evidence Based Clinical Practice and GRADE methodology, McMaster Evidence Based Clinical Practice Workshop, 3-7 June 2019, Hamilton, Canada
4. a) How to design a study: research question, objectives and hypothesis b) Introduction to systematic review and meta-analysis First PG Workshop on Research Methodology, Writing and Communication (July session), 5-9 August 2019 and 2-6 September 2019, AIIMS, New Delhi
5. ICMR estimates of national burden due to multiple sclerosis, Indian Committee for Treatment and Research in Multiple Sclerosis Conference (ICTRIMS-2019), 18 August 2019, Kolkata West Bengal
6. Randomized controlled trials b) Systematic review and meta-analysis ICMR Workshop on Research Methodology, 5 September 2019, Dharamshala, Himachal Pradesh
7. Stroke research in India: where should we focus? 6 Summer Stroke School, 6-8 September 2019, Bengaluru Karnataka
8. Network meta-analysis, Collaboration Meeting (University of London) 13-14 September 2019, London U.K.
9. Systematic review and meta-analysis: principles and clinical implications ICMR workshop on Capacity Building for NE Region in Evidence Based Medicine, 26-27 September 2019, Guwahati Assam
10. Genome Wide Association Study of Ischemic Stroke in Indian Population International Stroke Genetics Consortium, 2-4 October 2019, St. Louis, U.S.A
11. Evidence for Tenecteplase in Treatment of Acute Ischemic Stroke Neurology Grant Rounds Lecture in North Shore University Hospital, 8-11 October 2019, Northwell Health, New York U.S.A.
12. An overview of study Designs; Group task Systematic Review/ Meta Analysis Second Workshop on Research Methodology, Writing and Communication, 22 October 2019, AIIMS New Delhi
13. Moving towards evidence-based guidelines ISMOCD Conference-2019, 30 November 2019, Kochi, Kerala
14. LoCARPoN cohort: conceptualization, design and execution, 37 Annual Conference of Indian Society for Medical Statistics, 6 December 2019, AIIMS, Patna, Bihar
15. Workshop on GRADE methodology Keynote lecture on clinical impact of evidence-based practice: personal experience International Evidence-Based Education Conference, 12-13 December 2019, Vadodara Gujarat
16. Evidence Based Medicine Evidence Based Clinical Practice Workshop, 20-23 December 2019, Ajman, UAE
17. Guidelines for dual antiplatelets after TIA and Minor Ischaemic Stroke Annual Delhi Neurological Association Conference, 2 February 2020, Delhi
18. Evidence for Tenecteplase in acute ischaemic stroke TS Srinivasan NIMHANS Knowledge Conclave-2019, 7-8 February 2020, Bengaluru, Karnataka
19. Impact of evidence-based approach on clinical practice Coal India Annual Medical Conference (CIMECON-2019) 9 February 2020, Ranchi, Jharkand
20. Content of Research Protocol, Formulation of Research Question Workshop on Orientation and Research Methodology, 2 March 2020, AIIMS New Delhi
21. Systematic Review and Meta Analysis, Workshops on Orientation and Research Methodology, 5 March 2020, AIIMS, New Delhi

#### **Manjari Tripathi**

1. Presurgical evaluation in Developing world Grandrounds, May 2019, UCLA

### **Achal Kumar Srivastava**

1. Evaluation and management of Ataxia, 1 IAN-AINA CME and 2nd AIIMS PGI Update 'Brainstorm 2019' 14 April 2019, Chandigarh
2. Should you order neuroimaging for Migraine?, ACPCON 2019, organized by American College of Physicians India Chapter 28 April 2019, New Delhi
3. Utility of EEG in critical care NeuroCritiCon 2019, 28 April 2019, New Delhi
4. Treatable Ataxias 1 Movement Disorder Conclave of Uttarakhand, 14 July 2019, Rishikesh
5. Brachial Plexopathy: Clinical and electro-physiological evaluation (for Orthopaedicians) CME-Must Know Neurology for orthopaedicians, 17 November 2019, Patna
6. Novel genetic diagnosis of SCA 12 based on intermediate CAG repeats 37th Annual Meeting of Indian Academy of Neurosciences, 20 November 2019, New Delhi
7. Dissecting Hereditary Ataxia 26 Annual Conference of Neurosciences Society (UP – UK NEUROCON 2020), 22 February 2020, Meerut
8. Differential Diagnosis and Approach to rare ataxic disorders, Rare Movement Disorders (MDS-AOS), 6 March 2020, Bengaluru
9. Spinocerebellar Ataxia 12 Rare Movement Disorders (MDS-AOS), 6 March 2020, Bengaluru
10. Genetic Evaluation of Rare Movement Disorders Rare Movement Disorders (MDS-AOS), 7 March 2020, Bengaluru

### **Rohit Bhatia**

1. Non-Traumatic ICH. Neurology update, April 2019, Daman.
2. Management of CVT. Neurology update, April 2019, Daman
3. Management of AIS AIIMS, PGIMER, Neurology update. Brain storm 2019, April 2019, Chandigarh
4. Interesting Case presentation. AIIMS, PGIMER, Neurology update. Brain storm 2019, April 2019, Chandigarh
5. Management of acute ischemic stroke, 1 World Congress on Cardiometabolic Medicine, April 2019, Mumbai.
6. Finite Therapy- Is this the Future of MS World Neurosciences Summit, August 2019, Delhi
7. Clinico-Radio-Pathological Correlation World Neurosciences Summit, August 2019, Delhi
8. Cardioembolic stroke International Conference on Neurological Disorders and Therapeutics (ICNDT 2019), October 2019, Ahmedabad
9. IAN annual IAN BAR-B-Quiz. Quiz master, Annual meeting of Indian Academy neurology, October 2019, Hyderabad
10. Round table meeting on CNS tuberculosis panel. Annual meeting of Indian Academy neurology, October 2019, Hyderabad
11. Current trends in management of Acute stroke, World Congress on Cardiometabolic Medicine, November 2019, Bhopal
12. Management of ICH World Congress on Cardiometabolic Medicine, November 2019, Bhopal
13. Genetic small vessel disease Stroke Masterclass, November 2019, Gurgaon.
14. Escalation therapies MS MS dextrous meet, December 2019, Delhi
15. Update on management of ICH Telangana Neurosociety Annual Meeting, 2019, 8 February 2020, Hyderabad, Talk given online
16. 3 way debate. Low NIHSS and M1 occlusion. International stroke conference, 2020, American heart association. February 2020, Los Angeles, USA

### **Mamta Bhushan Singh**

1. Polytherapy in Epilepsy, AIIMS-PGI Neurology Update, 13 April 2019, Chandigarh
2. Epilepsy diagnosis – The role of investigations in primary care Neurology in Primary care, 19 April 2019, Prayagraj
3. Epilepsy: Clinical features, diagnosis, and treatment, Neurology Induction Program, 4 May 2019, Kannauj
4. Epilepsy Primary Care and EEG Basics Neurology update, 2-3 August 2019, Kanpur

### **Deepti Vibha**

1. Neuro-infections Brainstorm AIIMS PGI 2019, 13 April 2019, Chandigarh
2. Approach to a case of persistent encephalopathy 3rd National Conference on Critical Care and Infections in Liver Diseases, 21 April 2019, New Delhi

3. Approach to a case of quadriparesis Neurology- How I learned, 4 May 2019, Kannauj, India
4. Infections of the CNS AIIMS Neuroanaesthesia and Neurocritical Care Update-2019, 20 October 2019, New Delhi
5. Analytical statistics and statistical significance Workshop: Doing surgical research: the methods and statistics, 10 October 2019, New Delhi
6. Formulation of research question Workshop on Research Methodology 2019, 21 September 2019, New Delhi
7. Design, conduct and analysis of diagnostic test studies Workshop on Research Methodology 2019, 23 September 2019, New Delhi
8. CNS tuberculosis and epilepsy, CME on infections and epilepsy, 23 November 2019, New Delhi
9. Impact of Rotterdam Cohort Study and Framingham Cohort Study Building Knowledge for Prevention of Stroke and Dementia: A National Workshop on Population Based Cohort Studies, 17 December 2019, New Delhi, India
10. A systematic approach to the diagnosis and management of NPH 22 Annual Conference of Delhi Neurological Association, 1 February 2020, New Delhi

#### **Vishnu VY**

1. Case Presentation 2 AIIMS PGI Neurology Update, 2019, 12-14 April 2019, Chandigarh

#### **Roopa Rajan**

1. Botulinum Toxin Workshop- Oromandibular dystonia 1st National MD Conclave, 13-14 July 2019, Rishikesh
2. Botulinum Toxin in Dystonia: 2 Unusual Uses Dystonia Skills Workshop, 28 July 2019, New Delhi
3. “Unusual and combined Movement Disorders”- case presentation and panel discussion 3D Approach to Movement Disorders, 29 August 2019, Chennai
4. Botulinum Toxin Workshop DBS in Movement Disorders Course, 8-10 November 2019, Hyderabad
5. Deep Brain Stimulation Workshop MDSICON 2020, 31 January 2020, Trivandrum
6. Freezing of gait: a mysterious and difficult to manage phenomenon, MDSICON 2020, 1 February 2020, Trivandrum

#### **Awadh Kishore Pandit**

1. Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Enhancement in Stroke Care study- InQuEST) Workshop ICMR Project – InQuEST, 6-8 August 2019, Manipal, Karnataka
2. Workshop (ICMR Project): “Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Enhancement in Stroke Care study- InQuEST)” Workshop ICMR Project – InQuEST, 16-18 September 2019, Shillong, Meghalaya
3. Workshop (ICMR Project): “Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Enhancement in Stroke Care study- InQuEST)” Workshop ICMR Project – InQuEST, 23- 25 November 2019, Banaras, UP

#### **Rajesh Kumar Singh**

1. Nursing responsibility in acute stroke management Nursing and Healthcare Innovations: Sharing the learning, 15 March 2019, New Delhi
2. Case presentation- Infectious diseases AIIMS-PGI Neuroupdate, 14 April 2019, Chandigarh

#### **Anu Gupta**

1. Inflammatory myopathies: Current recommendations of treatment, DNACON 2020, 2 February 2020, New Delhi

#### **Animesh Das**

1. Focal epileptiform abnormalities International Workshop on Epilepsy, 1 March 2020, New Delhi

#### **Bhargavi**

1. SUDEP, 21 Joint annual Conference of Indian Epilepsy Association and Indian Epilepsy Society - ECON 2020, 18 January 2020, Ahmedabad
2. PML: When to suspect and how to diagnose? 22 Annual Conference of Delhi Neurological Association- DNACON 2020, 2 February 2020, New Delhi

### Oral papers/posters presented: 37

1. Agarwal A, Garg D, Goyal V, Pandit AK, Srivastava AK, Srivastava MVP. Optic neuritis following anti-rabies vaccine, 27th Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad
2. Verma V, Kumar S, Prasad K, Kant S, Dwivedi SN, Vibha D, et al. Prevalence of obesity: Baseline data from a prospective population-based Cohort study of 7137 elderly people at AIIMS, New Delhi, 27th Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad
3. Bahartiya M, Prasad K, Srivastava AK, Pandit AK, Vibha D. Can SMS reminders improve monitoring of international normalized ratio in patients on Vitamin K antagonists: A randomized controlled trial, 27th Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad
4. Prasad K, Kant S, Dwivedi SN, Vibha D, Pandit AK, Kumar S, et al. Population based neuroscience: Baseline data of 7137 participants from cohort study at AIIMS, New Delhi, 27th Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad
5. Aggarwal R, Goyal V, Srivastava AK, Behari M. Does socio-economic status have impact on quality of life in persons with Parkinson's disease? International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
6. Garg D, Srivastava AK, Jaryal AK, Rajan R, Singh A, Pandit AK, et al. Is there a difference in autonomic dysfunction between multiple system atrophy subtypes? 27th Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad **(Best Paper Award in Movement Disorder Category at IANCON 2019)**
7. Garg D, Agarwal A, Malhotra VK, Thacker AK, Srivastava AK. Classification and Comparative Analysis of Psychogenic Non-Epileptic Seizure (PNES) Semiology based on Video Electroencephalography (EEG), 22nd Annual Conference of Delhi Neurological Association, 1-2 February 2020, New Delhi **(Best Paper Award in Movement Disorder Category at IANCON 2019)**
8. Narang MK, Srivastava AK, Aggarwal R, Rajan R, Faruq M, Srivastava MVP. Gait in Spinocerebellar Ataxia Type12 (SCA-12). International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
9. Pandit AK, Prasad K, Talwar P, Kumar A, Pathak M, Gupta P. The effect of short-term exposure to particulate matter air pollution on mortality and poor prognosis after acute stroke. 5 European Stroke Organisation Conference (ESOC 2019), 22-24 May 2019, Milano, Italy
10. Parihar J, Singh MB, Bhatia R et al. Comparison of CECT and NCCT in the investigation of chronic epilepsy – A prospective observational study, 21 ECON 18 January 2020, Ahmedabad
11. Pillai KS, Rajan R, Vishnu VY, Singh MB, Bhatia R, Srivastava MVP. A case of adult onset PLAN MDSICON 2020, 31 January- 2 February 2020, Trivandrum, India
12. Pillai KS, Rajan R, Pandit AK, Srivastava AK, Prasad K, Goyal V. Clinical and electrophysiologic characteristics of tremor in tremor dominant Parkinson's disease patients. 27 Annual Conference of the Indian Academy of Neurology, 3-6 October 2019, Hyderabad
13. Prajapati C, Singh MB, Padma PV et al. Long-term Follow up of Epilepsy Patients After a Single Neurologist Visit Annual Meeting of the AAN, 7 May 2019, Philadelphia, USA
14. Rajan R, Reghu A, Saini A, Pandit AK, Vishnu VY, Syam K, et al. An automated algorithm for detection, quantification and classification of tremor from hand-drawn, pen-on-paper spirals IAPRD Congress, 15-19 June 2019, Montreal, Canada
15. Rajan R, Reghu A, Saini A, Srivastava AK. Spiral loop width differentiates essential tremor and dystonic tremor 22 International Congress of Parkinson's Disease and Movement Disorders, 20-26 September 2019, Nice, France
16. Rajan R, Reghu A, Saini A, Vishnu VY, Gupta A, Bhatia R, et al. Botulinum Toxin Injection for Upper Limb Dystonia with Tremor MDSICON 2020, 31 January - 2 February 2020, Trivandrum, India
17. Rajan R, Pandey S, Reghu A, Srivastava AK. Interrater and intrarater agreement on the 2018 MDS consensus classification of tremors 6th AOPMC, 12-14 April 2019, Hangzhou, China
18. Reghu A, Rajan R, Saini A, Srivastava AK. Automated analysis for quantification of tremor from pen-on-paper Archimedes spirals 22nd International Congress of Parkinson's Disease and Movement Disorders 20-26 September 2019, Nice, France
19. Saini A, Rajan R, Reghu A, Srivastava AK. Anticholinergic Burden in Parkinson's Disease patients in India - A Hospital Based Study. MDSICON 2020, 31 January- 2 February 2020, Trivandrum, India
20. Seetha Lekshmi B, Narang P, Srivastava AK, Goyal V, Rajan R. Lysosomal Storage Disorders In Movement Disorder Clinic: A Case Series, MDSICON 2020, 31 January- 2 February 2020, Trivandrum, India

21. Sharma J, Srivastava MV Padma, Srivastava AK, Bhatia R, Rajan R, Singh R, et al. 'Prehospital' delay in acute stroke reperfusion therapy in Delhi: Time for introspection, World Congress of Neurology, 27-31 October 2019, Dubai, UAE
22. Misra S, Talwar P, Vibha D et al. Seasonal and monthly variation of stroke and its subtypes in the north Indian population. World Congress of Neurology, 27-31 October 2019, Dubai, UAE
23. Shakya S, Kumari R, Garg A, Srivastava AK, Faruq M. Need of next generation sequencing technology to de-convolute autosomal recessive cerebellar ataxias in India, International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
24. Sisodia P, Bhatia R, Saxena R, Srivastava MV Padma, Prasad K, Sreenivas V, et al. Biochemical aspirin resistance. Prevalence and clinical outcome in Indian Patients with ischemic stroke, World stroke organisation conference, October 2019, Milan
25. Misra S, Talwar P, Vibha D et al. Comparison of clinical risk factors and lipid profile between ischemic stroke and intracerebral hemorrhage stroke of a tertiary care hospital in North India, World stroke organisation conference, October 2019, Milan
26. Misra S, Sagar R, Talwar P, Vibha D et al. Association between p-selectin -1981 g/c gene polymorphism and risk of intracerebral hemorrhage in north indian population: a case-control study. World stroke organisation conference, October 2019, Milan (**Travel fellowship award for the PhD student**)
27. Singh HN, Swarup V, Srivastava AK, Differential transcription analysis reveal specific expression pattern and disease associated new biomarkers in child Friedreich's ataxia patient. XXIV World Congress on Parkinson's Disease and Related Disorders, 2019, 16-19 June 2019, Montreal, Canada
28. Singh HN, Swarup V, Srivastava AK. Genetic markers revealed in dysregulated pathways in ischemic stroke may lead to Parkinson's disease, International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
29. Singh I, Sakhya S, Singh RK, Srivastava AK. Screening of iron related HFE gene mutations in Friedreich's Ataxia disease. 5th Annual Conference of Movement Disorder Society of India, 31 January-2 February 2020, Thiruvananthapuram
30. Singh I, Swarup V, Shakya S, Goyal V, Srivastava AK. A Robust and Rapid Method of PCR amplification To Confirm Triplet Repeat Disorders: Single-Step Blood Direct PCR International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
31. Sonakar AK, Srivastava AK, Faruq M., Correlation of CAG repeat with autonomic function in spinocerebellar Ataxia Type-2 (SCA-2), XXIV World Congress on Parkinson's Disease and Related Disorders 2019, 16-19 June 2019, Montreal, Canada
32. Srivastava AK, Swarup V, Singh K, Faruq M. Sequencing of microRNAs in blood of SCA2 patients reveals hsa-miR-451 as potential target, XXIV World Congress on Parkinson's Disease and Related Disorders, 2019, 16-19 June 2019, Montreal, Canada
33. Srivastava AK, Takkar A, Goyal V, Faruq M, Rajan R, Garg A. Clinico-genetic correlation in 102 Spinocerebellar Ataxia Type 12 (SCA 12) patients International Congress of Parkinson's Disease and Movement Disorders, 22-26 September 2019, Nice, France
34. Swarup V, Singh HN, Srivastava AK. Deregulated pathways in ischemic stroke share genetic markers with Parkinson's disease: A gene-set enrichment analysis study, 5th Annual Conference of Movement Disorder Society of India, 31 January-2 February 2020, Thiruvananthapuram
35. Vishnu VY, Srivastava MV Padma, Sharma J, Gupta Y, Singh MB, Dwivedi SN, et al. Prophylactic levetiracetam for the prevention of post stroke seizures (PROLEVIS): A randomized, double blind, placebo - controlled trial protocol Poster presentation, World Congress of Neurology, 27-31 October 2019, Dubai, UAE
36. Vishnu VY, Vinny P, Rajan R, Goyal V, Srivastava P, Lal V, et al. Neurology residents versus a mobile medical application in deducing differential diagnoses in movement disorders: A multi-center, cross-sectional, observational study Poster presentation International Congress of Movement Disorders, 22-26 September 2019, Nice France
37. Vishnu VY, Vinny PW, Rajan R, Goyal V, Srivastava MV Padma, Lal V, et al. Neurology residents versus a mobile medical application in deducing differential diagnoses in movement disorders: A multi-center, cross-sectional, observational study Platform presentation, World Congress of Neurology, 27-31 October 2019, Dubai, UAE

## RESEARCH

### Funded projects

#### Ongoing

1. Mapping, Researching and Addressing The Gaps In Scientific Awareness and Health Practices Regarding Stroke In HP: Applying Novel, Interactive/Demonstrative Science Communication MV Padma Srivastava, DST, 3 years, 2016-2019, Rs 40.45 lakhs

2. Effect of Dual-Task Exercise in Conjunction with Fluoxetine and Transcranial Direct Current Stimulation (tDCS) on Postural Stability and Gait in Stroke Patients. MV Padma Srivastava ICMR, 3 years, 2017-2020, Rs 50.6 lakhs
3. Elucidating the Pathobiology of Classical Ayurvedic Interventions in Post Stroke Recovery Using Magnetic Resonance and Other Techniques Based Structural, Functional and Chemical Biomarkers, MV Padma Srivastava DST, 3 years, 2018-2021, Rs. 31.33 lakhs
4. Secondary Prevention by Structured Semi-Interactive Stroke Prevention Package in India (SPRINT INDIA), Study and Establishment of the Indian Stroke Clinical Trial Network (INSTRuCT), MV Padma Srivastava, ICMR, 3 years, 2017-2020, Rs 15.4 lakhs
5. Role of Normobaric Oxygen Therapy, Fluoxetine and Transcranial Direct Current Stimulation (rTCDS) in Hypoxic Ischemic Brain Injury – HIBInitiative, MV Padma Srivastava, DBT, 5 years, 2018-2023, Rs 106 lakhs
6. Randomised, double-blind, placebo-controlled, international, multicenter, phase III study to investigate the efficacy and safety of ticagrelor and ASA in the prevention of stroke and death in patients with acute ischemic stroke or transient ischemic attack (THALES-Acute stroke or transient ischemic attack treated with Ticagrelor or and ASA for prevention of stroke and death, MV Padma Srivastava, ASTRA-ZENACA, 1 year, 2018-2019, Rs 3.92 lakhs
7. Is Air Pollution and climate change a Stroke Risk Factor? with special reference to Stroke in Young Indians and ischemic stroke subtypes: A multi-center study, MV Padma Srivastava, DST, 3 years, 2018-2021, Rs 59.11 lakhs
8. A 12 Week double blind, randomized multi-centric study comparing the efficacy and safety of once monthly subcutaneous AMG 334 against placebo in adult episodic migraine patients (EMPOWER), MV Padma Srivastava, NOVARTIS, 1 year, 2018-2019, Rs 0.9 lakhs
9. The National Institute for Health Research Global Health Research Group on improving stroke care in India at The University of Central Lancashire. IMPROVing Stroke CarE in India (IMPROVISE). MV Padma Srivastava, NIHR-UCLAN-UK, 2 years, 2018-2020, Rs 42 lakhs
10. Understanding and facilitation of neural plasticity for enhancing post stroke recovery using low cost non-invasive brain stimulation techniques, MV Padma Srivastava, DHR, 3 years, 2017-2020, Rs. 48 lakhs
11. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective. Kameshwar Prasad, DBT, 8 years, 2014-2022, Rs. 3200 lakhs
12. Identification of brain imaging quantitative traits loci for cerebral small vessel disease among AIIMS cohort participants using genome wide association study, Kameshwar Prasad, DHR, 3 years, 2018-2021, Rs 280 lakhs
13. Next Generation gene sequencing to determine the association between certain functional exonic variations and young onset Ischemic stroke. Kameshwar Prasad, ICMR, 3 years, 2017-2020, Rs 53 lakhs
14. Identification of genetic risk factors of stroke in Indian population. Kameshwar Prasad, DBT, 3 years, 2013-2019, Rs 64 lakhs
15. Biomarkers to enhance predictive power for short-term and long term outcome after spontaneous intracerebral haemorrhage. Kameshwar Prasad, DBT, 6 years, 2013-2019, Rs 119 lakhs
16. Identification of genetic contribution to ischemic stroke by screening single nucleotide polymorphism of genes associated with inflammation: a case-control study. Kameshwar Prasad, ICMR, 2 years, 2017-2019, Rs. 17 lakhs
17. Fever, Hyperglycemia, Swallowing, and Hypertension Management in Acute Stroke: A Cluster Randomized Trial (Indian Quality Improvement in Stroke Care Study) under “India Stroke Research Network”. Kameshwar Prasad, ICMR, 1 year, 2018-2019, Rs. 78 Lakhs
18. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke, Rohit Bhatia, DBT, 3 years, 2017-2020, Rs 85 lakhs
19. Pathobiology of Multiple sclerosis: phenotypic, biomarker and genetic signatures, Rohit Bhatia, ICMR, 3 years, 2018-2021, Rs 120 lakhs
20. Aspirin or clopidogrel in patients with TB Meningitis, Rohit Bhatia, ICMR, 3 years, 2019-2022, Rs 75 lakhs
21. Genomic and Proteomic Characterization of Indian Amyotrophic Lateral Sclerosis, Rohit Bhatia, AIIMS, IIT, 2 years, 2019-2021, Rs. 10 lakhs
22. CRISPR-based Editing of Regulatory Region and Expanded Triplet repeats as Therapeutic Approach in India’s Most Common Hereditary Ataxias, Achal K Srivastava, DBT, 3 years, 2018-2021, Rs 125.35 lakhs
23. Targeting Repressor Sites in fxn Gene and Associated Transcription Factors as Potential Therapeutic Approach in Friedreich’s Ataxia, Achal K Srivastava, ICMR, 3 years, 2019-2022, Rs 62.27 lakhs
24. A prospective, multicentric, randomized, double-blind, parallel, phase III clinical study to assess efficacy of PMZ-1620 along with standard treatment in patients of acute ischemic stroke. Deepti Vibha, Pharmazz India Pvt Ltd., 1 year, 2019-2020, Rs 7.48 lakhs
25. Determination of efficacy of 9 months, 12 months and 18 months of Anti-Tubercular Treatment (ATT) for Tuberculous Meningitis (TBM): A randomized controlled, non-inferiority trial, Deepti Vibha, DHR, 3 years, 2019-2022, Rs 40.52 lakhs

26. Blood based protein biomarkers for the prediction of stroke outcome using high through output proteomics approach. Deepti Vibha, AIIMS, 3 years, 2019-2022, Rs 10 lakhs
27. Clinical and genetics characterization of dystonia using deep targeted sequencing, Achal K Srivastava, ICMR, 3 years, 2019-2022, Rs 6 lakhs
28. A randomised double blind study of prophylactic levetiracetam for the prevention of post stroke seizures (PROLEVIS), Vishnu VY, DST-SERB, 3 years, 2018-2020, Rs 29 lakh
29. Machine Learning model for early diagnosis of stroke in resource limited settings: Pilot study: A collaborative project with IIT Delhi, Vishnu VY, DBT, 2 years, 2020-2022, Rs 70 lakhs
30. Citicoline in Acute Ischemic Stroke undergoing revascularisation therapy- Investigator initiated academic trial, Vishnu VY, AIIMS, 2 years, 2018-2020, Rs. 5 lakhs
31. BRAHMI (Bacopa Monnieri) for Dementia due to Alzheimer's Disease- Systematic Review and Meta-analysis, Vishnu VY, ICMR, 1 year, 2020, Rs 10 lakhs
32. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Vishnu VY, ICMR, 3 years, 2020-2022, Rs 50 lakhs
33. Genetic Architecture of Parkinsons Disease in India (GAP-India), Roopa Rajan, Michael J Fox Foundation, 3 years, 2019-202, Rs 36.93 lakhs
34. The Indian Movement Disorder Registry and Biobank: clinical and genetic evaluation in Indian patients with movement disorders, Roopa Rajan, DBT, 3 years, 2018-2021, Rs 287,72 lakhs
35. Automated hand-drawn spiral analysis platform as a tool to differentiate tremor syndromes, Roopa Rajan, DST-SERB, 3 years, 2017-2020, Rs 42 lakhs
36. Botulinum Toxin injection for treatment of dystonic hand tremor: a randomized, placebo-controlled, parallel group trial, Roopa Rajan, AIIMS, 2 years, 2018-2020, Rs 4.82 lakhs
37. Deciphering the role of ATF3 and TGF  $\beta$  signaling in Mesial Temporal lobe epilepsy (MTLE) patients, Rajesh Kumar Singh, AIIMS, New Delhi, 2 years, 2018-2020, Rs 9.44 lakhs
38. To evaluate the prevalence and incidence of cognitive deficits, in relation to glycaemic control and other metabolic risk factors, in elderly patients with type 2 diabetes mellitus who are at high risk of dementia in comparison to age and gender matched normoglycemic subjects: prospective observational multicentre cohort study, Anu Gupta, ICMR, 3 years, 2019-2022, Rs 46 lakhs
39. Awareness of head injury while driving in patients with epilepsy (PWE): A preventive and public educational study, Divya MR, ICMR, 3 years, 2019-2022, Rs 26.14 lakhs

## **Departmental projects**

### ***Ongoing***

1. Randomized controlled trial comparing efficacy and basal bolus insulin regimen versus sliding scale insulin regimen in patients with acute stroke
2. Rivastigmine for Cognitive impairment in Multiple Sclerosis: A Parallel Group Randomised Open Label Study with Blinded End point Assessment
3. Designing and validation of evidence-based questionnaire in English and Hindi for a population-based cohort study in North India
4. Prevalence and determinants of cerebral micro bleeds among community dwelling people aged 50 years or older: A population based cross sectional study
5. Association of Vascular Risk Factors, Brain MRI Measures, Cognition and Gait in Community Dwelling adults aged 50 years and above: A Population Based Cross-Sectional Study
6. Identifying the rare genetic variant in stroke by whole exome sequencing
7. Clinical trial to evaluate the role of education to care givers in reducing complications and improving outcomes of hospitalized stroke patients
8. N-acetyl cysteine in patient with acute ischemic stroke. Randomised controlled trial.
9. Linezolid as an add on therapy in the intensive phase of TBM. Randomised controlled trial
10. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke
11. Pathobiology of Multiple sclerosis: biomarker and genetic signatures
12. Utility of 8-channel EEG in detecting interictal generalised spike and wave discharges in generalized epilepsy – A diagnostic study
13. Development and Use of an Instrument for Assessing Competence of Trainee Doctors in Providing Epilepsy Primary Care

14. Role microRNAs in pathophysiology of neurodegenerative disorder: spinocerebellar ataxia type 2 (SCA2)
15. Characterization of tremor and gait in spinocerebellar ataxia type 12
16. To study the molecular correlation of Friedreich's ataxia (FRDA) phenotype through mitochondrial genome and transcriptome analysis
17. To identify functional genetic elements in triplet repeats flanked haplotype region and mitochondrial genome in spinocerebellar ataxias
18. Identification of novel unstable tandem nucleotide repeat loci by genome wide screening and their implication in the pathogenesis of genetically uncharacterized progressive cerebellar ataxias.
19. Assessment of sleep dysfunction and its correlation with autonomic function test and severity of disease in apparently idiopathic sporadic progressive cerebellar ataxia
20. Non ataxic manifestations of spinocerebellar ataxia
21. Validation of FXTAS rating scale in SCA 12 patients
22. An ambispective cohort study of idiopathic inflammatory myopathies to understand the clinical profile and temporal trends in management
23. An ambispective cohort study of chronic inflammatory demyelinating neuropathy and its variants
24. Repetitive Transcranial Magnetic Stimulation to the Inferior Parietal Cortex in Task Specific Focal Hand Dystonia: A Cross over, Sham-control, Blinded Outcome Assessment Study
25. Social Cognition in Parkinson's Disease
26. Institutional registry of patients with hypertrophic pachymeningitis
27. Clinico-radiological spectrum of patient presenting with acute myelitis - A prospective study
28. Clinical and radiological spectrum of Anti Myelin oligodendrocyte glycoprotein (MOG) antibody related neurological disorders — An ambispective observational study.
29. Randomised controlled trial comparing efficacy of intranasal versus intramuscular midazolam in terminating seizures during pre surgical epilepsy- VEEG monitoring
30. Assessment of Impact of Physical Exercise as Complementary Management Strategy in People with Epilepsy
31. To Study the Effects of Antidepressant Therapy on Mild and Moderate Depression in Patients with Epilepsy: A Randomized Controlled Trial
32. Study of efficacy of Fluoxetine in post-stroke anxiety-A Randomized Controlled Trial
33. To Determine the Diagnostic Performance Characteristics of Blood Based Protein Biomarkers for The Differentiation of Stroke Using High-Throughput Proteomics Approach
34. Occurrence of Hemorrhagic Transformation in patients with Acute Ischemic Stroke (AIS) using Transcranial Doppler (TCD) – A Prospective, Observational Study

### ***Completed***

1. Yoga as an add on therapy in migraine. (CONTAIN). A Randomised clinical trial.
2. Customized vs regular testing battery during ictal phase in localizing seizures in epilepsy monitoring unit (EMU)
3. Comparison of regimens of dexamethasone in tubercular meningitis- A randomized control trial

### **Collaborative projects**

#### ***Ongoing***

1. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Erasmus Medical Centre, The Netherlands
2. Outcome of Myasthenia Gravis patients after thymectomy, Surgery
3. Intracranial atherosclerotic disease imaging and outcome, Neuroradiology
4. Targeting Repressor Sites in fxn Gene and Associated Transcription Factors as Potential Therapeutic Approach in Friedreich's Ataxia, CSIR-IGIB
5. CRISPR-based Editing of Regulatory Region and Expanded Triplet repeats as Therapeutic Approach in India's Most Common Hereditary Ataxias, CSIR-IGIB
6. Machine Learning model for early diagnosis of stroke in resource limited settings: Pilot study, IIT Delhi
7. Cochrane review: Disease-modifying therapy for human immunodeficiency virus-related distal symmetrical polyneuropathy, National Hospital for Neurology and Neurosurgery, UK Sing Health Duke NUS, Academic Medical Centre, Singapore Cochrane South Asia, CMC Vellore, Tamil Nadu PIMS, Puducherry, India

8. Cochrane Review: Treatment for pain in human immunodeficiency virus-related distal symmetrical polyneuropathy, National Hospital for Neurology and Neurosurgery, UK Sing Health Duke NUS, Academic Medical Centre, Singapore Cochrane South Asia, CMC Vellore, Tamil Nadu PIMS, Puducherry, India
9. A cost benefit analysis comparing therapeutic plasma exchange and intravenous immunoglobulin in the treatment of guillain-barré syndrome and myasthenia gravis patients at a tertiary level hospital, Transfusion medicine
10. Exosome based non-invasive (saliva and urine) detection technique development for early Parkinson's disease, Biophysics
11. Assessment of cognitive, neuroanatomical, and neurofunctional abnormalities in adults with T1D Endocrinology
12. Effect of yoga on psychological, cognitive and glycemic control in patients with T2D and depression: 2 arm parallel RCT, Endocrinology
13. A multicenter open label parallel arm RCT evaluating whether yoga can prevent worsening of glycemic control in patients with T2D on oral drugs Endocrinology, MDRE, Chennai

### Completed

1. Effectiveness of neuro-feedback using NIRS to enhance motor imagery based rehabilitation in stroke patients - A pilot study, Physiology

### PUBLICATIONS

**Journals: 105**

**Abstracts: 32**

**Chapters in Books: 4**

**Books: 2**

### PATIENT CARE

#### Special clinics

1. Stroke clinic
2. MS, Demyelinating disorders and Neuroimmunology clinic
3. Headache clinic
4. Neuromuscular clinic
5. Ataxia Clinic
6. Movement Disorder Clinic
7. Botulinum toxin clinic
8. Intractable Epilepsy Clinic

#### Special lab facility

Neurosonology facility

Movement disorder electrophysiology

#### Community services/camps

1. World Stroke day organised in October 2019 at AIIMS, Delhi
2. World MS Day organised in May 2019 at AIIMS, Delhi
3. Epilepsy clinics organized on the Lifeline Express at:
  - Sahibganj Jharkhand 14 and 15 September 2019
  - Korba, Chhattisgarh 26 and 27 October 2019
  - Forbesganj, Bihar 30 November and 1 December 2019
  - Subedarganj, Prayagraj (UP) 28 and 29 December 2019
  - Dhubri, Assam 1 February 2020
  - Naharlagun, Agartala, 29 February and 1 March 2020
4. Health Camp at Naudera, Pratapgarh UP 7-9 December 2019
5. Lecture on 'Public awareness of Parkinson's disease and Social Dimensions' on PD Day at Indian Spinal Injury Center, New Delhi
6. 'World Mental Health Day' celebration at SRM University, Delhi NCR, Sonapat October 2019.
7. AIIMS Superspeciality medical camp, Ladakh

### Neurology OPD

New Case					Old Case					Grand total	Total working days	Daily Average
Male	Female	Male child	Female child	Total	Male	Female	Male child	Female child	Total			
17494	12169	440	244	30347	38199	25653	1375	633	65860	96207	301	320

Clinical Neurophysiology Lab	
Lab Procedure	Numbers
EEG	3575
ECG	1570
LTVVEEG	315
STVEEG	117
EP	552
EPS	5431
SLEEP	174

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor MV Padma Srivastava** is Member of Institute Body of PGIMER Chandigarh: From Jan. 2020, onwards; Member of Institute Body of AIIMS, Rae Bareli: January 2020, onwards; Member of Governing Body of AIIMS, Rae Bareli: January 2020, onwards; Member of Governing Body of Ambedkar Institute of Medical Sciences under Govt. of Punjab from January 2020, onwards; Member SEC, DGHS, Govt. of India; External expert for DHR, Govt. of India; Member, Task Force, SATYAM, DST, Govt. Of India; Member Task Force for NSCRT, DST, Govt. of India, 2018; Member Task Force for MSU for North-East, under ICMR; Member, Scientific Committee for ESO-WSO, to be held in November 2020; External examiner for DM Neurology Exam held in PGIMER, Chandigarh in May 2019; External Expert for selection of faculty for AIIMS, Jodhpur in May 2019; External Expert for assessment of DNB NEUROLOGY IN Tanda, HP, in July 2019; External expert for selection of faculty for AIIMS, Rishikesh in July 2019; External examiner for DM exit exam in MAHE in July 2019; Board member meeting for the DST-FIST in Pune in August 2019; External expert for the Senior Staff Selection Committee Meeting in SCTIMS in Trivandrum in August 2019; External expert for faculty in Selection committee meeting in NIMHANS, Bengaluru in August 2019; External expert for faculty selection in Selection Committee meeting in BHU, Varanasi in September 2019; External examiner for DM Exit exam in Chettinad University in Tamil Nadu in September 2019; Visiting Professor for the University of Cincinnati, USA, as part of the IUSSTF meeting in November 2019; Visiting faculty for the Meeting on use of Alemtuzumab in RRMS held in Lugano, Switzerland in November 2019; Expert for monitoring of PBSR under aegis of ICMR meeting in Bengaluru in December 2019; Expert for PBSR monitoring in Varanasi and UP under aegis of ICMR held in BHU in January 2020; Invited faculty and co PI for the IUUSTF project on Homocysteine lowering trials for stroke held in University of Iowa, USA from 20 to 27 January 2019; Invited faculty and co PI for IMPROVISE, the multicenter, international collaboration on improving stroke care in India with UCLAN, UK, NIHR-GHRA, held in Dubai in June 2019; Invited faculty and board member for DST-PAC meeting in Mumbai, in September 2019; Invited faculty and deliver the Baldev Singh Oration in NAMSCON held in AIIMS, Bhopal in October 2019; FRCP (Edin).

**Professor Kameshwar Prasad** is continuing as: Fellow, Royal College of Physicians, Edinburgh; Member of the World Stroke Organization; Member of the World Federation of Neurology; Member of the Infectious Diseases and ARI Review Group of the International Cochrane Collaboration; Member of the International Clinical Epidemiology Network; Member of the New York Academy of Sciences; Member of the American Academy of Neurology; Member, Cochrane Epilepsy Review Group; Member, Cochrane Neurological Network; Editor, Edinburgh-based Cochrane Stroke Group and Amsterdam-based Cochrane AR; Group Editorial Board Member - *British Medical Journal*, *Practical Neurology*, *Cochrane ARI Review Group*, *Australia*; Reviewer for the medical journals - *British Medical Journal*, *Stroke*, *Canadian Medical Association Journal*, *Journal of Epidemiology and Community Health*, *Journal of Antimicrobials and Chemotherapy*, *CNS Drugs*, *Cochrane Stroke*, *Neurology India*, *Annals of Indian Academy of Neurology*, *Journal of Association of Physicians of India*, *National Medical Journal of India*, *Circulation (USA)*, *Neurological Research*, *Neurological Sciences*, *Brain and Behaviour*, *Lancet*, *BMJ*; Visiting Faculty (Adjunct Affiliation) with the Department of Epidemiology, Erasmus MC, The Netherlands from May 2017-May 2019.

**Professor Manjari Tripathi** delivered Oration at the annual Indian Epilepsy Society meeting January Ahmedabad - 360 degree care in epilepsy.

**Professor Achal Srivastava** is Associate Editor of Annals of Indian of Neurology; Associate Editor of Annals of Movement Disorder; Executive Committee member of Neurological Society of India; Executive Member of Delhi Neurological Association; Executive Member of Nerve Muscle Society of India.

**Professor Rohit Bhatia** is Invited to deliver a lecture at the prestigious International Stroke Conference, American Heart Association meeting February 2020; Elected as the President of the Indian Stroke Association. March 2020; Elected as the Chairman of the Autoimmune Subsection of the Indian Academy Neurology. March 2020.

**Professor Mamta Bhushan Singh** was Appointed member International Subcommittee of American Academy of Neurology.

**Dr Deepti Vibha** was in Traineeship in Neurosonology at Yong Loo Lin School of Medicine, National University of Singapore in May 2019; Indian Academy of Neurology-Association of Indian Neurologists in America (IAN-AINA) observer fellowship for stroke at Stroke Services, University of Pittsburgh Medical Center (UPMC) in September 2019; Member of the institute annual report committee; Member of technical committee at Institute of Liver and Biliary Sciences, New Delhi.

**Dr Vishnu VY** was Selected for split-site fellowship programme: International Fellow in Neuromuscular Genomic Medicine; International Centre for Genomic Medicine in Neuromuscular Diseases (ICGNMD); Funded by the Medical Research Council, UK.

**Dr Roopa Rajan** was Selected for MDS-LEAP (Leadership program) class of 2019 Gold medal at 5 AOPMC quiz, Hangzhou, China; Steering Committee Member, International Parkinson's and Movement Disorder Society (MDS) Young Members Group; Member, MDS Tremor Study Group; Member, MDS Task Force on management of PD: integrated and interdisciplinary care.

**Dr Awadh Kishor Pandit** got awarded Fellowship in Neuroendovascular therapy for Neurological disorders particularly Stroke Management at Aichi Medical University, Aichi, Japan for six months (15 January 2020 to 30 June 2020).

**Dr Elavarasi** is Assistant Editor, Annals of Indian Academy of Neurology.

**Dr Bhargavi Ramanujam** is Assistant Editor in the Editorial board of the journal - Neurology India.

#### **Awards won by students/trainees**

1. Best paper award in Movement Disorder Category at IANCON 2019 (DM student)
2. Best Paper Award in Poser Category at DNACON 2020 (Ex DM student)
3. International Travel Grant to attend International Parkinson's disease and Movement disorder society (PhD students)
4. International Travel Grant to attend International Association of Parkinsonism and Related Disorder (PhD Student)
5. The international scholarship award. American Academy Neurology, 2020 (DM Student)
6. International travel scholarship award: World stroke organization meeting 2019 (PhD student)
7. International travel bursary: World Congress neurology, 2019, PhD student.
8. PHD student Ms. Jyoti Sharma received ICMR fellowship

#### **VISITING SCIENTIST**

A team of scientists visited the Department of Neurology in October 2019 to discuss collaborative academic research as part of the 'International Centre For Genomic Medicine in Neuromuscular Diseases' project.

Dr. Robert David Stuart Pitceathly, MRC clinician scientist and Honorary consultant, UCL.

Professor Michael Gergis Hanna, Director of the UCL Institute of Neurology and Director of the MRC Centre for the neuromuscular diseases, UCL

Dr. Lindsay Anne Wilson, Centre Research Manager for the International Centre for Genomic Medicine in Neuromuscular diseases at UCL

Dr. Jana Vandrovцова, Senior Research Associate, UCL

## Neurosurgery

### HIGHLIGHTS

In the year 2019-20, Department of Neurosurgery organised many workshops and CME's focused on learning newer advances in the field of neurosurgery. Stalwarts like Prof. Fred Gentili (Canada), an expert in neuro-endoscopic procedures and Prof. Ali Krisht (US) an expert in skull base and vascular microneurosurgery came to perform surgeries with us during 22nd AIIMS Microneurosurgery workshop. This year's microneurosurgery workshop was a great success with a very good participation and was much appreciated for its scientific content.

Prof Alexi Peleganchuk and Prof Alexander Krutko (Russia) both experts in spine surgery demonstrated their surgical skills during successfully conducted 9th AIIMS complex spine surgery workshop which was also well attended and appreciated.

Department of neurosurgery featured in 2020 edition of *Limca book of records* for performing first craniopagus surgery in which a team of 125 doctors and paramedical staff led by Professor Ashok K. Mahapatra (former Head of Department) and Professor Deepak Gupta successfully separated twins joined at cranium.

Professor Ashish Suri and Professor Deepak Gupta were both selected as Adjunct Professors for Indian Institute of Technology (IIT), New Delhi.

### EDUCATION

On weekly basis, seminar/journal club/case presentation/mortality presentations were organized for the MCh residents.

Neurosurgery Simulation-based Short Term Skills Training Program: Neurosurgery Skills Training Facility (NSTF) and Neurosurgery Education and Training School (NETS)

Simulation-based neurosurgery skills training sessions: 1248

Cadaver-based skull base dissection: 11 sessions and 158 participants

Simulation-based short term neurosurgery skills training = 39

4 weeks short term training = 21

2 weeks short term training = 19

*E-learning in neurosurgery skills training*

Surgical videos = 1,11,118 views (945 Subscribers)

Website views = 11,899 views      Discussion forum = 8,677 likes

### CMEs/Workshops/Symposia/National and International Conferences Conferences Organized

1. 9th International CME and Workshop on Cost Effective Use of Technology in e-health care held at Goa in March 2019
2. Cranial endoscopy cadaver workshop (6-7 April 2019), AIIMS Cadaver Surgical Skill Training facility (ACSST)
3. Open skull base cadaver workshop (20-21 April), AIIMS Cadaver Surgical Skill Training facility (ACSST)
4. MIS Spine Cadaver workshop (4-5 May 2019), AIIMS Cadaver Surgical Skill Training facility (ACSST)
5. Spine pre-conference cadaver workshop (19-23 October 2019), AIIMS Cadaver Surgical Skill Training facility (ACSST)
6. Endoscopic endonasal skull base workshop (22-23 November 2019), AIIMS Cadaver Surgical Skill Training facility (ACSST)
7. Open skull base cadaver workshop (30 November-1 December 2019), AIIMS Cadaver Surgical Skill Training facility (ACSST)
8. MIS Spine Cadaver workshop ( 16-17 January 2020), AIIMS Cadaver Surgical Skill Training facility (ACSST)
9. Open Spine Cadaver Workshop (24-25 January 2020), AIIMS Cadaver Surgical Skill Training facility (ACSST)
10. 6<sup>th</sup> ANTC 2020 (AIIMS Neurotrauma Conference) 20-22 March 2020: Postponed in view of Covid Pandemic
11. AIIMS annual spinal surgery workshop as an organizing committee member
12. AIIMS annual microneurosurgery workshop as an organizing secretary
13. Pre-conference spine workshop, NTSI 2019
14. Annual AIIMS COE Epilepsy workshop on StereoElectroEncephalography: 12-13 November 2019

### Lectures delivered

SS Kale: 11

Manmohan Singh: 13

Vivek Tandon: 10

Shashwat Mishra: 3

Ashish Suri: 10

Deepak Gupta: 3

Sachin Borkar: 12

Shweta Kedia: 9

Rajinder Kumar: 3

Pankaj Kumar Singh: 2

Hitesh Kumar Gurjar: 1

Dattaraj Sawarkar: 2

**Manoj Phalak: 5**  
**Rajesh Kumar Meena: 1**

**Ramesh Doddamani: 2**  
**Shantanu Kumar Bora: 1**

**Amol Raheja: 2**

#### **SS Kale**

1. Cervical Kyphosis 2. Outcome measures in CSM 5 Congress of Middle East Spine Society and Interim Meeting of World Spinal Column Society-Spine Congress, 2019, 4-6 April 2019, New Delhi
2. CVJ and Cervical Kyphosis 5 Annual Conference of ANNWZ at IGMC, 13-14 April 2019, Shimla
3. Complex Cervical Deformity 5400 degree ASRAM Neurocon 2019, 9-11 August 2019, Eluru
4. C1 C2 Trauma, Neurotrauma Society of India (NTSI), 23-25 August 2019, Agra
5. Cervical Kyphosis Spine 2019, 30 August-1 September 2019, Kochi
6. CSM and Thoracic Spine TB, 1 Neuro-Spine Meeting (Spine Conference–2019, 21 September 2019, Kathmandu, Nepal
7. Fungal infections of spine 2. Spinal Arachnoiditis ICS 2019, 27- 29 September 2019, Mangalore
8. Cervical Kyphosis AOSpine, 12th October 2019, Vellore
9. Long term (>10 year) outcomes of gamma knife radiosurgery for vestibular schwannomas: Single Centre Study Congress of Neurological Surgeons Annual Meeting, 19-23 October 2019, San Francisco, CA USA
10. CVJ Anomalies, 13th Annual Conference of the Asia Pacific Cervical Spine Society, 8-9 November 2019, Kaohsiung, Taiwan
11. Primary Vertebral Tumors 2. Chin on Chest Deformity, Surgical Neuro Oncology Update, 28 February to 1 March 2020, Lucknow

#### **Ashish Suri**

1. AIIMS + UCL Collaborative visit UCL Global Healthcare Engineering Symposium: University College of London – UCL and Institute of Healthcare Engineering 7 - 10 July 2019, London, UK
2. Paediatric Moya Moya Disease 47th Annual Meeting of International Society for Paediatric Neurosurgery (ISPN), 20-24 October 2019, Birmingham, UK
3. Telover Approach CME on Midline Posterior Fossa Tumor, 10 August 2019, Rishikesh
4. Invited faculty Lateral Skull Base Approach for Cadaveric workshop 21st Annual Conference of the Skull Base Surgery Society of India, 10-12 October 2019, Coimbatore
5. Anterior Trans-Petrous Approach 21st Annual Conference of the Skull Base Surgery Society of India 10-12 October 2019, Coimbatore
6. Simulation Training in Neurosurgery World Academy of Neurological Surgery-WANS-2019, 3-4 December 2019, Mumbai
7. Revascularization in Moya Moya Disease Joint meeting of 15th Asian Australian Congress of Neurological Surgeons and 68th Annual Conference of the Neurological Society of India and International Meningioma Society Congress (AANSIM-2019), 4-8 December 2019, Mumbai
8. Central Skull Base and Cavernous Sinus- Endonasal Endoscopic v/s Transcranial Microscopic Joint meeting of 15th Asian Australian Congress of Neurological Surgeons and 68th Annual Conference of the Neurological Society of India and International Meningioma Society Congress (AANSIM-2019), 4-8 December 2019, Mumbai
9. Faculty for Endoscopic Skull Base in the Cadaveric Workshop Joint meeting of 15th Asian Australian Congress of Neurological Surgeons and 68th Annual Conference of the Neurological Society of India and International Meningioma Society Congress (AANSIM-2019), 4-8 December 2019, Mumbai
10. Extended Endonasal Endoscopic Skull Base approaches 22nd Annual Conference of the Delhi Neurological Association (DNACON-2020), 1-2 February 2020, New Delhi.

#### **Rajinder Kumar**

1. Role of skull base endoscopy in Giant Pituitary Tumours. AIIMS New Delhi Experience 2019, State of art skull base endoscopy, 1-3 November 2019, Columbus, Ohio, USA
2. Advanced skull base endoscopy, AIIMS neurosurgery cadaveric endoscopy workshop, 19 November 2019, New Delhi
3. Giant Pituitary- Role of endoscopy 22nd AIIMS microneurosurgery workshop, 13-15 February 2020, Delhi

#### **Manmohan Singh**

1. Transcavernous sinus approaches 6 Nepalese Society of Neurosurgeons Meeting, 4-6 April 2019, Kathmandu, Nepal

2. Gamma knife radiosurgery in the management of brain AVMs Frontiers of Neurosciences, 14-15 April 2019, Kolkata
3. Management of brain AVMs SYNVISCON 2019, 14-15 June 2019, Mumbai
4. Is MER necessary in deep brain stimulations , Stereotactic and functional neurocon 2019, 16-18 August 2019, Kochi, Kerala
5. Complication avoidance in posterior fossa surgery CME on midline posterior fossa tumors 10 August 2019, Rishikesh
6. Nuances of DBS surgery CME on movement disorders, 7 September 2019, SGPGI, Lucknow
7. Management of complex aneurysms Neurovascon 2019, 13-15 September 2019, Bhubaneswar
8. Management of cavernous sinus tumors Maldives brain and spine conference 2019, 17-19 September 2019, Male, Maldives
9. Single stage resection of anterior skull base lesions with extension to nasopharynx 21st SKULLBASECON 2019, 10-12 October 2019, Coimbatore
10. Vascular bypass in neurovascular conditions, Vascular neurosurgery update, 15-16 November 2019, SGPGI Lucknow
11. Trancavernous sinus approaches to brain lesions NSICON 2019, 4-8 December 2019, Mumbai
12. Role of lesioning in movement disorders 5th Annual conference of Movement disorder society of India, 31 January to 2 February 2020, Trivendrum
13. A computer tomographic base morphometric analysis of axis in adult population 20th Canadian spine society meeting, 26-29 February 2020, Whistler, BC, Canada

#### **Deepak Gupta**

1. Imaging of Lumbar degenerative scoliosis DREZotomy for Brachial plexus neuralgia. 4 Superspeciality CME of NSI society 2019, 6-7 July 2019, Guwhati, Assam
2. First successful craniopagus twin separation surgery of India (closed doors open windows): Time to say goodbye to venous bypass in shared circular sinus. AANSIM (NSICON )2019, 5-8 DECEMBER 2019, Mumbai
3. Key note speaker: Nuances of Craniopagus twin separation. INDSPNCON 2020, 6-8 FEBRUARY 2020, Kolkata

#### **Pankaj Kumar Singh**

1. Evolution in management of hangmans fracture 9 th AIIMS complex spine live operative workshop 21 22 October 2019, Delhi
2. Evolution in management of hangmans fracture: From C2 Pedicle alignment to C2 pedicle reformation INCONESON 2019, 5 and 6 April 2019, Kathmandu, Nepal

#### **Vivek Tandon**

1. Craniotomies in Awake vs GA for glioma surgery Indian society of Neuro-oncology conference 4 April 2019, Bhopal
2. Germ Cell Tumor: Case presentation and moderation for tumor Board Indian society of Neuro-oncology conference, 6 April 2019, Bhopal
3. Avoiding complications in ACDF and lateral mass screws Cadaveric course on spine surgery of Delhi orthopedic association, 12 April 2018, New Delhi
4. Doing Lumbar discectomy in MIS Cadaveric course on spine surgery, 29 September 2019, New Delhi
5. Optimizing the extent of resection in gliomas Neuro-oncology update – SGPGI Lucknow, 30 March 2020, Lucknow
6. Case and panel discussion Masterclass in Neurooncology, 29 February 2020, Mumbai
7. Craniopharyngioma excision Masterclass in Neurooncology, 29 February 2020, Mumbai
8. Using neuromonitoring for excision of eloquent cortex gliomas AIIMS annual Microneurosurgery workshop, 14 February 2020, Delhi
9. Excision of bony hard craniopharyngioma AIIMS annual Microneurosurgery workshop, 13 February 2020, Delhi
10. Using minimal instruments for doing minimally invasive spine surgery AIIMS annual Microneurosurgery workshop, 13 February 2020, Delhi

#### **Sachin Borkar**

1. Outcome predictors of laminoplasty for CSM/OPLL 5 Congress of Middle East Spine Society and Interim Meeting of World Spinal column Society – Spine Congress 2019, 4 - 6 April 2019, Delhi

2. Role and timing of surgery in SCI- Pros regarding early surgery Annual Meeting of Neurotrauma Society of India, 23-25 August 2019, Agra
3. Surgical Management in acute TBI- Surgical Indications and technique of DC Annual Meeting of Neurotrauma Society of India 23-25 August 2019, Agra
4. Spine Workshop- Lumbar pedicle screws: anatomy and technique Annual Meeting of Neurotrauma Society of India 23-25 August 2019, Agra
5. Spine Workshop - Odontoid screw fixation Annual Meeting of Neurotrauma Society of India 23-25 August 2019, Agra
6. P S Ramani oration ( Introduction of Orator – Dr. K ganapathy) Annual Meeting of Neurotrauma Society of India, 23-25 August 2019, Agra
7. Does cervical laminoplasty cause kyphosis? : Analysis of factors responsible for cervical alignment following laminoplasty Annual meeting of Neuro-spinal Surgeons Association of India (NSSA), 30August-1 September 2019, Kochi
8. Embolization of vertebral body tumours Annual meeting of Neuro-spinal Surgeons Association of India (NSSA), 30August -1 September 2019, Kochi
9. Asia Pacific Cervical spine Society session on Degenerative Cervical spine (Moderator) Annual meeting of Neuro-spinal Surgeons Association of India (NSSA) 30August - 1 September 2019, Kochi
10. ACDF vs PCF .What is the evidence?, Annual meeting of Minimally invasive Spine Surgeons' Association of Bharat (MISSICON -2019); 1-3 November 2019, Chandigarh
11. C1-C2 transarticular screw: Indications and Technique, APSS-BSS Cervical Spine workshop 16 February 2020, Mumbai
12. Intraoperative Neuromonitoring in Spine Surgery: Technique, Pearls and Pitfalls Mastering Advanced Technologies and Skills Congress atorein Neurosurgery (MATS 2020) 20-23 February 2020, Gurgaon
13. Upper trunk BPI: strategies for reanimation Annual meeting of Indian Society of Peripheral nerve surgery 27-29 February 2020, Coimb

#### **Hitesh Kumar Gurjar**

1. Managing Cerebral edema after traumatic brain injury- Evidence based Guidelines, Neurotrauma society of India annual conference 24 August 2019, Agra

#### **Shashwat Mishra**

1. Pitfalls in Bypass practice Mayo Clinic Bypass course 2019, November 7, 2019, Mayo clinic, Rochester, Minnesota, USA
2. Neurosurgery at AIIMS, Mayo Clinic Bypass course 2019, November 7, 2019, Mayo clinic, Rochester, Minnesota, USA
3. Anterior clinoidectomy for anterior skull base meningiomas: fab or fad? AANSIM 2019, December 7, 2019, Mumbai

#### **Shweta Kedia**

1. Diagnosis and Certification of Brain Stem Death Criteria “Deceased Organ and Tissue Donation” by ORBO 12th April 2019, CMET, Delhi
2. Radiosurgery for Paediatric AVM - A Single Centre Experience in 50 consecutive Patients. ISRS, 2019, 11th June 2019, Rio, Brazil
3. ICP Monitoring in Head Injury, Neurotrauma, 2019, 23 August 2019, Agra
4. Review of Trials for Paediatric TBI Neurotrauma, 2019, 24 August 2019, Agra
5. Diagnosis and Certification of Brain Stem Death Criteria ORBO, AIIMS 17 September 2019, CMET, AIIMS
6. Radiosurgery in Pituitary functional adenomas Masterclass of SRS in brain and Spine tumors 31 August 2019, Medanta
7. Current Understanding of Various Hydrocephalus and it's evidence based solutions, World Hydrocephalus and Spina Bifida Day 25 October 2019, PGIMERML, Delhi
8. Repeat Radiosurgery in AVMs, AANSIM 2019 8 December 2019, Renaissance Mumbai Convention Center
9. Birth related brachial plexus injury: Timing of surgery ISPNSCON 2020, 27 February 2020, Ganga Hospital

### **Dattaraj Sawarkar**

1. Diagnosis and certification of Brain stem death Criteria CME on brain stem death January 2019, Delhi
2. Posterior cervical Spine Anatomy Preconference Spine workshop- Neurotrauma 2019, August 2019, Agra

### **Manoj Phalak**

1. BTF guidelines for paediatric head injury patients NTSI 2019, 23-25 August 2019, Agra, India
2. Cervical spine deformities- an algorithm for management Brain and Spine conference 2019, 17-19 Sept 2019, Male, Maldives
3. Surgical anatomy of anterior approach to cervical spine Preconference spine workshop, NTSI 2019, 22 August 2019, Agra India
4. Anatomical landmarks for thoracic and lumbar pedicle screws Preconference spine workshop, NTSI 2019, 22 August 2019, Agra India
5. Spinal shock nursing SPINE CON 2019, AIIMS 21 October 2019, DELHI, India

### **Ramesh Doddamani**

1. Technique of SEEG Placement: Live Surgery Demonstration, Annual AIIMS COE Epilepsy workshop on Stereo Electro Encephalography, 21 -23 November 2018 Delhi
2. Clinical Discussion of rare case of CAPNON, ECON-2020, 17 - 19 January 2020. Ahemdabad

### **Amol Raheja**

1. STA MCA bypass for paediatric moyamoya disease Ist Vascular Neurosurgery Update SGPGI 15 November 2019, Lucknow, India
2. STA MCA bypass for symptomatic moyamoya disease DNACON 2020, 2 February 2020, Delhi, India

### **Rajesh Kumar Meena**

1. Role of Selective Dorsal Rhizotomy in treatment of spasticity 9 Indian Society for Peripheral Nerve Surgery (ISPNS) 2020, 27-29 February 2019, Coimbatore, TN

### **Shantanu Kumar Bora**

1. Complete Endoscopic Transsphenoidal removal of Knobs Grade 4 pituitary adenoma 22 AIIMS Microneurosurgery workshop 14 February 2020, New Delhi

### **Oral papers/posters presented: 48**

1. Aggrawal M, Doddamani RS, Samala R, Chandra PS, et al. Mini-temporal Craniotomy Using Anatomical Surface Landmarks for Temporal Lobe Epilepsy: Technical Note and Clinical Outcomes ECON-2020, 15 - 17 February 2019, Ahmedabad
2. Dash A, Kedia S, Kumar R Gamma Knife Radio-surgical treatment in Paediatric Arteriovenous malformations - A Single Centre retrospective study in 36 patients:a single centre experience ISPN,2019, October 2019, Birmingham
3. Doddamani RS, Samala R, Agrawal M, Tripathi M, Chandra PS et al. Robotic guided Radiofrequency ablation of Hypothalamic Hamartomas AANSIM-2019, 4 - 8 December 2019, Mumbai
4. Doddamani RS, Samala R, Agrawal M, Chandra PS, et al. Robotics in Epilepsy Surgery INDSPNCON-2020, 6-8 February 2019, Calcutta
5. Doddamani R S, Meena R, Dattaraj S, Singh P K, et al. Management and outcomes in Supratentorial ependymomas: an Institutional Experience AASPN 2019, 10 -12 May 2019, Inchion, South Korea
6. Garg K, Singh MM Gamma knife in intraaxial primary malignant brain lesions 2 Dr DK Chhabra and Dr VK Jain oration and Surgical Neurooncology Update 1 March 2020, Lucknow
7. Garg K, Singh MM Radiosurgery for AVM's, Mastering Advanced Technologies and Skill on Neurosurgery 21 February 2020, Gurugram
8. Garg K, Kale SS Use of assessment tools in cervical spondylotic myelopathy -Results of an anonymised survey among spine surgeons AANSIM 2020, 8 December 2019, Mumbai
9. Garg K, Singh MM Radiosurgery workflow in Gamma Knife, Master class on Radiosurgery (SRS/SBRT) of Brain and Spine tumors 30 August 2019, Gurugram
10. Garg K, Kale SS Atypical Features of Cervical Spondylosis 5 Congress of Middle East Spine Society and Interim Meeting of World Spinal Column Society – Spine Congress 2019, 4 April 2019, New Delhi

11. Garg K. Technique of posterior cervical fixation NEUROTRAUMA 2019, August 22,2019, Agra
12. Jain A, Borkar SA, Kale SS. Difficult case of dorsal myelopathy Delhi Spine Society Bimonthly meeting 16 November 2019, Delhi
13. Kedia S, Anshul Goel, Kumar R. Radiosurgical Management of pediatric AVM IndsPN, 2020, 6-8 February 2020, Kolkata
14. Kedia S, Depanshu Narula Posterior approach to suprascapular and spinal accessory nerve anastomosis 22 Microneurosurgery workshop 14-15 February 2020, AIIMS, Delhi
15. Kedia S, Anshul Goel Radiosurgical Management of pediatric AVM, IndsPN, 2020, 6-8 February 2020, Kolkata
16. Kedia S, Gaurav Singh , CNS High grade Neuroepithelial tumor with BCOR gene alteration: "Tumor you shall die" AANSIM,2019, December 2019, Mumbai
17. Kumar R, Kedia S Long term outcome of Radiosurgery in Vestibular Schwannoma, ISRS, 2019, June 2019, Rio, Brazil
18. Kumar A, Phalak M, Kale SS. Orbital growing skull fractures ISPN 2019, 20-24 October 2019, Birmingham UK
19. Kumar R Role of skull base endoscopy in Giant Pituitary Tumours. AIIMS New Delhi Experience 2019, State of art skull base endoscopy Columbus ohio usa 1-3 November 2019, Columbus ohio usa
20. Meena R, Doddamani RS, Gurjar H, Kumar A, Chandra PS, Kale SS, Type 1.5 Split Cord Malformations INDSPNCON 2020, 6-8 FEBRUARY 2020, Kolkata
21. Mishra S, Kale SS Anterior clinoidectomy for anterior skull base meningiomas: fab or fad? EANS 2019, September 25, 2019, Dublin, Ireland
22. Phalak M, Kale SS Readmission in unknown head injury patients Annual conference of Neurological society of India 17 May 2018 Mumbai India
23. Phalak M, Singh MM, Kale SS, Gamma Knife for Uveal melanoma- initial experience Brain and spine conference 2019, 17-19 sept 2019, Male, Maldives
24. Raheja A, Sinha S, Mansoori N, Selvi A, Kale SS Serum biomarkers as predictors of severity of injury and functional outcome after acute traumatic spinal cord injury WFNS 2019, Special World Congress, 9 Sept 2019, Beijing, China
25. Raheja A, Suri A Insurance and flow alteration STA-MCA bypass in management of complex intracranial aneurysms, NEUROVASCON 2019, 14 Sept 2019, Bhubaneswar, India
26. Raheja A, Sreenivasan SA, Suri A, Mishra S, Singh M STA-MCA bypass for symptomatic moyamoya disease Brain Spine 2019, 18 Sept 2019, Male, Maldives
27. Raheja A, Suri A, Shah A Long term surgical outcome for petroclival meningiomas using MDK approach SKULLBASECON 2019, 12th October 2019, Coimbatore, India
28. Raheja A, Sreenivasan SA, Suri A, Mishra S, Singh M STA-MCA bypass for symptomatic moyamoya disease NSI 2019, 6 December 2019, Mumbai, India
29. Samala R, Doddamani R, Agrawal M, Chandra PS, et al. Minimally Invasive management of hypothalamic hamartomas DNACON-2020, 1-2 FEBRUARY 2020, Delhi
30. Samala R, Doddamani RS, Aggrawal M Chandra PS, et al, Strategies in the management of eloquent cortex epilepsy ECON-2020, 15 - 17 February 2019, Ahemdabad
31. Sawarkar D, Singh PK, Kale SS Odontoid fractures in elderly- management controversies Neurotrauma 2019, 24 August 2019, Agra
32. Sawarkar D, Kumar R, Suri A, Chandra PS, Kale SS, Tips and tricks of Endoscopic pituitary surgery, Skull basecon 2019, 10-12 October 2019, Coimbatore
33. Sawarkar D, Singh PK, Agrawal D, Gupta D, Satyarthee GD, Kale SS Complications during surgical management of CV junction trauma NSICON 2020, 5-8 December 2019, Mumbai
34. Sawarkar D Management of Brachial Plexus tumors, ISPNS 2020, 8-10 February 2020, Coimbatore
35. Sawarkar D, Meena R Vascular injury during endoscopic pituitary surgery, AIIMS Microneurosurgery workshop 12-15 February 2020, Delhi
36. Siddiqui FA, Borkar SA, Kale SS Revision ACDF: Technical Nuances Delhi Spine Society Bimonthly meeting 8 February 2020, Delhi
37. Singh PK, Sawarkar DS, Verma S, Kumar A, Chandra P S, Kale SS C2 Pedicle Reconstruction In Management Of Old Hangmans Fracture With Reabsorbed Bilateral C2 Pedicle AASPN 10-12th May 2019, Incheon
38. Singh PK, Sawarkar DS, Chandra PS, Kale SS, Verma S, Kumar A From pedicle alignment to pedicle reformation for pediatric hangmans fracture INDSPNCON 6-8 February 2020, Kolkata

39. Sharma R, Laythalling RK, Suri A, Kale SS Principles of AVM excision (Video presentation) Ist Vascular neurosurgery update, SGPGI 16 November 2019, Lucknow
40. Sharma R, Gupta D, Kale SS Water-sports related cervical injuries- our experience AANSIM 2019, 7 December 2019, Mumbai
41. Sharma R, Laythalling RK, Suri A, Kale SS IgG4 related disease in Neurosciences- our experience, DNACON 2020, 2 February 2020, New Delhi
42. Sharma R, Laythalling RK, Suri A, Kale SS, Neurosurgical considerations in IgG4related disease, NSSI 2020, 29 February 2020, Kolkata
43. Sharma R, Borkar SA, Kale SS Cervical rotation before and after hinge door cervical laminoplasty 5 Congress of Middle East Spine Society and Interim Meeting of World Spinal column Society – Spine Congress 2019, 4-6 April 2019, Delhi
44. Sharma D, Borkar SA, Kale SS Lumbo pelvic fixation in intractable back pain: What is the evidence? Delhi Spine Society Bimonthly meeting 25 May 2019, Delhi
45. Sharma D, Borkar SA, Kale SS, Unusual case of Sacral tumour Delhi Spine Society Bimonthly meeting, 7 July 2019, Delhi
46. Shrijith MB, Borkar SA, Kale SS CVJ TB Delhi Spine Society Bimonthly meeting 5 October 2019, Delhi
47. Shrijith MB, Kedia S Cystic schwannoma of Spine: Their radiological features and Surgical Strategies NSSA, Spine 2019, August 2019, Kochi
48. Tandon V, Singh S, Suri A, Chandra PS, Kale SS Impact of use of adjuncts like ultrasound, navigation, neuromonitoring and intraoperative MRI on extent of resection in Gliomas NSICON December 2019, Mumbai

## RESEARCH

### Funded projects

#### *Ongoing*

1. Centre of Excellence for Epilepsy-Phase II. P Sarat Chandra, DBT, 5 years, 2018-2023, Rs 4500 lakhs
2. Role of Kynurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy,, P Sarat Chandra, DBT, 3 years, 2017-2020, Rs 53.75 lakhs
3. Collaborative Neuro-engineering platform for excellence in innovation and translational research, Ashish Suri, DBT, AIIMS+IIT-D, 3 years, 2018-2021, Rs 657 Lakhs
4. Support to Indian Institutes to Conduct Training Programme in the area of Operational Research Neurosurgery Skills Training, Ashish Suri, DHR, ICMR, MoHFW, AIIMS+IIT-D, 5 years, 2016-2020, Rs 99 Lakhs
5. TATA Innovation Fellowship Award 2015, Ashish Suri, DBT, 5 years, 2016-2020, Rs 45 Lakhs
6. Multiple Degrees of Freedom Robotic Manipulator for Minimally Invasive Neurosurgery, Ashish Suri, AIIMS + IIT-D, 2 years, 2020-2022, Rs 10 Lakhs
7. Computational Modeling of Cerebral Blood Flow in Moya Moya Disease, Ashish Suri, AIIMS+UCL-London, 1 year, 2020-2021, Rs 5 Lakhs
8. ADAPT, Deepak Gupta, National Institute of Health, 5 years, 2015-2022, Rs 105.49 lakhs
9. CENTER-TBI, Deepak Gupta, Universitair Ziekenhuis Antwerpen (UZ), Belgium, 2 years, 2016-2020, Rs 3.75 lakhs
10. RESCUE ASDH, Deepak Gupta, Cambridge University, 3 years, 2017-2020, Consumables: 144 pounds per randomised patient CRF completion costs: 213 pounds per randomised patient Rs 9.52 lakhs
11. Paroxysmal Sympathetic Activity and its role in severe TBI, Deepak Agrawal, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
12. Lateral approaches to Lumbar Spine: Cadaveric Feasibility study in Indian population, Sachin Borkar, AIIMS, 1 year, 2018-2020, Rs 5 lakhs
13. Investigating the Role of GABA A Receptor Subunits Alteration in Focal Cortical Dysplasia, Hitesh Kumar, AIIMS, 2 years, 2018-2020, Rs 5 lakhs
14. Predictability of intraoperative tumour characteristics on the basis of pre-operative MRI imaging features in extra-axial brain tumours, Shashwat Mishra, AIIMS, 2 years, 2019-2021, Rs 1.4 lakhs
15. Feasibility study of endoscopic minimally invasive odontoid screw fixation in cadavers, Shweta Kedia, AO Spine, 2 years, 2018-2020, Rs 6 lakhs
16. Microsurgical comparison of operative exposure of IAC through middle fossa and retrosigmoid hearing preservation skull base approaches - a laboratory investigation, Amol Raheja, AIIMS, 2 years, 2018-2020, Rs 5 lakhs

17. Quantitative analysis of the variants of the Far Lateral Condylar approaches, Rajesh Kumar Meena, AIIMS, 3 years, 2017-2020, Rs 4.75 lakhs

### **Completed**

1. The feasibility of endoscopic Anterior Odontoid screw fixation- A Cadaveric pilot study, Shweta Kedia, AO Spine Asia Pacific, 1 year, 2019-2020, 6000 CHF

### **Departmental projects**

#### **Ongoing**

1. Role of MRI in predicting outcome in Cervical Spondylotic myelopathy
2. Surgical outcome of Bony CVJ Anomalies
3. Investigating the role of GABAA receptor subunits alterations in cortical dysplasia.
4. Role of Surgical Technique in the Clinical Outcome of patients with Subcortical Lesions: A Randomized Controlled Trial
5. Role of Gamma Knife radiosurgery in Trigeminal Neuralgia
6. Spinal Alignment After Fixation In Trauma Patients
7. Role of skull base endoscopy in management of giant pituitary tumours
8. Outcome and complications of brain AVMs planned with DSA/MRI vs MRI alone
9. Target accuracy of different imaging techniques in stereotactic functional neurosurgery
10. Gamma-Knife for giant intracranial (>20cc) lesions
11. Role of Gamma Knife in Craniopharyngiomas
12. CVJ anomalies with Chiari malformation
13. Clinical and radiological outcomes of microsurgical excision of clinoidal meningiomas
14. Preoperative and postoperative evaluation of radiographic features in Chiari type I malformation with special emphasis on perimeter and diameter at C1 level and evaluation of cervical instability
15. Assessment of secondary spinal curvatures in patients with cranio-vertebral junction anomaly and their changes following single stage correcting surgery (DCER)
16. Outcome of surgically clipped anterior circulation aneurysms with good SAH
17. Radiosurgical outcome of AVM planned on DSA and MRI versus MRI alone
18. Randomized trial to compare the utility of Intraoperative MRI and intraoperative USG for knowing the extent of resection in glioma surgery
19. Molecular analysis of tissue with patient with cortical dysplasia
20. Combined approach in surgery of Juvenile nasopharyngeal angiofibroma and role of Dotanoc scan
21. Outcome of Microvascular decompression in compressive vascular neuropathies.
22. A study on the effect of GABA A receptor alterations in cortical dysplasia.
23. Prospective study to evaluate the role of bevacizumab in treatment of vestibular schwannoma in patients with neurofibromatosis type 2
24. Impact of cervical decompression on typical and atypical symptoms of cervical spondylotic myelopathy
25. Lateral and Third Ventricle Tumors: Incidence, clinical, radiological and histopathological evaluation- an Ambispective study
26. A retrospective analysis of atlantoaxial fusion with C1-C2 transarticular screws
27. Prospective randomized trial to compare the efficacy of foramen magnum decompression with duroplasty vs posterior instrumented fixation for chiari malformation
28. Traumatic Injury to CVJ and posterior fossa: A single-institution study of the Demographic profile, mechanism of Injury and outcome
29. Significance of granulation patterns and immunohistochemistry markers in predicting clinical behavior in Cushing's disease

### **Completed**

1. Effect of kynurenic acid on modulation of synaptic transmission in patients with mesial temporal lobe epilepsy
2. Deciphering the role of transforming growth factor beta signaling and matrix metalloproteinase-9 in epileptogenesis in mesial temporal lobe epilepsy

3. Retrospective analysis of role of gamma knife in glomus jugulare tumors
4. Therapeutic Application of Bone Marrow Derived Stem Cell in Complete Spinal Cord Injury
5. Study of Traumatic brain injury induced secondary gastrointestinal changes
6. Pituitary dysfunction following stereotactic radiosurgery for secretory pituitary adenomas
7. Primary Gamma-Knife with concurrent Temozolomide for GBM
8. Cervical alignment following cervical laminoplasty
9. Factors predicting loss of cervical lordosis following laminoplasty
10. Evaluation of endoscopic uni-nostril Transseptal surgery for pituitary adenoma and its outcomes
11. Tumor control and hearing preservation after gamma knife radio surgery for vestibular schwannoma in NF2
12. Surgical outcome of aneurysm clipping via keyhole supraorbital approach
13. Utility of Postoperative CT scans in Elective Postoperative Neurosurgical Patients.
14. Standard MRI Imaging is inadequate in drug resistant epilepsy” Retrospective analysis.
15. Retrospective analysis of surgical outcomes in recurrent and residual pituitary adenoma
16. Analysis of PDL-1 expression and T-cell infiltration in different molecular subgroups of midline gliomas and the clinical outcome
17. Midline gliomas: A study of clinical outcome and associated molecular alterations

### **Collaborative projects**

#### ***Ongoing***

1. Development of micro plasma jet for study of plasma interaction with tumor tissues resected from patients with tumor associated drug resistant epilepsy (DRE) pathologies, Biophysics
2. Collaborative Neuro-engineering platform for excellence in innovation and translational research, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology, IIT-D: CSE
3. Intramural multi-institutional grant Multiple Degrees of Freedom Robotic Manipulator for Minimally Invasive Neurosurgery, IIT-D: Mechanical Engineering
4. Collaborative Research Grant Computational Modeling of Cerebral Blood Flow in Moya Moya Disease, Neuroradiology UCL: Mathematics, Healthcare Engineering
5. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Anatomy
6. RELA fusion in Supratentorial Ependymomas, Neuropathology

#### ***Completed***

1. Deciphering the role of ATF3 and TGF beta signaling in Mesial Temporal Lobe Epilepsy (MTLE) patients, Neurology
2. Deciphering the role of GABAA receptor alterations in pediatric and adult patients with Focal Cortical Dysplasia, Neurosurgery
3. Role of  $\alpha 7$  and  $\alpha 4\beta 2$  subtypes of nicotinic receptors in abnormal synaptic transmission associated with hippocampal sclerosis, Biophysics
4. BIRAC BIG project 2018-2020; Development of a surgical suction cannula with an integrated surgeon controlled touch activated irrigation system for use in surgeries performed under the surgical microscope, IIT Delhi, Dept of Mechanical Engineering

### **PUBLICATIONS**

**Journals: 121**

**Chapters in Books: 11**

**Books: 1**

### **PATIENT CARE**

Department of Neurosurgery has two units with general neurosurgical ward under each unit (35X2 beds). There are two ICUs with 23 beds. There are now 7 elective operation theatres and two exclusive operation theatre in trauma centre. We offer world class neurosurgical facilities in all neurosurgical sub-specialties, which include- vascular surgery, epilepsy surgery, minimally invasive cranial and spinal neurosurgery, pediatric neurosurgery, functional neurosurgery, neuro-oncosurgery, skull base and complex spinal surgeries. We have advanced imaging modalities (intraoperative MRI and O-arm) and navigational devices (like Stealth Station and ROSA). Department of Neurosurgery has also started an outpatient Spine clinic

which deals with all diseases related to spine including degenerative, deformity, tumors, etc. It is held on Saturdays from 9 am to 12 pm. Prof. Deepak Agrawal was instrumental in setting up Stem Cell Translational and Neurosciences Laboratory (STN Lab) 100 square feet of laboratory space at Jai Prakash Apex Trauma Center, All India Institute of Medical Sciences, New Delhi, India. This includes a neurotrauma translational lab, molecular lab, stem cell processing lab and immunology lab. PhD Scholars, Graduate students and research associates and nurses have separate desks in the main laboratory area

#### Number of patients treated during 2019-2020

S. No.	Treatment facility	Number
1.	Outpatient department	
	a) Total New Cases	16575
	b) Total Old cases	35784
	c) Pediatric new cases	2000
	d) Pediatric old cases	4499
	e) Total cases	52359
2.	Gamma knife performed	669
3.	Total number of surgeries CNC	3135
4.	Total Number of cases in Brain Suite	300
5.	Number of elective surgeries (JPNATC)	1303
6.	Total number of surgeries	4438

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Ashish Suri** is Adjunct Professor, School of Information Technology, Indian Institute of Technology- Delhi; Executive Member: World Federation of Neurosurgical Societies, Skull Base Committee; Secretary General: Skull Base Surgery Society of India.

**Professor Rajinder Kumar** is Executive member of organizing committee of 22nd AIIMS Microneurosurgery 'Live Operative Workshop', 13-15 February 2020; AIIMS Cranial endoscopy workshop, 22-23 November 2019; Cadaveric Spine surgery workshop, October, 2019, AIIMS, New Delhi.

**Professor Deepak Agrawal** is Elected Editor-in-Chief of **Journal of Peripheral Nerve Surgery (JPNS)**; Made Editor-in-Chief of **Indian Journal of neurotrauma (IJNT)**.

**Professor Deepak Gupta** received PhD degree for: Development and Validation of Finite Element Analysis Model (FEM) of Craniovertebral Junction: Experimental Biomechanical Cadaveric Study (AIIMS-IIT Joint study); First faculty member (in service) from Dept of Neurosurgery to receive PhD in Neurosurgery; Elected as Member of National Academy of Medical Sciences (NAMS) September 2019; Jaga Balia Craniopagus twins were successfully discharged after 2 years of stay at AIIMS and sent back to their homestate in Odisha on 6 September 2019: This was first successfully surgery on Craniopagus twins from India wherein both children survived. Surgical team of 125 members for separation surgery was led by Dr Deepak Gupta and Dr AK Mahapatra jointly; Featured in featured in the 2020, edition of *Limca Book of Records*. First craniopagus surgery: A team of 125 doctors and paramedical staff, led by Dr Deepak Kumar Gupta and Dr Ashok Kumar Mahapatra, from the Department of Neurosurgery at AIIMS, New Delhi, successfully separated 28-month-old twins Jaggga and Kalia, who were joined to each other at the cranium. The complex surgery was conducted in two stages, on 28 August 2017 and 25 October 2017. [Hachette Book Publishing India Pvt Ltd, lbr.entries@hachetteindia.com]; Invited as Guest for Swearing-in Ceremony of the Hon'ble Chief Minister, Odisha and the members of the Council of Ministers, on 29 May 2019 at 10.30 AM at the IDCO Exhibition Ground, Unit-3, Bhubaneswar, Odisha; Selected as Adjunct Professor for Indian Institute of Technology ( IIT, Delhi) 2020-2022.

**Dr Pankaj Kumar Singh** was in 9th AIIMS complex spine live operative workshop 21 and 22 October 2019

**Dr Vivek Tandon** organized the AIIMS annual Microneurosurgery workshop which was well attended and much appreciated for the scientific content.

**Dr Rajeev Sharma** is Faculty for AIIMS MBBS Online CBT entrance exam in May 2019; took active interest in various conferences organized by the Department; looked after the responsibilities of Co-ordinator for “Microneurosurgery Workshop” held on 13-15 February 2020, held at AIIMS, New Delhi during ANTC 2018.

**Dr Shweta Kedia** was in 1st AIIMS Faculty Development Programme, AIIMS, New Delhi, 14-15 March 2020; Coordinated Talk in Gamma Knife by esteemed faculty Prof Arjun Sehgal “Radiosurgery in brain Metastasis and advances with Gamma Knife ICON, on 17 February 2020, AIIMS, New Delhi; Annual AIIMS COE Epilepsy Workshop on SEEG, 12-13 November 2019; Member of Selection Committee of contractual faculty in the Department of Neurosurgery, LHMC and associated hospitals, 4 October 2019; Member of NSI course, 17th Instructional and 11th Foundation, 28-29 September 2019, GB Pant Hospital, New Delhi; Executive member of organizing committee of 22nd AIIMS Microneurosurgery ‘Live Operative Workshop’ 13-15 February 2020; AIIMS Cranial endoscopy workshop, 22-23 November 2019; Cadaveric Spine surgery workshop, October, 2019, AIIMS, New Delhi.

**Dr Dattaraj Sawarkar** received ‘AASAN Ambassadorship Award’ from AASAN society of USA for MIS Spine training in 2019; Completed Scoliosis Complex spine fellowship at Washington university, St louis under Dr Munish Gupta (15 May -30 May 2019) and scoliosis spine surgery fellowship at New York under Dr Lawrence Lenke (1 June- 15 June 2019); Successfully coordinated the AIIMS Spinecon 2019 operative and pre-conference cadaver workshop 19-23 October 2019; As a course coordinator and course faculty, successfully coordinated Cranial endoscopy cadaver workshop (6-7 April 2019), Open skull base cadaver workshop (20-21 April), Endoscopic endonasal skull base workshop (22-23 November 2019), Open skull base cadaver workshop (30 Nov-1st Dec 2019), MIS Spine Cadaver workshop (16-17 January 2020), Open Spine Cadaver Workshop (24-25 January 2020) in the AIIMS organized by department of , Neurosurgery in AIIMS Cadaver Surgical Skill Training facility (ACSST); Coordinated the Pre- AIIMS Microneurosurgery cadaver workshop on 12<sup>th</sup> February 2020, on Endoscopic skull base; Managing package stores responsibilities as a member of package store committee.

**Dr Manoj Phalak** earned AOspine ASIA PACIFIC fellowship 2019-2020, for 1 month training (January 2020) at AOSPINE asia pacific centre- Ganga Hospital, Coimbatore, India; Expert group meeting- member/expert for EPTB(extra pulmonary tuberculosis) training module October 2019  
Chaired session on spine deformities, Brain and spine 2019, Male, Maldives.

**Dr Ramesh Doddamani** was awarded AASPN travel Fellowship for attending AASPN-2019, meeting held at Incheon, South Korea; Participated as one of the faculty Incharge in hands-on cadaveric skull base workshop conducted at CTRF laboratory.

**Dr Satish Verma** participated in Short term training course - On Microneurovascular techniques under Japan MicroVascular Anastomosis training course (J-MOVA) at Toyama Health University, Toyama, Japan under Professor Satoshi Kuroda from 26/8/2019 - 6/9/2019.

**Dr Amol Raheja** was awarded 1st prize for best platform presentation for presenting original work in the field of Skull Base surgery, entitled “Long-term surgical outcome for petroclival meningiomas using modified Dolenc-Kawase approach” at Skullbasecon 2019, Coimbatore, Tamil Nadu; awarded *NSI international travelling fellowship* for presenting original work in the field of traumatic spinal cord injury, entitled “Serum biomarkers as predictors of severity of injury and functional outcome after acute traumatic spinal cord injury” at WFNS 2019, Special World Congress, Beijing, China.

**Dr Rajesh Meena** participated as one of the faculty In-charge in hands-on cadaveric skull base workshop conducted at CTRF, laboratory;

**Dr Shashwat Mishra** was Honoured Guest at the **Mayo Clinic Annual Bypass Course, 7-9 November 2019**, Rochester, Minnesota, USA.

## Neuroimaging and Interventional Neuroradiology

### HIGHLIGHTS

1. A state-of-the-art 128 slice dual energy CT scanner installed replacing the 10-year-old 6-slice CT scanner.
2. With the new CT low-dose CT protocols with modelled iterative reconstruction, a dose reduction potential of up to 60% and faster acquisition in clinical routine are now possible with the best image quality ensured. This has enhanced patient compliance, especially in children and where breath hold acquisition is required.
3. CT Fluoroscopy to help guided-biopsies and CT perfusion to assess cerebral perfusion especially in acute stroke have been started with the installation of the new CT scanner.
4. The existing 1.5T MR was upgraded to 'silent MR' system which has helped perform silent MR protocols which reduce patient's anxiety during scan; reduce scan time and incidence of rescans as the patients are relaxed and cooperate to stay still during long examinations. The high gradient coil switching noise of previous system was a serious bother for many patients, especially during high-end acquisition techniques. With the upgrade, this irritant is largely removed and wide bore of the magnet has reduced claustrophobia in patients significantly.
5. PACS network operational in wards and OPD rooms of NSC with upgrade of the PACS server and installation of viewing stations in wards, ICUs and thin clients in OPD rooms with Wi-Fi access. Reporting of all neuro-imaging procedures made on-line with improved organization of the reporting room, making it easier to report, edit, sign out and network all studies on-line. Auto-requisitioning enabled from NSC wards on-line for CTs, MRIs, US and DSAs etc. Auto fetching of case records from PACS enabled for neuroradiology conferences. Private imaging films digitized and integrated into PACS on registration of patient UHID.

### EDUCATION

**Undergraduates:** Provided materials and guidance to faculty for UG lectures and seminars for 6th semester MBBS students on topics: Introduction to Neuroradiology techniques, basics of brain tumour imaging, stroke imaging and congenital anomalies of the CNS. Basics of neuro imaging interpretation taught during their elective posting in neuroradiology.

**Postgraduates:** Post graduate students of M.D. Radiology posted in the department of Neuroradiology on rotation are trained on reporting neuroimaging (CT and MRI) and introduced to all neuroimaging protocols and are encouraged to perform them under supervision of the faculty. DM (Neuroradiology) students are trained to perform all neuroimaging procedures and assist in interventional therapeutic neuroradiology procedures, which are then discussed with them on daily basis. They are also trained to take post procedure care and management of patients undergoing neuro-interventional therapeutic procedures in the ICUs and wards. Seminars, journal clubs and case discussions are organized routinely for their orientation to the current developments and improve their iterative skills. Senior residents regularly present neuro-radiological findings in interdepartmental conferences with Neurology and Neurosurgery departments daily which allow them to understand clinical neuroimaging interpretation skills and the art of presentation. They are posted in the biplane Neuro-interventional suites for at least one year on a rotational basis and are trained on neuro-angiographic and neuro-interventional skills.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

**SB Gaikwad: 16 Ajay Garg: 13**

**Leve Joseph Devarajan: 2**

#### SB Gaikwad

1. Complication Cases Aneurysms, AVMs, DAVFs, Stroke Franco-Brazilian INR meeting, III French-Brazilian Symposium III Symposium Franco-Brazilian – SFB, 24-27 April 2019, France
2. Mobilization of Stem Cells Using G-CSF for Acute Ischemic Stroke, Franco - Brazilian INR meeting, III French-Brazilian Symposium III Symposium Franco-Brazilian – SFB, 24-27 April 2019, France
3. Neuro imaging in stroke 2nd International Neuroradiology workshop, 18-20 May 2019, Dhaka Bangladesh
4. Spinal cord vascular malformations 2nd International Neuroradiology workshop, 18-20 May 2019, Dhaka Bangladesh
5. Acute stroke management: Neuro interventionists perspective 2nd International Neuroradiology workshop, 18-20 May 2019, Dhaka Bangladesh
6. Carotid angioplasty and stenting in atherosclerotic stenosis 2nd International Neuroradiology workshop, 18-20 May 2019, Dhaka Bangladesh
7. Carotid Artery Stenting-Concepts and Techniques 1 AIIMS Jodhpur Neuroradiology (AJ-NR) Update, 16-17 November 2019, Jodhpur

8. Standard treatment workflow in acute ischemic stroke: Endovascular perspective CME on “Stroke” as a part of ISNR mid term CME. Division of Neuroradiology, Department of Radio diagnosis and Imaging, 7-8 December 2019, Chandigarh
9. Role of imaging in suspected cerebral trauma Skill Development Initiative for Emerging World Countries, CME on Imaging guidance therapies in Clinical Medicine, 20-21 January 2020, Republic of Maldives
10. Image guided management of acute stroke Skill Development Initiative for Emerging World Countries CME on Imaging guidance therapies in Clinical Medicine, 20-21 January 2020, Republic of Maldives
11. Current imaging protocols in acute stroke Skill Development Initiative for Emerging World Countries, CME on Imaging guidance therapies in Clinical Medicine, 20-21 January 2020, Republic of Maldives
12. Debate on Carotid Stenting: Carotid stenting – With no protection: Results – S 4th Annual Meeting of the “Society of Therapeutic Neurointervention” 6-8 February 2020, Kolkata
13. Current imaging protocol in stroke 3rd International workshop on Neuroradiology 24-25 February 2020, Dhaka
14. Carotid Angioplasty and Stenting: AIIMS Experience 3rd International workshop on Neuroradiology, 24- 25 February 2020, Dhaka
15. Role of imaging in suspected cerebral trauma, 3 International workshop on Neuroradiology 24- 25 February 2020, Dhaka
16. Imaging of epilepsy 3rd International workshop on Neuroradiology, 24-25 February 2020, Dhaka

### **Ajay Garg**

1. Landmark paper in Neurooncology 11th Annual Conference of Indian Society of Neurooncology, ISNOCON 2019, 6 April 2019, Bhopal
2. Neuroradiology for Exams IAN Summer School, 16 June 2019, Chennai
3. Radiological features and differential diagnosis CME on Midline Posterior Fossa Tumor, 10 August 2019, Rishikesh
4. Infratentorial Lesions: A Case Based Review Delhi IRIA Resident Education Program, 24 August 2019, New Delhi
5. Pediatric CNS Tumors: What is new?, XVII National Conference of Indian Society of Pediatric radiology, 8 September 2019, New Delhi
6. Imaging Approach to Dementia 27th Annual Conference of Indian Academy of Neurology, 4 October 2019, Hyderabad
7. Intracranial Ring-enhancing lesions: the eternal dilemma 1st National Symposium on “Pediatric Neuroradiology - Clinical Perspectives”, 19 October 2019, New Delhi
8. Inflammatory Demyelinating Disorders 1st National Symposium on “Pediatric Neuroradiology - Clinical Perspectives”, 19 October 2019, New Delhi
9. Structural Imaging in Epilepsy, 21 Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, 17 January 2020, Ahmedabad
10. Imaging in Movement Disorders 5th Annual Conference of Movement Disorders Society of India, 1 February 2020, Thiruvananthapuram
11. Cranial Nerve Imaging, SHINE 2020, 10th Annual International Conference of Clinical Neurology, 21 February 2020, Chennai
12. Clinicopathological Meeting: radiology Discussant SHINE 2020, 10th Annual International Conference of Clinical Neurology, 22 February 2020, Chennai
13. Imaging in Infection, Inflammation and Demyelination SHINE 2020, 10th Annual International Conference of Clinical Neurology, 22 February 2020, Chennai

### **Leve Joseph Devarajan**

1. Neuro Imaging in Supra Tentorial Tumors. Sharda Neuroimaging Update 2019, 28 September 2019, Noida
2. Aspiration Techniques, ISNR mid term CME on Stroke, 8 December 2019, Chandigarh

### **Oral papers/posters presented: 4**

1. Sebastian LJ, Gupta MM, Nadaraja J, Garg A, Gaikwad S. Endovascular treatment of life Threatening Epistaxis Secondary to Internal Carotid Artery (ICA) Pathologies– An Institutional Experience, 5th European Stroke Organisation Conference (ESOC 2019), 22-24 May 2019, Milan, Italy
2. Sebastian LJ, Jain N, Nadarajah J, Garg A, Gaikwad SB. Cranial Pial fistulas- An Institutional Experience The 15th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN), 21-24 October 2019, Naples, Italy.

3. Sebastian LJ, Balasundaram P, Nadarajah J, Garg A, Gaikwad SB. Intracranial Dural Arteriovenous Fistulae: An Institutional Experience and Proposal of a New Anatomico-Functional Classification System, The 15th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN), 21-24 October 2019, Naples, Italy.
4. Devarajan LJ, Jeyaseelan N, Garg A, Gaikwad SB. Spinal Epidural Arterio-venous Malformations - an Institutional Experience The 15th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN), 21-24 October 2019, Naples, Italy

## RESEARCH

### Funded projects

#### Ongoing

1. Correlation of Imaging traits with region-specific gene expression profiles in Glioblastoma Multiforme, Ajay Garg, DST, 3 years, 2018-21,
2. Computer Aided Diagnostic System for the Detection and Evaluation of Intracranial Atherosclerotic Disease using Computed Tomography Angiography, S. Leve Joseph, DBT, 2 years, 2020-2022, Rs 26.08 lakhs

### Departmental projects

#### Ongoing

1. Characterization of Geometry of Intracranial Atherosclerotic Lesions Using Computed Tomographic Angiography and it's Clinic-Imaging Correlations
2. Efficiency of Intravenous Milrinone Versus Intra-arterial Nimodipine in the Management of Clinical Vasospasm Secondary to Aneurysmal Sub-arachnoid Hemorrhage

### Collaborative projects

#### Ongoing

1. Elucidating the Science of Yoga As a Therapeutic Intervention in Post Stroke Recovery: Study of Brain Using the Technique of Magnetic Resonance, Neurology, NMR

## PATIENT CARE

The department works 24x7, 365 days for patient care work and regularly attends to emergencies like subarachnoid haemorrhage, stroke, acute encephalopathies, myelopathies, traumatic or iatrogenic cerebro-vascular injuries etc. All requests for CT scan from out patients and in-patients are done the same day and often immediately, so that decision can be promptly taken for patient management. There is no waiting for CT scans in this department. DSAs are regularly done for cerebral and spinal vascular studies for patients attending the Neurosciences Centre and also other departments like ENT and Ophthalmology. Similarly Neurointerventional therapeutic management is routinely carried out for patients of the Neurosciences Centre as well as those referred from ENT, Ophthalmology, Paediatrics, Cardiology, Orthopaedics amongst others. Besides, CT scans are done in the ICUs for patients on life support or ventilator using the mobile CT scanner. Bedside x-rays are routinely done using digital portable x-ray unit or CR unit and images are uploaded to the PACS network. Portable Ultrasound is done whenever required for sick and immobile patients in the wards and ICUs of the Neurosciences Centre. All consultants and residents access PACS images through IP enabled protocol and hence can view the images from home or anywhere using internet or even using their smart phones. The departmental conference room has been upgraded for multimodality image viewing using high resolution Dicom compatible projection system, so that clinical consultants and residents can easily see their patient's images in chronological sequence and in comparison mode on the large projection screen. Even old images and scanned private images can be viewed efficiently instantaneously which helps quick decision making.

### Neuroimaging and Interventional procedures performed during 2019-20

CT Scans		21929
Digital Subtraction Angiography	Therapeutic Neuro-Interventional procedures: (Cerebra Aneurysms, Cerebral and Spinal AVM embolizations, Carotid revascularization etc.)	370
	Diagnostic DSA	945
	<b>Total</b>	<b>1315</b>

Ultrasound Examinations / Doppler studies	2899
MRI	6121
X Rays	8017
Portable x-rays	6857
Vidar	18502
Data Migration	4060

**Total for the year = 69700**

#### **Cases discussed and reviewed in Neuroradiology conferences for patient care decision making**

	<b>No. of cases</b>	<b>Weekly Frequency</b>	<b>Total</b>
<b>Epilepsy Case Conference</b>	10@	2	20/week
<b>Neurosurgery conferences</b>	40@	4	160/ week
<b>Neurology conferences</b>	25@	6	150/ week
<b>Neuropathology conference</b>	4@	biweekly	8/ week
		<b>Total</b>	338/ week

**Total = 17,576 cases per year**

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Shailesh B Gaikwad** was invited to moderate two sessions in the recently concluded 15 Conference of World Federation of Therapeutic and Interventional Neuroradiology (WFITN), 21st -24 October 2019, Naples, Italy; 21st Annual of Conference of Indian Society of Neuroradiology, hosted again by the department, 31st October- 3rd November 2019 at Holiday Inn, Aerocity, New Delhi. 20 international (representing 14 countries) and 68 national faculty members including 305 delegates attended the congress. Inauguration function was graced by Dr. Harsh Vardhan Ji, Hon'ble Union Minister of Health and Family Welfare, Science and Technology and Earth Sciences; Apart from didactic lectures, hands-on-workshops on neuroimaging and neurointervention techniques were taught to the participants: Special focus was given to Artificial intelligence and Machine learning during Session 9, 6 lectures from eminent speakers, 2-1/2 hrs duration, Professor Adnan Siddique from USA and Dr Iris Grunwald, Dr Gyula Gal from Europe. This meeting was granted 27 CME credit points by Delhi Medical Council; It is for the third consecutive year that Dr. Shailesh Gaikwad hosted these prestigious ISNR annual conferences as per the mandate given by the general body of ISNR, showing the trust and faith reposed by the founder members of the society in organizing three conferences in a row, which is unprecedented in the history of ISNR; Chief Coordinator to conduct "2nd International Neuroradiology workshop", 18-20 May 2019, National Institute of Neurosciences and Hospital, Dhaka, Bangladesh; Chief Coordinator to conduct 3rd International Neuroradiology workshop, 24-25 February 2020, National Institute of Neurosciences and Hospital, Dhaka, Bangladesh: was invited to conduct the "International Neuroradiology workshops" at the prestigious institute in Bangladesh, National Institute of Neurosciences and Hospital, Dhaka, Role was that of the principle coordinator for the workshop. Total four faculties attended this meeting from India-USA and each one of us delivered 4 lectures with total of 16 lectures during the workshop, Over 150 delegates attended this meeting. The Director of the institute felicitated the speakers with mementos and citations. Feedback from the meeting surpassed our expectations. A dedicated stroke unit of 100 bedded has been working successfully at the hospital; Skill Development Initiative for Emerging World Countries. CME on image guided therapies in clinical medicine, Republic of Maldives: 20-21 January 2020.

## Neuroanaesthesiology

### HIGHLIGHTS

Anaesthetic management for 4063 (2760 at the Neurosciences Centre and 1303 at the JPNATC) neurosurgical procedures was performed. Anaesthetic management for 662 neuroradiological procedures (378 in Angiography lab and 284 in MRI suite) was performed. Anaesthetic management for 1 patient receiving gama knife therapy was performed. Intensive care management of 5711 ICU patients (4393-NSC; 1318-TC3 ICU, JPNATC) was performed. A total of 5683 patients were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 737 patients (153 new and 584 old) were seen in pain clinic OPD, NSC and 372 of them were treated with Nerve blocks procedures...

Five candidates were awarded DM (Neuroanaesthesiology) degree and three candidates were awarded fellowship in Neurocritical care. Seven new candidate joined DM course and one candidate joined the Neurocritical care fellowship courses. Thirty six senior residents (both academic and non academic) received training in the department. Twenty two postgraduate students (including 10 from Lady Harding Medical College) and 24 senior residents from other anaesthesia departments received neuro-anaesthesia training.

### EDUCATION

We have regular classes (Seminars, Journal Club, Case presentation) on Monday, Tuesday and Friday between 8 and 9 am.

### CMEs/Workshops/Symposia/National and International Conferences Organized,

AIIMS Neuroanaesthesia Update-2019 during 18 October 2019-20 October 2019 at AIIMS, New Delhi

AIIMS Cadaveric Airway workshop on 22 October 2019 at AIIMS, New Delhi

1. Percutaneous Tracheostomy Airway management Workshop 18 October 2019, New Delhi
2. Vascular Access Acute Critical Care Course 30 October 2019, New Delhi
3. Basic and advanced airway management ATLS 2019, 19 December 2019, Rishikesh
4. Secondary survey ATLS 2019, 20 December 2019, Rishikesh

### Lectures delivered

**Arvind Chaturvedi: 1**

**Hemanshu Prabhakar: 2**

**Niraj Kumar: 11**

**Charu Mahajan: 2**

**Vanitha Rajagopalan: 2**

**MP Pandia: 1**

**Gyaninder Pal Singh: 9**

**Keshav Goyal: 9**

**Indu Kapoor: 7**

**Girija Prasad Rath: 8**

**Ashish Bindra: 7**

**Navdeep Sokhal: 6**

**Surya Kumar Dube: 5**

### Arvind Chaturvedi

1. Sedation, Analgesia and Weaning in Neurocritical care, 8 Neurovision, Symposium, November 3, 2019, Bhubneshwar, Odisha

### MP Pandia

1. Neurocritical care management of patients with traumatic brain injury PBLDs in Neurocritical Care 27 July 2019, Gurgaon, Haryana

### Girija Prasad Rath

1. Screening and Maintenance of Potential Organ Donors CME on "Brain Death and Organ Donation" by ORBO; Silver Jubilee Celebration of THOA 1994, 5 July 2019, New Delhi
2. Transcranial Doppler Society for Neuroscience in Anesthesiology and Critical Care (SNACC) Annual Meeting 2019, 11 September 2019, Phoenix, USA
3. Anesthetic Concerns for Intracranial Aneurysms AIIMS Anaesthesiology PG Assembly 2019, 3 October 2019, New Delhi
4. Anesthesia for Awake Craniotomy Annual Conference of Indian Society of Anaesthesiologists (ISACON) East Zone 18 October 2019, Bhubaneswar, India
5. Moyamoya Disease: Perioperative Concerns AIIMS Neuroanaesthesia Update 2019, 19 October 2019, New Delhi
6. Glycerol Rhizotomy for Trigeminal Neuralgia, 5th Annual Conference of Indian Society of Pain Clinicians (ISPCCON 2019), 8 November 2018, New Delhi
7. "High Fives" in Neuroanaesthesia Annual Conference of Indian Society of Anaesthesiologists (ISACON 2019) 28 November 2018, Bengaluru
8. Sitting position craniotomy 20th Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2019), 5 February 2019, Mahabalipuram, Chennai

**Hemanshu Prabhakar**

1. ICP going the PA catheter way – Pro 26th CritiCare 2020, 26 February – 1 Mar, Hyderabad, India
2. Basics of Neuromonitoring 26th CritiCare 2020, 26 February – 1 Mar, Hyderabad, India

**Gyaninder Pal Singh**

1. Neurological Monitoring During non-neurological surgery - What, Why and When? ISACON 13-14 April 2019, Delhi
2. Neuromonitoring - Concept and Practice ISACON 26-28 July 2019, Chennai
3. Initial Approach to a Neurotrauma Patient Neurotrauma 22-25 August 2019, Agra
4. Cerebral Oxygen Monitoring in acute severe TBI Neurotrauma 22-25 August 2019, Agra
5. Basic Life support and Maternal CPR, 41st Annual Conference of AOGD 28-29 Sept 2019, Delhi
6. Neuromonitoring 7 AIIMS Neuroanaesthesia and Neurocritical Care Update 2019, 18-20 October 2019, Delhi
7. Airway and Breathing Acute Neuro Care 16-17 November 2019, Hyderabad
8. Status Epilepticus Acute Neuro Care 16-17 November 2019, Hyderabad
9. Fluid stewardship in Neuroanaesthesia and Neurocritical care, 21st Annual Conference of ISNACC, 30 January-2 February 2020, Chennai

**Ashish Bindra**

1. Sedation in Neurotrauma ICU, Neurotrauma 2019, 22 August 2019, Agra
2. Targeted temperature management in Neurotrauma Neurotrauma 2019, 24 August 2019, Agra
3. Clinical applications of Cerebral microdialysis in neurotrauma Neurotrauma 2019, 24 August 2019, Agra
4. Status epilepticus Acute Neuro care Course 25 August 2019, Chandigarh
5. Video presentation :Cerebral microdialysis ISACON, Bengaluru 25 October 2019, Bengaluru
6. Management of Spinal cord injury ISACON Rajasthan September,
7. Non-trigeminal Oraofacial Neuralgias, 5th Annual Conference of Indian Society of Pain Clinicians 09 November 2019, New Delhi

**Niraj Kumar**

1. Non-operative acute cervical spinal cord trauma - challenges in the management ISACON DELHI 2019, 13 April 2019, New Delhi
2. Central venous cannulation EMINDIA 2019, 31 July to 1 August – 2019, New Delhi
3. Donor Screening And Maintenance ORBO 8 August 2019, New Delhi
4. USG in Neurological emergencies ANC 25 August 2019, Chandigarh
5. Vascular access AIIMS – EM-SONO 15 September 2019, New Delhi
6. Anesthetic Management Of Craniosynostosis, 32 ISACON Bihar - Jharkhand – 2019, 29 September 2019, Bokaro, Jharkhand
7. Donor Screening And Maintenance ORBO 4 October New Delhi
8. USG as an aid to airway, Myth and controversies in Brain death through real life AIIMS Neuroanesthesia and Neurocritical care update - 2019, 18 -20 October 2019, New Delhi
9. Traumatic spine injury USG in Neurological emergencies ANC 16-17 November 2019, Hyderabad
10. Basic statistics, sample size calculation and basic statistical tool ISNACC 2020, 31 January 2020, Mahabalipuram
11. Diagnosis and certification of brain stem death criteria ORBO 24 February 2020, New Delhi

**Keshav Goyal**

1. Neuromonitoring in nutshell Neuroanesthesiology and Neuro Critical Care Update 2019, 6-7 April 2019, AIIMS, New Delhi
2. Traumatic Brain Injury: Acute Emergency Management Acute Neuro Care (ANC), 25-26 August 2019, Auditorium, PGIMER, Chandigarh
3. Neurotrauma and ATLS- An Update 1st BilasaCriticon 2019, 14-15 September 2019, Courtyard by Marriott, Bilaspur Bilaspur (CG)
4. Spirometry AIIMS Anaesthesiology Post Graduate Assembly 2019, 29 September - 3 October 2019, AIIMS, New Delhi

5. Traumatic Brain Injury: Acute Emergency Management Acute Neuro Care (ANC) 16-17 November 2019, Yashoda Hospitals, Secunderabad, Hyderabad
6. Sodium and fluid management in Surgical ICU patients Acute Critical Care Course (ACCC) For Interns 30-31 October 2019, SET Facility, Convergence Block, AIIMS, New Delhi
7. Blood gases on ABG interpretation made easy, Acute Critical Care Course (ACCC) For Interns 30-31 October 2019, SET Facility, Convergence Block, AIIMS, New Delhi
8. Fiberoptic Bronchoscopy Guided intubation, Cadaveric Airway workshop, 18-19 October 2019, JPNATC, AIIMS, New Delhi
9. Basic concepts of Neuroanaesthesiology and Neurocritical Care Rewa CME 24 May 2019, Rewa (MP)

#### **Navdeep Sokhal**

1. Percutaneous Tracheostomy Airway management Workshop, 18 October 2019, New Delhi
2. Update: Best of old with a promise of new AIIMS Neuroanaesthesia and Neurocritical Care Update, 19 October 2019, New Delhi
3. Respiration - applied physiology Acute Critical Care Course 30 October 2019, New Delhi
4. Airway and ventilatory management ATLS 2019, 19 December 2019, Rishikesh
5. Spine and spinal cord trauma ATLS 2019, 20 December 2019, Rishikesh
6. Stabilise - Hemodynamic monitoring: Tools and tricks ISNACC 2020, 31 January 2020, Chennai

#### **Charu Mahajan**

1. Vasospasm: An update 7th AIIMS Neuroanaesthesia Neurocritical Care Update, 2019, 18-20 October 2019, New Delhi
2. Transcranial Doppler 26th CritiCare 2020, 26 February – 1 March 2020, Hyderabad

#### **Indu Kapoor**

1. Difficult Airway Scenario in Neuroanesthesia, 20 Annual Conference of ISNACC 2019, 12th February 2019, Gurugram, Haryana
2. Basics of Neuropharmacology, 1 Neuroanaesthesia and Neurocritical Care – Refresher Course 2019, 6-7 April 2019, New Delhi
3. Analgesia sedation and airway management in neurocritically ill patients, 1 Problem based learning discussion, Department of Anesthesia, Medanta, The Medicity, 2019, 26 July 2019, Gurugram, Haryana
4. Difficult airway Algorithm Cadaveric Airway Workshop during Neuroanesthesia and Neurocritical Care Update, AIIMS, 2019, 18 October 2019, New Delhi
5. Dexmedetomidine in pediatric neurosurgery: enough evidence yet waiting for approval, 21st Annual Conference of the Indian Society of Neuroanaesthesiology and Critical Care, Chennai, 2020, 31 January 2020, Mamallapuram, Chennai
6. Cerebral Oximetry, Neurocritical Care Workshop 26 CRITICARE, 2020, 27 February 2020, Hyderabad
7. Optic Nerve Sheath Diameter, Neurocritical Care Workshop, 26 CRITICARE, 2020, 27 February 2020, Hyderabad

#### **Surya Kumar Dube**

1. Donor Screening and Optimization in Service Training Course of Resident doctors on Deceased Organ and Tissue Donation organized by ORBO, AIIMS, New Delhi, 17 April, 22 May, 10 August, 19 November and 10 December 2018, AIIMS, New Delhi
2. Double Lumen Tube AIIMS Cadaveric Airway workshop as part of AIIMS Neuroanaesthesia and Neurocritical Care Update 2019, 18 October 2019, AIIMS, New Delhi
3. Role of USG in Neurocritical care - ONSD and POCUS Annual meeting of the Neurotrauma society of India NEUROTRAUMACON 2019, 25 August 2019, Agra, Uttar Pradesh
4. EEG Monitoring The Annual State Conference of Indian Society of Anaesthesiologists, Tamilnadu – ISACON TAMILNADU 2019, 26 July 2019, Chennai, Tamil Nadu
5. Diabetic Ketoacidosis Acute Critical Care Course 31 October 2019, AIIMS, New Delhi

#### **Vanitha Rajagopalan**

1. Neurological Examination for Anaesthesiologist AIIMS 1st Neuroanaesthesiology and Neurocritical Care Refresher Course 06 April 2019, New Delhi

2. ABCs of Intraoperative Resuscitation: Massive Bleeding in a patient with large meningioma AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 20 October 2019, New Delhi

### Oral papers/posters presented

1. Brahma R, Kumar S, Sengupta D, Bidra A, Kumar N, Sokhal N. Ultrasound assessment of diaphragmatic function in cervical spine trauma AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 19 October 2019, New Delhi
2. Burman S, Kumar N, Rath GP, Bindra A, Chaturvedi A, Goyal K. Cardiovascular complications after traumatic spinal cord injury AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 19 October 2019, New Delhi
3. Burman S, Kumar N, Bindra A, Goyal K, Rath GP, Chaturvedi A. Cardiovascular complications after traumatic spinal cord injury SNACC 2019, and ASA 2019, 12-14 September 2019, Phoenix, Arizona, USA
4. Chaturvedi A, Khandelwal A, Goyal K, Sokhal S. Perioperative Anesthetic Management of a Patient with Chin-On-Chest Deformity Presenting for Reconstructive Spine Surgery: A Case Report, SNACC, 47th Annual Meeting, Phoenix, Arizona, USA, 12-14 September 2019, Phoenix, Arizona, USA
5. Chaturvedi A, Sokhal N, Jena B. Effect of Intravenous Dexmedetomidine On Intraoperative Blood Loss During Intracranial Meningioma Surgery., SNACC, 47 Annual Meeting, Phoenix, Arizona, USA, 12-14 September 2019, Phoenix, Arizona, USA
6. Chaturvedi A, Khandelwal A, Goyal K, Sokhal S, Dube S. Perioperative Anaesthetic Management of a Patient with Chin-On-Chest Deformity Presenting for Reconstructive Spine Surgery: A Case Report, SNACC 2019, 12-14 September 2019, Phoenix, Arizona
7. Dhanda A, Singh GP, Bindra A. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: An observational study. AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 19 October 2019, New Delhi
8. Dube S, Rath G, Bithal P, Prasad K, Roy H, Jena B. Use of Indirect Calorimetry to Assess Outcome in Stroke Patients: A Comparison with Standard Weight-based Formula 47 Annual Meeting of Society for Neuroscience in Anesthesiology and Critical Care (SNACC 2019), 13 September 2019, Phoenix, USA
9. Gupta DS, Bindra A, Chaturvedi A, Routary S. Evaluation of respiratory morbidity and outcome in Cervical Spine Injury AIIMS Neuroanaesthesia Neurocritical Care Update 2019, 19 October 2019, New Delhi
10. Jayanth S, Rath GP, Mahajan C. Effect of surgical revascularization on regional cerebral oxygenation in patients with Moya moya disease: Preliminary study 21st Annual conference of The Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2020), 1 February 2020, Chennai
11. Kaushal A, Bindra A, Chouhan RS. Measurement of Neutrophil Gelatinase-Associated Lipocalin for Acute Kidney Injury following Neuroradiological Procedure(s) in Patients with Aneurysmal Subarachnoid Hemorrhage: A Preliminary Study. Koreaanaesthesia 2019, 2 November 2019, Incheon/ South Korea
12. Kumar N, Burman S, Rath G, Bindra A, Chaturvedi A, Goyal K. Cardiovascular Complications After Traumatic Spinal Cord Injury 47 Annual Meeting of Society for Neuroscience in Anesthesiology and Critical Care (SNACC 2019), 13 September 2019, Phoenix, USA
13. Kumar N, Sengupta D, Singh GP, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed unilateral hydrothorax: An uncommon complication of central venous catheterization, College of Anaesthesiologists and Intensivists of Srilanka Annual Academic Congress 2020, 18-20 January 2020, Colombo, Srilanka
14. Khandelwal A, Mahapatra R, Singh GP, Chaturvedi A. Perioperative anaesthetic and intensive care management of Giant Craniopharyngiomas - A case series AIIMS Neuroanaesthesia and Neurocritical Care Update 2019, 18-20 October 2019, New Delhi
15. Khandelwal A, Dhanda A, Singh GP, Bindra A. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: an observational study. International CME and Workshop on USG guided Nerve blocks in paediatrics, 16 October 2019, NOIDA
16. Khandelwal A, Chaturvedi A, Sokhal N, Singh A, Sharma HB. Comparison of propofol and ketofol on transcranial motor evoked potentials (TcMEPs) in patients undergoing thoracolumbar surgery, ISNACC 2020, 1 February 2020, Chennai
17. Kumar N, Sengupta D, Singh GP, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed hydrothorax: An uncommon complication of central venous catheterization 36 Annual academic congress 2020, 18 January 2020, Colombo, Sri Lanka
18. Kumar N, Singh GP, Goyal K, Sokhal N, Bindra A. Anatomical variations of internal jugular vein in relation to carotid artery and its implication on ultrasound guided cannulation: an observational study Asansc 2019, 21 September 2019, Sydney, australia

19. Kumar N, Sengupta D, Singh GP, Goyal K, Sokhal N, Bindra A. Catheter tip migration and delayed unilateral hydrothorax: an uncommon complication of central venous catheterization, 36th Annual Academic Congress – 2020, 18 January 2020, Colombo, Sri Lanka
20. Kumar N, Singh GP, Goyal K, Sokhal N, Bindra A. Anatomic variations of internal jugular vein in relation to carotid artery and its implications on ultrasound guided cannulation: An Observational Study Australian Society of Anesthetists, 20-24 September 2019, Sydney, Australia
21. Mahapatra R, Radhakrishna N, Khandelwal A, Chouhan RS, Pandia MP. Effect of intraoperative aneurysm rupture on perioperative complications and neurological outcome in adult patients undergoing intracranial aneurysm clipping: A retrospective study. AIIMS Neuroanaesthesia Neurocritical Care Update 18-20 October 2019, New Delhi
22. Pandia MP, Kumar S, Singh GP, Suri A. Comparison of propofol versus sevoflurane anaesthesia in subarachnoid haemorrhage patients undergoing clipping for aneurysm. ASA National Scientific Congress 2019, 20-24 September 2019, Sydney ( Australia)
23. Prasad CK, Burman S, Jain V, Jena BR, Chouhan RS, Chaturvedi A. Peri-operative Management of Anterior Thoracic Meningocele: A Case Report. AIIMS Neuroanaesthesia Neurocritical Care Update 18.10.2019 to 20.10.2019, New Delhi
24. Prabhakar H, Srinivas S, Dube S. Effect of Dexmedetomidine on Electrocorticography in Patients Undergoing Epilepsy Surgery Under Desflurane Anesthesia, SNACC 2019, 12-14 September 2019, Phoenix USA
25. Rath G, Lamsal R, Dube S, Roy H, Mishra S. Effect of Dexmedetomidine on Dynamic Cerebral Autoregulation in Patients with Supratentorial Tumors Under Sevoflurane Anesthesia 47 Annual Meeting of Society for Neuroscience in Anesthesiology and Critical Care (SNACC 2019) 13 September 2019, Phoenix, USA
26. Routaray SK, Chouhan RS, Khandelwal A, Prasad CK. CSF Rhinorrhea Following Retro-mastoid Sub – occipital Craniotomy. An Unusual Occurrence. AIIMS Neuroanaesthesia Neurocritical Care Update 18-20 October 2019, New Delhi

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Niraj Kumar, AIIMS + IIT Delhi, 2 years, 2019, Rs 20 lakhs
2. Effect of Decompressive Craniectomy on Jugular Venous Oximetry In Patients With Severe Traumatic Brain Injury, Navdeep Sokhal, AIIMS, 3 years, 2018-2020, Rs 2.5 lakhs
3. Impact of intra-operative jugular venous oximetry based management on outcome in patients undergoing excision of intracranial meningiomas: a preliminary study, Charu Mahajan, AIIMS, 1 year, 2019-2020, Rs 4.15 lakhs
4. Study of muscle enzyme elevation in neurosurgery and its relevance in postoperative acute kidney injury: A Pilot Study, Surya Kumar Dube, AIIMS, 2 years, 2018-2020, Rs 3 lakhs
5. Comparison of Fiber-optic Endotracheal Intubation with and without the use of air-Q as a conduit in patients with cervical spine injury: A pilot Study, Gyaninder Pal Singh, AIIMS, 4 years, 2016-2020, Rs 2.16 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Correlation of NIRS with intraoperative transfusion trigger in paediatric patients posted for posterior fossa tumour excision
2. Goal-directed intraoperative fluid therapy in Aneurysmal SAH patients: a prospective randomized study
3. Incidence and risk factors for delayed extubation after posterior fossa surgery- Aprospective study
4. Changes in somatic NIRS cakues during major hemorrhage with craniotomy and tumourexcision: an observational study
5. Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A radomized, controlled pilot study.
6. Incidence and Risk Factors for Delayed Extubation After Posterior Fossa Surgery: A Prospective Observational Study
7. Effect of surgical revascularization on regional cerebral oxygenation in patients with Moyamoya disease
8. Near infrared spectroscopy as a predictor of evaluation towards brain death following severe brain damage

9. Comparison of 0.9% normal saline, stereofundin, and plasmalyte with respect to metabolic parameters and brain relaxation in patients undergoing supratentorial craniotomy
10. To evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia
11. Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study
12. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study.
13. Comparison of ultrasound guided cannulation of subclavian vein (supraclavicular approach) versus internal jugular vein in neuro-intensive care patients on mechanical ventilation. A randomized study.
14. To evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia” (Guide)
15. Effect of ketamine infusion as neuroprotective agent on neurological outcome in patients with severe traumatic brain injury: a randomized controlled pilot study. (co-guide)
16. Effect of Neuroradiologic interventions on regional cerebral oxygenation in patients with anterior circulation aneurysms: An observational Study
17. Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury
18. Correlation of NIRS With Intraoperative Transfusion Trigger In Pediatric Patients Posted For Posterior Fossa Tumour Excision
19. Cardiovascular complications after traumatic spinal cord injury
20. To study the risk factors and causes of extubation failure in head injury patients
21. Effect of decompressive craniectomy on jugular venous oximetry (SJVO2) in patients with severe Traumatic brain injury (TBI) - Funded by AIIMS, Rs 5 lakhs
22. Incidence and risk factors of deep vein thrombosis in patients undergoing intracranial tumor surgeries – a prospective study
23. Evaluation of the GCS-Pupils Score for Prognostication in traumatic brain injury- The COMA study
24. Effect of intraoperative neurophysiological monitoring on clinical outcome in patients undergoing spinal instrumentation surgery - A retrospective analysis
25. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8mL/kg vs 12-15mL/kg) on the time to wean patients from ventilator having cervical spine injury (C1-C5)
26. Rate of multidrug resistance to antimicrobial drugs in paediatric neurointensive care patients
27. Effect of propofol versus sevoflurane on cerebral oxygenation in childhood Moyamoya Disease- a near infrared spectroscopy [NIRS] study
28. Use of non-invasive hemoglobin estimation for blood transfusion in spine surgeries; a comparison with conventional hemoglobin estimation method –A Pilot study
29. Comparison between transcranial sonography [TCS] and computerized tomography [CT] scan to assess the midline shift [MLS] in traumatic brain injury patients
30. Evaluation of the GCS-Pupils score for prognosis in traumatic brain injury- the COMA study
31. The effect on Dexmedetomidine on ECoG in patients undergoing epilepsy surgery under desflurane anesthesia. (Co-Guide). Completed
32. Goal Directed Intraoperative Fluid Therapy in Aneurysmal SAH patients: A Prospective Randomized Study (Co-Guide). On Going
33. A comparison of the effectiveness of dexmedetomidine versus propofol infusion for sedation during awake craniotomy
34. Outcome predictors of giant intracranial aneurysms undergoing surgical management: A retrospective analysis
35. Can change in 3 Ventricle width predict post-operative cognitive dysfunction in elderly patients undergoing spine surgeries under general anaesthesia: A Prospective Observational Pilot Study
36. Red blood cell distribution width as prognostic marker in aneurysmal subarachnoid hemorrhage
37. Red cell distribution width as prognostic marker in Acute traumatic brain injury

### **Completed**

1. Comparison of Propofol and Ketofol on Transcranial motor evoked potential in patients undergoing Thoracolumbar spine surgery
2. Evaluation of intratracheal lignocaine as compared to normal saline for reducing emergence reactions in patients undergoing endoscopic transsphenoidal pituitary surgery

3. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: an observational study
4. To compare the effect of goal directed fluid therapy versus standard fluid regimen on the cuff leak volume in patients undergoing spine surgery.
5. Use of intratracheal lignocaine to reduce emergence reaction in the patients undergoing endoscopic transphenoidal pituitary surgery: a randomized controlled study ( co-guide)
6. Comparison of propofol and ketofol on transcranial motor evoked potentials in patients undergoing thoracolumbar spine surgery
7. Effect of percutaneous Tracheostomy on Optic Nerve Sheath diameter [TONS Trial]
8. Perioperative anesthetic management and factors affecting outcome in robotized stereotactic assisted (ROSA) intracranial procedures: A retrospective analysis.

## Collaborative projects

### Ongoing

1. Effect of stellate ganglion block for cerebral vasospasm following aneurysmal subarachnoid haemorrhage on cardiac rhythm, A holter-based study, Cardiology
2. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination AIIMS+ IIT Delhi
3. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial. Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada
4. Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH R) in reducing the incidence of central line associated blood stream infection (CLABSI). Microbiology, JPNATC, AIIMS
5. Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital, Microbiology, JPNATC, AIIMS

## PUBLICATIONS

**Journals: 55**

**Abstracts: 12**

**Chapters in Books: 19**

**Books: 8**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arvind Chaturvedi** was Organizing Chairman of Annual Neuroanaesthesia and Neurocritical care Update 2019 and Organizing Chairman of USG and Cadaveric Pain workshop in Advanced Interventional Management of Pain conference 2019; Selected as MCI Inspector for Inspection and Accreditation of DM Neuroanaesthesiology course in India; Reviewer of Sultan Quaboos university Medical journal SQUMJ, Oman, JOACP, JNSA.

**Professor Mihir Prakash Pandia** is continuing as the Chairman of the research committee of ISNACC (Indian Society of Neuroanaesthesiology and Critical Care); Appointed as a committee member for the inspection for accreditation of ISNACC PDF course in Neuroanaesthesiology at SRMC, Porur, Chennai on 19 December 2019.

**Professor RS Chouhan** chaired a scientific sessions in AIIMS Neuroanaesthesia Neurocritical Care Update held at New Delhi, India from 18-20 October 2019; Co-chaired the prestigious GR Gode Oration in the ISNACC 2020, at Mahabali-puram, Tamil Nadu, held from 31 January 2020 to 2 February 2020.

**Professor GP Rath** was elected as Director in the Society for Neuroscience in Anesthesiology and Critical Care (SNACC, USA) Board of Directors; continued to contribute as the Member of Scientific and Communication Committees of the SNACC and Assistant Editor of SNACC Newsletters. Conducted Transcranial Doppler (TCD) workshop at SNACC Annual Meeting 2019 at Phoenix, USA. Continue to contribute as EXCO member (India) for Asian Society of Neuroanaesthesia and Critical Care (ASNACC) and its web editor. Organized the “Neuroanaesthesia and Neurocritical Care (NANC) Refresher Course”, and actively contributed for the ‘AIIMS Neuroanaesthesia Neurocritical Care Update 2019’ as Member of Organizing (Scientific) Committee. Continue to hold the post of Executive Editor, Journal of Neuroanaesthesiology and Critical Care (JNACC), Editorial Board Member of Indian Journal of Anaesthesia (IJA), Neurology India, The Indian Anesthetists’ Forum, Associate Editor of Indian Journal of Clinical Anaesthesia (IJCA), and Web Editor, Indian Society of Neuroanaesthesiology and Critical Care (ISNACC). Continue to serve as the International Advisory Board Member of Anesthesia Essays and Researches (AER) and Anesthesiology and Pain Medicine (AAPM), and peer-reviewer of reputed international journals such as Minerva Anesthesiologica, Journal of Neurosurgical Anesthesiology, Neurocritical Care, BMC Anesthesiology, and Journal of Clinical Anesthesia. Continued to be involved (Core faculty) in the In-service training programme (Organized by ORBO, AIIMS) of nurses and resident doctors for deceased organ and tissue donation.

**Dr GP Singh** was awarded the “**Outstanding Scientist Award in Anaesthesiology**” by Venus International Research Award (VIRA-2019) at Chennai on 3 August 2019; **Associate Editor** for Journal of Neuroanaesthesiology and Critical Care.

**Dr Ashish Bindra** was Organizing Secretary for AIIMS Neuroanesthesia Neurocritical Care Update from 18 to 20 October 2019 at JL Auditorium, All India Institute of Medical Sciences, New Delhi; Organized AIIMS- AIM P, Cadaveric Interventional Pain Management Workshop on 22 October 2019 at Cadaveric Training and Research Facility, JPNA Trauma Centre, New Delhi.

**Dr Niraj Kumar** is pursuing fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi for the session, January 2019. Based Medicine; **Instructor (Faculty) of** –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS, AIIMS cadaver airway; As a faculty of ORBO team facilitates knowledge, awareness amongst the hospital staff and also actively involved in procedures related to organ procurement; **Course director of Cadaveric Airway Management Course** – (18 October 2019) at JPNATC, New Delhi; **Executive member of organizing committee** AIIMS Neuroanesthesia update 2019.

**Dr Keshav Goyal** was appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anesthesiology; Advanced Trauma Life support (ATLS) Instructor Recertification, April 2019; Emergency Neurological Life Support (ENLS) Instructor Recertification; Course director cum National Coordinator of 1st Acute Neuro Care (ANC) affiliated by National society (ISNACC) 2019 at PGIMER Chandigarh and Yashoda Hospital, Hyderabad; Member of Trainee Engagement Committee of SNACC, USA; Reviewer of International Journal of Respiratory and Pulmonary Medicine; Executive member of organizing committee of: AIIMS Neuroanaesthesia and Neurocritical Care update 2019, 2nd and 3rd Acute Neuro care (ANC); Course Director and Coordinator, Cadaveric Airway Workshop, Quiz master in AIIMS Neuroanaesthesia and Neurocritical Update 2019.

**Dr Navdeep Sokhal** received Best paper award -One of my poster “Comparison of propofol and ketofol on transcranial motor evoked potentials (TcMEPs) in patients undergoing thoracolumbar surgery” presented by our student has won best paper award in ISNACC 2020, in Chennai; Course Director -Successfully organized “AIIMS Critical Care Course for Interns” as Course Director on 8-9 December 2018. In this course interns and residents were trained for various lifesaving skills like basic and advanced cardiac life support, airway management, vascular access and cricothyrotomy on mannequins and were taught basic concept of critical care management.

**Dr Vanitha Rajagopalan** completed the Point of Care Quality Improvement online course offered by AIIMS, New Delhi; Completed the Certificate course in Medicine and Law for Doctors offered by Institute of Medicine and Law; Completed the Comprehensive Critical Care e- Course (4C) offered by Indian Society of Critical Care Medicine; Reviewed articles for: Journal of Neuroanaesthesiology and Critical Care, Journal of Anaesthesiology Clinical Pharmacology, Indian Journal of Clinical Anaesthesia, Neurology India.

## Clinical Neuropsychology

### HIGHLIGHTS

Division of Neuropsychology, Neurosciences Center, got National and International recognition. The enthusiasm and willingness of students has played a major part in delivering 'standard of care'. Outcome from such a service with the support of their teams further helped in getting this recognition. The Neuropsychology faculty was nominated and selected to become a member of the Development Group for Traumatic Brain Injury (Non-Pharmacology Section). This nomination is for the World Health Organization (WHO) TBI Rehabilitation Working Group Member: under the aegis: Rehabilitation 2030- a call for action. The nomination was done by the Indian Federation of Neurorehabilitation (IFNR) and further supported by World Federation of Neurorehabilitation (WFNR). The faculty also worked as Member: Institute's Ethics Committee. Institute of Home Economics, (University of Delhi), 2017-2019.

Neuropsychology has actively participated in research as a part of esteemed interdisciplinary team. Have been involved in teaching clinical psychology to students (undergraduate, post graduate, and PhD).

### EDUCATION

- Undergraduate Teaching / BSc
  - B.Sc (Hons/Post Certificate) Nursing
  - Post Certificate 1st year
- Post Graduate Teaching
  - Clinical teaching /tutorials (about 12-16 hours/week)
  - Short Term Training (Clinical Neuro Psychology): AIIMS: 2

### CMEs, National and International conferences

#### Lectures delivered

#### Ashima Nehra: 5

1. Assessment and Mangement of Delirium in Clinical Practice, 2nd National Conference of Societ of Neurocritical Care (SNCC) India, 6-7 April 2019, Delhi
2. A Quest for A Psychologist's Role In WHO Continuum Of Care 45th National Annual Conference of Indian Association of Clinical Psychologists 25-27 May 2019, Dehradun
3. What could be the best rTMS protocol for an improvement in Parkinson's disease patient's Quality of Life and Motor symptoms? A systematic review 45th National Annual Conference of Indian Association of Clinical Psychologists, 25-27 May 2019, (Presented on 26 May 2019), Dehradun
4. Can rTMS bring about an improvement in the domains of Mood and Cognition in Parkinson's disease patients? A systematic review 45th National Annual Conference of Indian Association of Clinical Psychologists 25-27 May 2019, Dehradun
5. Role of Psychosocial Factors in Women's Life Leading to Distress /Disability National Seminar on "Role of Young and Adolescent Girls with Disabilities in National Integration of India" Conference on 26-27 July 2019, New Delhi

#### Oral papers/posters presented

1. Sharma P, Nehra A, Srivastava AK, Goyal V, Dash D, Rajan R, et al. What could be the best rTMS protocol for an improvement in Parkinson's disease patient's Quality of Life and Motor symptoms? A systematic review 45th National Annual Conference of Indian Association of Clinical Psychologists, 25-27 May 2019, Dehradun
2. Narain A, Nehra A, Srivastava AK, Goyal V, Dash D, Rajan R, et al. Can rTMS bring about an improvement in the domains of Mood and Cognition in Parkinson's Disease patients? A systematic review 45th National Annual Conference of Indian Association of Clinical Psychologists, 25-27 May 2019, Dehradun

### RESEARCH

#### Funded projects

##### *Ongoing*

1. To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients, Ashima Nehra, DST, 2021,

#### Departmental projects

##### *Ongoing*

1. To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients.
2. Development And Efficacy of Comprehensive Neuropsychological Rehabilitation for Improving Cognition and Quality Of Life in persons with Drug Refractory Epilepsy: A Randomized Controlled Clinical Trial

### Completed

1. Development of a Computerized Neurocognitive Remediation Package and Phase II Trial for Assessing its Efficacy in Cognitive Functioning among Patients with Schizophrenia

### Collaborative projects

#### Ongoing

1. A Population Based Prospective Cohort study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective AIIMS-ERASMUS COHORT STUDY. (An international collaborative project) Neurology, Cardiology, Community Medicine, Neuroradiology, Oral Health Sciences, Neuropsychology, Bio-Statistics etc.
2. To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients., Neuropsychology, Neurology, Bio-Statistics
3. Development And Efficacy of Comprehensive Neuropsychological Rehabilitation for Improving Cognition and Quality Of Life in persons with Drug Refractory Epilepsy: A Randomized Controlled Clinical Trial, Neuropsychology, Neurology, Neurosurgery, Neuroradiology, Bio-Statistics

#### Completed

1. Development of a Computerized Neurocognitive Remediation Package and Phase II Trial for Assessing its Efficacy in Cognitive Functioning among Patients with Schizophrenia
2. Neuropsychology, Neurology, Psychiatry, Bio-Statistic

### PUBLICATIONS

Journals: 7

### PATIENT CARE

**Clinical Neuropsychology** is a specialized referral service which focuses on clinical application, including diagnostic formulation, assessment, cognitive retraining in brain functioning following brain attack/ insult/ injury. Psychological assessment includes neuropsychological assessment/ evaluation including clinical diagnosis (as per the Gold Standards), comprehensive interview; behavioural observations, assessment with series of neuropsychological tests, interpretation, report writing neuropsychological formulation including General Intellect (hemispheric assessment), Cognition, Higher Level Executive Skills (e.g. problem solving, reasoning) Attention and Concentration, Memory and Learning, Motor and Sensory Skills, Perceptuo-motor Functioning/Visuo-spatial skills, Mood and Personality (Orbito Frontal Functions), Language/ Aphasia Assessment. Neuropsychological retraining including basic function approach to improve the functional skills improving basic pre morbid functions of persons daily life; neuropsychological reorganization including compensation for the deficit when deficient function can neither be reorganized nor restored, clinic based therapy; home based therapy. Neuropsychological retraining including basic function approach to improve the functional skills improving basic pre morbid functions of persons daily life; neuropsychological reorganization including compensation for the deficit when deficient function can neither be reorganized nor restored, clinic based therapy; home based therapy.

Neuropsychological Rehabilitation, Vocational Guidance, Supportive Psychotherapy, Directive Counselling to the patients and family members which is an important aspect of patient care in terms of management of any neurological condition. All these services are covered under the specialized clinics of Neuropsychological Rehabilitation (NR) and Cognitive Disorders and Memory Clinic (CD&M)

**Outpatient service (OPD):** There are 4 Clinical Neuropsychology OPDs/week, with 3 registries:

### Specialized Clinics

*Neuropsychological Rehabilitation (NR) Clinic*

Cognitive Retraining/Restructuring
Basics Skill Training
Functional Re-training
Speech and Language Rehabilitation
Psychosocial Therapy
Guidance and Counselling
Individual Therapy
Family Therapy

Vocational Guidance
Holistic/eclectic Approach Therapy (depending on the patient's needs)

*Cognitive Disorders and Memory (CDM) Clinic*

Memory Assessment
Screening for Cognitive Decline
Cognitive Rehabilitation for Dementia/ Alzheimer's Dementia
Cognitive Re-training for decline in Memory/Executive Functioning
Management of Cognitive/ Memory Disorders
Identify and treat pseudo-dementia
Education: patients, carers, trainees, colleagues, and the general public.
Family guidance
Monitoring of progress and response to therapy

**REFERRALS**

Patients are referred from Neurology, Paediatric Neurology, Neurosurgery, Psychiatry, JPN Trauma Centre, Neuroanaesthesia, Physical rehabilitation and medicine (PMR), ENT, Endocrinology, Nuclear Medicine, Medical superintendent's office (for medico legal cases), etc.

Referrals are given to establish a 'baseline' of skills/weaknesses in order to measure change in the future, to identify strengths and weaknesses in specific areas, to differentiate among illnesses, which can then direct appropriate treatment, to plan for treatment to use strengths to compensate for weaknesses, to assess everyday functional skills to plan for assistance or treatment, etc.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Dr Ashima Nehra was nominated for World Health Organization (WHO) WHO-TBI Rehabilitation Working Group Member (for Non-Pharmacological Intervention): under the aegis: Rehabilitation 2030- a call for action (Nominated by Indian Federation of Neuro-Rehabilitation and supported by World Federation of Neuro-Rehabilitation). Nominated for World Health Organization (WHO) WHO-TBI Rehabilitation Working Group Member

**Kaur H.** (Former Student), at present Assistant Professor at TISS, Mumbai: International Neuropsychological Society: Travel Bursary Award \$1500 : Denver, USA. February 2020 (Award won on the work done as a part of her PhD.

## Neurobiochemistry

### **HIGHLIGHTS**

Introduced new MLPA based genetic diagnostic test: Duchenne Muscular Dystrophy-1 (DMD-1), Duchenne Muscular Dystrophy-2 (DMD-2), Spinal Muscular Atrophy (SMA), Wilson's test. BRCA1, BRCA2/CHEK2 screening, Wilson, EGFR, and TP53 in Biochemistry, NSC.

### **CMEs, National and International Conferences**

#### **Lectures delivered**

#### **Ashok Sharma: 5**

1. Epigenetic regulation of POTE genes in Epithelial Ovarian Cancer World Congress on Cancer" (WCC) 2020, 3-5 February 2020, Jaipur, India
2. Epigenetic regulation of POTE, National Conference on Cancer Biology and Therapeutics, 29 -30 November 2019, Bhubaneswar, Odisha
3. Epigenetics and Cancer Young Scientists' Conference (YSC), 5 India International Science Festival (IISF 2019) 5-7 November 2019, Kolkata, West Bengal
4. Evolving Landscape of Translational Cancer Research and Future Challenges in India. TCGA-themed conference and hands-on workshop, 21-25 September 2018, IISER Pune
5. Epigenetics and Human Diseases Science Fest 4 Sept. 2019, New Delhi

#### **Oral papers/posters presented: 2**

1. Kundu S and Sharma A. 3D Genome Architecture: A major player in the Epigenetic regulation of CA/CG antigen POTE in Ovarian Cancer World Congress on Cancer" (WCC) 2020, 3-5 February 2020, Jaipur, India
2. Sharma N, Manav N, Kundu S, Quazi S, Kumar P, Sharma A. Expression Analysis of Cancer Testis Antigen POTE using TCGA data mining to correlate its biomarker potential for Ovarian Cancer Multi-Omics Studies in Cancer- Learnings from TCGA, 21-25 September 2019, Pune

### **RESEARCH**

#### **Funded projects**

##### ***Ongoing***

1. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients. Ashok Sharma, MEITY, 2 years, 2020-2022, Rs 292 lakhs
2. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Ashok Sharma, ICMR- MOHFW, 3 years, 2019-2022, Rs 42.5 lakhs.
3. Genome-Wide DNA Methylation and Genomic Instability Profiling and Evaluating Its Potential as a Biomarker and Immunotherapeutic Target for Ovarian Cancer. Ashok Sharma, DBT-Ramalingaswami Project, 5 years, 2015-2020, Rs 32.5 lakhs
4. Nuclear Architecture as an Epigenetic Regulator in Pericentromeric localized Cancer-Testis/Germline Antigen POTE Expression in Ovarian Cancer, Ashok Sharma, DST, 3 years, 2017-2020, Rs 55 lakhs
5. A pilot study to analyze serum levels and intra-tumour expression of cancer-testis antigen POTE as a new biomarker for ovarian cancer, Ashok Sharma, DHR-ICMR, 2 years, 2018-2020, Rs 25 lakhs
6. Molecular Characterization of Endometrial Cancer and its correlation with clinicopathological Features, Ashok Sharma, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
7. Estimate the Serum Levels of Cancer-Testis Antigen POTE as a Biomarker in Epithelial Ovarian Cancer, Ashok Sharma, AIIMS, 2 years, 2016-2018, Rs 10 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. Functional Characterization, Expression, and Clinical Significance of Cancer-Testis/ Germline Antigen POTE in Ovarian Cancer
2. Role of 3D Genome Architecture as Epigenetic Regulator of Pericentromeric localized Cancer-Testis/Germline Antigen POTE in Cancer

##### ***Completed***

1. Cloning and Functional analysis of Cancer Testis Antigen POTE in Epithelial Ovarian Cancer
2. Effect of DNA Methylation in Expression of Cancer-Testis/Germline Gene POTE in Ovarian Cancer
3. DNA Methylation Effect on POTE Expression in Epithelial Ovarian Cancer

## Collaborative projects

### Ongoing

1. Role of PARP1 and  $\gamma$ -Glutamylcysteine Synthetase Inhibitor in Cisplatin Sensitivity and Correlation With DNA Methylation in Ovarian Cancer, IRCH, AIIMS
2. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis, Anatomy
3. The Role of Leukotriene A4 hydrolase gene Polymorphism and Clinical outcome correlate in Corticosteroids treated Tubercular Meningitis Patients, Neurology
4. One carbon metabolism and cognitive impairment in older Indians, Geriatric Medicine
5. Estimation of novel Proteins among Older Subjects as biomarker for cognitive impairment, Geriatric Medicine
6. To evaluate the effect of intralipid supplementation on implantation rate in women with two or more failed IVF/ICSI with elevated natural killer cell levels – A pilot randomized controlled trial, Obstetrics and Gynaecology
7. Expression of Cancer Testis Antigen POTE in Ovarian Tumors and its Clinical Significance: A Pilot Study, Obstetrics and Gynaecology
8. Molecular Characterization of Endometrial Cancer and its correlation with clinicopathological Features, Pathology

### Completed

1. Role of peroxisome proliferator activated receptor alpha (ppar alpha) in trophoblast invasion, Biochemistry

## PUBLICATIONS

Journals: 3

## PATIENT CARE

### Haematology laboratory

S. No.	Description	No. of tests
1	Ward haematology	64997
2	OPD Haematology	38687
3	PT	72712
4	APTT	8165

### Ward/OPD Chemistry tests

S. No.	Description	No. of Tests Ward	No. of Tests OPD
1	Glucose	35,205	51,534
2	Urea	63,892	50,656
3	Creatinine	64,320	51,340
4	Calcium	63,777	50,278
5	Phosphorous	61,343	49,267
6	Uric acid	64,243	50,767
7	Sodium	62,765	51,678
8	Potassium	65,118	52,569
9	Bilirubin	62,178	50,112
10	Direct bilirubin	63,321	52,432
11	Total protein	61,989	51,999
12	Albumin	63,221	51,264
13	AST	66,795	50,989
14	ALT	66,752	51,098

15	ALP	64281	50,108
16	Cholesterol	40522	8139
17	Amylase	29323	8408
18	Cyclosporin	247	–
19	Tacrolimus	543	–

#### Hormone tests

S. No.	Description	No. of Tests
1	T3	14,959
2	T4	15,665
3	TSH	16,532
4	Prolactin	1881
5	Cortisol	1972
6	LH	2098
7	FSH	1930

#### Lipids and Enzymes

S. No.	Description	No. of Tests
1	Lipid profile	111979
2	CK-NAC	19631
3	CK-MB	6097
4	LDH	23377
5	ASLO	5781
6	Digoxin	978

#### Drug tests

S. No.	Description	No. of Tests
1	Phenytoin	1628
2	Valporate	1543
3	Phenobarbitone	244
4	Carbamazepine	926

#### Special tests

S. No.	Description	No. of Tests
1	Vit B12	5912
2	Folate	3572
3	Homocysteine	1823
4	Ferritin	1534
5	Ceruloplasmin	308
6	Serum Copper	217

7	Urine Copper	250
8.	ACHR	59
9	Neuronal Ag	51
10	Ganglioside	16

#### Others

S. No.	Description	No. of Tests
1	Catecholamines	519
2	VMA	585
3	Vitamin D	4563
4	PTH	150
5	HbA1c	8260
6	NMO	661

#### Sanger-Sequencing based genetic testing:

S. No.	Description	No. of Tests
1.	TPMT assay	112
2.	BRCA (MLPA) + (3 founder mutation Sequencing)	10 +9
3.	DMD (MLPA)	01
4.	Wilson (MLPA)	01

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Ashok Sharma** was Invited by Department of Biotechnology's for the Nobel Prize Series 2019; Invited by Ministry of Health and Family Welfare and DBT India Jointly for colloquial lecture in the Young Achiever's, Young Scientists' Conference (YSC), 5th India International Science Festival (IISF 2019) held at Biswa Bangla Convention Centre (BBCC), Kolkata; role in establishing the Indian Council of Medical Research-Indian Cancer Research Consortium (ICMR-ICRC), New Delhi as a member of committee; guest to deliver a talk in Sri Aurobindo College on 'Epigenetics and Human Diseases' in Science Fest dated on dated on 4 September 2019; Distinguish speaker in National Conference on Cancer Biology and Therapeutics held at Institute of Life Sciences, Bhubaneswar, Odisha, during 29-30 November 2019; **Editorial and Review Work:** Member of the Editorial Board of Cancer science and Cell Biology, Member of the Editorial Board of International Journal of Integrative sciences, Innovation and Technology (IJIIT); **Reviewer for:** Molecular Report, PLOS ONE, PLOS Genetics, PLOS Biology, BMC Cancer, Carcinogenesis- Oxford Journals, Laboratory Investigation- Nature, Molecular BioSystems- RSC Publishing, Molecular Biotechnology, Molecular and Cellular Biochemistry- Springer.

## Neuropathology

### HIGHLIGHTS

In the year 2019-2020, unit of Neuropathology has been able to maintain high standard academics and state of art clinical services. The unit is engaged in routine diagnostic services (total of 2106 cases), teaching of undergraduate, postgraduate, DM and Mch students; as well as high quality research in various subspecialities of Neuropathology. In this year trained one faculty in muscle pathology from Jaipur and two technicians from Jaipur and DMC Ludhiana.

New facilities have been added for the molecular diagnosis and cytogenetic work-up in routine work up in neurooncology, which include *in-situ* hybridization, capillary electrophoresis, real-time PCR etc. The diagnostic immunohistochemical panel has been expanded and a total of 8375 slides have been stained and studied during this period. The unit is regularly integrating molecular makers of clinical significance in the hitopathological reports of neurooncology and myopathology.

The Neuropathology faculty have received funding for 3 extramural projects. A total of 40 papers have been published in peer reviewed national and international journals. Research work was presented at various national and international platforms. Professor Chitra Sarkar received the Lifetime Achievement Award from the Delhi Neurological Association for her contributions in Neuropathology.

Professor Chitra Sarkar has been nominated as a member of working committee of CIMPACT-NOW (Consortium to Inform Molecular and Practical Approaches to CNS tumor Taxonomy) under the aegis of WHO. Professor Chitra Sarkar has been invited to be a co-author in upcoming 2020, WHO classification of CNS tumors and Updates of CIMPACT-NOW. Professor MC Sharma and Dr. Kavneet Kaur have also been invited co-author chapters in the upcoming 2020, WHO Classification of CNS Tumors.

### EDUCATION

Undergraduate lectures and seminars	9 per year
Undergraduate practical classes	3 per year
Postgraduate (MD pathology) teaching during reporting sessions	10 hours per week
Postgraduate Teaching in Friday conferences	2 hours per week
Neuropathology/ Neurology/Neurosurgery conference	1.5 hours every Friday
Training of postgraduate graduate (MD pathology) students on FISH platform	Twice a year
15 days teaching and training of DM Neurology candidates	On rotation basis

### CMEs/Workshops/Symposia/National and International Conferences

#### • Conference Organized

10th Annual Conference of the Indian Society of Neuro-Oncology (ISNOCON 2018) held at AIIMS, New Delhi from 6-8 April 2018.

Also organized Pre-conference workshop on Molecular Neuro-Oncology.

### Lectures delivered

**Chitra Sarkar: 5                    Mehar C Sharma: 10                    Vaishali Suri: 3**

#### Chitra Sarkar

1. Michaelangelo said – Ancora Imparo, Sir Ganga Ram Hospital, Delhi, 10 November 2019, Delhi
2. cImpact-NOW [cImpact: The consortium to inform molecular and practical approaches to CNS tumor taxonomy], EBM 2020: Contemporary management in Neuro-Oncology, 28 February 2020, Mumbai
3. Molecular Subgrouping of Medulloblastomas: Recent Updates and Challenges to the Pathologist Pediatric Pathology CME, 2019, Kolkata
4. Pediatric Gliomas : Current Scenario Pediatric Pathology CME, 2019, Kolkata
5. Pathological Classification of Intracranial Germ Cell Tumors and its Clinical Implications ISNOCON, 5 April 2019, Bhopal

#### Mehar C Sharma

1. Interesting case presentation Delhi Neurological Society meeting, 7 March 7 2020, New Delhi
2. Clinicopathological conference (CPC Epilepsy) ECON 2020, 19 January 2019, Ahmadabad
3. Histomorphological approach to mesenchymal tumours of oral and maxillofacial region AIIMS oral pathology symposium, 6 January 2020, New Delhi

4. Biomarkers of clinical relev CNS tumours of clinical relevance 11th Annual Conference of the Indian Society of Neuro-oncolgy, 5-9 April 2019, Bhopal
5. Update in Embryonal tumors of the CNS Annual CME in Pathology, 23 November 2019, Amritsar
6. Approach to muscle diseases Annual CME in Pathology, 23 November 2019, Amritsar
7. Approach to sinonasal tumours Annual CME in Pathology, 23 November 2019, Amritsar
8. Approach to Posterior fossa midline Tumours, Neurosurgery CME, 10 July 2019, Rishikesh
9. Clinicopathology conference (CPC Internal Medicine) CPC, 26 November 2019, New Delhi
10. Prognostic stratification of posterior fossa ependymomas using H3K27me3 immunohistochemistry and fluorescence in-situ hybridization for chromosome 1q21 48th Annual meeting of International Society of Pediatric Neurosurgeon 4-8 October 2019, Birmingham, United Kingdom

#### **Vaishali Suri**

1. Utility of molecular markers / platforms for routine diagnostic work up of CNS tumors” 11th Annual Conference of Indian Society of Neuro-Oncology and preconference workshop, 4-7 April 2019, Bhopal
2. Histopathology and clinically relevant molecular markers for Diffuse Midline Gliomas 11th Annual Conference of Indian Society of Neuro-Oncology, 4-7 April 2019, Bhopal.
3. Pathology of low grade gliomas : The evolution” CME on pediatric brain tumours, 10 November 2019, New Delhi

#### **Oral papers/posters presented**

1. Aruna N, Suri VS, Sharma MC, Sarkar C. Reappraisal of CNS embryonal tumors, not otherwise specified and RELA fusion negative supratentorial ependymomas using immunohistochemistry and sequencing for BCOR’ European Association of Neurooncology, annual meeting (EANO-2019) September 2019. Lyon, France
2. Kaur K, Suri VS, Sharma MC, Sarkar C. Cost efficient test algorithm for molecular subgrouping of medulloblastomas for day-to-day practice in resource limited countries, Annual meeting of European Association of Neuro-Oncology, 2019 (Eano, 2019) Lyon, France.
3. Kaur K, Suri VS, Sharma MC, Sarkar C. Analysis of tumor immune microenvironment and immune checkpoint modulators across infantile and pediatric pilocytic astrocytomas to elucidate the role of immunotherapy in these tumors and Cost efficient test algorithm for molecular subgrouping of medulloblastomas for day-to-day practice in resource limited countries Annual meeting of European Association of Neuro-Oncology, 2019 (Eano, 2019) Lyon, France
4. Kaur K, Suri VS, Sharma MC, Sarkar CS. Molecular and Clinical Characterisation of Midline Gliomas: Correlation with Programmed death ligand 1 Expression and Tumor-infiltrating lymphocytes” 47 annual meeting of international society for pediatric Neurosurgery Birmingham UK
5. Sharma A, Suri VS, Sharma MC, Sarkar C. Clinicopathological evaluation of PD-L1 expression and cytotoxic T-lymphocyte infiltrates across intracranial molecular subgroups of ependymomas: are these tumors potential candidates for immune check-point blockade? European Association of Neuro-oncology, annual meeting (EANO-2019, September 2019, Lyon, France

#### **RESEARCH**

##### **Funded projects**

##### **Ongoing**

1. DHR-ICMR Advance Medical Oncology Diagnostic Services (DIAMONDS) under HTA in pilot research project, Chitra Sarkar,, DHR-ICMR, 3 years, 2020-2023, Rs 170 lakhs
2. A multi-centric study to develop comprehensive molecular genetic panels for glioblastoma personalized therapy. Chitra Sarkar, DBT, 5 years, 2016-2021, Rs 50 Lakhs
3. JC Bose Research Fellowship, Chitra Sarkar, DST, 5 years, 2016-2020, Rs 15 lakhs per year
4. Unraveling the role of miRNA clusters (C14MC and C19MC) in oligodendrogliomas: Study using genetic and functional approach with clinicopathological correlations, Chitra Sarkar, ICMR, 3 years, 2017-2020, Rs 10 lakhs per year
5. Unravelling the functional relevance of Snail paralogs in the pathogenesis of pediatric ependymomas, MC Sharma, DST, 3 years, 2018-2020, Rs 45 lakhs
6. Sequencing Target genes aimed at Neuromuscular disorders in India (STAND-INDIA), MC Sharma, ICMR, 3 years, 2018-2021, Rs 50 lakhs

7. Tumor Immune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, MC Sharma, ICMR, 3 years, 2020-2023, Rs 35 lakhs
8. Clinicopathological and serological assessment of adult-onset idiopathic inflammatory myopathies (IIM) aimed at improved characterization of sporadic inclusion body myositis, MC Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
9. Targeted genomic-epigenomic analysis to develop a novel approach for routine molecular subgrouping and identification of actionable targets in meningioma, V. Suri, DST, 3 years, 2018-2021, Rs 42 lakhs
10. Identification of non-coding RNA panel as novel biomarker for stratification of meningiomas and evaluation of its prognostic therapeutic significant, V. Suri, Rs 10 lakhs
11. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma, V. Suri, AIIMS, 3 years, 2018-2020, Rs 20 lakhs
12. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, V. Suri, ICMR, 2019-2022, Rs 62 lakhs

## Departmental projects

### Ongoing

1. Study of EGFR-MAPK, NFKB and SHH pathway activation in corticotroph pituitary adenomas
2. Comparison of molecular and immune profile of Epithelioid GBMs and PXA
3. Analysis of immune check point markers in gliomas
4. EMT pathway in meningioma
5. Molecular profiling of Epithelioid Glioblastoma

### Completed

1. DNA methylation array for molecular subgrouping of medulloblastomas
2. Targeted sequencing of IDH negative gliomas
3. Clinicopathological study of infant gliomas
4. EZH2-WNT expression and correlation in tumor invasiveness, stem cell phenotype and progression in pituitary adenomas

## Collaborative projects

### Ongoing

1. Fat gene in gliomas, Biochemistry
2. Molecular and immune profile of midline gliomas, Neurosurgery

## PUBLICATIONS

**Journals: 34**

### PATIENT CARE

#### Neuropathology Lab

Total Specimen	2106	Frozen Section	359
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#### Immunohistochemistry

Routine IHC	8375	Research IHC	523
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Muscle IHC	1699	Total Muscle Received	291
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Muscle Enzyme-histochemistry	658		
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#### Fluorescence in situ hybridization

Diagnostic	349	Research	272
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#### EM Facility

Total muscle sample	288	Total nerve sample	37
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Immunoblot sample	55		
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## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Chitra Sarkar** was appointed as President, AIIMS, Kalyani by Ministry of Health and Family Welfare; Chairperson of the Committee constituted by Ministry of Health and FW to suggest recommendations regarding Bhopal Memorial Hospital and Research Centre (BMHRC); Member, Governing Body of Institute of Medical Sciences, Banaras Hindu

University; Member, THSTI Society Committee; Nominated Member of DST-INSPIRE Fellowship Standing Committee; Nominated Member of Expert Evaluation Committee of DST-INSPIRE Fellowship; Organizing Chair of 10th Annual Conference of the Indian Society of Neuro-Oncology (ISNOCON 2018) held at AIIMS, New Delhi from 6 to 8 April 2018. Also organized Pre-conference workshop on Molecular Neuro-Oncology; Chairperson, Women's grievance cell, AIIMS; Chairperson, Prevention of Sexual Harassment of Women at AIIMS; Coordinator for Memorandum of Understanding between AIIMS and other Institutions for collaborative research; Member of Nano Mission Council (NMC) of Department of Science and Technology, Govt. of India; Member, Apex Committee for North Eastern Region Biotechnology Programmes of Department of Biotechnology; Vice President of the International Society of Neuropathology; Secretary, Neuropathology Society of India; Selection committee member for Ranbaxy Awards; Member of Sectional committee (Health Sciences) of INSA; Member, Editorial Board of journal Neuropathology (published from Japan); Member, Assessment Committee for scientists' promotions of ICMR; Member of the Governing Body and Scientific Advisory Committee of National Brain Research Centre, Manesar; Member of the Scientific Advisory Committee of Institute of Pathology, New Delhi; Co-chairperson of Human Ethics Committee of National Institute of Immunology, New Delhi; Member, Oncology Sub-Committee of NCD-III, ICMR.

## 11.1. BB Dikshit Library

**Chairperson, Library Committee**  
S Rajeshwari

**Professor in-charge, Library**  
SS Chauhan

**Chief Librarian**  
S Siva Chidambaram (up to 26.12.2019)

### HIGHLIGHTS

The central library provides information service to all the teaching departments and centres. The library is open 24x7 (356 days) and it has more than 1,50,257 books and other documents such as bound journals, pamphlets, etc. The library also has a collection of 2,298 Hindi books for readers and employees, both technical and non-technical. An average of 320 readers visit the library everyday. The library is well equipped with modern facilities to support biomedical education and research. The library has predominantly e-resources (80%) which are provided with anytime anywhere access for doctors and faculty members for their scholarly activities. The collection of various E-Resources access and service credential available through the library is given below:

Types of E-Resource	Description
E-Journals	1493 Scholarly Journals, Dentistry and Oral Sciences Source (DOSS Aggregator), NEJM Journal Watch
E-Books	Access Medicine, Oxford Medicine Online (53 textbooks), OVID
Point of Care databases	Up-to-date (Anytime anywhere), BMJ Best Practice, BMJ Case Reports, Acland Anatomy, MedOne Surgery
E-Learning packages	JAMA Evidence, BMJ Research to Publications, HSTalk Lecture Series
Abstracting and Indexing databases	EMBASE, Web of Science (Citation Analysis Database), Journal Citation Report
Access Facility Software on Services	LibSys Premia (Version10) Library automation EBSCO Discovery service (Single Point Search for all subscribed E-Resources). All E-Resources are accessed through IP enable in the Campus RemoteXs, OpenAthens facility for out-of-campus access
Plagiarism verification service	iThenticate web enabled

These online databases, E-Journals and E-Learning packages can be accessed through the library by Web-scale Discovery Service (Single Point Search), IP enabled access and RemoteXs facility. During the year, 272 new RemoteXs accounts were created for remote access facility. Few society-based journals may be accessed through username and password. Necessary access information is disseminated through the library webpage: <http://www.aiims.edu/en/library.html>. The RemoteXs facility to faculty members and academic resident doctors is provided through: <http://elibraryaiimsdelhi.remotexs.in> to access E-resources even outside the campus and the country. The library has a plagiarism verification facility for its readers and total number of submissions is 1992 (documents are 2084). The library has its own search engine called 'Single Point Search' web-scale discovery service to retrieve library subscribed electronic resources plus library holdings effectively. It also acts as a tool for a bibliographic management system for doctors. The Library Committee is an advisory body for the management of the library. It advises the Chief Librarian regarding the procurement of books and subscription of periodicals and databases. The present committee consists of the Professor in-charge as Chairperson, 7 Professors, 2 Associate Professors and 1 Assistant Professor from various departments as members, and the Chief Librarian as the Coordinator. The committee meets regularly.

The Library has an in-house information communication and management system comprising of 3 servers and 49 computers. The library has its own Wi-Fi service, and about 1,000 users are benefited during the year. The library uses Libsys Premia automation software system that supports data entry and retrieval of books and other documents. All documentation/bibliographic services, as well as certain library operations have been computerized, using integrated library management software. The circulation section of the library is computerized through RFID smart card system and online issue return of books with automatic reminder systems through e-mail. The total RFID Smart Cards issued to the library's readers are 608. The library provides Current Awareness Service and Reference Services. The library publishes E-Resources Bulletin, AIIMS Institutional Repository Bulletin and the New Books Bulletin, etc. It also provides services such as web-based Open Access Public Catalogue (Web OPAC), Reprography and printout of academic literature. Library imparts orientation and information literacy programs to students, research scholars and doctors regularly.

This year library spent around `1,850 lakhs for procurement of E-Journals, Databases, Books and other documents, IT equipment and services, etc. It added around 257 new books, 1493 E-Journals, 13 Databases and 4 Access Facility services, etc. This year, the library has launched its ETD (Electronic Thesis and Dissertation) facility through online platform successfully. Now, the theses and dissertations are available for library's readers in printed/CD formats/online platform.

#### **CME/Workshop/Seminar/Conferences Organized**

1. Orientation Program for AIIMS Resident Doctors, 9 April 2019.
2. Scholarly Communication, OVID Day Workshop, 11 July 2019.
3. Utilization of E-Resources in Scholarly Communication, Librarians' Day Seminar, 9 August 2019.
4. Access and Availability of Medical Literature in Electronic Environment (AMLEE-2019), National Conference, 2-3 September 2019, AIIMS, New Delhi.

#### **Lectures delivered**

**Dr S Siva Chidambaram: 7**

#### **Workshop/Conference/Seminars Attended**

**Dr S Siva Chidambaram**

1. Research Data and Statistical Analysis using R Programming, National Workshop, UGC INFLIBNET Centre, 6-11 May 2019, Gandhinagar.
2. Knowledge Engineering for Digital Library Design (KEDL 2019), International Symposium, IIT Delhi organized by National Digital Library of India (NDLI), 9-11 December 2019, IIT Kharagpur in collaboration with UNESCO,

#### **Jahangir Khan**

1. National Convention on Emerging Trends in Medical Information and Technologies Conduct by Medical Library Association of India at Manav Rachna International Institute of Research and Studies, 2-4 March 2020, Faridabad.

#### **Prashant Srivastava**

1. Workshop on Procurement and General Finance Rules, All India Institute of Medical Sciences, New Delhi K.L. Wig Centre for Medical Education Technology & Innovation (CEMETi), 25-26 July 2019.
2. International Conference on Digital Landscape (ICDL 2019), Indian Habitat Center, TERI, 6-8 November 2019, New Delhi.
3. MLAI-19, National Convention on Emerging Trends in Medical Information and Technologies, Medical Library Association of India at Manav Rachna International Institute of Research and Studies, 2-4 March 2020, Faridabad.

#### **Umesh Kumar**

1. Workshop on Procurement and General Finance Rules, All India Institute of Medical Sciences, New Delhi K.L. Wig Centre for Medical Education Technology & Innovation (CEMETi), 25-26 July 2019.
2. Workshop on How Indian Libraries can get benefited by associating with OCLC, organized by Delhi Public Library in association with OCLC and Edutech, 24 October 2019.
3. International Conference on Digital Landscape: Digital Transformation for an Agile Environment (ICDL-2019), 6-8 November 2019, New Delhi.

#### **Neetu Priya**

1. National Workshop on Research Data and Statistical Analysis using R Programming, INFLIBNET Centre, 6-11 May 2019, Gandhinagar.

#### **PUBLICATIONS**

**Journals: 1**

**Chapters in Books: 6**

**Books: 1**

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr S Siva Chidambaram** honoured as Guest Speaker and committee member of the International Conference on Digital Libraries 2019 on Digital Transformation for an Agile Environment (ICDL 2019) organized by TERI, India Habitat Centre, New Delhi, 6-8 November 2019; participated and shared Digital Libraries experience with Dr Michael Keller (Vice Provost & University Librarian, Stanford University) during Digital Library Workshop held at Jio Institute, Ahmedabad, 24-25 October 2019.

**MK Vishwakarma** was Member of Institutional Annual Report Committee, AIIMS New Delhi.

**Jahangir Khan** was Chair of Technical Session at National Convention on Emerging Trends in Medical Information and Technologies Conduct by Medical Library Association of India, Manav Rachna International Institute of Research and Studies, Faridabad, 3 March 2020.

**Prashant Srivastava** worked as Rapporteur General of MLAI-19, National Convention on Emerging Trends in Medical Information and Technologies conducted by Medical Library Association of India at Manav Rachna International Institute of Research and Studies, Faridabad, 2-4 March 2020.

**Neetu Priya** was Member, Institutional Annual Report Committee, AIIMS, New Delhi and worked as Rapporteur in National Seminar on Access & Availability of Medical Literature in Electronic Environment—Digital Transformation in Medical Libraries (AMLEE-2019), 2-3 September 2019 organised by BB Dikshit Library, AIIMS, New Delhi.



## 11.2. Cafeteria

**Chairperson**

Subhasish Panda  
Deputy Director (Administration)

**Member Secretary**

Rakesh Kumar Sharma, Senior Stores Officer

**Accounts Officer**

Meenakshi Dabral

**General Manager**

SK Kaushik (up to 31 July 2019)

KK Sharma (from 13 August 2019)

AIIMS Cafeteria was established as a departmental canteen with the objective of providing wholesome food, prepared under healthy hygienic condition at reasonable prices to the employees of AIIMS. The Cafeteria caters to the needs of over 14,000 employees including Faculty Members, Doctors, Nursing Staff, Students and other Staff members. A cafeteria service is being provided round the clock at different places/centres under the supervision of the Cafeteria Management Committee. Cafeteria also meets the need of Hospitality Services of all higher offices of AIIMS during important official meetings, workshops, symposia etc.

Considering the massive expansion in the requirement of catering services at AIIMS as a result of additional AIIMS staff strength at upcoming blocks in AIIMS campus, patients and their relatives the need of highly skilled professional services has been felt. The area of Cafeteria services has been identified in two parts and the services were outsourced to professional agencies through an open QCBS tendering process. Currently the Main cafeteria is being run by in-house staff of AIIMS. M/s JS Hospitality Services Pvt. Ltd. has been awarded the contract to provide kitchen and cafeteria services in the other facilities of AIIMS. The cafeteria/kitchen services currently are being provided at 11 outlets in different parts of the campus.



## 11.3. Central Animal Facility

### Professor-in-Charge

SK Maulik

### Sr Veterinary Officer

PK Yadav

During the year 2019-20, only rats, mice, rabbits, guinea pigs and hamsters were maintained in our Central Animal Facility (CAF).

#### Small Animal (Rodents):

The average number of different laboratory animals maintained during the year were:

1. Rats (Wistar):	1454
2. Rats (Sprague Dawley):	499
3. Mice (Swiss):	644
4. Mice Balb/c:	638
5. Mice C57 BL/6:	315
6. Rabbits (New Zealand):	81
7. Guinea pigs (Dunkin Hartley):	42

A total of 3732 small animals (Rats 2710, Mice Swiss 727, Mice Balb/c 118, Mice C57BL/6 126, Rabbits 42 and Guinea pigs 9) were supplied to various departments of AIIMS. A number of animals (1921) were also sold to other academic and research institutions in Delhi and outside Delhi (Rat 1328, Mice 500, Rabbits 85 and Guinea pigs 8).

#### Experimental Surgery

Fifty-four surgical procedures were performed by faculty, investigators and students from various departments in the Central Animal Facility of AIIMS. The departments included Anatomy, Biochemistry, Biomedical Engineering in collaboration with IIT Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neurosurgery, Nuclear Magnetic Resonance, Paediatric Surgery, Pharmacology, Psychiatry, Reproductive Biology and Stem Cell Facility.

#### Institutional Animal Ethics Committee

The Institutional Animal Ethics Committee (IAEC) is approved by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) under the Ministry of Fisheries, Animal Husbandry and Dairying Department of Animal Husbandry and Dairying, Government of India. The AIIMS CPCSEA registration no. is 10/GO/ReBiBt/S/99/CPCSEA "Research for Education Purpose, Breeding for in house use and Breeding for the purpose of trade of small animals (Rat, Mice, Rabbit, Guinea Pigs and Hamsters)". The IAEC cleared 70 new projects and 8 projects were given extension for studies using small animals (Rodents) of various investigators.

#### Services provided

The Central Animal Facility has been maintaining animals belonging to the departments of Anatomy, Biochemistry, Biomedical Engineering in collaboration with IIT New Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neurosurgery, Nuclear Magnetic Resonance (NMR), Paediatric Surgery, Pharmacology, Psychiatry, Reproductive Biology and Stem Cell Facility. The facility maintained experimental laboratory animals (Rats 100, Mice 164, Rabbit 1 and Guinea pigs 2) belonging to the above departments throughout the year.

The facilities for research with immunodeficient animals (Nude and SCID Mice) are in progress and will be functional at the earliest.

The IAEC has given permission to Department of Physiology and Pharmacology, and Ocular Pharmacology and Pharmacy at the Dr RP Centre for Ophthalmic Sciences to maintain laboratory animals in the department. The above departments maintain laboratory animals in the department under the supervision of the Central Animal Facility.

#### Educational programmes

1. Dr PK Yadav, Senior Veterinary Officer at the Central Animal Facility, AIIMS, New Delhi was nominated as National Committee Member of Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) under the Ministry of Fisheries, Animal Husbandry and Dairying Department of Animal Husbandry and Dairying Government of India for three years.
2. Dr PK Yadav attended the 9th International Conference of LASA India, 'Laboratory Animals in Biomedical Research—The Way Forward', 21–23 November 2019 at Indian Institute of Science Education and Research (IISER), Pune and National Centre for Cell Science (NCCS), Pune.



## 11.4. Central Workshop

### Faculty Coordinator

Dr Ganga Prasad

(Professor, Department of Anaesthesiology, Pain Medicine and Critical Care)

### Chief Technical Officer

Kalu Ram

### Senior Technical Officers

Harinder Pal

(Mechanical Section)

Nitin Srivastava

(Electrical & Electronics)

### OBJECTIVES

It is necessary to have well-functioning equipment for smooth delivery of quality health services in a Hospital. However, many patient care centres purchase (or receive as a donation) expensive and delicate equipment which, because of poor maintenance, breaks down. If there is no system in place to report breakdowns and to plan or carry out repairs, equipment can remain unusable for long period of time. Sometimes, this equipment ends up being condemned. An effective repair system will minimize the time period when equipment is unusable and decreases financial burden.

The Central Workshop was established in 1964 to repair and maintain medical equipment, including surgical instruments and diagnostic devices. The Workshop not only does repair and maintenance of various equipment but also fabricates items to be used for education and scientific research. Thus, it plays an important role in aiding smooth and complete patient care at AIIMS. Being the only technical department, it also provides technical guidance to various procurement committees of AIIMS.

### Strength of the employees

A skilled team of technicians and officers is available to provide the above stated operations. The team provides skilled support to keep various equipment in the hospital in good working condition. There are various sections in the Central Workshop headed by a Senior Technical Officer/Technical Officer with supporting staff members. The strength of group B and C staff in the Central Workshop is as follows:

- Technical Officer: 3
- Technician (Grade I): 5
- Technician (Grade II): 8
- Workshop Assistant: 3
- Assistant Administrative Officer: 1
- Store Clerk (JAA): 1
- Operator (E&M): 4
- Khalasi: 1

### Services available

The workshop provides following services:

#### 1. Repair and Maintenance

There are different sections in the Central Workshop to carry out repair and maintenance of various equipment. A total of **7087 (Seven Thousand Eighty-Seven only)** jobs/works were received and completed during the year 2019-20. Some section wise examples of repaired items are given below:

S.No.	Section	Number of Jobs	Item Description
1	Electronics	467	Patient monitors, Infusion pumps, Regulated power supplies, Electronic weighing machines, Light sources, EEG machines, Sealing machines, Ultrasonic nebulizer, DVT pumps, CVT/Stabilizers, Induction hot plate, Nebulizers, Public address systems, Operation table (Remote controlled), Microscopes, Microwave ovens, Colour televisions, Studio light, Patient warmer, LED view box, Elisa washer and reader, Reaction timer, Air mattress pump, etc.

2	Electrical	880	Autoclave machine, Gynae examination/Gooze Neck/Bull eye lamps, Boiler, Centrifuge machines, Suction machines, Fly killer machines, Fumigator, Gauge/Plaster cutters, Grinders, Hot case, Hot air ovens, Hot display counter, Hot plates, Incubators, Laminar flow, Mayo stand, Mixer grinder, Magnetic stirrer, Needle destroyers, OT lights, Spot light, Steam bath, Sterilizers, UV lights, Vacuum cleaners, X-ray view box, Vortex shaker, Water bath, Wax bath, Electric kettle, etc.
3	Mechanical	2742	Surgical instruments, Tracheostomy tubes, Spray pumps, Vapour jet cleaning machines, Scissors (Gauge cutting), Bedside lockers, Intravenous stands, Patient trolleys, Patient beds, Wheel chairs, Loading trolleys, Food trolleys, Side screens, Instrument trolleys, Basin stand, Foot step, Surgical drums, Push cart, Patient examination tables, Hydraulic trolleys, Test tube stands, Revolving stools, etc.
4	Fine Instrument	2322	Digital BP instruments, Micro balances, Dial BP instruments, Stethoscopes, Weighing machines, Compressors, Flowmeters, Oxygen regulators, Hydraulic tables, Laryngoscopes, etc.
5	Refrigeration	259	Visi coolers, Deep freezers, Chilling unit, Ice cream cabinet, Refrigerators, Cold display counters, Minicold, Refrigerated BOD incubator, etc.
6	Painting	417	All office and hospital furniture items like beds, intravenous stands, all types of trolleys, wheelchairs, benches, footsteps, patient side lockers, pigeon lockers, patient examination tables, push carts, almirahs, racks, etc.
	<b>Total</b>	<b>7087</b>	

## 2. Fabrication and Guidance

Despite the gradually increasing load of repair and maintenance activities, the Central Workshop has been able to help in design and fabrication of gadgets useful in patient care or scientific research, as per specifications provided by the various departments.

The **584 (Five hundred eighty-four)** items have been fabricated by the Central Workshop during the year 2019-20. These are listed below:

S. No.	Item Description	Quantity	Department
1	Handle for Surgical Instruments	40	Orthopaedics OT, JPNA Trauma Centre OT
2	Temp Chart Holder	80	Main Hospital
3	Roster Chart Holder	2	Main Hospital
4	MS Box	1	CDER
5	Wooden Splint	314	JPNA Trauma Centre, Emergency
6	Aluminum Plate	1	CTVS OT
7	Rat Cage	1	Physiology
8	Probe	10	Surgery OT
9	Probe Holder	1	Physiology
10	Sample Tray	2	New Private Ward
11	Finger Stabilization Plates	2	Physiology
12	Forearm Braces	2	Physiology
13	OT Table Mattress	5	Main OT
14	Sweat Testing Device	5	Paediatrics

15	Air Sampler	1	Anatomy
16	Donation Tag	100	Anatomy
17	Aluminum Tube L piece	5	Main OT
18	Mesh Stand	1	Anatomy
19	Rat Mobile	1	Physiology
20	Laparoscopic Precision Training Module	10	Surgery
	<b>Total</b>	<b>584</b>	

### 3. Short-term training

The Workshop is actively involved in providing short-term training (4-6 weeks) to diploma/undergraduate students of various engineering colleges.

### 4. Teaching activity

The Workshop has been involved in teaching activity of BSc OT technology students. The classes and demonstration have been taken on various electric and mechanical topics as per their curriculum.

### Achievements

1. The Workshop has received appreciation letters from Departments of Physiology and Surgical Disciplines, AIIMS, New Delhi for technical support provided in the design and fabrication of **Finger Stabilization Plate** and **Laparoscopic Precision Training Module**, respectively.
2. The Central Workshop also participated in the Annual exhibition organized at AIIMS on the Institute Day celebrations. Some of the items fabricated by Central Workshop were displayed at the event and appreciated by many visitors.



## 11.5. Computer Facility

### Professor-in-charge

A Shariff

### Deputy Director (Computer Facility)

SN Ragu Kumar

### Systems Analysts

Sushil Kumar Meher

Satish Prasad

Sanjay Gupta

### Senior Programmers

Hari Shankar

Vinay Pande

Pawan Sharma

Shyamal Barua

Tripta Sharma

### Programmers

Sanjeev Kumar

Harish Saini

Amit Bhati

Priyanka Singh

Ankita Saini

Geetika Gupta

Sushma Sharma

### Nursing Informatics Specialist

Preethi S and Team

### EDUCATION

#### Postgraduate

Computer programming classes, covering both theory and practical aspects, were conducted for postgraduate students of the Department of Biotechnology and College of Nursing.

#### Undergraduate

A three-month course on basics of computer, internet, windows applications, computer-aided learning, database, etc. was held for first year students of BSc (Hons) Nursing and BSc Nursing (Post-certificate), BSc Dental Operating Room Assistant course, BSc Dental Hygiene course, BSc OT Technology. A Computer Orientation Program for MBBS students was also organized.

#### Continuing Medical Education

Officials of the facility participated and delivered lectures in continuing medical education programs, symposia, international and national conferences.

#### Services

**SNOMED CT: 62,728** SNOWMED CT compliant entries have been recorded in HIS (eHospital) during April 2019-March 2020.

#### Hospital Computerization

**Hospital Information System (HIS)** is implemented using eHospital@NIC software for management of Appointment and OPD Registration, Admission, Discharge and Transfers, MRD, Patient Billing, Stores, Laboratory Information System, Dietary, and Blood Bank. The details for 2019-20 are:

#### LIS Implementations

Integration of Laboratory equipment and eHospital are done through HL7 standard. Analyzer reads the Sample Identification Number (SID No.) from the barcode, which is pasted on the test tube. Then it requests the LIS for the tests which are to be performed. The Laboratory Information System (LIS) responds with the test to be done for the specific SID No. to the analyzer. Analyzer conducts the specified tests, when the tests have been completed, only the relevant and required result values are transferred to LIS. The selection of data to be transferred to LIS will be specific to Bi-directional/Unidirectional Analyzers. The Laboratory Instruments that have been connected are:

S. No.	Laboratory	Equipment	Number	Machine Type
1	CNC	Beckman 5 Plot cell Counter	1	Uni-directional
2	CNC	IRIS iCount3	1	Uni-directional

S. No.	Laboratory	Equipment	Number	Machine Type
3	CNC	Immulite1000	1	Uni-directional
4	CNC	Bio-Rad10	1	Uni-directional
5	CNC	Alifex R20 ESR Machine	1	Uni-directional
6	CNC	Beckman 3 Plot cell Counter	1	Uni-directional
7	RPC Haematology (7th Floor)	Beckman Coulter 5 Plot Act Diff Cell Counter	1	Uni-directional
8	RPC Haematology (7th Floor)	Sysmex KX21	1	Uni-directional
9	RPC Haematology (6th Floor)	Beckman AU680	1	Bi-directional
10	Endocrinology-1	Bio-rad D10	1	Uni-directional
11	CCF Ground Floor	Cobas 6000	1	Bi-directional
12	CCF Ground Floor	Urin Analyzer	1	Uni-directional
13	Renal	Cobas C3 11	1	Bi-directional
14	Renal	Abott Architect 1000	1	Bi-directional
15	Renal	IONS	2	Uni-directional
16	Emergency Department	AQT 90	1	Uni-directional
17	Emergency Department	ABL 800	1	Uni-directional
18	Emergency Department	Pentra XL	1	Uni-directional
19	New Private Ward 2nd Floor	Mini Cap	1	Uni-directional
20	Paediatric Endocrinology	Cobas e411	1	Bi-directional
21	CNC	Beckman Coulter AU680	1	Bi-directional
22	CNC	Beckman Coulter 480	1	Bi-directional
23	Reproductive Biology	Abbott Architect1000	1	Bi-directional
24	IRCH 1st Floor	MS4 Cell Counter	1	Uni-directional
25	IRCH 1st Floor	MS9 Cell Counter	1	Uni-directional
26	IRCH 2nd Floor	MS4 Cell Counter	2	Uni-directional
27	IRCH 2nd Floor	MS9 Cell Counter	2	Uni-directional
28	Lab Medicine Room No-2	Combiline	2	Uni-directional
29	Lab Medicine Room No-2	Caretium	2	Uni-directional
30	CNC R.No. 53 GF	Hitachi Modular	1	Bi-directional
31	CCF Ground Floor	Beckman Coulter Access 2	1	Bi-directional
32	Lab Medicine R.No. 20	Hitachi Modular	2	Bi-directional
33	Endocrinology-01	Cobas Integra	1	Bi-directional

S. No.	Laboratory	Equipment	Number	Machine Type
34	CNC	Sta Compact	2	Bi-directional
35	RPC 6th Floor	Beckman Coulter AU680	1	Bi-directional
36	RPC 6th Floor	Access 2	1	Bi-directional
37	New Private Ward 2nd Floor	Sta Compact	1	Bi-directional
38	Reproductive Biology	Architect 1000	1	Bi-directional
39	Reproductive Biology	Architect 4000	1	Bi-directional
40	Reproductive Biology	Architect 2000	1	Bi-directional (IoT based Interfacing)
41	Endo-02	Cobase E411	4	Biderctional
42	Endo-02	Liasion	2	Biderctional
43	Endo-02	Cobase E411	1	Bi-directional (IoT based Interfacing)
44	Endo-02	LiasionXL	1	Biderctional
45	CNC	Advia	1	Biderctional
46	CNC	AdviaCentura XP	1	Bi-directional
47	CNC	Beckman Coulter Act5	1	Bi-directional
48	Biochemistry	Vitros Analyzer	1	Bi-directional
49	Endo-01	Thosh G8	1	Unidirectional
50	Lab medicine Room no-2	EliteAcl	1	Bi-directional (IoT based Interfacing)
		Uni-directional	27	
		Bi-directional	33	
		Total	60	

Laboratory	Samples Reported Online
Fluid chemistry CNC	349
Bacteriology CSF PCR, Microbiology Department	1,401
Haematology PT (OPD), Laboratory Medicine	24,306
Clinical Microbiology (Stool), Laboratory Medicine	15,197
Central Paediatrics 3rd Floor, Paediatrics	1,112
RPC Ocular	3,220
RPC Pathology (Urine/Stool)	1,675
Hormones, CNC	34,054
TB Lab, Microbiology	15,224
Drugs Tests, CNC	1,884
Reproductive Biology	2,33,069
Clinical Microbiology (Urine AFB), Laboratory Medicine	621
Anaerobic Lab, Microbiology	2,381
Sputum Culture, Microbiology	40,678
Mycology Lab, Microbiology	35,650
Clinical Microbiology (HIV AND VIRAL Marker), Laboratory Medicine	1,07,930

Laboratory	Samples Reported Online
SRB, Lab	29,737
Blood Bank	3,928
Parasitological, Microbiology	22,756
Tumour Marker, Lab Oncology, IRCH	244
Haemogram, Lab Oncology, IRCH	1,77,429
STD Lab, Microbiology	1,856
Flow Cytometry, Microbiology	13
Haematology/Coagulation/Haemolytic Microbiology	Anaemia, 43
Clinical Microbiology (Semen), Laboratory Medicine	3,466
Pathology/Haematology, RPC	90,406
Clinical Pathology and Molecular Immunology, Lab Medicine	305
Biochemistry, NDDTC, Ghaziabad	16,461
Clinical Biochemistry, Biochemistry	2,711
Haematology (Aphaeresis), IRCH	58,851
Clinical Microbiology (PCR), Laboratory Medicine	3,068
Endocrinology and Metabolism	51859
Fluid Chemistry, Laboratory Medicine	10,929
Clinical Microbiology (Urine Routine OPD), Laboratory Medicine	25,159
Fluid Chemistry (Urine 24 hr/Spot), Laboratory Medicine	32,847
Urine Culture (Microbiology Room No. 2071), Laboratory Medicine	58,417
Clinical Chemistry, CNC	7,12,909
Clinical Immunology, Rheumatology	34,203
Haematology, CNC	4,58,101
Clinical Microbiology, Laboratory Medicine	2,064
Emergency Biochemistry, Laboratory Medicine	10,34,863
Haematology (OPD), Laboratory Medicine	25,66,507
Clinical Chemistry, Laboratory Medicine	37,46,792
Clinical Microbiology (Urine C/S), Laboratory Medicine	16,699
Allergy Testing Laboratory	5,012
Haematology (Ward), Laboratory Medicine	15,56,734
Stool Culture, Microbiology	3,223
Emergency Haematology, Laboratory Medicine	4,28,912
Clinical Microbiology (Sputum AFB and Culture), Lab Medicine	1,768
Haematology Ground Floor R. No. 11, Laboratory Medicine	103
Special Tests, CNC	10,386
CSF Culture, Microbiology	20,454
Lipids and Enzymes, CNC	2,08,952
Medical Oncology, IRCH	4,812
Haematology PT, CNC	1,01,152
Bile Lab	843
Special Investigation, Lab Medicine	36
Ocular Biochemistry, RPC	1,77,664
Lab Oncology, IRCH	25,702

Laboratory	Samples Reported Online
PT (CCF 27), Laboratory Medicine	29,275
Haematology, NDDTC, Ghaziabad	13,936
Clinical Microbiology, TORCH Profile, Laboratory Medicine	6,279
Lab Medicine PSY, Laboratory Medicine	19
Ocular Microbiology, RPC	11,027
Urine Clinical Chemistry, CNC	1,568
Urine Routine, Laboratory Medicine	25,200
Blood Culture Microbiology	47,402
SRB, Lab Medicine	433
Haematology (Fluid Test), Laboratory Medicine	32,340
Pus Culture, Microbiology	39,311
Endo Collection, Endocrinology	57,446
Emergency Haematology PT, Laboratory Medicine	2,44,826
Clinical Microbiology, Laboratory Medicine	2,064
HNU	275
Serology Lab, Department of Microbiology	11,126
Haematology Molecular, Department of Haematology	22

**EHS (Employees Health Scheme) Pharmacy software:** The software is used for recording and maintaining Employees Health Prescriptions and records. Software also maintains the Local Purchase records of medicines procured from the vendor and issued to the employees and its dependents.

1. EHS Pharmacy total registrations: **2,33,897**
2. EHS Pharmacy total online prescriptions: **2,01,665**

#### Management of existing in-house modules

1. **PDS:** Summary of total cases registered 92,804 from Emergency, New Emergency and Paediatrics Emergency.
2. **Use of SNOMED CT:** The integration of SNOMED CT in this module in fields like Diagnosis, Symptoms, and Systems etc. Total number of transactions recorded is 55,336.
3. **Quality Assurance Module (QAM):** 1051 entries have been recorded for scheduling conferences, lectures, faculty meetings and also for doctor's grading purpose.
4. **QAM/HA:** 3 entries have been made for grading purpose by HA.
5. **RPC PDS:** 7,905 patients' details registered for RPC.
6. **OT Scheduling:** 70,050 OT scheduled for different departments.
7. **Equipment Checklist RPC:** 2,269 checklists created for equipments in RPC.
8. **E Birth Certificate:** 2,483 birth certificates generated through this module.
9. **E blood request:** 98,549 blood requests have been made for arranging blood for patients.
10. **E Cath list:** 4,578 scheduling has been done for Cath Laboratory.
11. **E MLC:** 13,194 medical records maintained for MLC cases. It is an online module for Doctors to prepare eMLC. SNOMED CT was integrated in this module in fields like Alleged H/O, Diagnosis. Total number of transactions recorded was 11,405.
12. **E MLC RPC:** 98 medical records maintained for MLC cases at RPC.
13. **Penicillin Register:** 2,258 registrations done for scheduling and alerting regarding penicillin intakes.
14. **Gamma Knife Register:** 105 registrations done for Gamma Knife procedure.
15. **Online admission slip:** A total of 21,955 admission slips comprising patients of both OPD and Emergency have been provided in a real platform based upon the availability of beds under different department heads. SNOMED CT was integrated in this module in fields like Diagnosis etc. and the total number of transactions recorded is 3,052.
16. **QR code in medical and fitness certificate:** 10,822 certificates generated for AIIMS and other centres employees.
17. **E-grievance module:** 41 complaints have been made through this.

18. **E-Death Note:** 5,937 death certificates have been generated through this application. SNOMED CT is integrated in this module in fields like Immediate cause, Antecedent cause, Diagnosis etc. Total number of SNOMED CT transactions recorded was 2,891.
19. **ECG Lab:** Census of ECG Lab and 4,863 entries have been registered.
20. **Integration of SNOMED CT with eHospital (NIC):** SNOMED CT was integrated through Web API of eHospital. It was integrated with two modules i.e. Admission and Discharge. Total number of transactions at the time of admission in eHospital is 1,909 and discharge in eHospital is 34,203.

#### **List of Modules In-house maintained and developed applications**

1. **Anticoagulant Register:** It is an online register to enter Lab values of patients like PT/INR for the use of teleconsultations. Authenticated patients can enter their Lab values themselves in this application by OTP authentication and fresh prescription will be provided by the doctors.
2. **Bone Bank:** It is an application for entering patients' bone details which will be preserved for later use. It is developed for Neuro and Ortho Departments.
3. **Gynaecology e MLC:** It is used for registering female MLC cases. In this module all the forms are printed out electronically.
4. **Heart Transplant:** It is used for registering patient details for heart transplantation for matching of heart for transplant.
5. **Breast Cancer:** It is used for registering Breast Cancer details. It is used in Surgery Department.
6. **Medicine module:** Medicine module is for capturing the admission note, consultant note, progress note, discharge summary of the summary. We have integrated SNOMED CT in this module in fields like Diagnosis, Investigations, Vitals, operative notes etc.
7. **Student wellness:** It is used for capturing students' mental health details.

#### **RIS, PACS and HIS at AIIMS**

AIIMS currently is running the eHospital HIS wherein appointments for various radiological investigations are provided to patients. The radiological investigations available include:

Plain X-ray

CT Scan

MRI Scans

Ultrasonography

PET Scans

Ophthalmic Radiology

Mammography

Angiography

Dental X-rays

Non-dicom Images (PDF, JPG, JPEG)

Other imaging modalities are also available. These investigations are offered across multiple locations in campuses of AIIMS. The individual departments, which offer these services, have their own Standalone PACS and RIS systems. A few departments do not have any PACS. In addition, AIIMS has also implemented a common centralized PACS Server with web-based visualizer—Oviyam. This system integrates with the standalone departmental PACS (Siemens/GE Centricity/Philips/Sonosite) and modalities. Few systems are not integrated at present.

#### **Current OPEN PACS Implementation**

- **dcm4chee2.18.1:** *dcm4chee PACS (OPEN PACS) version has been upgraded from version 2.17.2 to 2.18.1 due to some bug fixes and performance improvement.*
- **HL7 ADT Module** has been configured to receive Patient Demographics from e-Hospital.
- **Oviyam viewer:** Module added to get studies from GE-PACS directly using DICOM C-Get/C-Move.
- **HL7 ADT A40** module configured to receive UHID from Vista/e-Hospital and replace it against the existing TC Number.
- **Auto forwarding of studies** from JPNATC PACS to AIIMS PACS configured. For this, an additional AE Title Dec 2017—iOviyam2—Mobile viewer—Software update done.
- *Oviyam (viewer) software update due to Chrome Update 70 (Some Browser features are removed in update 70 and an alternative workaround is done).*
- **PDF2DICOM application** installed to upload Spirometry reports which convert Pdf, JPG, JPEG images to Dicom images and push into PACS server.

**PACS integration with HIS e-Hospital:** This helps to send the requisition for radiological investigations such as X-ray, CT, MRI etc. via online to RIS systems. PACS integration had been done with different modalities during April 2019-March 2020.

***Different Studies have been stored/archived in Open PACS during 2019-2020:***

<b>Modality</b>	<b>No. of Images</b>	<b>Location of the Modality</b>
CR	58,193	Main AIIMS and IRCH
CR	61,182	IPACS, JPNATC
CT	14,180	Main AIIMS and IRCH
CT	12,761	IPACS, JPNATC
DG	1	Main AIIMS and IRCH
DX	42,510	Main AIIMS and IRCH
KO/MR	5	Main AIIMS and IRCH
MG	1,749	Main AIIMS and IRCH
MR	5,392	Main AIIMS and IRCH
MR	875	IPACS, JPNATC
OT	8,905	Main AIIMS and IRCH
PR	7	Main AIIMS and IRCH
PR/MR	45	IPACS, JPNATC
PX	28	IPACS, JPNATC
PX	2	Main AIIMS and IRCH
REG/CR	3	Main AIIMS and IRCH
REG/CR	3,788	IPACS, JPNATC
RF	29	IPACS, JPNATC
RF	73	Main AIIMS and IRCH
PT/RWV/CT	29	Main AIIMS and IRCH
SC	4,829	Main AIIMS and IRCH
SEG/CT/PR/DOC/ SR	38	Main AIIMS and IRCH
SEG/CT/SR	1	
	IPACS, JPNATC	
US	14,286	Main AIIMS and IRCH
US/PR	35	Main AIIMS
XA	6	Main AIIMS and IRCH
XA	138	IPACS, JPNATC

Modality	No. of Images	Location of the Modality
SR	22	Main AIIMS and IRCH
SR	3	IPACS, JPNATC
CR/SR	2	Main AIIMS and IRCH
CR/SR	4379	IPACS, JPNATC
CT/SR	7182	Main AIIMS and IRCH
CT/SR	8399	IPACS, JPNATC

**Total Studies Received in OPEN PACS** **2,49,077**

#### Average PACS Access time

Total OPEN PACS access time for 12 months (April 2019–March 2020) is 3,48,193.25 minutes (5803 hours) which was accessed over LAN connections and Wi-Fi.

Average 1-month PACS data accessed is  $5,803/12 = 520$  hours per month.

For Each Day Average is 22 hours.

#### Modalities connected to Open source PACS

Total number of modalities called AET (application entity title) configured is 82. These have been configured from various departments and locations like Main AIIMS, JPNATC, NCI Jhajjar to store studies in PACS server, from 2014 onwards.

#### Administration

- Involved in maintaining and the use of eOffice in all the sections of Administration, Finance, Engineering, Stores, Departments and Centres.
- Maintaining the Finance Server (Novell)/Administrative Server (Windows) for financial applications like Payroll system, GPF System, Tax module, Pension system etc. and web-based administrative applications like Hostel Allotment and Registration System, House Allotment for Faculty, Computer facility forms, online Pay slips, online GPF Statement, online Form 16, Vigilance System, Letter of Intent (LOI) and Award System for ESD, Academics Teaching Schedule and Mail, Employee Data Display, Online Poison Information; Online Organ Donation Form; online transport system, etc.
- Successfully implemented eAPAR (Annual Performance Assessment Report) for 64 designations of AIIMS employees (5000 approx.) notably Nursing Cadre, Scientist Cadre, Technical Cadre, Computer Cadre etc.

#### IT infrastructure and Networking, Internet and Intranet management activities

Computer Facility provides network management facilities including high speed internet connectivity to various users of AIIMS through NKN connectivity from NIC. Maintains the AIIMS website at aiims.edu and aiims.ac.in and various other servers of AIIMS.

- Approximately 368 new internet connections have been provided to faculty members, officers and staff of AIIMS.
- Provided high speed NKN internet connectivity for various seminars, conferences, video conference:
  - Wi-Fi facility provided for National CME on strengthening home based care for severe mental disorders in low resource settings, 27 April 2019, Conference Hall, AIIMS.
  - Wi-Fi facility provided for AIIMS Orthodontic Symposium, 1-2 April 2019, CDER Board room.
  - Two NKN high-speed internet connectivity provided for Live surgery transmission from OT 5th floor to LT VI, 6th floor, RPC, 4-5 April 2019.
  - Technical support provided for Mission DELHI Project (Delhi Emergency Life Heart Attack Mission), Inauguration, Department of Cardiology, Ramalingaswami Board Room, 25 April 2019.
  - Wi-Fi facility provided for 2-day workshop to train student for “Analysis of data from multicolor flow cytometry using the FlowJo Software”, 23-24 April 2019, Department of Biochemistry.
  - Wi-Fi facility provided for workshop on “Approaches of High parameter cell analysis and High Dimensional Data Analysis”, 23-24 April 2019, Department of Biochemistry.
  - High speed internet connectivity provided for “Live surgery transmission in OT RPC”, Annual Conference of ISCKRS, on 3 August 2019.
  - Wi-Fi facility provided for Teachers Training on Oral Health Promotion under NOHP, CDER, AIIMS, 26 August

- 2019.
- i. High speed internet connection provided for Live Webinar, Department of Obstetrics and Gynaecology Seminar Room, 31 August 2019.
  - j. High speed internet connection provided for Live Webinar on Menopause Hormonal Therapy (MHT), Department of Obstetrics and Gynaecology Seminar Room, 17 August 2019.
  - k. Wi-Fi facility provided for two tablets for ORBO, 64th Institute Day, 24-27 September 2019.
  - l. Wi-Fi facility provided for National Conference of Indian Association of Surgical Gastroenterology, Dept. of GI Surgery, Auditorium, Conference Hall and Board room, 9-13 October 2019.
  - m. High speed internet connection provided for Workshop “Live data collection from Italian Synchrotron source”, 11-12 November 2019, Ramalingaswami Board room and SET facility, Convergence Block.
  - n. High speed internet connection provided for Workshop on “Priorities for Advancing Research on Health Effects of Air Pollution in India”, Ramalingaswami Board Room, SET Facility Studio 1&3 and Nursing LT, Old OT Block, 2-4 December 2019.
  - o. Wi-Fi facility provided for the conference, “AIIMS Rheuma Summit”, 21–22 March 2020, Jawaharlal Auditorium, AIIMS.
  - p. Firewall rules created for SSH access to APAR and Payroll server.
3. Continued maintenance of aiims.edu website.
  4. The total number of pages updated, created and uploaded on AIIMS website was approx. 6500.
  5. The total number of visitors to AIIMS website was approx. 75 lakhs.
  6. Continued management of Unified Threat Management (UTM) firewall done for security of computer networks and application for management at gateway level Anti-Virus, Anti-Spam, IPS/IDS, load balancing and content filtering.
  7. Continued management of the wireless networking zones at around 18 hostel locations, creating Wi-Fi zones for internet, information and online journals access to students and resident doctors. So far, approx. 9000 students have availed this facility. Currently 1300 users were registered for this facility.
  8. Continued BBDL OPAC Services and enhancement of library online resources subscribed through BB Dixit library through AIIMS website.
  9. Continued management of Wi-Fi zone at B.B. Dixit Library for internet and online journal access for students.
  10. High-speed internet facility through NKN lease line for faculty and students is being maintained on 24/7 basis on the AIIMS network at around 8500 nodes.
  11. Maintenance of Web server, Proxy server and Mail Server 24x7x365 days.
  12. Facility management and call maintenance for internet and network user’s complaints and resolution 24x7x365 days through help desk of Computer Facility.
  13. VPN based access mechanism for e-Hospital Module, CPRS access from outside AIIMS continued management for Ballabgarh, AIIMS centres.
  14. Continued management of IPsec tunnel for connecting NDDTC, JPNATC, and Centre for excellence in Epilepsy and Brain Research Center, Gurgaon.
  15. MAC ID based authentication provided to AIIMS faculty, scientists, Assistant and Deputy Nursing Superintendents for Wi-Fi based access to e-hospital software’s and internet at wards, OPD, ICU and OTs etc.
  16. Created approx. 120 IDs for VPN access.
  17. Created approx. 290 new email ids on aims.edu and aims.ac.in domain for faculty members, scientists and officers of AIIMS.
  18. Regular e-mails sent to all faculty regarding various conference, seminars, etc.
  19. Tender specification for the CAMC of Networking, PC, Peripherals and RC of spares was prepared and was vetted by the technical specification committee for tendering.
  20. Conducted meeting regarding technical strategy for the new upcoming blocks at Masjid Moth and NCI, Jhajjar.
  21. Activated and configured IP for internet connections.
  22. Provision of external IP address for the GE Centricity RIS-PACS for Neurosciences Centre.
  23. Firewall rules created for allowing YouTube and Facebook for LAN and Wi-Fi users.
  24. Firewall rules created for LAN to WAN and WAN to LAN.

25. Cyberoam licenses renewed for two years.
26. Established Covid 19 National Consultancy Centre (CoNTec) at AIIMS.
27. Deployed State of Art 3 Tier Networking Architecture (Core Switch to Core Switch-100G, Core to Distribution-40G and Distribution to Access Switch-10G) at New OPD Block, NCI Jhajjar, New Burn and Plastic Surgery Block and it is being provided for MCH, New Surgical Block and VVIP Block at AIIMS.
28. In the process of implementing NAC, NMS, WLAN Controller, Firewall for the management of Wireless devices, switches and packet filtering.

## **PUBLICATIONS**

**Journals: 2**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**SN Ragu Kumar** was member of various Technical Specification Committee for development of IT Infrastructure for AIIMS and all its Centres and Upcoming Centres; monitoring of the services and all service providers/vendors pertaining to IT Implementation at AIIMS; Management/Administration of Computer Facility, NIC staff posted at Computer Facility and Contractual Staff working in Computer Facility; Conducted Orientation program for newly selected MBBS students, AIIMS, New Delhi; Attended Elastic search security workshop, JW Marriott Hotel, Aerocity, New Delhi on 31 July 2019; Attended seminar regarding utilization of e-Resources in Scholarly Communication at BB Dikshit Library, AIIMS on 9 August 2019; Attended Digital Governance Summit at Hotel Taj Place, New Delhi on 27 August 2019; Attended 12th India Security Summit ASSOCHAM Corporate Office, Chanakyapuri, New Delhi on 28 August 2019; Attended National Conference on Access & Availability of Medical Literature in Electronic Environment, AIIMS, New Delhi, 2-3 September 2019.

**Satish Prasad** was Nodal Officer for eOffice Project (NIC) and coordinated and trained personnel for the use of eOffice; Course coordinator and took classes of MSc, BSc and Post Certificate students for IT classes of College of Nursing, BSc Dental Operating Room Assistant course, BSc Dental Hygiene course, BSc OT Technology; designated as Central Assistant Public Information Officer (CAPIO) for computer facility; was involved with monitoring and maintaining of the finance server (Novell) for in-house developed financial applications; team leader for the development of eAPAR module and Payroll module based on open source platform.

**Sushil Kumar Meher** has taken a major role in implementing HIS (eHospital) and OPD clinical screening and other specialty module in newly established centre of NCI, Jhajjar; supervising the core module, LIS module, Blood Bank, RIS, PACS and different clinical module developed in-house and eHospital; played a major role for integration of robotic lab and Open PACS of NCI, Jhajjar. Setting up a Data centre and Design, Deployment and implementation of computer networking and Wi-Fi for NCI, Jhajjar (Haryana) and establishing connectivity from NCI, Jhajjar to AIIMS, New Delhi; Involved in teaching activities of undergraduate and postgraduate students; **Member**, Condemnation Committee for CNC; Technical committee for purchasing computer related items; Technical committee for purchase of IT equipments in ICMR, New Delhi; Attended Annual Convention of Computer Society of India, Theme: Digital Democracy - IT for Change, Bhubaneswar, Orissa, 16-18 January 2020, Keynote speaker: "Transforming Healthcare through AI and Robotic: Now no longer a Sci-Fi"; Attended MEDRECON 2020 20th Annual National Health Information Management Conference organized by Health Records Association of India (HERAI), Kochi, Kerala, Keynote speaker: "A pragmatic approach for prepping healthcare systems towards eHealth/EMR – Indian Scenario", Chaired session on "Healthcare Data Standards"; presented a paper "Role of Nursing Informatics in Implementation of SNOMED-CT in India" and Chaired a session T2-11 (Telehealth 2) in Medinfo 2019 (17th World Congress of Medical and Health Informatics), Lyon, France, 25-30 August 2019; Attended and participated in the roundtable discussion in India Mobile Congress, Department of Telecommunications and Cellular Operator Association of India (COAI), 14-16 October 2019, Aerocity, New Delhi; "Development of Anti-Coagulation Application and its Implementation in AIIMS, New Delhi, India; presented in Editorial Board Member of BMJ Health & Care Informatics editorial board 2020-2023, Board member of International Society for Gerontechnology 2019-2020; Continuing as the Nodal Officer for SNOMED CT project at AIIMS, Ministry of Health and Family Welfare; Organized SNOMED CT introductory training program to clinicians of different clinical departments; Nodal person for providing the availability of Ventilators and ICU beds of AIIMS for emergency cases to Central Govt. Hospitals; Carried out study/survey in the inpatient department to observe the modalities of patients care services in the Wards/Labs of clinical departments of all centres and main hospital; Study of Open PACS process after implementation of new IT infrastructure in main server room by Hitachi.

**Sanjay Gupta** has established COVID 19 National Tele Consultancy Centre ( CoNTec ) at AIIMS; Installed IT infrastructure in New OPD Block for starting OPD there; Started State-of-the-art networking at NCI, Jhajjar, New OPD and New Burn and Plastic Surgery Block and it is being provided for MCH, New Surgical, NAC and VVIP Blocks at AIIMS; Online Grievance portal for employees implemented at AIIMS; Online Elections of SYS, Officers' Association, FAIMS

and RDA conducted using Information Kiosks at AIIMS; attended International conference “MEDINFO-2019: 17th World Congress Medical and Health Informatics”, 25-30 August 2019 at Lyon, France.

**Vinay Pande** is Nodal Officer for the Digital Payments Infrastructure at AIIMS; looking after the Billing module of e-Hospital software; Team member for the development of APAR module, Payroll module and the software development/implementation; for the AIIMS students of MSc (Nursing), BSc (Nursing), took Inf. Technology, HIS, Nursing and Medical Informatics, Bio-Medical Information retrieval classes.

**Hari Shankar** conducted Orientation program for MBBS students, AIIMS; took classes for MSc and BSc Nursing students; presented a paper titled “Development of Anti-Coagulation Application and its Implementation in AIIMS, New Delhi, India” in Health Informatics New Zealand (HinZ) Conference 2019 held on 20-22 November 2019, Hamilton, New Zealand.

**Shyamal Barua** coordinated the implementation of Appointment System, OPD Module, Casualty Registration Module, Radiology Information System Scheduling module, etc. of eHospital Project; Implementation of In-house Software for radiotherapy appointment module, IRCH Day Care, RPC Histopathology indexing module, Patient diagnosis module for NCI Jhajjar etc.; Configuration and implementation of OPD Module in NEW RAK OPD. Coordinated as nodal officer for implementation of GeM portal and e-procurement. Involved in technical guidance for CCTV procurement and monitoring system.

**Tripta Sharma** is maintaining and configuring e-Hospital application modules such as Appointment Module, Admission Discharge and Transfer Module, Inventory Module, EHS (Employees Health Services) Module in AIIMS and various Centres; involved in teaching activities of undergraduate and postgraduate students.



## 11.6. Electron Microscope Facility

**Professor**  
TC Nag

**Associate Professor**  
Subhash C Yadav (on leave from 1 September 2019 to 28 February 2020)

**Senior Technical Officer**  
Sandeep Arya

**Technical Officer**  
Chanda Panwar

### EDUCATION

1. Thirteen M. Biotech students of the Department of Biotechnology, AIIMS, received two weeks training from 13 August 2019 to 27 August 2019 (as part of their 1st Semester Cell Biology Practical).
2. EM classes (theory as well as practical, Fridays only) for Anatomy postgraduates were conducted from 3 January 2020 to 13 March 2020.

### CME/Workshops/symposium/National and International Conferences

1. The summer training course in Electron Microscopy for technical personnel was held from 15 May 2019 to 14 June 2019. Thirteen candidates were trained in sample processing, ultramicrotomy, CPD, sputter coating, TEM and SEM viewing and routine maintenance of microscopes.
2. The 35th National Training Program in Electron Microscopy for Scientific Investigators was held from 26 November 2019 to 7 December 2019. Twenty candidates from different parts of the country participated in this training program.
3. Six teachers (Dr Mohini Sewal, Dr Kavita Verma, Rashmi Singh, Geetika Taneja and Tripti Mehta) from Sanskriti School, New Delhi, visited EM facility on 4 May 2019 to explore the facilities available in SAIF, EM Facility, AIIMS for possible future research plan with EM.
4. One hundred and six students along with six teachers from Indian School, New Delhi, visited EM facility on 17 and 20 May 2019 and were instructed on principles of EM and processing of biological samples for EM observation.
5. One hundred and twenty-five students along with four teachers from Delhi Public School, RK Puram, New Delhi, visited EM facility on 18 October 2019 and were instructed on principles of EM and processing of biological samples for EM observation.

### Lectures delivered

TC Nag: 3

Subhash Chandra Yadav: 2

### RESEARCH

#### Funded projects

#### Ongoing

1. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-22, Rs 30 lakhs
2. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash Chandra Yadav, ICMR, 3 years, 2019-2022, Rs 35.84 lakhs
3. Magnetic nanoparticles and quantum dots coupled visual confirmation of cervical cancer cells from cytology sample: A cost effective, quick and suitable test for rural Indian setup, Subhash C Yadav, SERB, 3 years, 2018-2021, Rs 38.68 lakhs
4. External delivery of cisplatin using human papilloma virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subhash C Yadav, AIIMS-IITD, 2 years, 2019-2021, Rs 10 Lakhs
5. Development of quick and specific detection system of EWS-FLI-1 fusion protein, Subhash C Yadav, DBT, 3 years, 2019-2022, Rs 80 lakhs

### **Completed**

1. Simple, quick and onsite early diagnostic kit for pathogen detection in asymptomatic stage, Subhash C Yadav, DBT, 3 years, 2016-19, Rs 50.21 lakhs

### **Departmental projects**

#### **Ongoing**

1. Study of microglia in the retina of rats exposed to bright light after selective Müller cell damage
2. Light-induced oxidative stress and endogenous neuroprotective mechanisms in post-hatch chick retina
3. Remodeling in horizontal cells following light-induced retinal damage in rat
4. A novel Immuno Nano Fluorescence Assay (INFA) system for noninvasive detection of prostate cancer using urine-based protein biomarkers, PSA and MSMB
5. Visual, rapid, non-invasive and cost-effective BK virus detection system for renal transplanted patients using Gold nanoparticle coupled loop mediated isothermal amplification (Nano-LAMP)

#### **Completed**

1. Epigenetic regulation of brain-derived neurotrophic factor in the central auditory pathway and hippocampus of neonatal chicks exposed to prenatal sound stimulation

### **Collaborative projects**

#### **Ongoing**

1. Decipher mechanistic basis of the intracellular trafficking of the optically active Nanoparticles using super resolution microscopy, School of Biotechnology, JNU, New Delhi

### **PUBLICATIONS**

**Journals: 11**

**Chapters in Books: 1**

### **PATIENT CARE**

#### **Special laboratory facilities**

S. No.	Facility	User number		Specimens analyzed	
		<u>Internal</u>	<u>External</u>	<u>Internal</u>	<u>External</u>
1.	Transmission Electron Microscope	331	419	1415	2342
2.	Scanning electron microscope	94	150	427	467

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor TC Nag** was conferred fellowship of the Electron Microscopy Society of India, nominated for a plenary lecture (under medical sciences) and acted as a national advisory committee member in the 12th Asia-Pacific Microscopy Conference held in Hyderabad (February 2020); Executive committee member, 37th Annual Meeting of Indian Academy of Neurosciences (IAN), AIIMS, New Delhi (November 2019) and conceived, organised and chaired a session on special symposium (plasticity in developing neuronal circuits); Chaired two sessions in International Conference on Electron Microscopy & Allied Analytical Techniques (EMAAT), Himachal Pradesh University, Shimla, 7-9 June 2019. He reviewed manuscripts for Aging and Disease (1), Anatomical Record (1), Archives for Physiology and Biochemistry (1), Biofactor (1), Experimental Eye Research (1), Journal of Microscopy and Ultrastructure (2), Biomedicine and Pharmacotherapy (3), Journal of Neuroscience Research (1), Microscopy Research and Technique (1), Pharmaceutical Biology (1) and Redox Biology (1). He also examined two PhD thesis during this period.

**Subhash C Yadav** availed Long-Term International Research Fellowship from Department of Health Research, Government of India for six months (1 September 2019 to 28 February 2020) to work on Cryo-Electron Tomography at Stanford University California, USA.

## 11.7. Hostel Section

### Superintendent of Hostels

Dr Sandeep Agarwala

### Deputy Superintendent of Hostels

Dr S Datta Gupta  
Dr Raj Kumar Yadav  
Dr Vijay Kumar  
Dr Kapil Yadav

Dr SK Maulik  
Dr Rakesh Kumar  
Dr Tanuj Dada  
Dr Kamlesh Kumari Sharma

Dr Neerja Bhatla  
Dr KH Reeta  
Dr Partha Halder  
Mrs Bhupinder Kaur

### Senior Store Officer (Hostels)

Shri Rakesh Kumar Sharma

### Administrative Officer (Hostels)

Shri BK Singh

### Account Officer (Hostels)

Mrs Rakesh Kumari Sharma

### Senior Warden

Shri Shashi Prakash Pandey

### Warden

Mr Mohan Sharma

Mrs Seema Pruthi

### Deputy Warden

Mr Satprakash Kalia

Mrs Suchita Kumari

Mr Sukhpal Mallick

### Assistant Warden

Mrs Tripta Sharma

Ms Rani Varghese

### Junior Warden

Mr Babu Lal Meena  
Mr Rajesh Rawat

Mr Dinesh Desai

Mrs Nirmala  
Mrs Sunil Devi

### Ministerial and Contractual Staff

There are five ministerial and eleven contractual staff in the hostel section.

### Subordinate Staff

Twelve male and 26 female office attendants are posted in different hostels. AIIMS has several halls of residence with a capacity of over 1990 (approximate) single/double rooms, 287 married accommodations, 418 accommodations for nursing students/staff nurses and 24 guest rooms. These are spread over different hostels and residences in the AIIMS Main Campus, Masjid Moth, Ayurvigyan Nagar, JPNA Trauma Centre Hostel (Raj Nagar).

### Details of Hostels

S. No.	Name of Hostels	Single Room	Two to Eight Seaters	Total Strength
<i>Gents Hostel</i>				
1	No. 1 (Charak)	62	2x3 = 6 (BSc)	68
2	No. 2 (Jivak)	55	2x2 = 4 (BSc)	59
3	No. 3 (Sushruta)	70	2x6 = 12 (BSc)	82
4	No. 4 (Madhava)	53	2x7 = 14 (BSc)	67
5	No. 5 (Nagarjuna)	53	2x5 = 10 (BSc)	63
6	No. 6 (Vagbhata)	69	2x6 = 12 (MBBS)	81

S. No.	Name of Hostels	Single Room	Two to Eight Seaters	Total Strength
7	No. 7 (Ashwini)	24 PG	83X2 = 166 (MBBS)	190
8	No. 8 (Bharadwaj)	108	0	108
9	No. 12 (Dhanwantri)	72	0	72
10	No. 14 (Atreya)	144	0	144
11	No. 16 (Agnivesa)	10	0	10
11	No. 18 (Kashyap)	283	2x10 = 20; 3x14 = 42	345
10	JPN Apex Trauma Centre	58	0	58
11				
	<b>Total</b>	<b>1061</b>	<b>286</b>	<b>1347</b>
<i>Ladies Hostel</i>				
12	No. 9 (Parvati)	65	13x2 = 26	91
13	No. 10 (Saraswati)	106	0	106
14	No. 11 (Akshara)	0	2x26 = 52; 3x4 = 12	64
15	No. 13 (Laxmi)	0	2x33 = 66; 4x1 = 4; 6x1 = 6	76
16	No. 19 (Patanjali)	306	0	306
	<b>Total</b>	<b>477</b>	<b>166</b>	<b>643</b>
<i>Nursing Students/Staff Nurses Hostel</i>				
17	No. 15 (Medha) Students	160	90+14+4+0+0 (180+42+16)	398
18	No. 15 (Medha) Staff nurses	20	0	20
	<b>Total</b>	<b>180</b>	<b>238</b>	<b>418</b>
<i>Hostel Accommodation for the Married</i>				
21	No. 14 (Atreya)	42		42
23	No. 16 (Agnivesa)	142	0	142
24	F-type for PhD	18	0	18
25	No. 17 (Ambuja)	54	0	54
	Ayurvgiyan Nagar Type III	25	0	25
25	JPN Apex Trauma Centre	6	0	6
	<b>Total</b>	<b>287</b>		<b>287</b>
	<b>Grand Total</b>	<b>1,347 (Males) 643 (Females) 418 (Nursing students and staff) 287 (Married)</b>		<b>24</b> <b>2,695</b>

## FACILITIES

### Male Guest Room

S. No.	Location (Hostel)	Washroom	Air Conditioner
1.	Hostel No. 2 (Jivak)	Common	Provided
2.	Hostel No. 3 (Sushruta)	Common	Provided
3.	Hostel No. 7 (Ashwini)	Common	Provided
4.	Hostel No. 8 (Bharadwaj)	Common	Provided

S. No.	Location (Hostel)	Washroom	Air Conditioner
5.	Hostel No. 12 (Dhanwantri)	Common	Provided
6.	Hostel No. 301/JPNATC	Attached	Provided
7.	Room No. 315/ JPNATC	Attached	Provided
8.	Room No. 203 Hostel No. 17 (Ambuja)	Attached	Provided
9.	Room No. 303 Hostel No. 17 (Ambuja)	Attached	Provided
10.	Room No. 403 Hostel No. 17 (Ambuja)	Attached	Provided
11.	Room No. 503 Hostel No. 17 (Ambuja)	Attached	Provided
12.	Room No. 603 Hostel No. 17 (Ambuja)	Attached	Provided

#### Female Guest Room

S.No.	Location (Hostel)	Washroom	Air Conditioner
1.	Hostel No.9 (Parvati)	Common	Provided
2.	Hostel No. 10 (Saraswati)	Common	Provided
3.	Hostel No. 13 (Luxmi)	Common	Provided
4.	Guest Room No. III, Hostel No. 15 (Medha)	Attached	Provided

#### Guest Rooms reserved for Academic Section for visiting observers/exchange students

S. No.	Location (Hostel)	Washroom	Air Conditioner
1.	15-A Hostel No. 14 (Atreya)	Attached	Provided
2.	15-B/ Hostel No. 14 (Atreya)	Attached	Provided
3.	16-A/ Hostel No. 14 (Atreya)	Attached	Provided
4.	16-B/Hostel No. 14 (Atreya)	Attached	Provided
5.	17-A/ Hostel No. 14 (Atreya)	Attached	Provided
6.	17-B/ Hostel No. 14 (Atreya)	Attached	Provided
7.	Guest Room No. I, Hostel No. 15 (Medha)	Attached	Provided
8.	Guest Room No. II, Hostel No. 15 (Medha)	Attached	Provided

#### Shops and Establishments

Various Mess/Cafes and Shops like Juice shop, Barber shop, General store, Tailor shop, Dhobi shop, Computer typing shop, Book/stationary shop, Photostat shop, STD/ISD/PCO Booth, Coffee shops are provided in Hostels located at Ansari Nagar, Trauma Centre and Masjid Moth Campus.

#### Students' Wellness Centre

##### (i) Main Campus

- Students' Wellness Centre services are available at room no. 11 (Opposite Hostel No. 7/Ashwini Hostel), Gents Hostel, AIIMS.
- Hostel no. 10 Saraswati Hostel.

##### (ii) Masjid Moth Campus

Common Room (2/II), Second Floor, Hostel No. 19 (Patanjali Hostel), Masjid Moth.

## SIGNIFICANT EVENTS

### 1. Civil Works

#### Renovation

- Hostel No. 8 First floor, South Indian Mess has been renovated with modular kitchen and furnished with new dining tables and chairs.
- Hostel No. 9 (Parvati Hostel), 17 rooms' windows replaced and main gate wall renovation work has been done.
- Hostel No. 10 (Saraswati Hostel), 5 common lavatories no. 2, 4, 6, 13 and 14 have been renovated.
- Hostel No. 10 (Saraswati Hostel), 2 rooms and Hostel No. 9 (Parvati Hostel), 3 corner rooms were renovated.
- Hostel No. 14 (Atreya Hostel), 1st floor to 7th floor (144) single rooms and 11 common lavatories got renovated. Ground floor to 6th floor (office side) and other side 4th floor to 7th floor water cooler platform and sinks are made. All the single rooms, corridor lights and 25 geysers in common lavatories have been changed.
- Hostel No. 14 (Atreya Hostel) Warden Office got renovated. Water coolers have been converted into a centralized system on one side from the ground floor to the 7th floor in front of the hostel office.
- Hostel No. 15 (Medha Hostel)–Room No. N-307 got renovated. The entire shaft flooring work and all the switch room doors replaced and south side corridors lights have been changed. Main gate also got replaced.
- Hostel No. 19 – Kadi lock work done.
- Old Hostel Office in Hostel No. 7 converted into Hostel Store and renovated.
- JPNATC Hostel – Corridor and room windows and balcony doors have been repaired.

#### Under Renovation

- Hostel No. 3 (Sushruta Hostel) lavatories No. 7, 8 and 9, Hostel No. V (Nagarjuna Hostel) lavatories No. 1, 3 & 5 and Hostel No. 7 (Ashwini Hostel) lavatories No. 4, 8 and 12 under renovation.

### 2. Electrical Works

- Electrical panel has been changed in Hostel No. I, II, III, IV, V and VI.
- Hostel No. 10 (Saraswati Hostel), 5 rooms and Hostel No. 13 (Laxmi Hostel), 5 rooms electrical work have been done. Electrical panel has been changed in Hostel No. 10.
  - Hostel No. 9, 10 and 13 approximately 97 fans have been changed.
  - Hostel No.14 and 15 – the entire solar geyser has been removed.
  - Hostel No. 17 outside staircases covered with grills, LED lights provided in all the rooms.
  - Hostel no. 19 calling bell work done.
  - JPNATC Hostel – LED lights have been replaced.

### 3. Air Conditioning

- Hostel No. 14 (Atreya Hostel), Hostel No. 18 (Kashyap Hostel) and Hostel No. 19 (Patanjali Hostel) A/C provided in Warden Office.
- Three A/C provided in the guest rooms in Hostel No. 17.

### 4. CCTV Cameras

- In front of the Hostel No. 16 (Agnivesa Hostel) and Hostel No. 17 (Ambuja Hostel), CCTV cameras have been installed.

### 5. Miscellaneous

- Hostel No. 7 (Ashwini Hostel) – 19 rooms have been converted into double seater and allotted to MBBS students. Presently 55 rooms are under renovation and to be converted into double seater.
- Hostel No. 11 (Akshara Hostel) has been converted into UG Hostel with double seater.
- Hostel No. 13 (Laxmi Hostel), 20 single rooms have been converted into double seater and allotted to BSc Paramedical students.
- Hostel No. 15 (Medha Hostel): North side 14 single rooms converted into double seater rooms and allotted to MSc Nursing and BSc (PB) Nursing Students.
- Hostel No. 19
  - 2/I Common room converted into Reading room.
  - 2/II Common room converted into Student Wellness Center.

III. Room No. 6 converted into Visitor's room

1. Hostel No. 7 Room No. 32 added as extension of Hostel Section Reception, Cashier Room and Guest Room booking counter.
2. Permission for Guests to visit in Hostel No. 19 granted.
3. Hostel 15 Reading rooms 1, 2, 3, 6 and 7 well furnished.
4. Modified hostel accommodation rules implemented.
5. Tender work for allotment of fresh tenders for all the Messes/Café in the hostel has reached final stage.

**Future plans**

1. Provision of CCTV Cameras in various locations.
2. Hostel No. 2 Store to be renovated.
3. Hostel No. 1 lavatories no. 7 and 9, Hostel No. 7 lavatories no. 14, 16 and 18 and Hostel No. 8 lavatories no. 3, 5, 7, 14, 15, 16, 17 and 18 to be renovated.
4. Hostel No. 12 (Dhanwantri Hostel), 15 common lavatories need to be renovated. Electrical rewiring is required in all the rooms.
5. Hostel No. 14 – 38 married rooms, 6 guest rooms, ground floor recreation room, common lavatories and all the shafts need to be renovated. Corridor windows and balcony doors to be replaced. Water roofing work is also to be done.
6. Hostel No. 14 and Hostel No. 15 – Chimney to be installed in the mess kitchen, mess desert coolers to be replaced, mess rewiring work to be done and the staircase used in emergency is to be repaired.
7. Hostel No. 15 – both sick room and three guest rooms need to be renovated.
8. Hostel No. 17 – Exhaust fans and almirah to be installed in the kitchen and geyser to be installed in the guest rooms. Water stagnation in the underground parking repairing work to be done.
9. Hostel No. 19 – Ground floor to tenth floor staircase to be covered with grill. 2/I Reading room and 2/II Student Wellness Center A/C to be installed in these rooms. Emergency light also to be provided in all rooms. CCTV cameras to be installed.
10. Provision of Wifi in Hostel No. 7 and 8.
11. Cultural activity groups to be formed with help of the wellness clinic and provided for with appropriate location.
12. Replacement of furniture of Hostel No. 1-6 (UG).
13. Renovation work of café 5 and Hostel No. 9 messes to be done.



## 11.8. Ethics Committee

The total number of project proposals and thesis protocol submitted and discussed in the ethics committee for above mentioned academic year are mentioned below:

### *Meetings*

#### **The number of meetings were:**

- Institute Ethics Committee: **11**
- Institute Ethics Committee for postgraduate Research for Basic and Clinical Science: **11**

#### **The number of projects reviewed were:**

- New project proposals: **975**
- Review projects: **600**
- Old projects: **275**

#### **The number of projects reviewed for postgraduate research in basic and clinical sciences were:**

- New thesis: **684**
- Review thesis: **300**
- Old thesis: **150**

In addition, the Institute Ethics Committee continues to receive notifications of serious adverse reactions, serious adverse events, annual progress reports, completion reports, etc.

The Institute Ethics Committee's Standard Operating Procedures (SOPs) were modified and are available on the AIIMS website.

### **SIGNIFICANT EVENTS**

The Institute Ethics Committee and Institute Ethics Committee for Post Graduate Research for Basic and Clinical Sciences are registered with the Drug Controller General of India, Department of Health Research and Federal Wide Assurance of the USA.



## 11.9. KL Wig Centre for Medical Education, Technology and Innovation

### Chief

Professor OP Kharbanda (till February 2020)

### Professors-in-Charge

#### Faculty Development of Basic Sciences

Professor KK Deepak

#### Faculty Development of Clinical Faculty of Medicine and Allied discipline

Professor Rita Sood

#### Faculty Development of Surgical disciplines

Professor Anurag Srivastava

### Faculty Members for

#### Fellowship in Clinical Research Methodology and Evidence Based Medicine

1. Dr Kameshwer Prasad (Chief Coordinator)
2. Dr Anurag Srivastava
3. Dr SN Dwivedi
4. Dr Shashi Kant
5. Dr Govind Makaria
6. Dr V Sreenivas
7. Dr Deepti Vibha
8. Dr Nalin Mehta
9. Dr Tulika Seth
10. Dr Rajeev Kumar
11. Dr Rakesh Lodha
12. Dr Neerja Bhatla
13. Dr Navneet Wig
14. Dr Manju Vatsa
15. Dr Peush Sahni

### Education Media Generalist

Shri Yogesh Kumar

### Administrative officer

Shri Pallav Kumar Chittej (till December 2019)

Shri Kushal Kumar (from February 2020)

## HIGHLIGHTS

The full potential of CMET has been used for the benefit of the AIIMS faculty, Residents, Research Scholars, Nurses and all categories of staff by providing training programmes and media support. Six-monthly CMET Training calendars: (i) June to December 2019 and (ii) January to June 2020, were distributed well in advance to the faculty, residents and staff of AIIMS which resulted in a better turnout of the participants.

1. **A total of 53 In-house Training programmes** were conducted during this financial year which includes:
  - 1.1. Five Induction programme of three half days was organised for Nursing (4) and Administrative staff (1)
  - 1.2. Nine Workshops for Faculty, Residents and MSc nursing students were held on different topics with particular emphasis on issues like Information Retrieval, Bibliography management, Tools for Scientific Writing in MS Word, Designing Effective Presentation, Animation in PowerPoint, Excel, and Creativity
  - 1.3. One Workshop on Writing a Research Paper in collaboration with NMJI
  - 1.4. Fourteen training programmes in collaboration with ORBO
  - 1.5. Eight workshops for Non Medico Staff entitled "First Aid in Emergency Care" FACE
  - 1.6. Six workshops for Administrative staff on administrative and financial topics
2. **64th Institute Day Exhibition:** CMET played a crucial role in organising the Institute Exhibition from 24 to 27 September 2019. The theme of the Exhibition was "**Universal Healthcare**".
  - In-house creations of innovative and reusable and portable penal were designed for the exhibition.
  - A total number of 104 posters of 36x56 inch were prepared, and six video stations were placed on display.

3. **Mini Health Exhibitions**
  1. **Autism Awareness:** Together we can, 11 April 2019, CMETi designed and printed 40 posters.
  2. **AIIMS Geriatric Programmes:** 3 December 2019, for visit of Her Majesty Queen Silvia of Sweden.
  3. **Childhood Cancer Exhibition:** 27 February 2020, CMETi designed and printed 16 posters.
  4. **RPC Day Exhibition,** 10 March 2020, CMETi designed and printed 40 posters.
4. **Logistic support to Department of Surgery and Psychiatry:** After the fire incident in the AIIMS Teaching block in August 2019, staff of Surgery and Psychiatry department was shifted to CMETi along with HODs and store office. All the logistic supports, like space, furniture, computers, printers, internet facility etc. were extended to both the departments to run the department smoothly.
5. **CMETi Hall Utilisation:** CMETi extended logistic support, including audio-visual to various departments of AIIMS to organize workshops/CME apart from its own programmes (184 days). During the year, three CMET halls Technology Hall, Education Hall, and Innovation Hall were used for 177, 57 and 58 days, respectively.

- **Media-related activities**

Particulars	Total
Designing/printing of large format Academic Posters (including 80 e-posters)	1471
Video recording and editing, No. of requisitions	437
Clinical/Event Photography and Scan, X-ray/CT/MRI/Slide, No. of requisitions	393
Number of on-screen presentations	66
Colour printing (A3 Size)	1446
Colour printing (A4 Size)	1206
Certificates Prints A4 Size (CMET workshops + Other Department)	539

## EDUCATION

### 53 Workshops/training Programme

S. No.	Title	Target group	Date
1-4	Induction programme-2019, Batches 12 to 15	Nursing Officers	1-13 April 2019
5-6	Introduction to Organ Retrieval	Senior Residents and nursing officers	12 and 15 April 2019
7	Noting Drafting	Administrative Staff	16 April 2019
8	First Aid in Common Emergency	All Staff of AIIMS	23 April 2019
9	Writing a Research paper (in collaboration with NMJI)	Residents	25-26 April 2019
10	Safe Blood Transfusion Practice	Nursing Officers	26 April 2019
11-12	Introduction to Organ Retrieval	Senior Residents and nursing officers	3 and 10 May 2019
13	Safe Blood Transfusion Practice	Residents	3 May 2019
14	Right of Information Act (RTI)	Administrative Staff	16 May 2019
15	First Aid in Common Emergency	All Staff of AIIMS	20 May 2019
16	Introduction to Organ Retrieval	Nursing Officers	21 May 2019
17	First Aid in Common Emergency	All Staff of AIIMS	14 June 2019
18	How to Handle Court Cases	Administrative Staff	20 June 2019

S. No.	Title	Target group	Date
19	Procurement and General Rules	Administrative Staff	25-26 July 2019
20	Induction Programme	Administrative Staff	5-7 August 2019
21	Tools for Scientific Writing in MS word	MSc Nursing Students	8 August 2019
22	Introduction to Organ Retrieval	Senior Residents	8 August 2019
23	Information Retrieval and Bibliography Management	MSc Nursing Students	10 August 2019
24	Media in Education	MSc Nursing Students	17 August 2019
25	Orientation Programme	Retiring Staff	19-20 August 2019
26	First Aid in Common Emergency	Administrative Staff	21 August 2019
27	Designing Posters & Pamphlets	MSc Nursing Students	22 August 2019
28	Epilepsy: Primary Care	Residents & Nursing Officers	27 August 2019
29	Animation in PowerPoint	MSc Nursing Students	29 August 2019
30	Creativity	MSc Nursing Students	31 August 2019
31-32	Introduction to Organ Retrieval	Senior Residents and nursing officers	12 and 17 September 2019
33	Procurement and General Rules	Administrative Staff	18-Sep-19
34-35	Introduction to Organ Retrieval	Senior Residents and Nursing Officers	4 and 14 October 2019
36	Safe Blood Transfusion	Nursing Officers	16 October 2019
37-38	Microteaching Workshop	Faculty	18 and 23 October 2019
39	First Aid in Common Emergency	Security Guards	24 October 2019
40	Grant Writing Workshop	Faculty & Residents	25 October 2019
41	Immunological Investigation in Rheumatic Disease	Residents & Students	22 November 2019
42	First Aid in Common Emergency	Security Guards	4 December 2019
43	Information Retrieval and Bibliography Management	Residents & Students	14 January 2020
44	Introduction to Organ Retrieval	Nursing Officers	20 January 2020
45	Wound Management	Nursing Officers	21 January 2020
46	First Aid in Common Emergency	All Staff of AIIMS	22 January 2020
47	Introduction to Organ Retrieval	Senior Residents	24 January 2020
48	Tools for Scientific Writing in MS Word	Residents & Students	28 January 2020
49-50	Introduction to Organ Retrieval	Senior Residents	14 and 24 February 2020
51	Designing Effective Presentation	Residents & Students	18 February 2020

S. No.	Title	Target group	Date
52	Wound Management	Nursing Officers	3 March 2020
53	First Aid in Common Emergency	Administrative Staff	4 March 2020

**Lecture series under Fellowship in Clinical Research Methodology and Evidence Based Medicine** (13 sessions of 90+ minutes were organized in this year)

S.No	Date	Topics	Name of Faculty
1	4 April 2019	Clinical Perspective on Cox Proportional Hazards Regression	Dr Kameshwar Prasad
2	12 April 2019	Case-Control Study Session - 1	Dr Partha Halder
3	26 April 2019	Case-Control Study Session - 2	Dr Partha Halder
4	3 May 2019	Case-Control Study Session - 3	Dr Partha Halder
5	4 December 2019	Randomized Control trials	Dr Tulika Seth
6	11 December 2019	Randomized Control trials	Dr Tulika Seth
7	1 January 2020	Randomized Control trials	Dr SN Dwivedi
8	8 January 2020	Different Design in RCT	Dr SN Dwivedi
9	22 January 2020	Randomized Control trials	Dr SN Dwivedi
10	29 January 2020	Randomization in RCT, Random permuted block design	Dr SN Dwivedi
11	5 February 2020	Sample size calculation	Dr SN Dwivedi
12	26 February 2020	Sampling Methodology	Dr SN Dwivedi
13	4 March 2020	Data safety Monitoring Board	Dr SN Dwivedi

**Lectures delivered**  
**Yogesh Kumar**

S.No	Topic	Date
1-4	Conducted Sessions on Team building and Conflict Management during the four induction programmes held in 2019-20	1-13 April 2019
5-7	Conducted three Sessions on Pride of AIIMS, Communication Skills and Team building during the Induction Programme for Administrative Staff	5-7 August 2019
8	Tools for Scientific Writing in MS word (MSc Nursing)	8 August 2019
9	Information retrieval and bibliography management (MSc Nursing)	10 August 2019
10	Media in Education (MSc Nursing)	17 August 2019
11	Conducted a session on "Preparation for Retirement" during Orientation Programme for Retiring Staff of AIIMS	19 and 20 August 2019

<b>S.No</b>	<b>Topic</b>	<b>Date</b>
12	Designing posters and pamphlets (MSc Nursing)	22 August 2019
13	Animation in PowerPoint (MSc Nursing)	29 August 2019
14	Creativity (MSc Nursing)	31 August 2019
15	TOT Workshop for Nurses: Management of Substance Use Disorder, Use of Media	5 October 2019
16	Microteaching Workshop for Faculty	18 October 19
17	Microteaching Workshop for Faculty	23 October 19
18	TOT Workshop for Nurses: Management of Substance Use Disorder, Use of Media	5 December 2019
19	Information retrieval and bibliography management (Faculty/Residents)	14 January 2020
20	Tools for Scientific Writing in MS word (Faculty/Residents)	28 January 2020
21	Medical Photography for the faculty and residents of Department of Emergency Medicine	29 January 2020
22	Designing Effective Presentation (Faculty/Residents)	18 February 2020



## 11.10. Media and Protocol Division

**Chairperson**  
**Dr Aarti Vij**

**Additional Spokesperson**  
**Dr Karan Madan**

**Staff**  
**Bishwanath Acharya      Sandeep Saxena      NP Singh**

### AIIMS in the News: Print and electronic media

S. No.	Date	Title	Newspaper
1.	1 April 2019	Israel's ocular discovery partners with all India Institute of Medical Sciences, New Delhi	EurekAlert!
2.	1 April 2019	आयुष्मान भारत से मुफ्त में हुई हृदय की सर्जरी	दैनिक जागरण
3.	2 April 2019	Catching them young: AIIMS docs develop app to help in timely diagnosis of Autism	The Times of India
4.	2 April 2019	एम्स में मरीज़ व तीमारदार को सस्ती दर पर मिलेगा भोजन	दैनिक जागरण
5.	2 April 2019	एम्स में किरायाती दाम पर भोजन मिलेगा	हिंदुस्तान
6.	2 April 2019	AIIMS app to help doctors diagnose neuro disorders	Hindustan Times
7.	3 April 2019	37 सवालो से बच्चों के मनोरोगी होने का पता लगा सकेंगे डॉक्टर	अमर उजाला
8.	3 April 2019	3000 बेड, 6000 नर्स और 600 फैकल्टी से बदलेगा एम्स	नवभारत टाइम्स
9.	3 April 2019	बच्चों की बीमारी का ऐप से पता चलेगा	हिंदुस्तान
10.	9 April 2019	मेडिकल में एम्स, कॉलेज में मिरांडा तो फार्मोसी में जामिआ हमदर्द टॉप	दैनिक भास्कर
11.	9 April 2019	एम्स है देश का सबसे अच्छा मेडिकल कॉलेज	दैनिक जागरण
12.	10 April 2019	बरियाट्रिक सर्जरी करा चुके मरीज़ों के लिए हुआ सेमिनार	दैनिक जागरण
13.	10 April 2019	AIIMS holds bariatric op awareness	The Pioneer
14.	11 April 2019	AIIMS to start registry of ortho implant surgeries	Hindustan Times
15.	13 April 2019	The Delhi Prison Administration had started the intensive counselling services on April 16 last year in collaboration with NGO Mental Health Foundation and mentored by AIIMS.	The Indian Express
16.	14 April 2019	Delhi consumes five lakh litres of alcohol worth Rs 6 crore every month, a new survey by the All India Institute of Medical Sciences (AIIMS) done in collaboration with the Indian Statistical Institute (ISI)	India Today
17.	14 April 2019	एम्स घुटने के प्रत्यारोपण के लिए पंजीकरण करेगा	हिंदुस्तान
18.	15 April 2019	AIIMS to carry out oral health survey for national policy	Hindustan Times
19.	16 April 2019	New guidelines to tackle mental health of inmates	India Today
20.	19 April 2019	हाइपरटेंशन की पुष्टि को तीन बार जांच जरूरी	दैनिक जागरण
21.	21 April 2019	New courses to develop the startup ecosystem	The Times of India
22.	24 April 2019	बुजुर्गों को संतुलन बनाकर चलने का तरीका सिखाएगा एम्स	हिंदुस्तान
23.	26 April 2019	New bike service for emergency medical care	The Times of India
24.	26 April 2019	ICMR project to help rescue 'heart patients' near AIIMS	The Hindu
25.	26 April 2019	Bike-borne paramedics to help heart patients	The Asian Age

26.	26 April 2019	<b>Biker squad to give patients 'heart'</b>	<b>The Pioneer</b>
27.	26 April 2019	दिल के मरीजों के लिए बाइक एम्बुलेंस	हिंदुस्तान
28.	26 April 2019	आई सी एम् आर ने शुरु की दिल के दौर के मरीजों को मदद पहुंचने की योजना	जनसत्ता
29.	26 April 2019	हार्ट अटैक आने पर एक फोन में घर पहुंचेगा एम्स कर्मी	दैनिक जागरण
30.	26 April 2019	छाती में दर्द की सूचना पर तुरंत पहुंचेगी बाइक एम्बुलेंस	अमर उजाला
31.	26 April 2019	हार्ट के मरीजों की जिंदगी बचाने के लिए आई बाइक एम्बुलेंस	नवभारत टाइम्स
32.	26 April 2019	<b>Bike ambulances roll out to reduce heart attack deaths</b>	<b>Hindustan Times</b>
33.	26 April 2019	<b>Mission Delhi-A pilot project for heart patient launched</b>	<b>The Statesman</b>
34.	27 April 2019	<b>Doctors finds key to eye care in the womb</b>	<b>The Times of India</b>
35.	28 April 2019	एम्स में 658 की सर्जरी हुई	हिंदुस्तान
36.	28 April 2019	<b>AIIMS to give Modicare in non-PMJAY states</b>	<b>The Pioneer</b>
37.	5 May 2019	<b>1200 treated at AIIMS, RML; ophthalmology cardio most sought after</b>	<b>The Indian Express</b>
38.	7 May 2019	सफलता : बिना सर्जरी अस्थमा के मरीज को ठीक किया	हिंदुस्तान
39.	12 May 2019	एम्स में दांतों की दवा कम दामों पर मिलेगी	हिंदुस्तान
40.	14 May 2019	<b>AIIMS hospital can now issue disability certificates</b>	<b>Hindustan Times</b>
41.	16 May 2019	एम्स में 500 ने किया रक्तदान	हिंदुस्तान
42.	16 May 2019	सुविधा: एम्स में मरीजों के लिए डेंगू कॉर्नर शुरू	हिंदुस्तान
43.	17 May 2019	<b>Study to identify dengue hotspots across country</b>	<b>The Indian Express</b>
44.	17 May 2019	अस्पतालों में शुरू होगा डेंगू कॉर्नर	दैनिक जागरण
45.	17 May 2019	<b>Set up dedicated dengue corner: Min to hospitals</b>	<b>The Pioneer</b>
46.	18 May 2019	<b>Aiming High: The focus on innovation and unmatched footfall of patients offering exposure to students has made AIIMS a topper for 23 years.</b>	<b>India Today Magazine</b>
47.	19 May 2019	<b>Against drugs, setting the wheels in motion</b>	<b>The Indian Express</b>
48.	23 May 2019	<b>New AIIMS to tie up with top health institute abroad</b>	<b>The Indian Express</b>
49.	23 May 2019	एम्स ने बनाया 'आईएमडब्लू टूलकिट' ऐप , मरीज की जानकारीया फीड करने पर पता चल सकेगा ऑपरेशन के लिए फिट है या नहीं	दैनिक भास्कर
50.	23 May 2019	सर्जरी को मरीज फिट या नहीं ऐप बताएगा	हिंदुस्तान
51.	23 May 2019	अब एम्स के डॉक्टर पहले एप से करेंगे जांच, पिछले वर्ष 1.94 लाख ऑपरेशन कर दुनिया में रचा था इतिहास	अमर उजाला
52.	27 May 2019	<b>AIIMS facility to prevent risky falls in senior patients</b>	<b>Hindustan Times</b>
53.	30 May 2019	एमएस मरीजों के लिए एम्स में विशेष क्लिनिक होगा शुरू	अमर उजाला
54.	30 May 2019	एम्स में स्क्लेरोसिस के लिए क्लिनिक	हिंदुस्तान
55.	31 May 2019	<b>Multiple sclerosis clinic at AIIMS from next month</b>	<b>The Indian Express</b>
56.	31 May 2019	<b>E-Cigarettes not safer alternative</b>	<b>The Indian Express</b>
57.	31 May 2019	ईसिगरेट पर प्रतिबंध लगाना ही जनता के हित में : एम्स	अमर उजाला
58.	2 June 2019	एम्स में दूर होगी डॉक्टरों की कमी	दैनिक जागरण
59.	4 June 2019	<b>Leap in breast cancer therapy</b>	<b>The Indian Express</b>
60.	6 June 2019	NEET टॉपर्स की पहली पसंद एम्स	नवभारत टाइम्स
61.	6 June 2019	एम्स के डॉक्टरों ने की यमुना की सफाई	नवभारत टाइम्स
62.	14 June 2019	रक्तदान कर मरीजों को देते हैं जीवनदान एम्स के डॉक्टर	दैनिकजागरण
63.	14 June 2019	<b>Transform Indian Healthcare</b>	<b>The Times of India</b>
64.	17 June 2019	एम्स में योग पर कार्यशाला	दैनिक जागरण

65.	20 June 2019	एम्स ने 12 सप्ताह तक 160 मरीजों पे किया रिसर्च, दवाखाने के साथ योग करने से भी जेनेटिक कारणों से हुए डिप्रेसन में मरीज का होता है लाभ	दैनिक भास्कर
66.	20 June 2019	As death toll rises, AIIMS to begin study on causes of AES	Hindustan Times
67.	21 June 2019	शोध : योग से दोबारा दिल के डोरे का खतरा आधा	हिंदुस्तान
68.	21 June 2019	गर्भपात- काला मोतिया से बचाता है योग	हिंदुस्तान
69.	21 June 2019	बाँझपन के खिलाफ हथियार बना योग, पुरुषों की क्षमता बढी और महिलाओं मे गर्भपात रूका	दैनिक भास्कर
70.	22 June 2019	AIIMS to come up with guidelines on yoga 'asanas'	The Indian Express
71.	23 June 2019	एम्स में जल्द शुरू होगा सर्जिकल ब्लॉक	दैनिक जागरण
72.	23 June 2019	एम्स के डॉक्टर ने पेश की इन्सानियत की मिसाल	अमर उजाला
73.	23 June 2019	डॉक्टर ने खून देकर जान बचाई	हिंदुस्तान
74.	23 June 2019	'AIIMS trauma centre processes are very similar to those in Israel'.	Hindustan Times
75.	23 June 2019	AIIMS to find out cause of encephalitis currently listed under unknown category.	ANI
76.	25 June 2019	AIIMS resident docs pitch in for rare blood group donations	The Times of India
77.	25 June 2019	'नशा रोग का इलाज' पर लोक वयाख्यान एवं पैनल वार्ता	दैनिक जागरण
78.	25 June 2019	Public Lecture and Panel Discussion on Dealing with Addiction	The Times of India
79.	25 June 2019	'नशा रोग का इलाज' पर लोक वयाख्यान एवं पैनल वार्ता	पंजाब केसरी
80.	25 June 2019	Public Lecture and Panel Discussion on Dealing with Addiction	Hindustan Times
81.	25 June 2019	डॉक्टर ने ब्लड देकर बचाई बच्ची की जान	नवभारत टाइम्स
82.	26 June 2019	समय पर इलाज हो तो छूट सकता है नशा	हिंदुस्तान
83.	27 June 2019	Top Indian hospitals understaffed, overworked	Hindustan Times
84.	30 June 2019	एम्स के ट्रामा सेन्टर मे शुरु हुए ऑपरेशन थियेटर	अमर उजाला
85.	1 July 2019	5० कोलोनियों मे घर बैठे मिलेगी कैंसर की जांच	अमर उजाला
86.	1 July 2019	The All India Institute of Medical Sciences continues to be the benchmark for medical education and research in the country	India Today Magazine
87.	1 July 2019	Treat drug users as patients, not criminals: AIIMS expert	The Statesman
88.	1 July 2019	सुविधा : एम्स में स्टेम सेल रजिस्ट्री बनेगी	हिंदुस्तान
89.	6 July 2019	एम्स के बजट मे 600 करोड का इजाफा	अमर उजाला
90.	7 July 2019	AIIMS may conduct first lung transplant by August	The Times of India
91.	7 July 2019	License in hand, AIIMS ready for lung transplants	The Indian Express
92.	7 July 2019	एम्स के डॉक्टर की पहल पर देश भर में बनेगा दो भाषाओं में बी पी एल कार्ड	दैनिक जागरण
93.	7 July 2019	एम्स में फेफड़ो का प्रत्यारोपण भी होगा	हिंदुस्तान
94.	7 July 2019	बेटे का अंगदान कर चार को बचाया	हिंदुस्तान
95.	8 July 2019	AIIMS celebrates silver jubilee of Transplantation of Human Organs Act	The Pioneer
96.	8 July 2019	AIIMS to take up largest oral health survey	The Asian Age
97.	8 July 2019	Promoting Organ Donation	Millennium Post
98.	8 July 2019	Delhi AIIMS to start lung transplant & Skin bank	Lokmat Times
99.	8 July 2019	AIIMS-Delhi to soon start transplant	Drug Today
100.	8 July 2019	परिवार को अंगदान के लिए राजी करना आसान काम नहीं: प्रो गुलेरिया	नवोदय टाइम्स
101.	10 July 2019	एम्स में बदलेगा स्वरूप बनेगा मास्ट प्लान	दैनिक जागरण
102.	12 July 2019	ब्लड स्टेम सेल डोनर रजिस्ट्री को एम्स आरडीए ने शुरु की मुहीम	दैनिक जागरण
103.	13 July 2019	AIIMS to take up largest oral health survey	The Asian Age
104.	14 July 2019	एम्स के सहयोग से आयुर्वेद पर शोध	नवभारत टाइम्स

105.	15 July 2019	दांत के रोगों से लड़ने के लिए देश व्यापी सर्वेक्षण करेगा एम्स	हिंदुस्तान
106.	15 July 2019	एम्स करेगा दांतों का नेशनल सर्वे	नवभारत टाइम्स
107.	15 July 2019	सर्वे से पता चलेगी दाँत की बीमारियाँ	दैनिक जागरण
108.	16 July 2019	एम्स में बनेगा त्वचा बैंक	अमर उजाला
109.	16 July 2019	<b>AIIMS facilities to treat patients with burn injuries by year end</b>	<b>The Times of India</b>
110.	16 July 2019	एम्स में बर्न एवं प्लास्टिक सर्जरी सेंटर होगा हाथ का प्रत्यारोपण	दैनिक जागरण
111.	16 July 2019	<b>Burn unit at AIIMS soon</b>	<b>The Indian Express</b>
112.	16 July 2019	<b>AIIMS says herbal drug used by tribals effective in treatment superficial wounds</b>	<b>The Indian Express</b>
113.	16 July 2019	<b>Centre set to roll out rotavirus vaccination drive in all states by September this year</b>	<b>The Indian Express</b>
114.	16 July 2019	एम्स में बन रहा है एशिया का सबसे बड़ा बर्न सेंटर	नवभारत टाइम्स
115.	16 July 2019	हर्बल दवाई भी कारगर: एम्स	हिंदुस्तान
116.	16 July 2019	एम्स में अब साधारण प्लास्टिक सर्जरी ही नहीं चेहरा और हाथ भी बदले जा सकेंगे तयार हो रही अर्टिफिकल स्किन	दैनिक भास्कर
117.	16 July 2019	एम्स – आई आई टी मिलकर बना रहे कृत्रिम त्वचा	हिंदुस्तान
118.	17 July 2019	<b>With no side-effects, herbal drug used by tribals passes AIIMS Delhi trials for treating superficial wounds</b>	<b>Swarajya</b>
119.	17 July 2019	देश के सभी अस्पतालों में अब एक जैसी होगी कटे होठ का इलाज	दैनिक जागरण
120.	17 July 2019	कटे होठ के इलाज के लिए बनेगी गाइडलाइस	नवभारत टाइम्स
121.	18 July 2019	<b>Forensic experts call for one-stop sexual assault test centers</b>	<b>The Pioneer</b>
122.	18 July 2019	<b>Call for one-stop sexual assault test centres with DNA facilities</b>	<b>The Times of India</b>
123.	18 July 2019	रेप पीड़िता को एक ही छत के नीचे पूरी मदद	हिंदुस्तान
124.	19 July 2020	<b>Mission Delhi is the ICMR-AIIMS pilot initiative to provide care to STEMI Heart Attack patients.</b>	<b>Medical Dialogues</b>
125.	19 July 2019	हृदयाघात होने पर 10 मिनट में घर पहुंच बचा रहे जान	दैनिक जागरण
126.	20 July 2019	एम्स ट्रामा सेंटर में शुरू हुए दो ओ टी मरीजों को राहत	दैनिक जागरण
127.	22 July 2019	एडवांस स्टेज के प्रोस्टेट कैंसर के इलाज में हो रहा नुक्लेअर मेडिसिन का प्रयोग	दैनिक जागरण
128.	22 July 2019	एम्स में मनाया ओ टी टेक्निशन डे	नवभारत टाइम्स
129.	24 July 2019	ट्रेनों में अब दवा और ऑक्सीजन सिलेंडर भी मिलेगा	अमर उजाला
130.	26 July 2019	आयुष्मान भारत से एम्स में अब तक 1578 मरीजों की फ्री सर्जरी	नवभारत टाइम्स
131.	28 July 2019	खुद फैसले ले सकेंगे देशभर के एम्स के अध्यक्ष	अमर उजाला
132.	29 July 2019	<b>AIIMS comes up with fluorescence imaging to identify cancer-affected breast tissues</b>	<b>The Pioneer</b>
133.	29 July 2019	<b>Sunday OPD care a breeze for the elderly</b>	<b>The Times of India</b>
134.	29 July 2019	<b>AIIMS inducts 'game-changer' tech in breast cancer surgery</b>	<b>The Asian Age</b>
135.	29 July 2019	कैंसर प्रभावी ऊतकों की पहचान आसान	अमर उजाला
136.	29 July 2019	स्तन कैंसर ऊतकों की पहचान के लिए एम्स ने शुरू की नई तकनीक	जनसत्ता
137.	29 July 2019	<b>New imaging tech in AIIMS to identify breast cancer tissues</b>	<b>The Statesman</b>
138.	29 July 2019	सारकोमा से पीड़ित 70 फीसदी मरीज इलाज के बाद हो जाते हैं स्वस्थ	दैनिक जागरण
139.	29 July 2019	<b>Public Lecture and Panel Discussion on Hepatitis in India</b>	<b>Hindustan Times</b>
140.	29 July 2019	<b>Public Lecture and Panel Discussion on Hepatitis in India</b>	<b>The Indian Express</b>
141.	29 July 2019	भारत में हेपेटाइटिस पर लोक वयाख्यान एवं पैनल वार्ता	पंजाब केसरी
142.	29 July 2019	भारत में हेपेटाइटिस पर लोक वयाख्यान एवं पैनल वार्ता	दैनिक जागरण
143.	29 July 2019	नई तकनीक से एम्स में जांच	हिंदुस्तान
144.	30 July 2019	<b>AIIMS working on to engage scientists: Director</b>	<b>The Pioneer</b>
145.	30 July 2019	आर्टिफिशियल इंटेलिजेंस से इलाज की नई तकनीक विकसित हो सकती है	दैनिक जागरण
146.	30 July 2019	<b>AIIMS Collaborates with National, International Institutions to Find Affordable Medical options for the Poor</b>	<b>The New Indian Express</b>

147.	30 July 2019	एम्स में दिल व फेफड़ों के एक साथ प्रत्यारोपण की तैयारी	दैनिक जागरण
148.	30 July 2019	<b>1,578 people treated in AIIMS under Ayushman Bharat</b>	<b>The Pioneer</b>
149.	31 July 2019	<b>3-year-old donates bone marrow, save sister's life</b>	<b>The Asian Age</b>
150.	5 August 2019	<b>Next month, AIIMS to shift its OPD to Masjid Moth facility</b>	<b>The Indian Express</b>
151.	4 August 2019	एम्स में दिल व फेफड़ों के एक साथ प्रत्यारोपण की तैयारी	दैनिक जागरण
152.	6 August 2019	शुरुआत में फेफड़ों का प्रत्यारोपण मुफ्त करेगा एम्स	अमर उजाला
153.	6 August 2019	मधुमेह और ब्लड प्रेशर का इलाज करेगा सॉफ्टवेयर	हिंदुस्तान
154.	9 August 2019	<b>Just 37% of patients at AIIMS are women</b>	<b>The Times of India</b>
155.	9 August 2019	अब डॉक्टर बनना होगा सस्ता दाखिला में भी होगी आसनी	अमर उजाला
156.	10 August 2019	<b>AIIMS centre to study caused by ecological toxins</b>	<b>The Indian Express</b>
157.	10 August 2019	<b>First ecotoxicology diagnostic centre at AIIMS</b>	<b>The Hindu</b>
158.	10 August 2019	<b>AIIMS centre to study diseases caused by ecological toxins</b>	<b>The Indian Express</b>
159.	10 August 2019	एम्स में शरीर में प्रदूषण की जांच करने वाली लेब खुली, 40 मरीजों के सेम्पल की जांच	दैनिक भास्कर
160.	10 August 2019	मरीज के शरीर में प्रदूषण के दुस्प्रभाव की जांच करेगा एम्स	अमर उजाला
161.	10 August 2019	प्रदूषण से पीड़ितों के लिए एम्स में विशेष क्लिनिक	हिंदुस्तान
162.	12 August 2019	एम्स में अब इम्यूनोथेरेपी से भी हो रहा कैंसर का इलाज	दैनिक जागरण
163.	12 August 2019	इराक की दो बच्चियों को ईदी में मिला नया जीवन	नवभारत टाइम्स
164.	13 August 2019	17 साल के लड़के के दिल ने बचाई एक सक्श की जान	नवभारत टाइम्स
165.	13 August 2019	एम्स में इमरजेंसी का होगा विस्तार, दोगुने होंगे बिस्तर, मरीजों को मिलेगी राहत	अमर उजाला
166.	22 August 2019	वीडियो कॉल से मरीज देख रहे डॉक्टर	अमर उजाला
167.	22 August 2019	<b>AB-PMJAY saved Rs. 12,000 crore for beneficiaries since launch: Health Minister</b>	<b>The Indian Express</b>
168.	22 August 2019	डॉक्टर वीडियो कॉल से कर रहे इलाज	हिंदुस्तान
169.	24 August 2019	एम्स : लेजर से दूर होगा बुजुर्गों की न्यूरोपैथी का दर्द	नवभारत टाइम्स
170.	24 August 2019	मधुमेह पीड़ितों को लेजर तकनीक से अधिक लाभ	नवभारत टाइम्स
171.	24 August 2019	मधुमेह ग्रस्त बुजुर्गों की पीडा लेजर से दूर करेगा एम्स	अमर उजाला
172.	24 August 2019	<b>Laser therapy for diabetic nerve</b>	<b>The Times of India</b>
173.	25 August 2019	<b>From team of AIIMS, IIT-Delhi, Special stethoscope to help students and teachers</b>	<b>The Indian Express</b>
174.	25 August 2019	<b>Some hygiene products will be available for free at health centres</b>	<b>The Times of India</b>
175.	25 August 2019	एम्स के अटेंडेंट ने बहादुरी दिखा बदमाशों को दबोचा	दैनिक जागरण

176.	26 August 2019	<b>AIIMS workshop trains over 100 orthodontists</b>	<b>The Pioneer</b>
177.	26 August 2019	बाल चेहरों की विकृति दूर करने में जुटे डॉक्टर	अमर उजाला
178.	27 August 2019	एम्स के कैंसर सर्जन बिहार के गांव में लगाते हैं फ्री मेडिकल कैंप	नवभारत टाइम्स
179.	27 August 2019	15 डॉक्टर एक साथ सुन सकेंगे दिल की धरकने	हिंदुस्तान
180.	30 August 2019	<b>45% of disease burden can be prevented with physical activity, say Harsh Vardhan</b>	<b>Hindustan Times</b>
181.	1 September 2019	<b>AIIMS conducting clinical trials on repurposed drugs</b>	<b>The Times of India</b>
182.	1 September 2019	एम्स के अनुसार इंटरनेशनल स्टडी में खुलासा, सेफ नहीं कोई भी हेयर कलर या मेहँदी	नवभारत टाइम्स
183.	1 September 2019	एम्स ने 21 डेली केयर प्रोडक्ट्स को लेकर किया सर्वे, हेयर डाई, मेहँदी, शैम्पू से हो रही है त्वचा की समस्याएँ	दैनिक भास्कर
184.	1 September 2019	<b>Leprosy drug to treat cancer? Docs hunt for new uses of cold meds</b>	<b>The Times of India</b>
185.	1 September 2019	<b>Conjoined twins separated in 16-hours-long surgery at AIIMS ready to return to Odisha</b>	<b>Hindustan Times</b>
186.	1 September 2019	एम्स में अंगदान पर कार्यशाला	हिंदुस्तान
187.	1 September 2019	2 साल बाद जग्गा और बलिया को एम्स से मिलेगी छुट्टी	नवभारत टाइम्स
188.	4 September 2019	<b>Being considered: Drones to transport cornea to eye banks</b>	<b>The Indian Express</b>
189.	4 September 2019	चिंताजनक : 760 ऑय बैंक में से सिर्फ दो फीसदी ही सक्रिय	हिंदुस्तान
190.	4 September 2019	जब ड्रोन से पहुंचेगा कॉर्निया, मैनपावर और खर्च होगा कम	नवभारत टाइम्स
191.	4 September 2019	<b>AIIMS eyes use of drones to transport corneal tissue</b>	<b>The Times of India</b>
192.	4 September 2019	<b>At 2,234, collection of donor corneas at AIIMS eye bank hits record high</b>	<b>The New Indian Express</b>
193.	4 September 2019	एम्स में एक साल में 1426 नेत्र प्रत्यारोपण	दैनिक जागरण
194.	4 September 2019	दिल्ली – एन सी आर के सरकारी अस्पतालों से जुड़ेगा एम्स	अमर उजाला
195.	5 September 2019	<b>AIIMS exploring use of drones for eye transplant</b>	<b>Hindustan Times</b>
196.	6 September 2019	<b>Conjoined twins return home today after 2 years</b>	<b>Hindustan Times</b>
197.	6 September 2019	एम्स में भर्ती जग्गा - बलिया की आज होगी छुट्टी	दैनिक जागरण
198.	7 September 2019	जुड़वा बच्चों के सिर अलग करने में सफल रहा एम्स	जनसत्ता
199.	7 September 2019	जग्गा – बलिया की पहचान एम्स में होगी : हर्षवर्धन	हिंदुस्तान
200.	7 September 2019	<b>Conjoined twins discharged from AIIMS after 2 yrs post rare surgery</b>	<b>The Statesman</b>
201.	7 September 2019	<b>Separated 2 yrs ago, Odisha's conjoined twins on way home</b>	<b>The Indian Express</b>
202.	7 September 2019	<b>Craniopagus twins head home</b>	<b>The Hindu</b>
203.	7 September 2019	<b>Conjoined twins get independent lives after surgery at AIIMS</b>	<b>The Pioneer</b>
204.	7 September 2019	<b>Two years on, conjoined twins leave for Odisha</b>	<b>The Times of India</b>
205.	7 September 2019	जग्गा – बलिया : आधा – अधूरा कपाल 5 साल बाद होगा पूरा	अमर उजाला

206.	10 September 2019	76.3% of households consume adequate iodized salt: Survey	The Asian Age
207.	11 September 2019	Docs remove 2 Inch needle from minor's back	The Asian Age
208.	11 September 2019	एम्स में बच्ची की पीठ से दो इंच लंबी सुई निकाली	हिंदुस्तान
209.	11 September 2019	बच्ची की पीठ में घुसी २ इंच लम्बी सुई, एम्स ने निकाली	अमर उजाला
210.	11 September 2019	AIIMS docs remove sewing needle from minor's back	The Statesman
211.	13 September 2019	AIIMS has created benchmark in the field of healthcare not only at the national level but Internationally also	The Outlook
212.	15 September 2019	Shah kick off "seva saptah" at AIIMS	The Times of India
213.	15 September 2019	'Week of Service' Ahead of PM's Birthday	The Indian Express
214.	15 September 2019	शाह ने श्रमदान कर सेवा सप्ताह की शुरुआत की	दैनिक जागरण
215.	15 September 2019	भाजपा ने की 'सेवा सप्ताह' की शुरुआत , शाह व नड्डा ने एम्स में बच्चों को बाटे फल, सफाई भी की	दैनिक भास्कर
216.	15 September 2019	शाह व नड्डा ने किया एम्स से 'सेवा सप्ताह' का सुभारम्भ	जनसत्ता
217.	15 September 2019	Shah, Nadda mop floors at AIIMS	The Hindu
218.	15 September 2019	शाह ने एम्स में सफाई की, मरीजों को फल बाटे	हिंदुस्तान
219.	15 September 2019	अमित शाह ने एम्स से किया सेवा सप्ताह का शुभारंभ	अमर उजाला
220.	16 September 2019	AIIMS Prof facelifts AP hospital	The Asian Age
221.	17 September 2019	एम्स में ३२ मरीजों के शरीर में खतरनाक रसायन	अमर उजाला
222.	18 September 2019	AIIMS – Delhi donates 93.89 lakh to Odisha	The Outlook
223.	18 September 2019	AIIMS finds high toxin levels in 16% of patients	The Times of India
224.	18 September 2019	रेफरल मरीजों के शरीर में टोक्सिन का पता लगाएगा एम्स	अमर उजाला
225.	19 September 2019	फणि पीड़ितों के लिए एम्स ने दिए 94 लाख	दैनिक जागरण
226.	20 September 2019	एम्स में कैंसर की स्क्रीनिंग करेगी आँखों की डॉक्टर	दैनिक जागरण

227.	21 September 2019	एम्स : पहली बार हुई रोबोट से रीढ़ की सर्जरी	दैनिक जागरण
228.	21 September 2019	360 डिग्री पर फोटो लेकर रोबोट से की गयी एम्स में पहली बार रीढ़ की हड्डी की सर्जरी	नवभारत टाइम्स
229.	21 September 2019	रोबोट से एम्स ने पहली बार किया स्पाइन का ऑपरेशन	अमर उजाला
230.	21 September 2019	एम्स में पहली बार रोबोट से रीढ़ की सर्जरी	हिंदुस्तान
231.	22 September 2019	45 yrs old woman from West Bengal first patient to benefit at AIIMS	The Times of India
232.	22 September 2019	Patients with serious illnesses falling through gap between two schemes: AIIMS	The Indian Express
233.	25 September 2019	AIIMS to ensure dignified death for non-cancer patient too	The Times of India
234.	25 September 2019	एम्स का 64 वा स्थापना दिवस	नवभारत टाइम्स
235.	25 September 2019	ल्यूप्स पर एम्स समेत देश के 9 संस्थानों में अनुसंधान शुरू	अमर उजाला
236.	26 September 2019	KV teachers to get trained by AIIMS on sensitizing students about Oral Health	PTI
237.	26 September 2019	एमबीबीएस के विद्यार्थियों के लिए इ - लर्निंग ऐप लांच	अमर उजाला
238.	26 September 2019	एम्स का डायरेक्टरी ऐप लांच	नवभारत टाइम्स
239.	26 September 2019	एम्स के पांच हज़ार कर्मी ऐप से जुड़ेंगे	हिंदुस्तान
240.	26 September 2019	एम्स ने शुरू किया टेलीफोन डायरेक्टरी एप एव एडवांस रिसोर्स लर्निंग प्लेटफार्म	दैनिक जागरण
241.	26 September 2019	ऑपरेशन से पहले डॉक्टरों की प्रैक्टिस के लिए एम्स ने बनाई मशीन	अमर उजाला
242.	26 September 2019	AIIMS to train KV teachers for sensitising students on oral health	The New Indian Express
243.	27 September 2019	Panel to assess facilities at AIIMS, Safdarjung	The Indian Express
244.	27 September 2019	सिर्फ 20 रुपए में अनुवांशिक बीमारी का पता लगा लेता है एम्स	अमर उजाला
245.	28 September 2019	डॉक्टरों ने निकाली जलवायु न्याय यात्रा	अमर उजाला
246.	28 September 2019	बेरियाट्रिक सर्जरी की बारी कियों जानने के लिए देशभर के सर्जन एम्स में जुटे	दैनिक भास्कर
247.	29 September	24*7 helpline for sarcoma patients	The Pioneer

	<b>2019</b>		
248.	<b>30 September 2019</b>	एक दिन में 100 से ज्यादा पड़ते थे दोरे एम्स ने दी संजीविनी	अमर उजाला
249.	<b>1 October 2019</b>	10 सेकंड में जोड़ो के दर्द का पता लगाएगा डॉक्टर : एम्स	अमर उजाला
250.	<b>2 October 2019</b>	एम्स में डॉ हर्षवर्धनने किया रक्तदान	दैनिक जागरण
251.	<b>3 October 2019</b>	<b>AIIMS to recycle, reuse plastic waste; Jamia goes plastic-free</b>	<b>The Asian Age</b>
252.	<b>4 October 2019</b>	ल्यूपस रोग पर शोध कर रहा एम्स	हिंदुस्तान
253.	<b>4 October 2019</b>	गंभीर बीमारी पर एम्स करेगा स्टडी	नवभारत टाइम्स
254.	<b>7 October 2019</b>	<b>AIIMS, Health Ministry launch 'eDantSeva'</b>	<b>Hindustan Times</b>
255.	<b>8 October 2019</b>	दांत की बीमारी में एप से परामर्श	हिंदुस्तान
256.	<b>9 October 2019</b>	एम्स में दिसंबर में शुरू होगा बर्न सेंटर	दैनिक जागरण
257.	<b>11 October 2019</b>	<b>AIIMS Delhi wins top cleanliness award, bags Rs 3 Crore</b>	<b>The Outlook</b>
258.	<b>11 October 2019</b>	<b>Blindness in India drops by 47%: Report</b>	<b>The Pioneer</b>
259.	<b>12 October 2019</b>	<b>AIIMS Delhi wins top cleanliness award, bags Rs 3 Crore</b>	<b>Millennium Post</b>
260.	<b>12 October 2019</b>	एम्स को तीसरे वर्ष कायाकल्प अवार्ड	हिंदुस्तान
261.	<b>12 October 2019</b>	एम्स की हैट्रिक, लगातार तीसरी बार जीता कायाकल्प अवार्ड	अमर उजाला
262.	<b>12 October 2019</b>	<b>At AIIMS Trauma Centre, a 3-year-old spells hope</b>	<b>The Hindu</b>
263.	<b>12 October 2019</b>	स्वच्छता के मामले में दिल्ली का एम्स अक्वल	दैनिक जागरण
264.	<b>13 October 2019</b>	एम्स मोबाइल वैन नशा पीड़ितों तक पहुंचेगी	हिंदुस्तान
265.	<b>13 October 2019</b>	मोबाइल वैन सेवा का विस्तार कर नशे की लत छुड़ाएगा एम्स	दैनिक जागरण
266.	<b>13 October 2019</b>	नशा पीड़ितों के लिए एम्स ने गोकलपुरी में लगाई मोबाइल वैन	अमर उजाला
267.	<b>13 October 2019</b>	<b>Public Lecture and Panel Discussion on STROKE</b>	<b>The Indian Express</b>
268.	<b>13 October 2019</b>	<b>Public Lecture and Panel Discussion on STROKE</b>	<b>Hindustan Times</b>
269.	<b>13 October 2019</b>	पक्षाघात पर लोक वयाख्यान एवं पैनल वार्ता	पंजाब केसरी
270.	<b>13 October 2019</b>	पक्षाघात पर लोक वयाख्यान एवं पैनल वार्ता	दैनिक जागरण
271.	<b>14 October 2019</b>	<b>Prevention and Treatment of Blinding Eye Diseases</b>	<b>Hindustan Times</b>
272.	<b>14 October 2019</b>	नेत्र अंधता रोगों की रोकथाम एवं उपचार पर लोक वयाख्यान एवं पैनल वार्ता	पंजाब केसरी
273.	<b>14 October 2019</b>	नेत्र अंधता रोगों की रोकथाम एवं उपचार पर लोक वयाख्यान एवं पैनल वार्ता	दैनिक जागरण
274.	<b>15 October 2019</b>	<b>AIIMS, IIT Delhi develop low-cost tech to help paralytics</b>	<b>The New Indian Express</b>
275.	<b>15 October 2019</b>	जिम में संभलकर करे व्यायाम, लापरवाही से हो सकता है लकवा	दैनिक जागरण
276.	<b>15 October</b>	तकनीक से लकवा पीड़ितों को मिलेगा आराम	दैनिक जागरण

	<b>2019</b>		
277.	<b>15 October 2019</b>	मोटापे पर लोक वयाख्यान एवं पैनल वार्ता	दैनिक जागरण
278.	<b>15 October 2019</b>	मोटापे पर लोक वयाख्यान एवं पैनल वार्ता	पंजाब केसरी
279.	<b>15 October 2019</b>	<b>Public Lecture on Obesity</b>	<b>The Indian Express</b>
280.	<b>15 October 2019</b>	<b>Public Lecture on Obesity</b>	<b>Hindustan Times</b>
281.	<b>15 October 2019</b>	लकवाग्रस्त मरीजों के लिए एम्स और आईआईटी ने बनाई डीवाईस, ख़तम हो जाएगी फ़ैजियोथेरेपिस्ट की जरूरत	दैनिक जागरण
282.	<b>16 October 2019</b>	बुलंदशहर की बच्ची को एम्स ट्रामा सेंटर ने दी नयी जिंदगी	दैनिक जागरण
283.	<b>16 October 2019</b>	देश भर में तैयार होगा स्ट्रोक मैप, तुरंत मिलेगा उपचार	अमर उजाला
284.	<b>16 October 2019</b>	बुलंदशहर की बच्ची को एम्स ट्रामा सेंटर ने दी नई जिंदगी	दैनिक जागरण
285.	<b>16 October 2019</b>	<b>Rescued three-year-old discharged from AIIMS</b>	<b>The Hindu</b>
286.	<b>17 October 2019</b>	टेबलेट और इंजेक्शन से 10 kg तक वजन हो सकता है कम: एम्स	नवभारत टाइम्स
287.	<b>17 October 2019</b>	<b>Miracle baby's rises from pit to new life</b>	<b>The Times of India</b>
288.	<b>17 October 2019</b>	अब दवाइयों से भी हो रहा मोटापे का इलाज़	दैनिक जागरण
289.	<b>17 October 2019</b>	एम्स में मोटापे की सर्जरी का आकड़ा हजार के पार	अमर उजाला
290.	<b>17 October 2019</b>	<b>IIT-Kgp alumnus develops device to trap vehicular pollutant</b>	<b>The Pioneer</b>
291.	<b>17 October 2019</b>	सरकारी स्कूलों के बच्चे प्राइवेट स्कूलों के बच्चों से ज्यादा फिट वजह: फ़ास्ट फूड, इससे 46 प्रतिशत में डयबिटीज का खतरा	दैनिक भास्कर
292.	<b>19 October 2019</b>	मानसिक स्वास्थ्य के प्रति करेंगे जागरूक	दैनिक जागरण
293.	<b>19 October 2019</b>	<b>At AIIMS, doctors remove tumour weighing 18 kg from woman's stomach</b>	<b>The Indian Express</b>
294.	<b>19 October 2019</b>	<b>Separating Jagga and Balia</b>	<b>The Hindu</b>
295.	<b>19 October 2019</b>	बच्चों को तनाव से उबरने में मदद करेगा एम्स	अमर उजाला
296.	<b>20 October 2019</b>	45 के बाद हड्डियों की जांच कराये महिलाये	दैनिक जागरण
297.	<b>21 October 2019</b>	<b>Ayurvedic antibiotic to fight fever, cold: AIIMS research</b>	<b>The Asian Age</b>
298.	<b>21 October 2019</b>	एम्स छात्रों के मानसिक स्वास्थ्य पर काम करेगा	हिंदुस्तान
299.	<b>21 October 2019</b>	बैक्टीरिया से निपटने में आयुर्वेदिक एंटीबायोटिक कारगर	दैनिक जागरण
300.	<b>21 October 2019</b>	एम्स ने खोजी आयुर्वेदिक एंटीबायोटिक 'मृत्युंजय'	अमर उजाला
301.	<b>24 October 2019</b>	<b>Centre to set up peritoneal dialysis services under PMNDP</b>	<b>The Hindu</b>
302.	<b>29 October 2019</b>	मेडिकल विश्विद्यालय बनेगा दिल्ली एम्स, तैयारियां शुरू	अमर उजाला
303.	<b>28 October 2019</b>	दिवाली: अस्पताल अलर्ट, सीनियर डॉक्टर भी मुस्तैद	नवभारत टाइम्स
304.	<b>30 October 2019</b>	<b>AIIMS initiates survey to assess infrastructure needs to become world class medical university</b>	<b>The Statesman</b>
305.	<b>31 October 2019</b>	<b>'Masks, air purifiers offer more reassurance than real protection against air pollution, not real solution': Dr. Randeep Gulera</b>	<b>Hindustan Times</b>

306.	2 November 2019	<b>Air pollution crisis: Docs ask people to take precautions</b>	<b>The Statesman</b>
307.	4 November 2019	<b>Find sustainable solution to Delhi pollution: AIIMS Director Randeep Guleria</b>	<b>The New Indian Express</b>
308.	7 November 2019	आई आई टी के साथ मिलकर एम्स ने बनाए विशेष जूते और छड़ी	अमर उजाला
309.	7 November 2019	अमेरिकी यूनिवर्सिटी जेनेटिक्स के क्षेत्र में AIIMS, कस्तूरबा मेडिकल कॉलेज के साथ करेगी काम	NDTV इंडिया
310.	8 November 2019	जेनेटिक्स पर परिक्षण करेगा एम्स, कस्तूरबा मेडिकल कॉलेज	अमर उजाला
311.	11 November 2019	<b>AIIMS OPD Shift to bigger campus</b>	<b>Hindustan Times</b>
312.	11 November 2019	<b>AIIMS to help poor students overcome language barrier</b>	<b>The Times of India</b>
313.	11 November 2019	प्रदूषण में कमी के साथ ही मरीज की संख्या घटी	अमर उजाला
314.	11 November 2019	<b>By year-end, new facilities for OPD services at AIIMS</b>	<b>The Indian Express</b>
315.	13 November 2019	एम्स में मादक पदार्थों के बढ़ते इस्तेमाल पर शोध	दैनिक जागरण
316.	13 November 2019	पहनने योग्य किडनी से डायलिसिस होगी आसान	दैनिक जागरण
317.	13 November 2019	अब एम्स में एक ही छत के नीचे इलाज और जांच	अमर उजाला
318.	13 November 2019	एम्स में इलाज और जांच की सुविधा जल्द	हिंदुस्तान
319.	13 November 2019	नशे के आदी लोगों पर एम्स कर रहा अध्ययन	हिंदुस्तान
320.	13 November 2019	2.5 करोड़ की किट से एम्स कर रहा ड्रग की पहचान	नवभारत टाइम्स
321.	14 November 2019	<b>Dead, but still 'alive' through a sacred act</b>	<b>The Times of India</b>
322.	14 November 2019	<b>AIIMS felicitates organ donors, families</b>	<b>DRUG Today</b>
323.	14 November 2019	<b>Huge gap between demand and availability of organs: AIIMS</b>	<b>The New Indian Express</b>
324.	14 November 2019	<b>FOR THE BRAVEHEARTS AT AIIMS</b>	<b>The Indian Express</b>
325.	14 November 2019	<b>Health Minister felicitates family organ donors</b>	<b>The Hindu</b>
326.	14 November 2019	जाते- जाते आठ लोगों को जिंदगी दे गई सुरभि	अमर उजाला
327.	14 November 2019	अंगदान मुहीम को बड़े स्तर पर शुरू करने की जरूरत: रिजिजू	नवोदय टाइम्स
328.	14 November 2019	अंगदान कर जिंदगी देने वालों को याद कर भर आई आंखें	दैनिक भास्कर
329.	14 November 2019	अंगदान करना एक कठिन लेकिन सहस्रपूर्ण निर्णय	जनसत्ता
330.	14 November 2019	दोबारा जिंदगी मिलने पर किसी ने दिल तो किसी ने किडनी के लिए जताया आभार	लोकमत समाचार
331.	14 November 2019	मधुमेह पीड़ितों की जिंदगी आसान बनाने में जुटा एम्स	हिंदुस्तान
332.	14 November 2019	<b>ORBO felicitated family members of 38 multiple organ donors</b>	<b>Hindustan Times</b>
333.	14 November 2019	किसी और का दिल मुझमे धड़क रहा है इसलिए जिन्दा हूँ	नवभारत टाइम्स
334.	14 November 2019	आठ लोगों को जिंदगी दे गई सुरभि	हिंदुस्तान
335.	14 November	<b>Union health minister Harsh Vardhan urges people to donate</b>	<b>The Statesman</b>

	2019	organs	
336.	14 November 2019	अंगदान के लिए आंदोलन खड़ा करने की जरूरत : डॉ हर्षवर्धन	आउटलुक
337.	14 November 2019	एम्स ने अंगदाताओं को किया सम्मानित	पंजाब केसरी
338.	14 November 2019	अंगदान भगवन का काम करने जैसा: हर्षवर्धन	दैनिक जागरण
339.	14 November 2019	अंगदान करना ईश्वरीय है	UNI
340.	14 November 2019	एम्स में बनेगा ट्रांसप्लांट सेंटर	DD News
341.	15 November 2019	Pollution an additional stress for heart patients	Hindustan Times
342.	15 November 2019	एम्स में मिलेगी दांतों की सस्ती दवा एव इम्प्लांट	दैनिक जागरण
343.	15 November 2019	एम्स के डेंटल स्टोर पर ६०% तक सस्ती दवाएं	नवभारत टाइम्स
344.	15 November 2019	एम्स में दंत प्रत्यारोपण और दवाएं सस्ती दरों पर	हिंदुस्तान
345.	15 November 2019	एम्स में दन्त रोगियों के लिए अलग से शुरू हुई फार्मसी	अमरउजाला
346.	16 November 2019	At AIIMS, Scan QR code to pledge your organs	The Indian Express
347.	16 November 2019	कैंसर संस्थान में 800 बेड की धर्मशाला	हिंदुस्तान
348.	20 November 2019	AIIMS trauma centre to get rooftop helipad after decade-long wait	Hindustan Times
349.	20 November 2019	बच्चों को विज्ञान की ओर लेजा रहा दिल्ली एम्स	अमरउजाला
350.	21 November 2019	एम्स हेलिपैडवाला पहला सरकारी हॉस्पिटल होगा	हिंदुस्तान
351.	21 November 2019	एम्स ट्रामा सेंटर की छत पर उतरेंगे हेलीकॉप्टर	नवभारत टाइम्स
352.	21 November 2019	कहें नमस्ते, तभी इलाज होंगे सस्ते	नवभारत टाइम्स
353.	23 November 2019	एम्स में मेडिकल शिक्षा व इलाज की शुल्क की हो रही समीक्षा	दैनिक जागरण
354.	26 November 2019	#DNA Fight Rape अपराध से लड़ेगा AIIMS और पुलिस का कैंपेन	नवभारत टाइम्स
355.	25 November 2019	Focus on exercise crucial to manage heart disease: Study	Hindustan Times
356.	27 November 2019	AIIMS docs train to handle chopper emergencies	Hindustan Times
357.	27 November 2019	UCL and AIIMS strengthen clinical and healthcare engineering links	UCL Global
358.	28 November 2019	Control room to track availability of ICU beds in all central govt. hospitals	The Times of India
359.	29 November 2019	Help on 2 wheels in places where ambulance can't go	The Times of India
360.	30 November 2019	AIIMS–New Delhi, IISC Bangalore and others Bag India Research Excellence Awards announced by Clarivate Analytics	Indian Web2
361.	30 November 2019	देश में डॉक्टरों की कमी नहीं: हर्षवर्धन	दैनिकजागरण
362.	4 December 2019	Swedish queen stops by at dementia centre at AIIMS	The Times of India
363.	4 December 2019	Swedish Queen interacts with dementia patients at AIIMS	The Statesman
364.	4 December 2019	स्वीडन की रानी एम्स में डिमेंसिया से मिली	हिंदुस्तान
365.	4 December 2019	एम्स ने स्वीडन से किया करार	अमर उजाला

366.	4 December 2019	स्वीडन के साथ मिलकर सस्ते उपकरण तैयार करेगा एम्स	दैनिक जागरण
367.	4 December 2019	<b>AIIMS, ICMR working on virtual autopsy technique: Govt. in Rajya Sabha</b>	<b>The Indian Express</b>
368.	5 December 2019	एम्स में महिलाओं में बढ़ रही हृदय की बीमारी पर होगी चर्चा	दैनिक जागरण
369.	5 December 2019	हृदयरोगो पर सम्मेलन आज एम्स में	हिंदुस्तान
370.	5 December 2019	हृदयरोगो की नई तकनीक सिखने को जुटेंगे डॉक्टर	दैनिक भास्कर
371.	5 December 2019	एम्स में बाटी ट्राइसाइकिल	नवभारत टाइम्स
372.	6 December 2019	शरीर के कई अंगों को खराब कर सकती है कबूतर की बीट	अमर उजाला
373.	6 December 2019	बच्ची की मौत, पिता ने की बेटी की आँखों दान	जनसत्ता
374.	8 December 2019	<b>Keep kids away from mosquito repellents</b>	<b>The Times of India</b>
375.	11 December 2019	कहानी अंगदान से नई जिंदगी पाने वालों की	जनसत्ता
376.	12 December 2019	<b>MOU Signing Ceremony between AIIMS and National Cheng Kung University (Taiwan)</b>	<b>Taiwan Republic of India</b>
377.	13 December 2019	बायोप्सी में लगनेवाला वक्त ओर दर्द दोनों की होगी छुट्टी, ब्लड टेस्ट से हो जाएगी जाँच	नवभारत टाइम्स
378.	15 December 2019	रक्त परीक्षण बायोप्सी से मुख्ती दिलाएगा : एम्स	हिंदुस्तान
379.	22 December 2019	सेवा का सर्वश्रेष्ठ माध्यम है चिकित्सा: ओम बिरला	दैनिक जागरण
380.	23 December 2019	एम्स में राष्ट्रीय स्तर का आधुनिक वन स्टाप सेंटर बनेगा	हिंदुस्तान
381.	26 December 2019	एम्स में 570 कमरों वाला नया ओपीडी ब्लॉक अगले महीने से, बढ़ेंगे 725 बेड	नवभारत टाइम्स
382.	24 December 2019	<b>One in every seven people suffers from mental disorder, finds study</b>	<b>The Times of India</b>
383.	27 December 2019	कैंसर पीड़िता का इलाज करे एम्स	हिंदुस्तान
384.	27 December 2019	एम्स में अगले माह तैयार हो जायेगा सर्जिकल ब्लॉक	दैनिक जागरण
385.	27 December 2019	<b>Breakthrough by AIIMS docs on Celiac Diseases</b>	<b>The Indian Express</b>
386.	31 December 2019	<b>AIIMS mobile service for those living within 5 km</b>	<b>The Indian Express</b>
387.	31 December 2019	<b>Docs report hike in lung, heart ailments</b>	<b>Hindustan Times</b>
388.	31 December 2019	अब पांच किमी के दायरे में मिलेगी मोबाइल इमरजेंसी केयर की सुविधा	दैनिक जागरण
389.	31 December 2019	मरीजों के लिए अब 2 किमी ज्यादा दौड़ेगी बाइक एम्बुलेंस, ओर 25 लाख लाख लोगो को मिलेगा फायदा	नवभारत टाइम्स
390.	31 December 2019	हार्ट अटैक से बचाने के लिए बाइक एम्बुलेंस का बड़ा दायरे	अमर उजाला
391.	1 January 2020	एम्स के नाम दर्ज होगा सिर से जुड़े बच्चों को अलग करने का रिकॉर्ड	दैनिक जागरण
392.	1 January 2020	<b>Going separate ways, happily</b>	<b>The Times of India</b>
393.	1 January 2020	<b>AIIMS के सर्जन को डी-लिट की उपाधि</b>	नवभारत टाइम्स

394.	3 January 2020	Govt. appoints AIIMS Professor Suresh Chandra as NMC Chief	The Hindu
395.	3 January 2020	Govt appoints AIIMS Professor Suresh Chandra as NMC Chief	The Pioneer
396.	3 January 2020	AIIMS Prof. appointed chairman of NMC	Indian Express
397.	3 January 2020	डॉ शर्मा ने एम्स में कई सुविधाएं शुरू करने में अहम भूमिका निभाई	दैनिक जागरण
398.	3 January 2020	प्रो सुरेश चंद्र शर्मा राष्ट्रिय चिकित्सा आयोग के पहले अध्यक्ष नियुक्त	हिंदुस्तान
399.3	3 January 2020	एम्स के सुरेश चंद्र शर्मा एनएमसी के पहले अध्यक्ष बने	जनसत्ता
400.	5 January 2020	एम्स में ओपीडी के लिए कतार में नहीं लगाना पड़ेगा	हिंदुस्तान
401.	5 January 2020	एम्स लाइब्रेरी बनेगी दिव्यांग अनुकूल	दैनिक जागरण
402.	11 January 2020	3 डी तकनीक से प्रैक्टिस के बाद निकला तीर	अमर उजाला
403.	17 January 2020	मुँह की सफाई में लापरवाही बन सकती है दिल की बीमारी का कारन	हिंदुस्तान
404.	18 January 2020	इलाज के लिए आयुर्वेद का सहारा लेगा एम्स , कचनार का शरीर पर असर जानने को हो रही है स्टडी, असर दिखा तो होगा इलाज	दैनिक भास्कर
405.	24 January 2020	Ready to deal with Chinese virus: Hospitals	The Times of India
406.	24 January 2020	AIIMS launches 'I-trec' in Punjab	The Asian Age
407.	25 January 2020	Corona virus: Isolation wards	The Times of India
408.	25 January 2020	AIIMS to increase isolation ward's capacity if required for coronavirus: Director	ANI
409.	25 January 2020	AIIMS sets up isolation ward for treating nCoV cases	The Statesman
410.	25 January 2020	AIIMS authorities ready to use isolation wards for suspected cases for coronavirus	HT
411.	26 January 2020	कोरोना वायरस को लेकर एम्स ने कासी कमर	जनसत्ता
412.	26 January 2020	AIIMS library gets lift for disabled students after three decades	The Times of India
413.	27 January 2020	AIIMS offers city's 1st Lung transplant	The Times of India
414.	27 January 2020	AIIMS to initiate study to evaluate ill effect of biomass fuels on tribal's health in Jharkhand	The Pioneer
415.	31 January 2020	अर्थराइटीस के खिलाफ जागरूकता को एम्स की डॉ उमा कुमार को राष्ट्रीय सम्मान	दैनिक भास्कर
416.	2 February 2020	Coronavirus prevention: Dr. Randeep Guleria	DD News
417.	3 February 2020	Coronavirus a Mild Illness: AIIMS Director Dr. Randeep Guleria	NDTV
418.	4 February 2020	कैंसर से निबटने में सक्षम बन रहा , 'आयुष्मान' भारत	दैनिक जागरण
419.	4 February 2020	AIIMS plans to set up six drug de-addiction centres in Andhra Pradesh	The New Indian Express
420.	8 February 2020	कोरोना वायरस की जांच एम्स और NCDC में भी	नवभारत टाइम्स
421.	10 February 2020	More facilities, less wait at new AIIMS OPD Block	The Times of India
422.	10 February	Eight-floor OPD block at AIIMS for six specialities, more depts	The Indian

	<b>2020</b>	<b>to follow soon</b>	<b>Express</b>
423.	<b>10 February 2020</b>	<b>17.9 kg tumour removed from woman's uterus</b>	<b>Hindustan Times</b>
424.	<b>10 February 2020</b>	मरीज़ो को राहत : एम्स की नया ओ पी डी ब्लॉक आज से शुरु	हिंदुस्तान
425.	<b>10 February 2020</b>	एम्स में आज शुरु होगा नया ओ पी डी ब्लॉक	दैनिक जागरण
426.	<b>11 February 2020</b>	एम्स की नई ओपीडी में मिलेगा सुविधाजनक इलाज	दैनिक जागरण
427.	<b>11 February 2020</b>	एम्स में शुरु हुई 6 विभागों की नई ओपीडी, 8 मंज़िल बिल्डिंग में 570 कमरे हैं, हर मंज़िल पर 500 लोगो के बैठने की व्यवस्था	दैनिक भास्कर
428.	<b>11 February 2020</b>	महिलाओ और दिव्यांगों के लिए अलग काउंटर	नवभारत टाइम्स
429.	<b>11 February 2020</b>	<b>To unclog AIIMS, 6 dept shifted to new OPD block</b>	<b>Hindustan Times</b>
430.	<b>11 February 2020</b>	<b>New OPD set up at AIIMS</b>	<b>The Indian Express</b>
431.	<b>11 February 2020</b>	एम्स ट्रामा सेंटर में बड़ी सुविधाएं	दैनिक जागरण
432.	<b>13 February 2020</b>	<b>AIIMS help at doorstep saves heart-attack patient</b>	<b>The Times of India</b>
433.	<b>13 February 2020</b>	देश में पहली बार मरीज़ को घर पर मिली क्लॉट बस्टर दवा	दैनिक जागरण
434.	<b>13 February 2020</b>	<b>Heart attack patient gets help at home, courtesy AIIMS bike ambulance</b>	<b>Hindustan Times</b>
435.	<b>16 February 2020</b>	एम्स ने किया शोध : सीलिएक से पीड़ित महिलाओ को बांझ बना रहा ग्लूटेन युक्त आटा, तलाक की भी नौबत	दैनिक भास्कर
436.	<b>16 February 2020</b>	<b>Celiac diseases more common in North</b>	<b>The New Indian Express</b>
437.	<b>16 February 2020</b>	एम्स में घटेगी सर्जरी के वेटिंग, मई में शुरु किया जायेगा सर्जिकल ब्लॉक	दैनिक जागरण
438.	<b>16 February 2020</b>	<b>Celiac disease needs widespread awareness: AIIMS</b>	<b>Millennium Post</b>
439.	<b>16 February 2020</b>	असामान्य था, अब सामान्य हो चला है सीलियक	नवोदय टाइम्स
440.	<b>16 February 2020</b>	सीलियक बीमारी को छिपाना महिलाओ को पढ़ रहा भारी	दैनिक जागरण
441.	<b>16 February 2020</b>	सीलियक: पेट की बीमारी से परेशां देश में 80 लाख लोग	पंजाब केसरी
442.	<b>16 February 2020</b>	<b>AIIMS to sensitise people on incurable celiac</b>	<b>TSG Sunday Guardian Live</b>
443.	<b>18 February 2020</b>	<b>AIIMS introduces 3D printing technology for jaw joint replacements</b>	<b>The Statesman</b>
444.	<b>18 February 2020</b>	AIIMS में 60 मरीज़ो को लगाया आर्टिफिसियल जबड़ा	नवोदय टाइम्स
445.	<b>18 February 2020</b>	कैंसर से लड़ने वाले बच्चो ने रंगारंग प्रोग्राम से मनमोहा	हिंदुस्तान
446.	<b>19 February 2020</b>	<b>At AIIMS, organs of two brain dead save 7 lives in 48 hours</b>	<b>Hindustan Times</b>
447.	<b>19 February 2020</b>	<b>In a first, AIIMS offers short cancer treatment</b>	<b>The New Indian Express</b>
448.	<b>19 February 2020</b>	<b>Hearts of gold of two families save 7 lives</b>	<b>The Times of India</b>
449.	<b>19 February 2020</b>	<b>7 people get second life at AIIMS after organ donation</b>	<b>The Indian Express</b>
450.	<b>19 February 2020</b>	दो लोगो के अंगदान से साथ लोगो को मिला नया जीवन	दैनिक जागरण

451.	19 February 2020	48 घंटों में साथ लोगो को मिला नया जीवन	अमर उजाला
452.	19 February 2020	<b>Families donate organs of 2 brain dead patients</b>	<b>The Asian Age</b>
453.	20 February 2020	एम्स: नई ओ पी दी से राहत, वेटिंग 20 % कम	अमर उजाला
454.	20 February 2020	... इधर, नई ओ पी डी से प्रतीक्षा समय कम हुआ	हिंदुस्तान
455.	21 February 2020	एम्स दुर्लभ बीमारी गोचर से पीड़ित आरजू का इलाज करेगा	हिंदुस्तान
456.	21 February 2020	रक्तदान के लिए अभियान चलाया	हिंदुस्तान
457.	21 February 2020	एम्स की मुख्य ओपीडी में कम हुए मरीज़	दैनिक जागरण
458.	21 February 2020	रक्त के लिए डॉक्टर हुए एक जुट, सोशल मीडिया पर अपील	अमर उजाला
459.	22 February 2020	<b>AIIMS docs develop womb-removal method that lowers complications</b>	<b>Hindustan Times</b>
460.	22 February 2020	एम्स में इमरजेंसी सुविधाओं का किया जायेगा विस्तार	दैनिक जागरण
461.	22 February 2020	एम्स के पुराने ओपीडी ब्लॉक में भी होगी इमरजेंसी सेवाएं	नवभारत टाइम्स
462.	22 February 2020	एम्स: ओपीडी में घट गए 5 लाख मरीज़, पहली बार 2 लाख सर्जरी	नवभारत टाइम्स
463.	22 February 2020	एम्स में चार साल में होगी पांच हज़ार बेड	दैनिक जागरण
464.	23 February 2020	एम्स में बिशतरों की संख्या दो गुनी होगी	हिंदुस्तान
465.	24 February 2020	एम्स में 27 को रक्तदान शिविर, लोगो से बड़ी संख्या में शामिल होने की अपील	दैनिक भास्कर
466.	26 February 2020	एम्स में बर्न एव प्लास्टिक सर्जरी सेंटर जुलाई से शुरू	दैनिक जागरण
467.	27 February 2020	एम्स का डॉक्टर सीख रहा प्राकृतिक चिकित्सा	हिंदुस्तान
468.	28 February 2020	एम्स ने जुटाया तीन हज़ार यूनिट रक्त	दैनिक जागरण
469.	28 February 2020	<b>CAPF's personnel donate blood at AIIMS camp, GTB Hospital</b>	<b>The Statesman</b>
470.	28 February 2020	एम्स ने एक दिन में एकत्रित किया 3000 यूनिट रक्त	अमर उजाला
471.	29 February 2020	एम्स में ग्रीन पब्लिक स्वास्थ्य सम्मेलन आज से	दैनिक जागरण
472.	29 February 2020	<b>25000 sapling to boost green cover in south Delhi</b>	<b>The Times of India</b>
473.	29 February 2020	आम आदमी की सेहत के लिए पहला 'ग्रीन पब्लिक हेल्थ कांफ्रेंस'	UNI
474.	29 February 2020	<b>AIIMS discovery: Pregnant women to be anaemia-free</b>	<b>Lokmat Times</b>
475.	29 February 2020	कोरोना वायरस के संदिग्धों को लोगो के संपर्क में न आने की सलाह: एम्स	UNI
476.	29 February 2020	AIIMS में शुरू हुई इंडियन पब्लिक हेल्थ एसोसिएशन की 64 वी वार्षिक कांफ्रेंस	Zee News
477.	29 February 2020	<b>AIIMS docs recommend FCM for upping haemoglobin in anaemic women</b>	<b>Drug Today</b>
478.	29 February 2020	पब्लिक हेल्थ को मज़बूत करने के लिए एम्स में जुटेंगे 1500 विशेषज्ञ	पंजाब केसरी
479.	1 March 2020	दान में मिले दिल से AIIMS ने अब तक 1,000 मरीजों को दी नई जिंदगी	NDTV इंडिया
480.	1 March	डॉक्टरों के सम्मेलन में पर्यावरण सुधर की पहल	जनसत्ता

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481.	2 March 2020	डॉ उमा कुमार को राष्ट्रीय विज्ञान संचार पुरस्कार	हिंदुस्तान
482.	4 March 2020	CRPF personnel donate blood at AIIMS, New Delhi	Hindustan Times
483.	4 March 2020	AIIMS डायरेक्टर से जानिए कोरोना वायरस की ABC	CNBC Awaaz
484.	4 March 2020	“Don’t Panic, But stay Careful” by Dr. Randeep Guleria	Mail Today
485.	4 March 2020	एम्स में बढ़ रहा है बहरापन, 40 फीसद बुजुर्ग पीड़ित	दैनिक जागरण
486.	4 March 2020	Corona virus कितना है खतरनाक जानिए डॉ रणदीप गुलरिया	News Station
487.	4 March 2020	कोरोना पर AIIMS डायरेक्टर के सुझाव	TV9 Bharatvarsh
488.	4 March 2020	Coronavirus पर बोले AIIMS के डायरेक्टर- डरने की जरूरत नहीं, 97% लोग ठीक हो जाते हैं	Quint Hindi
489.	4 March 2020	AIIMS के डायरेक्टर से जानिए Coronavirus से कैसे बचें?	News 24
490.	5 March 2020	सच्चाई : 10 % संक्रमित ही होते हैं गंभीर बीमार: डॉ कारन मदन	हिंदुस्तान
491.	5 March 2020	Smartphones may make your headaches worse: AIIMS	The Outlook
492.	5 March 2020	Coronavirus पर AIIMS के Director की कुछ Tips	Zee News
493.	5 March 2020	Exclusive conversation with the AIIMS Director on the Deadly Coronavirus	Oneindia News
494.	5 March 2020	भारत Coronavirus की Vaccine बनाने में सक्षम: AIIMS निदेशक	NDTV India
495.	5 March 2020	Exclusive conversation with the AIIMS Director on the Deadly Coronavirus	Boldsky
496.	6 March 2020	IHMR University at AIIMS Delhi IPHACON 2020	Careers 360
497.	6 March 2020	कोरोना से जंग को एम्स भी हुआ तैयार	दैनिक जागरण
498.	6 March 2020	Coronavirus क्या है और कैसे इससे बचे, जानिए AIIMS director Randeep Guleria के साथ तैयार	Hindustan News Daily
499.	6 March 2020	देशभर के उच्च शिक्षण संस्थानों में युवा ड्रग्स को कहेंगे बाय	दैनिक जागरण
500.	7 March 2020	AIIMS के डायरेक्टर Dr Randeep Guleria ने दिया Coronavirus से जुड़े हर सवाल का जवाब	ABP News
501.	7 March 2020	Coronavirus - Covid-19 II Myths & Facts by Dr. Randeep Guleria (Director, AIIMS, Delhi)	Kaiwaa Production
502.	7 March 2020	कोरोना के 83 % मरीजों में होता है खासी - बुखार: AIIMS	नवभारत टाइम्स
503.	7 March 2020	Coronavirus से जुड़े सवालों के जवाब	India Today Social
504.	7 March 2020	2 मीटर से ज्यादा दूर नहीं जाता कोरोना वायरस: डॉ गुलेरिया	अमर उजाला
505.	7 March 2020	AIIMS Director Randeep Guleria ... Corona Virus	TV10 India
506.	8 March 2020	52 labs for testing suspected cases made functional	Hindustan Times
507.	9 March 2020	AIIMS to be nodal centre for COVID-19 treatment in India	The Times of India

508.	9 March 2020	प्रतिरोधक क्षमता से ख़तम होता है कोरोना : डॉ रणदीप गुलेरिया	हिंदुस्तान
509.	9 March 2020	नई इमरजेंसी में बनेगा आइसोलेशन वार्ड	नवभारतटाइम्स
510.	9 March 2020	Govt tells AIIMS to set up more isolation beds	Mail Today
511.	9 March 2020	एम्स को भी आइसोलेशन वार्ड सुरु करने का निर्देश	दैनिक जागरण
512.	9 March 2020	एम्स निर्देशक डॉ गुलेरिया ने कहा, रोग प्रतिरोधक क्षमता ही विषाणु को ख़तम कर देती है	जनसत्ता
513.	9 March 2020	घबराये नहीं , कोरोना वायरस के 80 फीसद मरीज़ नहीं होते गंभीर	दैनिक जागरण
514.	10 March 2020	Humidity in air generally helps virus to grow, says AIIMS chief	The Asian Age
515.	10 March 2020	कोरोना की दवाओं और वैक्सीन पर शोध करेगा एम्स के डॉक्टर	अमर उजाला
516.	10 March 2020	हुडदंग में घायलों के इलाज के लिए AIIMS ट्रामा सेंटर तैयार	नवभारत टाइम्स
517.	12 March 2020	Dr. Randeep Guleria Director AIIMS busts some Corona Virus related myths	Sleep for all
518.	13 March 2020	सुविधा: एम्स में ही हो जाएगी कोरोना की पुष्टि	हिंदुस्तान
519.	13 March 2020	Dr. Randeep Guleria (AIIMS) demonstrates how we should wash hands to keep coronavirus at bay	DD News
520.	14 March 2020	AIIMS Director Dr Randeep Guleria Speaks to Republic TV, Answers FAQs on Coronavirus	Republic TV
521.	14 March 2020	Corona के संक्रमण के खतरे और बचाव पर AIIMS के डायरेक्टर Dr. Randeep Guleria का 'मंत्र'!	Republic Bharat
522.	14 March 2020	Coronavirus AIIMS के Director Randeep Guleria ने कहा - बदलते मौसम में सर्दी, जुकाम आम बात  COVID 19	Dainik Jagran
523.	14 March 2020	Coronavirus से बचने के लिए AIIMS के डायरेक्टर Dr Randeep Guleria की Hindi में सलाह	Lokmat News
524.	14 March 2020	Coronavirus can't spread through dead bodies: AIIMS Director Randeep Guleria, शव से नहीं फैलता कोरोना	In Khabar
525.	14 March 2020	AIIMS Director Says No Proof of Any COVID-19 Preventive So Far	Go News India
526.	14 March 2020	एम्स की ओर से एन सी आई में 100 बेड का आइसोलेशन वार्ड और 25 बेड का आई सी यू किया गया तैयार	दैनिक जागरण
527.	15 March 2020	No Medicine for Coronavirus   Delhi AIIMS Director Randeep Guleria	ETV (Andhra Pradesh)
528.	15 March 2020	Should focus on self-quarantine, avoid crowded places: AIIMS Chief	The Indian Express
529.	15 March 2020	AIIMS Director Randeep Guleria Speaks on Coronavirus Outbreak	Kanak News Digital
530.	15 March 2020	डेड बॉडी से नहीं फैलता है कोरोना वायरस: AIIMS	नवभारत टाइम्स
531.	15 March 2020	AIIMS has 120-150 beds for coronavirus patients: Director	Hindustan Times
532.	15 March 2020	Social distancing best way to tackle COVID-19	The Statesman
533.	16 March 2020	7 depts to shift to new OPD block at AIIMS	The Indian Express
534.	16 March 2020	एम्स के नए ओ पी डीमें होगी अत्याधुनिक लैब	दैनिकजागरण

535.	16 March 2020	कोरोना के लिए एम्स ने जारी की 24 घंटे चलने वाली हेल्पलाइन	जनसत्ता
536.	16 March 2020	नए ब्लॉक में आठ ओर विभागों की ओपीडी शुरू	हिंदुस्तान
537.	16 March 2020	एम्स में रोजाना होगी 2 लाख सैंपल की जांच	अमर उजाला
538.	16 March 2020	<b>Corona Virus: AIIMS के डॉक्टरों की नई मुहिम, वृद्धाश्रम में बुजुर्गों को दे रहें Corona की जानकारी</b>	<b>TV9 Bharatvarsh</b>
539.	17 March 2020	क्या है coronavirus की Stage-3? AIIMS के director <b>Randeep Guleria</b> से जानें रोकथाम के उपाय	<b>AajTak HD</b>
540.	17 March 2020	<b>AIIMS Director busts biggest coronavirus myths about non-veg food, hot weather</b>	<b>CVR News Telugu</b>
541.	17 March 2020	AIIMS के डायरेक्टर बोले- खतरनाक स्टेज में न पहुंचे कोरोना, इसलिए वर्चुअल लॉकडाउन की जरूरत	<b>Offbeat</b>
542.	17 March 2020	<b>AIIMS Director busts biggest coronavirus myths about non-veg food, hot weather</b>	<b>The Economic Times</b>
543.	18 March 2020	<b>Setting the stage for Panic</b>	<b>Mail Today</b>
544.	19 March 2020	एम्स के निदेशक रणदीप गुलेरिया से जानिए क्या है #COVID 19	<b>PIB India</b>
545.	19 March 2020	मोदी ने की एम्स के डॉक्टर की प्रशंशा	हिंदुस्तान
546.	19 March 2020	पीएम ने रीट्वीट की एम्स के डॉक्टर की फोटो	दैनिक जागरण
547.	20 March 2020	<b>COVID-19 concerns? AIIMS Director answers top 10 crucial questions</b>	<b>Hindustan Times</b>
548.	20 March 2020	<b>Dr Randeep Guleria Director AIIMS NEW DELHI, Speech on COVID-19 CORONA</b>	<b>Student's AIIMS New Delhi</b>
549.	20 March 2020	<b>Partners' Briefing on COVID-19 - WHO-SEARO</b>	<b>WHO</b>
550.	20 March 2020	<b>AIIMS Chief debunks nine Corona myths</b>	<b>Mail Today</b>
551.	20 March 2020	<b>AIIMS doctors make sanitizers to beat shortfall</b>	<b>The Times of India</b>
552.	20 March 2020	एम्स में बनाया सेंटीज़र और फेसिअल शील्ड	नवभारत टाइम्स
553.	20 March 2020	<b>Hospitals may pool resources for ICU needs</b>	<b>The Times of India</b>
554.	20 March 2020	एम्स की अपील, रोज़ ओपीडी में न आए लोग	जनसत्ता
555.	21 March 2020	దేశంలో కరోనా వ్యాప్తిలో రెండో దశలోకి ఉందో- <b>AIIMS Director Dr. Randeep Guleria Face to Face</b>	<b>NTV Telugu</b>
556.	21 March 2020	<b>Coronavirus testing protocol to go hand in hand with our healthcare capacity: AIIMS' Guleria</b>	<b>The Economic Times</b>
557.	21 March 2020	<b>Avoid Non-Essential Travel till Picture Becomes Clearer: AIIMS Director on Coronavirus</b>	<b>NDTV</b>
558.	21 March 2020	<b>AIIMS Director on Need for India To Go into Lockdown Mode to Tackle COVID-19 Outbreak</b>	<b>CNN-News 18</b>
559.	21 March 2020	<b>Call Centre at AIIMS for COVID-19</b>	<b>The Hindu</b>
560.	21 March 2020	<b>Corona Case: AIIMS launches comprehensive booklet</b>	<b>Bhaskar Live</b>
561.	21 March 2020	<b>IIT, AIIMS invent sterilisation device to battle coronavirus outbreak</b>	<b>IANS</b>

562.	21 March 2020	Containment priority to tackle virus	The Statesman
563.	22 March 2020	Randeep Guleria Speaks to Arnab Goswami, says 'Preparing Ourselves in Case of a Large Outbreak'	Republic World
564.	23 March 2020	COVID facility in hospital run by AIIMS at Jhajjar	The Times of India
565.	23 March 2020	ICMR allots 800 Bedded AIIMS Jhajjar Exclusively for COVID-19 Patients	Medical Dialogues
566.	24 March 2020	AIIMS appeal to people of India to stay home and practice social distancing	The Economic Times
567.	25 March 2020	Exclusive: AIIMS Director Randeep Guleria Tells Ways to Fight Corona	News Nation
568.	26 March 2020	AIIMS plans to use prototype of ventilators for COVID-19 patients due to shortage	The Print
569.	26 March 2020	Coronavirus: AIIMS sets up task force to develop management protocol for COVID-19	NDTV
570.	27 March 2020	Coronavirus: IIT-Delhi develops infection-proof Fabric, partners with AIIMS	NDTV
571.	28 March 2020	AIIMS Delhi to provide tele-consultancy to registered patient from April	The Economic Times
572.	28 March 2020	AIIMS taps robots and telemedicine to cut contact risk	The Economic Times
573.	30 March 2020	AIIMS to convert Trauma Centre into COVID-19 hospital	The Economic Times
574.	30 March 2020	Coronavirus Outbreak: AIIMS Dr Prasun Chatterjee on elder care, best hygiene practices and boosting immune system	First Post
575.	30 March 2020	Dr. Harsh Vardhan launches National Teleconsultation Centre (CoNTeC) at AIIMS	Medical Dialogues
576.	30 March 2020	Indian doctors being evicted from homes over corona virus fears	The Guardian
577.	31 March 2020	AIIMS, Jhajjar to function as dedicated COVID-19 hospital	The Outlook

#### Press Releases

S.No.	Date	Topics	Department
1.	8 April 2019	NIRF under Ministry of Human Resources Development, GoI has ranked AIIMS, New Delhi as No-1 in survey on Indian Ranking 2019.	Health Bulletin
2.	9 April 2019	Media coverage on Bariatric Surgery Patient Support Group	Surgical Disciplines
3.	16 May 2019	Dengue	Medicine
4.	22 May 2019	Surgical Nutrition Updates - IAPEN Symposium Series	Physiology
5.	30 May 2019	World MS-Day	Neurology
6.	12 June 2019	Result of AIIMS –MBBS -2019 Entrance Exam	Health Bulletin
7.	12 July 2019	National Plastic Surgery Day	Plastic Surgery
8.	29 July 2019	DBT-AIIMS Leadership Dialogue	Health Bulletin
9.	29 July 2019	World Hepatitis Day	Gastroenterology & Human Nutrition
10.	6 August 2019	Unnao was shifted to AIIMS Trauma Centre from KGMC	Health Bulletin
11.	6 August 2019	Mr. Mahendra Singh was shifted to AIIMS Trauma Centre from KGMC	Health Bulletin
12.	7 August 2019	Unnao continue to be on advanced life system and continues to be critical condition	Health Bulletin
13.	9 August 2019	Clinical Ecotoxicology Facilities started at AIIMS, New Delhi	Anatomy
14.	14 August 2019	The Making of Close Doors Open Windows	Neurosurgery

15.	30 August 2019	First AIIMS Cadaveric Multiorgan & Tissue Retrieval Workshop	ORBO
16.	31 August 2019	CODFICON-2019	Dermatology & Venerology
17.	4 September 2019	34th Eye Donation Fortnight Celebration by National Eye Bank	Dr. R.P. Centre
18.	6 September 2019	Successful separation of Craniopagus twins at AIIMS	Health Bulletin
19.	6 September 2019	Strong Bones – Health & Safe Aging	Orthopaedics
20.	18 September 2019	Voluntary Contribution in CM Relief Fund	Health Bulletin
21.	1 October 2019	National Voluntary Blood Donation Day	Health Bulletin
22.	11 October 2019	World Arthritis Day	Rheumatology
23.	19 October 2019	7th Annual Neuroanaesthesia	Neuro-Anaesthesiology & Critical Care
24.	13 November 2019	Donor Felicitation Ceremony	ORBO
25.	14 November 2019	Brief regarding visit of Hon'ble HFW to Jhajjar Campus of AIIMS, New Delhi	Health Bulletin
26.	30 November 2019	Rheumatoid Arthritis	Transplant Immunology and Immunogenetics
27.	3 December 2019	Visit by Her Majesty Queen Silvia of Sweden	Health Bulletin
28.	22 January 2020	AIIMS New Delhi has Launched Quality improvement Project with Department of Health and Family Welfare Punjab	Health Bulletin
29.	1 February 2020	Small fire in a Lab. on the Ground Floor of C.N. Centre, AIIMS	Health Bulletin
30.	15 February 2020	Celiac Diseases	Gastroenterology & Human Nutrition
31.	17 February 2020	3D Technologies enabled patient specific Jaw-Joint replacement	CDER
32.	21 February 2020	National Conference of safe and sustainable Hospital 'SASH 2020' at AIIMS, New Delhi	Health Bulletin
33.	28 February 2020	IPHACON-2020, Centre for Community Medicine	Centre for Community Medicine
34.	3 March 2020	Hearing of Life	ENT
35.	15 March 2020	Second Phase of New OPD Block	Health Bulletin
36.	28 March 2020	COVID-19 National Teleconsultation Centre (CoNTeC)	Health Bulletin

**Press Conference:**

S.No.	Date	Topics	Department
1.	9 April 2019	Importance of physical activity after Bariatric Surgery	Surgery
2.	25 April 2019	Mission Delhi (Delhi Emergency Life Heart-Attack Initiative)	ICMR
3.	16 May 2019	Dengue	Medicine
4.	16 May 2019	Clinical Nutrition update Series: Surgical Nutrition	Physiology
5.	31 May 2019	Tobacco	Health Bulletin
6.	31 May 2019	Multiple Sclerosis: Invisible MS (Neglected Symptoms)	Neurology
7.	19 June 2019	International Yoga Day	Health Bulletin
8.	21 June 2019	5th International Yoga	Health Bulletin
9.	15 July 2019	National Plastic Surgery	Plastic Surgery
10.	29 July 2019	DBT-AIIMS Leadership Dialogue	Health Bulletin
11.	30 July 2019	Hepatitis in India	Gastroenterology & Human Nutrition
12.	14 August 2019	Book Release by Hon'ble Dr. Harsh Vardhan (MoH&FW) to the Making of Closed Doors Open Windows	Neurosurgery

13.	17 August 2019	Delhi Fire Services and AIIMS Fire Division, the fire at Teaching Block, no loss or damage to life.	Health Bulletin
14.	30 August 2019	First AIIMS Cadaveric Multi organ & Tissue Retrieval workshop	ORBO
15.	31 August 2019	CODFICON-2019	Dermatology & Venerology
16.	4 September 2019	34th Eye Donation Fortnight	Dr. R.P. Centre
17.	6 September 2019	Craniopagus twins from Odisha	Health Bulletin
18.	6 September 2019	Strong Bones–Healthy and Safe Ageing	Orthopaedics
19.	16 September 2019	Ecoxiocology Lab	Anatomy
20.	18 September 2019	Voluntary contribution in CM Relief Fund	Health Bulletin
21.	25 September 2019	Institute Day Celebration	Health Bulletin
22.	12 October 2019	National Voluntary Blood Donation Day	Health Bulletin
23.	11 October 2019	Arthritis	Rheumatology
24.	14 October 2019	Stroke	Neurology
25.	15 October 2019	Prevention & Treatment of Blindness of Eye Diseases	Dr. R.P. Centre
26.	16 October 2019	Obesity: Causes, Prevention and Management	Medicine
27.	19 October 2019	AIIMS Neuro-Anaesthesia Update	Neuro-Anaesthesia
28.	1 November 2019	Air Pollution	Health Bulletin
29.	2 November 2019	Air Pollution	Health Bulletin
30.	11 November 2019	International Society of Addiction Medicine (ISAM-2019)	Psychiatry & NDDTC
31.	13 November 2019	Donor Felicitation Ceremony	ORBO
32.	14 November 2019	NCI Jhajjar	Health Bulletin
33.	15 February 2020	Celiac Disease	Gastroenterology & Human Nutrition
34.	17 February 2020	CADAVER Course	CDER
35.	28 February 2020	IPHACON -2020	Centre for Community Medicine
36.	2 March 2020	Safe and Sustainable Hospital (SASH) 2020	Hospital Administration
37.	3 March 2020	Hearing for Life	ENT
38.	7 March 2020	Corona Virus	Pulmonary Medicine
39.	12 March 2020	Corona Virus	Pulmonary Medicine

#### Media Interactions:

S.No.	Date	Topic's / Story	Print/Electronic Media
1.	25 April 2019	India Today Best College issue–AIIMS	India Today Magazine
2.	29 April 2019	New research on Breast Cancer	Outlook Hindi
3.	30 April 2019	Best College	India Today Magazine
4.	3 May 2019	Mission Delhi	Outlook
5.	13 May 2019	The Best College in the Country	India Today
6.	21 May 2019	Your lifestyle and kidney diseases	News X
7.	13 June 2019	Vector Borne Diseases	All India Radio
8.	13 June 2019	Science Monitor/Science this week	RSTV / DD Science
9.	20 June 2019	National Doctor's Day	Employment News
10.	13 July 2019	Using latest equipments for high end operations as well as the robotic surgery	ANI
11.	13 August 2019	MBBS students from AIIMS in collaboration with IIT and TISS have developed an interesting broadcasting stethoscope	The Indian Express
12.	27 August 2019	Initial findings of Toxicology department's work on patient samples	Zee News
13.	29 August 2019	Mental health and Fitness	All India Radio

14.	11 September 2019	Lab of Ecotoxicology	NDTV India
15.	17 September 2019	Report o mental health series	BBC Hindi
16.	25 September 2019	Scrub typhus infections	Hindustan Times
17.	26 September 2019	Food allergies and trying to look at the challenges that people with different food allergies are facing in the current scenario	Financial Express
18.	27 September 2019	AIIMS research on Lupus	ETV Bharat
19.	27 September 2019	Jaw re-construction and transplant	ETV Bharat
20.	07 October 2019	Toxicology	Zee News
21.	27 November 2019	Contraceptive Pill	BBC
22.	9 December 2019	TB	The Print
23.	17 January 2020	Prostate Cancer	DD News
24.	18 January 2020	Kachnar plant's use in depression and diabetes cure	RSTV
25.	21 January 2020	Cancer Day	BBC
26.	3 February 2020	Coronavirus	RSTV / DD National
27.	3 February 2020	Various innovative measures taken by AIIMS and the road map you are looking out for the upcoming year.	The Economic Times
28.	5 February 2020	Coronavirus COVID-19	RSTV/ DD National
29.	6 February 2020	Novel Coronavirus	NDTV
30.	30 March 2020	AIIMS Coronavirus Screening Point	French TV
31.	31 March 2020	Coronavirus Outbreak	The Assam Tribune
32.	31 March 2020	COVID-19	The Indian Express

**Public Lectures:**

S.No.	Topic	Date	Department
1.	Dengue Fever	16 May 2019	Medicine
2.	Multiple Sclerosis: Invisible MS (Neglected Symptoms)	30 May 2019	Neurology
3.	Dealing with Addiction	26 June 2019	Psychiatry
4.	Hepatitis in India	30 July 2019	Gastroenterology & Human Nutrition
5.	STROKE	14 October 2019	Neurology
6.	Prevention and Treatment of Blinding Eye Diseases	15 October 2019	Dr. Rajendra Prasad Centre
7.	Obesity: Causes, Prevention and Management	16 October 2019	Medicine
8.	Celiac Disease	15 February 2020	Gastroenterology & Human Nutrition
9.	Hearing for Life	3 March 2020	ENT



## 12. Publications

### Journal Articles

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES (MAIN)**  
**BALANCE SHEET AS ON 31-03-2020**

		(Amount-Rs.)	
CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	2019-20	2018-19
Corpus/Capital fund and Liabilities	1	49,606,208,218.20	45,237,582,250.00
Reserves and Surplus	2	4,038,407,425.00	3,613,521,480.00
Earmarked / Endowment Fund	3	130,153,968.00	98,996,372.00
Secured Loans & Borrowings	4	3,366,900,000.00	-
Unsecured Loans & Borrowings	5	-	-
Deferred Credit Liabilities	6	-	-
Current Liabilities and Provisions	7	4,820,925,595.85	2,534,013,546.00
<b>TOTAL</b>		<b>61,962,595,207.05</b>	<b>51,484,113,648.00</b>
<b>ASSETS</b>			
Fixed Assets			
Investments from Earmarked / Endowment funds	8	38,603,767,032.20	34,969,632,885.00
Investments-others	9	72,061,069.00	160,510,000.00
Current Assets, Loan & Advances etc.	10	156,253,424.00	253,253,424.00
Misc. Expenditure (to the extent not written off or adjusted)	11	23,130,513,681.85	16,100,717,339.00
<b>TOTAL</b>		<b>61,962,595,207.05</b>	<b>51,484,113,648.00</b>
Accounting policies and notes forming part of accounts	24		

Accounts Officer

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Sr.Financial Advisor

Director

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES (MAIN)  
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2020**

		(Amount-Rs.)	
<b>INCOME</b>	<b>Schedule</b>	<b>2019-20</b>	<b>2018-19</b>
Income from Sales/Services	12	317,790,240.00	307,541,206.00
Grants/Subsidies	13	16,212,233,281.00	14,733,402,569.00
Fees/Subscriptions	14	228,411,730.00	212,516,061.00
Income from Investments (Income on Invest. From earmarked/endow.Funds transfered to funds)	15	-	-
Income for Royalty, Publication etc.	16	323,657,672.00	212,591,830.00
Interest Earned	17	189,064,452.00	244,602,000.00
Other Income	18	466,078,550.00	941,858,558.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL (A)</b>		<b>17,737,235,925.00</b>	<b>16,652,512,224.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	10,669,451,016.00	10,445,535,358.00
Other Administrative Expenses etc.	21	3,047,677,403.00	2,741,700,557.00
Material and supply	21B	3,589,892,835.00	3,068,411,374.00
Expenditure on Grants, Subsidies etc.	22	6,000,000.00	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>17,313,021,254.00</b>	<b>16,255,647,289.00</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>			
Transfer to Special Reserve (Specify each)		424,214,671.00	396,864,935.00
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>424,214,671.00</b>	<b>396,864,935.00</b>
<b>TOTAL</b>		<b>17,737,235,925.00</b>	<b>16,652,512,224.00</b>

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**Sr. Financial Advisor**

**Director**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

		2019-20		2018-19	
<b>SCHEDULE 1- CORPUS/CAPITLA FUND:</b>					
Balances as at the beginning of the year		45,237,582,250.00		37,181,444,955.00	
Add : Contributions towards Corpus/Capital Fund		4,508,741,964.00		8,131,708,953.00	
Less Condemnation during the year		140,115,995.80		75,571,658.00	
<b>BALANCE AS AT THE YEAR-END</b>		<b>49,606,208,218.20</b>		<b>45,237,582,250.00</b>	
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>					
1. <u>Capital Reserve:</u>					
As per last Account		2,926,811.00		2,914,919.00	2,926,811.00
Addition during the year		671,274.00	3,598,085.00	11,892.00	
Less: Deductions during the year					
2. Revaluation Reserve					
As per last Account					
Addition during the year					
Less: Deductions during the year					
3. Special Reserves					
As per last Account					
Addition during the year					
Less: Deductions during the year					
4. General Reserve					
As per last Account		3,610,594,669.00		3,213,729,734.00	
Addition during the year		424,214,671.00		396,864,935.00	
Less: Deductions during the year		-	4,034,809,340.00	-	3,610,594,669.00
<b>TOTAL</b>			<b>4,038,407,425.00</b>		<b>3,613,521,480.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>2019-20</b>	<b>2018-19</b>
a) Opening balance of the funds	98,996,372.00	
b) Additions to the Funds:		
i. Donations/grants	4,753,820.00	87,153,435.00
ii. Income from investments made on account of funds	732,947.00	9,139,788.00
iii. CSR Hospital Billing, AIIMS	22,967,680.00	
iv. Other additions (specify nature)CSR	2,703,149.00	2,703,149.00
<b>TOTAL (a+b)</b>	<b>130,153,968.00</b>	<b>98,996,372.00</b>
c) Utilisation/Expenditure towards objectives of funds		
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets		
- Others		
ii. <u>Revenue Expenditure</u>		
- Salaries, Wages and allowances etc.		
- Rent		
- Other Administrative expenses		
<b>Total</b>	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	<b>130,153,968.00</b>	<b>98,996,372.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

	2019-20	2018-19
<b><u>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</u></b>		
1. Central Government		
2. State Government		
3. Financial Institutions		
a) Term Loans		
b) Interest accrued and due		
4. Banks:		
a) Term Loans		
- Interest accrued and due		
b) Other Loans (specify)		
- Interest accrued and due		
5. Other Institutions and Agencies #		
Less- Repayment of Loan (262500000*2)	4,153,400,000.00	
Less- Repayment of Loan (261500000*1)	525,000,000.00	
6. Debentures and Bonds	261,500,000.00	3,366,900,000.00
7. Others (Specify)		
<b><u>TOTAL</u></b>	<b><u>3,366,900,000.00</u></b>	<b><u>0</u></b>

# This amount includes Rs.282 crore received last year from HEFA, which left for inclusion in the last year's accounts, now included in this year's accounts

**Accounts Officer**

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	2019-20	2018-19
<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>		
1. Central Government		
2. State Government		
3. Financial Institutions		
4. Banks:		
a) Term Loans		
b) Other Loans (specify)		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Fixed Deposits		
8. Others (Specify)		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

Note: Amounts due within one year

	2019-20	2018-19
<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>		
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

Note: Amount due within one year

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2019-20		2018-19
	2019-20	2018-19	2018-19
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>			
1. Acceptances			
2. Sundry Creditors:			
i) For Goods (Custom Duty to be paid)			
ii) Others (Grants for HEFA Loan)	24,645,418.00		34,220,408.00
3. Advances Received			
4. Interest accrued but not due on:			
a) Secured Loans/borrowings			
a) Unsecured Loans/borrowings			
5. Statutory Liabilities:			
a) Overdue			
a) Others			
6. Other current Liabilities	4,796,280,177.85		2,499,793,138.00
<b>TOTAL (A)</b>	<b>4,820,925,595.85</b>		<b>2,534,013,546.00</b>
<b>B. PROVISIONS</b>			
1. For Taxation			
2. Gratuity			
3. Superannuation/Pension			
6. Accumulated Leave Encashment			
6. Trade Warranties/Claims			
6. Others (specify)			
<b>TOTAL (B)</b>			
<b>TOTAL (A+B)</b>	<b>4,820,925,595.85</b>		<b>2,534,013,546.00</b>

(Amount -Rs.)

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES (MAIN)  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

SCHEDULE-8 (Fixed Assets) FIXED ASSETS DISCRPTION	GROSS BLOCK					DEPRECIATION			NET BLOCK	
	Cost/valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	Total up to the year-end	2019-20	2018-19
<b>A FIXED ASSETS:</b>										
<b>1 LAND:</b>										
a) Freehold / Leasehold	841,194,087.00	-	-	841,194,087.00	0	0	0	0	841,194,087.00	841,194,087.00
<b>2 BUILDINGS:</b>										
a) On Freehold Land	19,314,080,178.00	2,160,715,530.00	-	21,474,795,708.00	0	0	0	0	21,474,795,708.00	19,314,080,178.00
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/ Premises	-	-	-	-	-	-	-	-	-	-
<b>3 PLANT MACHINERY &amp; EQUIPMENT</b>	13,407,747,932.00	1,530,099,468.00	140,115,995.80	14,797,731,404.20	0	0	0	0	14,797,731,404.20	13,407,747,932.00
<b>4 Vehicles</b>	50,456,960.00	6,867,032.00	-	57,323,992.00	0	0	0	0	57,323,992.00	50,456,960.00
<b>5 Furniture &amp; Fixture</b>	-	-	-	-	0	0	0	0	-	-
<b>6 Office Equipment</b>	224,336,516.00	14,765,495.00	-	239,102,011.00	0	0	0	0	239,102,011.00	224,336,516.00
<b>8 Library Books</b>	1,131,817,212.00	61,802,618.00	-	1,193,619,830.00	0	0	0	0	1,193,619,830.00	1,131,817,212.00
<b>TOTAL OF CURRENT</b>	<b>34,969,632,885.00</b>	<b>3,774,250,143.00</b>	<b>140,115,995.80</b>	<b>38,603,767,032.20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38,603,767,032.20</b>	<b>34,969,632,885.00</b>

(Amount - Rs.)

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2019-20</b>	<b>2018-19</b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others Fixed Deposits (Endowment fund)	72,061,069.00	160,500,000.00
7. Seed money for opening of Bank Account (Donatior	-	10,000.00
<b>TOTAL</b>	<b>72,061,069.00</b>	<b>160,510,000.00</b>

<b>SCHEDULE 10 - INVESTMENTS - OTHERS</b>	<b>2019-20</b>	<b>2018-19</b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others (NPS Fixed Deposit)	140,000,000.00	240,000,000.00
7. Investment of Donations	16,253,424.00	13,253,424.00
<b>TOTAL</b>	<b>156,253,424.00</b>	<b>253,253,424.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	2019-20	2018-19
<b>SCHEDULE II - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>		
<b>A CURRENT ASSETS:</b>		
1. <u>Inventories:</u>		
a) Stores and Spares		
b) Loose Tools		
c) Stock-in-trade		
Finished Goods		
Work-in-progress		
Raw Material		
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding	109,488,452.00	56,242,163.00
b) Others (outside recoveries)	-	-
c) Misc. recoveries receivable from Centre		
3. <u>Cash balances in hand (including cheques/ drafts and imprest</u>	1,003,650.00	918,650.00
4. <u>Bank Balances:</u>		
a) <u>With Scheduled Banks:</u>		
On Current Accounts	1,501,657,295.85	2,024,883,864.00
On Deposit Accounts (includes margin money)	13,784,126.00	18,489,924.00
On Savings Accounts		
b) <u>With non-Scheduled Banks</u>		
On FDRs	4,500,000,000.00	2,000,000,000.00
on FDRs Research Sector	207,301,827.00	
On Savings Accounts		
5. <u>Post Office - Savings Accounts</u>		
<b>TOTAL (A)</b>	<b>6,333,235,350.85</b>	<b>4,100,534,601.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rs.)

<b>SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>	<b>2019-20</b>	<b>2018-19</b>
<b>B</b> <u>LOANS, ADVANCES AND OTHER ASSETS</u>		
1. <u>Loans:</u>		
a) Staff	5,050,502.00	3,990,673.00
b) Other Entities engaged in activities/objectives similar to that of Entity		
c) Other (Adv for purchase of iron and steel)	2,340,588.00	2,340,588.00
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account		
b) Prepayments		
c) Others (Advance Payments)	16,789,887,241.00	11,993,851,477.00
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others (includes income due unrealised - Rs. ....)		
4. <u>Claims Receivable:</u>		
<b>TOTAL (B)</b>	<b>16,797,278,331.00</b>	<b>12,000,182,738.00</b>
<b>TOTAL (A + B)</b>	<b>23,130,513,681.85</b>	<b>16,100,717,339.00</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE FOR THE YEAR ENDED**

**31-03-2020**  
(Amount - Rs.)

2019-20	2018-19
<b>SCHEDULE 12 - INCOME FROM SALES / SERVICES</b>	
<b>1) Income from Sales</b>	
1. Sale of Finished Goods	
2. Sale of Raw Material	
3. Sale of Scraps	
<b>2) Income from Services</b>	
a) Hospital receipts	317,790,240.00
b) Professional / Consultancy Services	
c) Agency Commission and Brokerage	
d) Maintenance Services (Equipment/Property)	
e) Others (Specify) Hospital Receipt	
<b>TOTAL</b>	<b>307,541,206.00</b>

2019-20	2018-19
<b>SCHEDULE 13 - GRANTS / SUBSIDIES</b>	
<b>(Irrevocable Grants &amp; Subsidies Received)</b>	
1. Central Government	14,733,402,569.00
2. State Government(s)	
3. Government Agencies	
4. Institutions/ Welfare Bodies	
5. International Organisations	80,000,000.00
6. Others (Specify) PMJAY Transf. from Hospital	
<b>TOTAL</b>	<b>14,733,402,569.00</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>		<b>(Amount-Rs.)</b>	
		<b>2019-20</b>	<b>2018-19</b>
1. Tuition Fee		94,495,413.00	69,283,146.00
2. Licence Fee		39,474,476.00	49,832,288.00
3. Seminar/Program Fees		-	-
4. Exam. Receipt		-	-
5. Others (Specify) EHS		94,441,841.00	93,400,627.00
<b>TOTAL</b>		<b>228,411,730.00</b>	<b>212,516,061.00</b>
<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>			
<b>(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)</b>			
		<b>Investment from Earmarked Fund</b>	
		<b>Investment-Others</b>	
		<b>2019-20</b>	<b>2018-19</b>
1. Interest			
a) On Govt. Securities			
a) Other Bonds/Debentures			
2. Dividends:			
a) On Shares			
a) On Mutal Fund Securities			
3. Rents			
4. Others (Specify)			
<b>TOTAL</b>		0	0
<b>TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS</b>			

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED**  
**31-03-2020**

(Amount-Rs.)	
	2018-19
2019-20	2018-19
<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	
1. Income from Royalty	
2. Income from Publications	212,591,830.00
3. Others (specify) NPS	323,657,672.00
<b><u>TOTAL</u></b>	<b>212,591,830.00</b>
<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2019-20</b>
	<b>2018-19</b>
1. On Term Deposits:	
a) With Scheduled Banks	243,180,431.00
b) With Non-Scheduled Banks	
c) With Institutions	
d) Others	
2. On Savings Accounts:	
a) With Scheduled Banks	
b) With Non-Scheduled Banks	
c) Post Office Savings Accounts	
d) Others	
3. On Loans:	
a) Employees/Staff	1,421,569.00
b) Others	
4. Interest on Debtors and other Receivables	
<b><u>TOTAL</u></b>	<b>189,064,452.00</b>

**Accounts Officer**

**Financial Advisor**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 18 - OTHER INCOME</b>	<b>2019-20</b>	<b>2018-19</b>
1. Misc. Receipt	30,571,312.00	15,031,001.00
2. Estb. Receipt (Scheme)	42,610,150.00	60,199,321.00
3. Exam Section Receipt	292,897,088.00	866,628,236.00
4. General Donations	-	-
5. Research Other Income	100,000,000.00	-
<b>TOTAL</b>	<b>466,078,550.00</b>	<b>941,858,558.00</b>
<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>		
a) Closing stock		<b>2018-19</b>
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>		-
<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>		
Salaries and Wages	8,547,491,230.00	8,195,420,979.00
Travelling Allowance	42,608,365.00	39,120,542.00
Contribution to Provident Fund	-	17,351,441.00
Contribution to Other Fund (Scheme Cell)	-	120,000.00
Staff Welfare Expenses (DLIS)	1,785,435,582.00	1,992,389,599.00
Expenses on Employees "":Retirement and Terminal Benefits"	289,992,743.00	197,709,959.00
Others (NPS )	3,923,096.00	3,422,838.00
Leave Salary Pension Contribution		
<b>TOTAL</b>	<b>10,669,451,016.00</b>	<b>10,445,535,358.00</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCEINCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES E</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases of hospital stores		
b) Labour and processing expenses		
c) Cartage and Carriage Inwards		
d) Electricitiy and power	713,227,340.00	685,677,911.00
e) Water charges	47,815,600.00	50,139,349.00
f) Insurance		
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and mainteance of Buildings	752,766,276.00	733,955,308.00
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses	86,386,825.00	73,843,579.00
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
q) bAuditors Remuneration		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Hostel		
x) Bank Charges	351,519.00	360,891.00
y) Advertisement and Publicity		
z) Others (specify)(Contingency charge)	1,447,129,843.00	1,197,723,519.00
<b>TOTAL</b>	<b>3,047,677,403.00</b>	<b>2,741,700,557.00</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCEINCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 21B - Material and Supplies</b>	<b>2019-20</b>	<b>2018-19</b>
Hospital stores	3,589,892,835.00	3,068,411,374.00
<b>Total</b>	<b>3,589,892,835.00</b>	<b>3,068,411,374.00</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES (MAIN)**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

		<u>(Amount-Rs.)</u>	
		2019-20	2018-19
<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>			
a).	Grants given to Institutions/Organizations	6,000,000.00	
b).	Subsidies given to Institutions/organisations		
<b>Total</b>		<b>6,000,000.00</b>	<b>0</b>
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed			

		2019-20	2018-19
<b>SCHEDULE 23- INTEREST</b>			
a)	On fixed Loans		
b)	On other Loans ( including Bank charges)		
c)	Ohters( Specify) Endowment intrest transfer to Research Section	-	0
<b>Total</b>		-	0

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES , NEW DELHI					
Receipts and Payment accounts of General Provident Funds for the Financial year 2019-20					
	19-20	18-19	Payments	19-20	18-19
Opening Balance	179370129.13	198612428.75	GPF Withdrawal	958656539.00	1180062261.81
Time barred cheque to A/C	0.00	0.00	Investment during the year	3143471139.88	2615650390.60
Subscription/Receipts	1173264338.00	1268799781.00	Bank Charges	4071.00	4425.00
Interest	496836551.40	244739500.00	Closing Balance	117139268.65	179370129.13
Investment Maturity	2369800000.00	2262935496.79			
<b>Total</b>	<b>4219271018.53</b>	<b>3975087206.54</b>	<b>Total</b>	<b>4219271018.53</b>	<b>3975087206.54</b>

INCOME AND EXPENDITURE STATEMENT OF GENERAL PROVIDENT FUNDS OF AIIMS FOR FY 2019-20					
	19-20	18-19	Income	19-20	18-19
<b>Expenditure</b>					
Interest paid on Subscription	524195837.00	466488427.00	Interest received	496836551.40	244739500.00
Bank Charges	4071.00	4425.00	Excess of Exp. Over Income	27363356.60	221753352.00
<b>Total</b>	<b>524199908.00</b>	<b>466492852.00</b>	<b>Total</b>	<b>524199908.00</b>	<b>466492852.00</b>

Accounts Officer GPF

F & CAC

**BALANCE SHEET OF GENERAL PROVIDENT FUNDS FOR THE AIIMS AS ON 31st MARCH 2020**

<b>Liabilities</b>	<b>19-20</b>	<b>18-19</b>	<b>Assets</b>	<b>19-20</b>	<b>18-19</b>
Opening Balance (GPF)	6316554609.00	5761328663.00	Investment Opening Balance	5793226006.81	5440511113.00
GPF Sub. Recd. During the year	1173264338.00	1268799780.83	Add: investment made	3143471139.88	2615650390.60
Add: Interest Credited to GPF Account	524195837.00	466488427.00	Less: investment Maturity	2369800000.00	2262935496.79
Less: Withdrawal /Payment	958656539.00	1180062261.81			
			<b>Total</b>	<b>6566897146.69</b>	<b>5793226006.81</b>
			Cash Book closing balance	117139268.65	179370129.13
			Add: excess of expenditure over income during the year	27363356.60	221753352.00
			Excess of expenditure over income	343958473.06	122205121.00
<b>Total</b>	<b>7055358245.00</b>	<b>6316554609.00</b>	<b>Total</b>	<b>7055358245.00</b>	<b>6316554609.00</b>

Accounts Officer GPF

F & CAC

<b>ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI RECEIPTS AND PAYMENTS FOR THE YEAR 2019-2020</b>					
	2019-20	2018-19	PAYMENTS	2019-20	2018-19
RECEIPTS			Expenses		(Amount-Rs.)
<b>Opening Balance</b>					
a) Cash in Hand	918,650.00	931,150.00	i) Establishment Expenses (Scheduled 20A)	10,428,451,016.00	10,428,183,917.00
b) Bank Balances			ii) Others Administrative Expenses (Scheduled 21)	3,027,266,449.00	2,708,584,370.00
i) In current accounts	2,024,883,864.00	3,754,443,504.00	iii) Purchase of Hospital stores	3,589,892,835.00	3,061,814,008.00
ii) In FDRs	2,000,000,000.00		iv) SAP (Expenditure)	28,819,480.00	42,572,573.00
iii) In Deposit Accounts	18,489,924.00	15,315,377.00			
<b>Grants Received from Govt. of India</b>			<b>Exptr on Capital /Work-in-Progress</b>		
i) Revenue	25,809,000,000.00	23,295,000,000.00	i) Purchase of Fixed Assets	1,237,018,536.00	2,566,067,642.00
ii) Capital	7,171,900,000.00	8,730,000,000.00	ii) Advance on Capital Work in progress	3,291,961,101.00	5,549,604,515.00
iii) HEFA	971,000,000.00	260,000,000.00	<b>HEFA</b>		
iv) HEFA LOAN (Release)	4,153,400,000.00		i) Grant in Aid General (employment on MTR/A)	525,000,000.00	261,500,000.00
<b>NDP/TC</b>			ii) HEFA (Interest)	209,042,599.00	
i) Revenue	276,224,956.00	205,000,000.00	iii) HEFA (payment to JSCC/HITES)	4,153,400,000.00	
ii) Capital	-	117,500,000.00	<b>Govt. Grants transferred to Centres</b>		
<b>Grants received for specific purpose</b>			<b>Dr. R.P. Centre</b>		
i) Scheme Cell (Cashier)	40,599,573.00	779,518,927.00	i) Capital Assets	230,000,000.00	400,000,000.00
ii) Grants received in patient treatment A/c	103,619,959.00	139,410,415.00	ii) Grant in Aid Salary	982,462,900.00	930,000,000.00
iii) Swachita Action Plan	-	5,000,000.00	iii) Grant in Aid General	397,075,500.00	400,000,000.00
iv) Patient treatment at AIIMS (Mann)	241,715,024.00	269,092,883.00	<b>C.N. Centre</b>		
v) Grant Receipt (Geriatric Medicine)	-	547,500,000.00	i) Capital Assets	250,461,204.00	318,885,000.00
<b>Endowment/Donation</b>			ii) Grant in Aid Salary	3,086,200,000.00	2,728,000,000.00
i) Poor patient A/c	5,770,210.00		iii) Grant in Aid General	760,000,000.00	764,000,000.00
<b>Income on Investments from</b>			JSSK Scheme	4,000,000.00	
i) NPS (Interest)	12,279,702.00	17,401,106.00	<b>Dr. B.R.A.I.R.C.H.</b>		
ii) On Bank deposits	189,064,452.00	255,682,500.00	i) Capital Assets	80,000,000.00	266,680,553.00
iii) Loans, Advances etc.	-	1,421,569.00	ii) Grant in Aid Salary	969,005,496.00	911,296,695.00
<b>RECEIPTS</b>			iii) Grant in Aid General	540,000,000.00	660,000,000.00
i) GRP	701,494,643.00	651,512,119.00	<b>J.P.N. APEX TRAUMA CENTRE</b>		
ii) Out side recoveries	1,509,583,346.00	1,318,110,934.00	i) Capital Assets	134,100,000.00	840,000,000.00
iii) Receipt Legacy date (NPS)	56,266,012.00	42,302,779.00	ii) Grant in Aid (General)	840,000,000.00	1,085,166,374.00
iv) FD Maturity Accounts (NPS)	290,000,000.00	20,000,000.00	iii) Grant in Aid (Salary)	1,161,700,000.00	
v) FD Maturity (Poor Pt. A/c)	794,202.00	2,874,547.00	<b>CENTRE FOR DENTAL EDUCATION &amp; RESEARCH</b>		
<b>Other Income</b>			i) Capital Assets	20,533,849.00	20,088,421.00
i) Misc Receipts	30,571,312.00	15,031,001.00	ii) Grant in Aid General	117,001,513.00	127,500,000.00
ii) Examination Receipt	292,897,088.00	850,003,808.00	iii) Grant in Aid Salary	263,700,000.00	64,935,117.00
iii) Hospital Receipts	317,790,240.00	301,062,438.00	<b>CIMR</b>		
iv) Tuition Fee	94,495,413.00	69,283,146.00	i) Capital Assets	865,989.00	1,490,338.00
v) Licence Fee	39,474,476.00	49,832,288.00	ii) Grant in Aid General	1,499,164.00	699,245.00
vi) Employees Health Scheme (EHS)	94,441,841.00	93,400,627.00	<b>NCL Jhajjar</b>		
vii) A/c No.10874585570 Closed (Examination)	-	16,624,428.00	i) Capital Assets	7,976,994.00	390,000,000.00
<b>IX. Other Receipts</b>			ii) Grant in Aid General	164,122,146.00	50,000,000.00
			iii) Grant in Aid Salary		
			Intra Mural Grant	-	-



**ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI**  
**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR**  
**ENDED 31.03.2019**  
**ESTABLISHMENT EXPENSES**

			2019-20	2018-19
<b>Scheduled 20 A</b>				
a)	Salaries and Wages		8547491230	8195420979
b)	Travelling Allowance (TA)		42608365	39120542
c)	Leave Salary Pension Contribution			
	Payment	3923096		3422838
	less Receipts	0	3923096	0
d)	Expenses on Employees "Retirement and Terminal Benefits"		1785435582	1992389599
e)	Deposit Linked Insurance Scheme			120000
f)	Others			
i)	<b>New Pension Scheme</b>			
	Deposit to National Securities Depository Ltd.	514826716.00		
	Deposit to NPS A/c			
	Less Receipts (NPS) from the employees	224833973.00	289992743.00	197709959
	<b>TOTAL</b>		<b>10669451016</b>	<b>10428183917</b>

Accounts Officer

Financial Advisor

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI  
SCHEDULES FORMING PART OF RECEIPTS AND PAYMENTS FOR THE  
OTHERS ADMINISTRATIVE EXPENSES**

		(Amount-Rs.)
Scheduled 21A	2019-20	2018-19
a) Repairs and maintenance	752750442.00	733720168
b) Travelling and conveyance Expenses	86386825.00	73843579
c) Contingency office	1426718889.00	1164840879
d) Electricity and power	713227340.00	685677911
e) Water charges	47815600.00	50139349
d) Others (Bank Charges)	367353.00	362484
<b>TOTAL</b>	<b>3027266449.00</b>	<b>2708584370</b>
<b><u>Accounts Officer</u></b>		<b><u>Financial Advisor</u></b>

## SCHEDULED 24

### Accounting Policies and Notes forming part of Accounts

1. The Activities of the Institute is mainly funded from the grants from Government of India and Accounts of the Institute are prepared in accordance with Generally accepted Accounting principles.
2. The accounts have been prepared on cash basis i.e. on actual Receipt and Payments basis.
3. No depreciation on Assets i.e. Machinery & Equipments, vehicles, buildings etc have been provided in the accounts and assets are carried out at the historical cost. Assets at the time of condemnation on completion of useful life are removed from the Assets as well as from the capital corpus.
4. No provisions for liability of Gratuity, pension and leave encashment etc have been made in the accounts as the grants from the Government of India are received for actual expenditure. The payment of Gratuity, pension and leave encashment etc are accounted in the accounts only at the time of actual payments.
5. No closing stock of Store and supplies at the end of accounting period is incorporated in the accounts as all expenditure on stores and supplies are treated as final expenditure at the time of payments in the accounts.
6. Income of the Institute is exempted from Income-Tax under Section 11 of the Income Tax Act, 1961.
7. All Assets ( Machinery & Equipments, vehicles etc ) funded from the grants for the Research projects are used for the activities of the Research projects and are not included in the assets of the Institute . Such Assets (Machinery & Equipments, vehicles etc,) are either returned to the funding agencies or used in the Departments after the completions of the projects as per sanction of the funding agencies.
8. A statement showing the expenditure made by various Project Investigators for Research Projects during 2019-20 and balance amount lying with the Institute as on 31-03-2020 is attached with the Accounts.
9. Since, the centre are administered separately their final accounts are also maintained separate. However, the amount of grant released to their Centers are reflected in the final accounts of AIIMS Main. Accounts of various Centre's of the Institute as on 31-03-2020 are annexed with the AIIMS Main Accounts.
10. Advances for treatment under the packages were treated as revenue and expenditure incurred against those treatments was shown in expenditure. During the current year advances received against the packages for treatment are shown under the revolving fund and expenditure incurred against the revolving fund. Balances in the revolving fund shown as liability. The impact of these changes of accounting policy is not assessable and not significant.
11. Accounts for the year ended 31-03-2020 are prepared in the new format and grouping and regrouping and classification, wherever necessary have been changed /adopted for better presentation.
12. Assets of the Institute in every Departments/Centre's are physically verified once in year by the faculty officer nominated for the purpose and no significant /major deviations have been reported.
13. Stores and supplies of the Institute in every Departments/Centre's are physically verified once in year by the faculty/ officer nominated for the purpose and no significant /major deviations have been reported.
14. Institute is maintaining various Revolving funds for test/procedures required for patients care and same are included in the concerned Accounts of the Institute.
15. Donations/receipts from various sources without any attached conditions are treated as income of the concerned centre or of Institute as the case may be.
16. All Accounting policies and Notes Forming Part of Accounts listed above are also applied in the preparation of the Accounts of the Centers also.

Accounts Officer

Financial Advisor  
Director

Sr. Financial Advisor

**BILLING SECTION (AIIMS)**  
**STATEMENT OF ACCOUNT OF RECEIPTS AND PAYMENTS**  
**NATIONAL ILLNESS ASSISTANCE FUND (NIAF) : 2019-20**

	<b>RECEIPTS</b>	<b>Rs</b>	<b>PAYMENT</b>	<b>Rs</b>
1.	Opening balance as on 01.04.2019	<b>89472793.53</b>	Payment made during the Year 2019-20	<b>110744521.00</b>
2.	Grant received during the year 2019-20	<b>192314906.00</b>	Bank clearing charges debited by the bank during the year	<b>NIL</b>
3.	Interest received from Bank during the year 2019-20	<b>4751988.00</b>	Interest earned transferred to AIIMS Main A/c	<b>6754938.00</b>
4.	<b>F D INTEREST</b>	<b>19457284.00</b>	Closing balance as on 31.03.2020 (CASH BOOK) 1. Cash at bank Rs. 189074841.88 2. FDR Rs. 250000000 3. FDR Rs. 50000000	<b>188497512.53</b>
	<b>TOTAL</b>	<b>305996971.53</b>	<b>TOTAL</b>	<b>305996971.53</b>

**ACCOUNTS OFFICER**  
**HOSPITAL BILLING SECTION**

**HOSPITAL BILLING SECTION (AIIMS)**  
**RECEIPTS AND PAYMENTS DETAILS**  
**A/C No: 33477690609**  
**AIIMS DELHI AROGYA KOSH: 2019-20**

	<b>RECEIPTS</b>	<b>Amount (Rs)</b>	<b>PAYMENT</b>	<b>Amount (Rs)</b>
1.	Opening balance as on 01.04.2019	18247833	Payment made during the Year	20008647
2.	Grant received during the year 2019-20	6495604	Bank Charges	1003
3.	Interest received from Bank		Closing Balance as on 31.03.2020	4733787
	<b>TOTAL</b>	<b>24743437</b>		<b>24743437</b>

Dealing Asstt.

Jr. Accounts Officer

Accounts Officer (HBS)

# Cardio-Thoracic & Neuro Sciences Centre (Consolidate)

Balance Sheet as at 31.03.2020

		(Amount in Rs.)	
<u>CORPUS/CAPITAL FUND AND LIABILITIES</u>	Schedule	Current Year	Previous Year
Corpus/Capital Fund	1	6,971,653,221	6,721,192,017
Reserves and Surplus	2	164,567,873	68,515,493
Earmarked/ Endowment Funds	3	31,561,675	99,050,549
Revolving Funds	4	915,888,213	778,954,058
Secured Loans and Borrowings	5	-	-
Unsecured Loans and Borrowings	6	-	-
Deferred Credit Liabilities	7	-	-
Current Liabilities and Provisions	8	64,093,439	61,674,526
<b>TOTAL</b>		<b>8,147,764,421</b>	<b>7,729,386,643</b>
<u>ASSETS</u>			
Fixed Assets	9	6,508,383,303	6,230,814,067
Investments-From Earmarked/Endowment Funds	10	-	-
Investment-Others	11	571,600,000	551,600,000
Current Assets, Loans, Advances Etc.	12	1,067,781,118	946,972,576
Miscellaneous Expenditure		-	-
(To the extent not written off or adjusted)			
Balance of excess of expenditure over income			
<b>TOTAL</b>		<b>8,147,764,421</b>	<b>7,729,386,643</b>
Significant Accounting Policies	25		
Contingent Liabilities and Notes on Accounts	26		

CHIEF, CTC

CHIEF, NSC

ACCOUNTS OFFICER, CNC

# Cardio-Thoracic & Neuro Sciences Centre

## Income and Expenditure Account for the year ending on 31.03.2020

INCOME	Schedule	Current Year	Pervious Year
Income from Sales/services	13	62,582,703	70,885,415
Grants/Subsidies	14	3,850,200,000	3,492,000,000
Fees/Subscriptions	15	-	-
Income from Investments (Income on Invest. From earmarked/endow. Funds Transferred to Funds)	16	-	-
Income from Royalty, publications etc.	17	-	-
Interest Earned	18	52,413,943	57,151,499
Other Income	19	3,263,892	1,993,616
Increase/(decrease) of Finished goods and works-in-progress	20	-	-
<b>TOTAL(A)</b>		<b>3,968,460,538</b>	<b>3,622,030,530</b>
<b>EXPENDITURE</b>			
Establishment Expenses	21	3,090,454,286	2,726,562,030
Other Administrative Expenses etc.	22	358,675,893	368,053,449
Adjustment of Advances	22 (A)	-	2,998,292
Material & Supply	23	423,254,862	462,847,016
Expenditure on Grants, Subsidies Etc.	24	-	-
Interest & Finance Expenses	25	23,117	14,903
Depreciation (Net Total at the year-end-corresponding to Schedule 11)			
<b>TOTAL (B)</b>		<b>3,872,408,158</b>	<b>3,560,475,691</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>			
Transfer to Special Reserve (Specify each)		96,052,380	61,554,839
Transfer to/from General Reserve		-	-
<b>Balance being surplus/(deficit) carried to corpus/capital fund</b>		<b>96,052,380</b>	<b>61,554,839</b>
Significant Accounting Policies	26		
Contingent Liabilities and Notes on Accounts	27		

CHIEF, CTC

CHIEF, NSI

ACCOUNTS OFFICER, CNC

# Cardio-Thoracic & Neuro Sciences Centre

## Schedules forming part of the Balance Sheet as at 31.03.2020

	Current Year	Pervious Year
<b>Schedule 1 - Corpus/ Capital Funds</b>		
Balance as at the beginning of the year (CNC Main)	6,669,800,314	-
<b>Add:</b> Contributions towards Corpus/Capital Fund (Through Aims Main)	250,461,204	6,669,800,314
Less: Refund to AIMS Main	-	-
<b>Add:</b> Corpus/Capital Created out of Donation	51,391,703	51,391,703
<b>Add/Deduct:</b> Balance of net income/(expenditure) transferred from the Income and Expenditure Account	-	-
<b>Balance as at the end of the year</b>	<b>6,971,653,221</b>	<b>6,721,192,017</b>

	Current Year	Pervious Year
<b>Schedule 1 (a) - Reserves and Surplus</b>		
<b>1. Capital Reserve</b>		
Balance as at the beginning of the year	68,515,493	68,515,493
<b>Add:</b> Additions during the year	96,052,380	-
2. Revaluation Reserves	-	-
Balance as at the beginning of the year	-	-
<b>Add:</b> Additions during the year	-	-
<b>Less:</b> Deductions during the year	-	-
3. Special Reserve	-	-
Balance as at the beginning of the year	-	-
<b>Add:</b> Additions during the year	-	-
<b>Less:</b> Deductions during the year	-	-
4. General Reserve	-	-
Balance as at the beginning of the year	-	-
<b>Add:</b> Additions during the year	-	-
<b>Less:</b> Deductions during the year	-	-
5. Excess of income over expenditure	-	-
<b>TOTAL</b>	<b>164,567,873</b>	<b>68,515,493</b>

(Amount in Rs.)

Schedule -3 Earmarked/ Endowment Funds	Cardiology	CTVS	Neurology	Neuro-Surgery	Other	Swachhta Action Plan (SAP)		Current Year Total	Previous Year Total
						CTC	NSC		
<b>a) Opening balance of the funds</b>	64,306	188,750	834,508	2,116,505	18,531	47,923,423	47,904,526	99,050,549	102,338,619
b) Additions to the Funds	-	-	-	560,000	19,316	-	-	579,316	-
i. Donations/grants	-	-	-	-	-	-	-	-	325,000
ii. Income from Investments made on account of funds	-	-	-	-	-	-	-	-	-
iii. Received from patients	-	-	-	-	-	-	-	-	-
iv. Other additions (specify nature )	-	-	-	-	-	-	-	-	-
<b>TOTAL (a+b)</b>	<b>64,306</b>	<b>188,750</b>	<b>834,508</b>	<b>2,676,505</b>	<b>37,847</b>	<b>47,923,423</b>	<b>47,904,526</b>	<b>99,629,865</b>	<b>102,663,619</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>									
i. Capital Expenditure	-	-	-	-	-	34,029,637	34,038,553	68,068,190	3,363,251
Fixed Assets	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	34,029,637	34,038,553	68,068,190	3,363,251
ii. Revenue Expenditure	-	-	-	-	-	-	-	-	-
Salaries, Wages and allowances etc.	-	-	-	-	-	-	-	-	-
Rent	-	-	-	-	-	-	-	-	-
Bank Charges	-	-	-	-	-	-	-	-	-
Other Administrative expenses	-	-	-	-	-	-	-	-	249,819
<b>TOTAL c (ii)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>249,819</b>
<b>TOTAL (c)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>34,029,637</b>	<b>34,038,553</b>	<b>68,068,190</b>	<b>249,819</b>
<b>d) Refunds to Patients</b>									
<b>NET BALANCE AS AT THE YEAR-END (a+b-c-d)</b>	<b>64,306</b>	<b>188,750</b>	<b>834,508</b>	<b>2,676,505</b>	<b>37,847</b>	<b>13,893,786</b>	<b>13,865,973</b>	<b>31,561,675</b>	<b>99,050,549</b>

(Amount in Rs.)

Schedule - Revolving Fund	Current Year										Previous Year		
	Lab Test	Cardiac Test	Stress Thallium	MRI	Stern Cell	Neurology Pt. Fund	CT. Pts. A/c	Gamma Knife A/c	Angio Pts. A/c	NS Pts. A/c	RAN	Total	Total
a) <b>Opening balance of the funds</b>													
b) Additions to the Funds	40757,500	28,495,270	198,670	14,712,380	816,000	32,551,207	123,448,267	361,665,831	85,961,794	90,347,139		778,954,058	798,407,127
i. Received From Patients													
ii. Grant received from Alims CNC (Angio Pts. A/c) for Exemption/BPL Pts	11,758,840	5,100,660	2,432,750	3,319,100	812,000	15,108,253	267,360,019	43,139,138	199,009,439	146,544,388		694,284,587	753,368,985
iii. Grant transfer from (GIA - General)- CNC						617,361			36,124,727			36,742,088	
iv. Grant received (Others)											9,135,000	9,135,000	
PM JAY Scheme							24,280,811	5,400,000	4,858,018	8,463,054		43,001,883	
<b>TOTAL (a+b)</b>	<b>52,516,340</b>	<b>33,595,930</b>	<b>2,331,420</b>	<b>18,031,480</b>	<b>1,628,000</b>	<b>47,659,460</b>	<b>415,706,458</b>	<b>410,204,969</b>	<b>325,993,978</b>	<b>245,354,581</b>	<b>9,135,000</b>	<b>1,552,982,616</b>	<b>1,551,776,112</b>
c) <b>Utilisation/Expenditure towards objectives of funds</b>													
i. <b>Capital Expenditure</b>													
Fixed Assets	-	-	-	-	-	-	-	-	-	-	-	-	-
Others (Specify)	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL (c.i)</b>													
ii <b>Revenue Expenditure</b>													
Material & Supply						6,337,865	195,431,615	321,683	151,706,600	101,571,656	2,421,372	460,390,070	596,301,218
Refund to Patients		513,129	2,086,150	-	-		60,140,061	1,351,000	26,472,658	31,207,958		119,171,677	175,180,996
Poor/BPL Patient treatment expenditure							554,731			1,673,570		2,228,301	
Free Procedure									26,094,278			26,094,278	
PM JAY Scheme						743,194	24,280,811		4,858,018	8,463,054		37,601,883	
Transfer to various pts.-A/c													
Others (Specify)													1,339,840
<b>TOTAL (c.ii)</b>		<b>513,129</b>	<b>2,086,150</b>			<b>7,081,059</b>	<b>280,407,218</b>	<b>1,672,683</b>	<b>209,131,554</b>	<b>142,916,238</b>	<b>2,421,372</b>	<b>646,229,403</b>	<b>772,822,054</b>
<b>TOTAL (c)</b>		<b>513,129</b>	<b>2,086,150</b>			<b>7,081,059</b>	<b>280,407,218</b>	<b>1,672,683</b>	<b>209,131,554</b>	<b>142,916,238</b>	<b>2,421,372</b>	<b>646,229,403</b>	<b>772,822,054</b>
<b>Balance as at the end of the year (a+b-c)</b>	<b>52,516,340</b>	<b>33,082,801</b>	<b>245,270</b>	<b>18,031,480</b>	<b>1,628,000</b>	<b>40,578,401</b>	<b>135,299,240</b>	<b>408,532,286</b>	<b>116,822,424</b>	<b>102,438,343</b>	<b>6,713,628</b>	<b>915,888,213</b>	<b>778,954,058</b>

(Amount in Rs.)

<u>Schedule 5 - Secured Loans And Borrowings</u>	Current Year	Previous Year
<b>1. Capital Government</b>	-	-
<b>2. State Government (Specify)</b>	-	-
<b>3. Financial Institutions</b>		
a) Term Loans	-	-
b) Interest accrued and due	-	-
<b>4. Banks</b>		
a) Term Loans		
- Interest accrued and due	-	-
b) Other Loans (specify)		
- Interest accrued and due	-	-
<b>5. Other Institutions and Agencies</b>	-	-
<b>6. Debentures and Bonds</b>	-	-
<b>7. Others (specify)</b>	-	-
<b>TOTAL</b>	-	-
<b>Note:</b> Amounts due within one year		

Schedule 6- Unsecured Loans And Borrowings		
	Current Year	Previous Year
<b>1. Capital Government</b>	-	-
<b>2. State Government (Specify)</b>	-	-
<b>3. Financial Institutions</b>	-	-
a) Term Loans		
b) Interest accrued and due		
<b>4. Banks</b>		
a) Term Loans		
- Interest accrued and due		
b) Other Loans (specify)		
- Interest accrued and due		
<b>5. Other Institutions and Agencies</b>		
<b>6. Debentures and Bonds</b>		
<b>7. Others (specify)</b>		
<b>TOTAL</b>	-	-
<b>Note:</b> Amounts due within one year		

Schedule 7- Deferred Credit Liabilities		
	Current Year	Previous Year
a) Acceptance secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	-	-
<b>Note:</b> Amount due within one year		

(Amount in Rs.)

<b>Schedule 8-Current Liabilities</b>	<b>Current Year</b>	<b>Pervious Year</b>
<b>A. Current Liabilities</b>		
<b>1. Acceptances</b>	-	-
<b>2. Sundry Creditors</b>		
a) For Goods	-	-
b) Others	-	-
<b>3. Advances Received</b>	-	-
<b>4. Interest accrued but not due on</b>		
a) Secured Loans/borroings	-	-
b) Unsecured Loans/borrowings	-	-
<b>5. Statutory Liabilities</b>		
a) Overdue	-	-
b) Others	-	-
<b>6. Other Current Liabilities</b>	572,233	1,252,320
Addition during the year	824,345,051	
Deduction during the year	825,025,138	
<b>7. EMD</b>	63,191,789	60,092,789
Addition during the year	5,545,000	
Deduction during the year	2,446,000	
<b>8. Imprest</b>	20,000	20,000
<b>9. Aiims Neuro Sciences Poor Pts. A/c</b>	309,417	309,417
<b>TOTAL (A)</b>	<b>64,093,439</b>	<b>61,674,526</b>
<b>B. Provisions</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/ Pension	-	-
4. Accumulated Leave Encashment	-	-
5. Trade Warranties/ Claims	-	-
6. Accumulated Depreication	-	-
7. Others	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
<b>TOTAL (A)+(B)</b>	<b>64,093,439</b>	<b>61,674,526</b>

**SCHEDULE 9 – FIXED ASSETS**

(Amount in Rs.)

Particulars	GROSS BLOCK						DEPRECIATION			NET BLOCK			
	Cost/Valuation as at beginning of the year	Additions during the year	Deductions during the year	Additions during the year (Letter of Credit)	Additions during the year (PDA)	Additions during the year (Custom Duty)	Cost/Valuation at the year-end	As at the begni. of the year	For the year	On acd. during the year	Total up to the year-end	As at the current year-end	As at the previous year-end
<b>FIXED ASSETS</b>													
<b>LAND</b>													
a) Freehold													
b) Leasehold													
<b>BUILDINGS</b>													
a) On Freehold Land													
b) On Leasehold Land													
c) Ownership Flats/Premises													
d) Superstructures on Land not belonging to the entity													
<b>INTANGIBLE FIXED ASSETS</b>													
a) Software													
PLANT, MACHINERY & EQUIPMENT*	5,582,818,097	125,346,477		119,956,779	210,875	27,889,354	5,856,221,582					5,856,221,582	5,582,818,097
Spare & Accessories (CTC)	65,573,564						65,573,564					65,573,564	65,573,564
Spare & Accessories (NSC)	86,631,063						86,631,063					86,631,063	86,631,063
Letter of Credit Spare & Accessories (NSC)	11,918,584						11,918,584					11,918,584	11,918,584
Letter of Credit Spare & Accessories (CTC)	556,416						556,416					556,416	556,416
VEHICLES	4,381,989						4,381,989					4,381,989	4,381,989
FURNITURE, FIXTURES	8,490,172	1,425,179					9,915,351					9,915,351	8,490,172
COMPUTER/ PERIPHERALS	10,140,482	2,740,572					12,881,054					12,881,054	10,140,482
ELECTRIC INSTALLATIONS													
LIBRARY BOOKS													
Tube well & Water-supply													
OFFICE EQUIPMENT													
<b>TOTAL OF CURRENT YEAR</b>	<b>5,770,510,367</b>	<b>129,512,228</b>		<b>119,956,779</b>	<b>210,875</b>	<b>27,889,354</b>	<b>6,048,079,603</b>					<b>6,048,079,603</b>	<b>5,770,510,367</b>
<b>PREVIOUS YEAR</b>													
<b>CAPITAL WORK-IN-PROGRESS</b>	<b>460,303,700</b>						<b>460,303,700</b>					<b>460,303,700</b>	<b>460,303,700</b>
<b>TOTAL</b>	<b>6,230,814,067</b>	<b>129,512,228</b>		<b>119,956,779</b>	<b>210,875</b>	<b>27,889,354</b>	<b>6,508,383,303</b>					<b>6,508,383,303</b>	<b>6,230,814,067</b>

(Date to be given to cost of assets on hire purchase basis included above)

(Amount in Rs.)		
<b>Schedule 10 - Investments from Earmarked/Endowment Funds</b>	<b>Current Year</b>	<b>Previous Year</b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Ventures	-	-
6. Others (to be specified)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

(Amount in Rs.)		
<b>Schedule 11 - Investments Others</b>	<b>Current Year</b>	<b>Previous Year</b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Ventures	-	-
6. Others (to be specified)	-	-
i. Fixed Deposit (Gamma Knife)	360,000,000	360,000,000
ii. Fixed Deposit (Angio Pts. A/c)	79,800,000	79,800,000
iii. Fixed Deposit (Neuro Surgery Pts. A/c)	51,800,000	31,800,000
iv. Fixed Deposit (C T Pts. A/c)	80,000,000	80,000,000
<b>TOTAL</b>	<b>571,600,000</b>	<b>551,600,000</b>

(Amount in Rs.)

<u>Schedule 12-Current Assets, Loans, Advances Etc.</u>		Current Year	Previous Year
<b>A. Current Assets</b>			
<b>1. Inventories</b>			
a) Stores and Spares	-	-	-
b) Loose Tools	-	-	-
c) Stock in trade	-	-	-
Finished Goods	-	-	-
Work-in-progress	-	-	-
Raw Materials	-	-	-
<b>2. Sundry Debtors</b>			
a) Debts outstanding for a period exceeding six months	5,786,970	5,786,970	5,786,970
b) Patient Treatment (CGHS)	3,245,441	3,245,441	3,245,441
c) Others	76,000	76,000	66,000
<b>3. Cash balances in hand (Including cheques/drafts and imprest)</b>			
a) Imprest			
<b>4. Bank Balances</b>			
a) With Scheduled Banks:			
-On Current Accounts	358,416,461	358,416,461	338,844,328
Gamma Knife	99,818,732	99,818,732	28,062,452
Angio Pts. A/c	51,679,718	51,679,718	15,338,949
C.T. Pts. A/c	63,448,187	63,448,187	46,015,445
Neuro Surgery Pts. A/c	57,120,999	57,120,999	61,842,809
CNC RAN A/c	6,713,451	6,713,451	-
Aiiims Neuro Sciences Poor Pts. A/c	305,953	305,953	306,602
b) With Non-Scheduled Banks:			
-On Deposit Accounts (Includes margin money)	-	-	-
-On Savings Accounts	-	-	-
-On Current Accounts	-	-	-
-On Deposit Accounts	-	-	-
-On Savings Accounts	-	-	-
<b>5. Post Office - Savings Accounts</b>			
	646,611,911	646,611,911	499,508,997
<b>TOTAL (A)</b>			

(Amount in Rs.)

<b>SCHEDULE 12-CURRENT ASSETS LOANS, ADVANCES ETC. (CONTD.)</b>	<b>Current Year</b>	<b>Pervious Year</b>
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans</b>		
a) Staff	7,054,220	6,240,560
b) Other Entities engaged in activities/objectives similar to that of the Entity		
c) Other (Patient Treatment- CGHS)		
<b>2. Advances and other amounts recoverable in cash or in kind or for value to be received</b>		
a) On Capital Accounts		
b) Prepayments		
c) Temporary Contingent Advances		
d) Others		
<b>3. Income Accrued</b>		
a) On Investments fro Earmarked / Endowment Funds		
b) On Investments-Others		
c) On Loans and Advances		
d) Others		
(Includes income due unrealized-Rs.....)		
<b>4. Claims Receivable</b>		
<b>5. Letter of Credit</b>	102,199,369	121,207,172
Addition during the year	100,948,976	
Deduction during the year	119,956,779	
<b>6. Custom Duty</b>	85,494,139	93,383,493
Addition during the year	20,000,000	
Deduction during the year	27,889,354	
<b>7. Pre-Deposits Advance</b>	89,973	300,848
Addition during the year	-	
Deduction during the year	210,875	
<b>8. TDR</b>		-
<b>9. Advance Against Work</b>	174,596,762	174,596,762
<b>10. Advance Payment DAVP</b>	2,709,744	2,709,744
<b>11. Mach. &amp; Equipt Trf From CT Patients A/c</b>	49,025,000	49,025,000
<b>TOTAL (B)</b>	<b>421,169,207</b>	<b>447,463,579</b>
<b>TOTAL (A)+(B)</b>	<b>1,067,781,118</b>	<b>946,972,576</b>

(Amount in Rs.)

SCHEDULE 13-INCOME FROM SALES/SERVICE	Current Year	Previous Year
<b>1) Income from sales</b>		
a) Sales of Finished Goods	-	-
b) Sales of Raw Material	-	-
c) Sales of Scraps	-	-
<b>2) Income from Services</b>		
a) Labour and Processing Charges		
b) Professional/Consultancy Service	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Hospital Receipts (CNC Main)	62,582,703	69,123,455
f) Patient Treatment CGHS	-	1,761,960
g) Others (Specify) Suspence Receipt	-	-
<b>TOTAL</b>	<b>62,582,703</b>	<b>70,885,415</b>

SCHEDULE 14-GRANTS/SUBSIDIES	Current Year	Previous Year
<b>(Irrevocable Grant &amp; Subsidies Received)-Through Aiiims Main</b>		
1) Central Government	-	-
<b>Revenue General (Plan)</b>		
(ii) Grant in Aid- (Salary)	-	-
(iii) Grant in Aid- (General)	-	-
<b>Non Plan</b>		
(iii) Grant in Aid- (General)	764,000,000	764,000,000
(ii) Grant in Aid- (Salary)	3,086,200,000	2,728,000,000
Grant in Aid (SAP)- CTC	-	-
Grant in Aid (SAP) - NSC	-	-
2) State Government(s)	-	-
3) Governments Agencies	-	-
4) Institutions/Welfare Bodies	-	-
5) International Organisations	-	-
6) Others (Specify)	-	-
<b>TOTAL</b>	<b>3,850,200,000</b>	<b>3,492,000,000</b>

(Amount in Rs.)		
<b><u>SCHEDULE 15- FEES/SUBSCRIPTIONS</u></b>	<b>Current Year</b>	<b>Previous Year</b>
1) Entrance Fees	-	-
2) Annual Fees/Subscriptions	-	-
3) Seminar/Program Fees	-	-
4) Consultancy Fees	-	-
5) Tender Fees	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>
<b>Note-</b> Accounting Policies towards each item are to be disclosed		

(Amount in Rs.)				
<b><u>SCHEDULE 16- INCOME FROM INVESTMENTS</u></b>	<b>Investment from Earmark Fund</b>		<b>Investment Other</b>	
(Income on Invest. Earmarked/Endowment Funds transferred to Funds)	<b>Current Year</b>	<b>Previous Year</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1) Interest</b>				
a) On Govt. Securities	-	-	-	-
b) Other Bonds/Debentures	-	-	-	-
<b>2) Dividends</b>				
a) On Shares	-	-	-	-
b) On Mutual Fund Securities	-	-	-	-
<b>3) Rents</b>	-	-	-	-
<b>4) Other (Specify)</b>	-	-	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Note-</b> Transferred to earmarked/endowment funds				

(Amount in Rs.)		
<b>SCHEDULE 17- INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
1) Income from Royalty	-	-
2) Income from Publications	-	-
3) Others (Specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

(Amount in Rs.)		
<b>SCHEDULE 18- INTEREST EARNED</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1) On Term Deposits</b>		
a) with Schedule Banks (CNC Main)	12,014,238	29,093,970
with Schedule Banks (Gamma Knife)	24,890,651	16,746,881
with Schedule Banks (Angio Pts. A/c)	5,482,440	5,538,841
with Schedule Banks (C.T. Pts. A/c)	5,590,884	2,677,133
with Schedule Banks (Neuro Surgery Pts. A/c)	3,192,973	1,113,232
b) With Non-Scheduled Banks		-
c) With Institutions		-
d) Others		-
<b>2) On Savings Accounts</b>		
a) with Schedule Banks		-
b) With Non-Scheduled Banks		-
c) With Institutions		-
d) Others		-
<b>3) On Loans</b>		
a) Employee/Staff	1,242,757	1,981,442
b) Others		-
<b>4) Interest on Debtors and Other Receivables</b>		
<b>TOTAL</b>	<b>52,413,943</b>	<b>57,151,499</b>
<b>Note-</b> Tax deducted at source to be indicated		

(Amount in Rs.)

<b>SCHEDULE 19- OTHER INCOME</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1) Profit on Sale/disposal of Assets</b>		
a) Owned assets	-	-
b) Assets acquired out of grants, or received free of cost	-	-
<b>2) Export Incentives realized</b>		
a) Liquid Damage	-	-
<b>3) Fees for Miscellaneous Services</b>	-	-
<b>4) Miscellaneous Receipt</b>	3,263,892	1,993,616
<b>5) Lice. Fee Recovery</b>		-
<b>TOTAL</b>	<b>3,263,892</b>	<b>1,993,616</b>

(Amount in Rs.)

<b>SCHEDULE 20- INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Closing stock</b>		
Finished Goods	-	-
Work-In-Progress	-	-
<b>b) Less: Opening Stock</b>		
Finished Goods	-	-
Work-In-Progress	-	-
<b>NET INCREASE/(DECREASE) [a-b]</b>	<b>-</b>	<b>-</b>

(Amount in Rs.)

<b>SCHEDULE 21- ESTABLISHMENT EXPENSES</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Salaries and Wages	2,939,032,735	2,631,606,750
b) Contribution to Provident Fund		-
c) Contribution to Other Fund - (NPS)	142,414,553	87,133,450
d) Staff Welfare Expenses		-
e) Expenses on Employees Retirement and Terminal Benefits		-
f) Travelling and Conveyance Expenses	9,006,998	7,821,830
g) Others (specify)	-	-
<b>TOTAL</b>	<b>3,090,454,286</b>	<b>2,726,562,030</b>

(Amount in Rs.)

<b>SCHEDULE 22- OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
Labour and processing expenses	-	-
Cartage and Carriage Inwards	-	-
Office Maintenance Exp.	3,561,798	5,734,144
Delegation Fee		-
Gas Charges	156,982	226,090
Vehicles Running and Maintenance	876,387	731,450
Postage, Telephone and Communication Charges	50,305	45,324
Advertisement		-
Repairs and maintenance of Building	60,096,928	42,954,315
Repairs and maintenance of Machinery	5,907,194	17,107,937
Vehicles Running and Maintenance		-
Maintenance of Minor Works	17,575,700	26,576,143
Printing and Stationary		-
Spare & Accessories (CTC)	38,291,785	32,798,832
Spare & Accessories (NSC)	45,528,768	60,148,578
Trf. to Patients A/c	36,742,088	-
NSC Poor patients fund	694,106	-
Security Services	59,932,849	55,481,496
Manpower Outsourcing Charges (BECIL/Sulabh/MRT etc.)	89,261,003	74,984,746
Sanitation Service (BVG)	-	51,264,394
Others (specify)		
<b>TOTAL</b>	<b>358,675,893</b>	<b>368,053,449</b>

(Amount in Rs.)

<b>SCHEDULE 22 (A) Adjustment of Advances</b>	<b>Current Year</b>	<b>Previous Year</b>
Advance Payment of DAVP	-	2,998,292
Others (specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>2,998,292</b>

(Amount in Rs.)

<b>SCHEDULE 23- Material &amp; Supply</b>	<b>Current Year</b>	<b>Previous Year</b>
Material & Supply	384,439,207	400,215,957
JSSK	6,014,681	1,993,270
Exp. Of Consumable and Regent used to M & E	24,721,801	60,637,789
Neurology Emergency fund	8,079,173	-
<b>TOTAL</b>	<b>423,254,862</b>	<b>462,847,016</b>

(Amount in Rs.)

<b><u>SCHEDULE 24- EXPENDITURE ON GRANTS SUBSIDIES ETC.</u></b>	<b>Current Year</b>	<b>Previous Year</b>
a) Grants given to Institutions/Organisations	-	-
b) Subsidies given to Institutions/Organisations	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

**Note-** Name of the Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed.

(Amount in Rs.)

<b><u>SCHEDULE 25- INTEREST &amp; FINANCE EXPENSES</u></b>	<b>Current Year</b>	<b>Previous Year</b>
On Fixed Loans	-	-
On Other Loans (including Bank Charges)	-	-
Bank Charges (CNC Main)	4,060	1,537
Bank Charges (Gamma Knife)	826	1,357
Bank Charges (Angio Pts. A/c)	2,301	3,540
Bank Charges (C.T. Pts. A/c)	9,115	4,543
Bank Charges (Neuro Surgery A/c)	5,989	3,277
Bank Charges (Poor Pts. A/c)	649	649
Bank Charges (RAN)	177	-
Others (specify)	-	-
<b>TOTAL</b>	<b>23,117</b>	<b>14,903</b>

# Cardio-Thoracic & Neuro Sciences Centre (Consolidate)

Receipts and Payments for the year ended 31.03.2020

Receipts	2019-20	2018-19	Payments	2019-20	2018-19
<b>I. Opening balances</b>			<b>I. Expenses</b>		
<b>a) cash in Hand</b>	66,000	66,000	a) Establishment Expenses (corresponding to schedule 21)	3,090,454,286	2,726,562,030
<b>b) Fixed Deposits</b>			b) Administrative Expenses (corresponding to schedule 22)	358,675,893	368,053,449
Fixed Deposits (Gamma Knife)	360,000,000	240,000,000	c) Material & Supply (Corresponding to Schedule 23)	423,254,862	462,847,016
Fixed Deposits (Angio Pts. A/c)	79,800,000	109,800,000			
Fixed Deposits (Neuro Surgery Pts. A/c)	31,800,000	31,800,000			
Fixed Deposits (CT. Pts. A/c)	80,000,000	50,000,000			
<b>c) Bank Balances</b>					
(i) In current Account					
CNC Main	338,844,328	245,439,239			
Gamma Knife	28,062,452	89,945,198			
Angio Pts. A/c	15,338,949	38,587,244			
Neuro Surgery Pts. A/c	61,842,809	52,893,371			
C.T. Pts. A/c	46,015,445	91,101,096			
AIIMS Neuro Sciences Poor Pts. A/c	306,602	257,251			
(ii) In Deposit Account	-	-			
(iii) In Savings Account	-	-			
<b>II. Grant Received</b>			<b>II. Payments made against funds for various Projects</b>		
<b>a) From Government of India-- Through AIIMS Main Capital (Assets New)</b>					
(i) Grant in Aid (Plan) - M&E	265,000,000	338,885,000	Grant Refund to AIIMS Main - (M&E)	14,538,796	20,000,000
<b>Revenue General</b>			<b>II. Payments made against funds for various Projects</b>		
(ii) Grant in Aid- (Salary)	3,086,200,000	2,728,000,000			
(iii) Grant in Aid- (General)	764,000,000	764,000,000	(iv) Grant in Aid- (SAP)- CTC	34,029,637	1,672,177
(iv) Grant in Aid- (SAP)- CTC	-	-	(v) Grant in Aid- (SAP)- NSC	34,038,553	1,691,074
(v) Grant in Aid- (SAP)- NSC	-	-			
b) From State Government					

Receipts	2019-20	2018-19	Payments	2019-20	2018-19
c) From Other Sources (RAN)	9,135,000				
<b>(Grant for capital and Revenue expenditure to shown</b>					
<b>III. Income on Investments and Revenue From</b>					
a) Earmarked Funds/ Endowments funds	-	-	III. Investments and deposits made		
<b>b) Revolving Fund</b>			a) Out of Earmarked/Endowment funds	-	-
i) Blood Test/Lab Test	11,758,840	11,863,700	<b>b) Revolving Fund</b>		
ii) Cardiac Test	5,100,660	5,105,750	i) Blood Test/Lab Test	513,129	428,475
iii) Stress Thallium	2,132,750	2,488,000	ii) Cardiac Test	2,086,150	855,205
IV) Neurology Patients Fund	15,108,253	10,384,063	iii) Stress Thallium	6,337,865	5,931,121
			IV) Neurology Patients Fund	743,194	17,631,067
			Trf. To Various Pts. A/c From Neurology Patient A/c		1,339,840
V) MRI Charges	3,319,100	3,479,750			
vi) Stem Cell	812,000	742,000			
<b>Patient Receipt</b>					
Gamma Knife A/c	41,788,138	44,001,710	Gamma Knife A/c	321,683	2,629,980
Angio Pts. A/c	172,536,781	186,714,129	Angio Pts. A/c	151,706,600	245,497,725
Ct. Pts. A/c	207,219,958	336,404,457	Ct. Pts. A/c	195,431,615	354,162,698
NS Pts. A/c	115,336,430	152,185,426	NS Pts. A/c	101,571,656	144,345,943
CNC RAN A/c			CNC RAN A/c	2,421,372	
c) Own Funds (Other Investments)	-	-			
<b>PM JAY (Scheme)</b>			<b>PM JAY (Scheme)</b>		
Gamma Knife A/c	5,400,000		Gamma Knife A/c		
Angio Pts. A/c	4,858,018		Angio Pts. A/c	4,858,018	
Ct. Pts. A/c	24,280,811		Ct. Pts. A/c	24,280,811	
NS Pts. A/c	8,463,054		NS Pts. A/c	8,463,054	
<b>IV. Interest Received</b>			<b>IV. Expenditure on Fixed Assets &amp; Capital</b>		
a) On Bank Deposits (CNC Main)	12,014,238	29,093,970	Work-in-Progress		
On Bank Deposits (Gamma Knife)	24,890,651	16,746,881	a) Purchase of Fixed Assets	129,512,228	88,820,261
On Bank Deposits (Angio Pts. A/c)	5,482,440	5,538,841	b) Expenditure on Capital Work-in-progress		
On Bank Deposits (Neuro Surgery Pts. A/c)	3,192,973	1,113,232	c) Letter of Credit (M&E)	100,948,976	151,064,739
On Bank Deposits (C.T. Pts. A/c)	5,590,884	2,677,133	<b>V. Refund of surplus money/Loans</b>		
			a) To the Government of India		
b) loans And Advances etc.	1,242,757	1,981,442	b) To the State Government		
<b>V. Other Income</b>			c) To other providers of funds		
Miscellaneous Receipt	3,263,892	1,993,616	<b>VI. Finance Charges (Interest)</b>		
Hospital Receipt (CNC Main)	62,582,703	69,123,455	Bank Charges (CNC Main)	4,060	1,537
			Bank Charges (Gamma Knife)	826	1,357
<b>VI. Amount Borrowed</b>			Bank Charges (Angio Pts. A/c)	2,301	3,540
			Bank Charges (Neuro Surgery Pts. A/c)	5,989	3,277

Receipts	2019-20	2018-19	Payments	2019-20	2018-19
			Bank Charges (C.T. Pts. A/c)	9,115	4,543
			Bank Charges (CNC RAN A/c)	177	
			Bank Charges (Aiiims Neuro Sciences Poor)	649	649
<b>VII. Any Other Receipts (Give Details)</b>			<b>VII. Other Payments (Specify)</b>		
a) Donation	579,316	325,000	Donation/Grant		249,819
b) Earnest Money Deposits	5,545,000	7,115,000	Earnest Money Deposits	2,446,000	2,878,995
<b>Grant received from Aiiims CNC (CT. Pts. A/c) for Exemption/BPL Pts</b>			<b>Poor BPL Patient Treatment /Free Procedure</b>		
Gamma Knife A/c			Gamma Knife A/c		
Angio Pts. A/c	36,124,727		Angio Pts. A/c	26,094,278	
Ct. Pts. A/c	617,361		Ct. Pts. A/c	554,731	
NS Pts. A/c			NS Pts. A/c	1,673,570	
<b>Employee Recovery</b>			<b>Employee Recovery</b>		
1. Aiiims Recoveries	19,562,414	18,667,362	1. Aiiims Recoveries	19,543,574	18,650,280
2. Outside Recoveries	476,252,186	422,344,020	2. Outside Recoveries	476,245,291	422,344,020
3. GPF (Subscription & Advance)	216,228,535	285,389,498	3. GPF (Subscription & Advance)	216,228,535	285,389,498
4. NPS Recovery	107,861,395	91,176,281	4. NPS Recovery	108,003,292	91,198,015
<b>Loan,Advances &amp; Other Assets/Recovery</b>			<b>Loan,Advances &amp; Other Assets/Recovery</b>		
Computer Advance Recovery	458,500	505,700	Computer Advance	300,000	1,050,000
Car/Scooter Advance Recovery	32,300	279,600	Car/Scooter Advance Recovery	-	-
House Building Advance Recovery	395,540	525,350	House Building Advance	1,400,000	3,564,600
Festival Advance Recovery	-	2,925	Festival Advance	-	-
Recovery/Deduction (Engg. Works)	4,440,521	2,981,932	Recovery/Deduction (Engg. Works)	5,004,446	2,074,481
Patient Treatment (CGHS)		249,375	Return RTGS	-	-
Aiiims Neuro Sciences Poor Pts. A/c		50,000	Advance Paid to DAVP	-	-
TDR		50,000,000	Custom Duty	20,000,000	79,000,000
			PDA	-	-
			TDR (CNC Main A/c)	-	-
			<b>VIII. Closing Balances</b>		
			<b>a) Cash in hand</b>	76,000	66,000
			<b>b) Fixed Deposits</b>		
			Fixed Deposits (Gamma Knife)	360,000,000	360,000,000
			Fixed Deposits (Angio Pts. A/c)	79,800,000	79,800,000
			Fixed Deposits (Neuro Surgery Pts. A/c)	51,800,000	31,800,000
			Fixed Deposits (CT Pts. A/c)	80,000,000	80,000,000



**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**BALANCE SHEET AS AT 31-03-2020**

		(Amount in Rupees)		
		2019-20	2018-19	
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>			
CORPUS/CAPITAL FUND	<b>1</b>	3836471076	3606471076	
RESERVES AND SURPLUS	<b>2</b>	166562337	72101573	
EARMARKED/ ENDOWMENT FUNDS	<b>3</b>	90696632	77148456	
SECURED LOANS AND BORROWINGS	<b>4</b>			
UNSECURED LOANS AND BORROWINGS	<b>5</b>			
DEFERRED CREDIT LIABILITIES	<b>6</b>			
CURRENT LIABILITIES AND PROVISIONS	<b>7</b>	28536843	29163997	
<b>TOTAL</b>		<b>4122266888</b>	<b>3784885102</b>	
<b>ASSETS</b>				
FIXED ASSETS	<b>8</b>			3293547341
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	<b>9</b>	3523325628		
INVESTMENTS-OTHERS	<b>10</b>			
CURRENT ASSETS, LOANS, ADVANCES ETC.	<b>11</b>	598941260	491337761	
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)				
<b>TOTAL</b>		<b>4122266888</b>	<b>3784885102</b>	

**ACCOUNTS OFFICER**

**CHIEF, RPC**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2020**

		(Amount in Rupees)	
	Schedule	2019-20	2018-19
<b>INCOME</b>			
Income from Sales/Services (Hospital Receipts)	12	35179071	36551342
Grants/Subsidies	13	1379538400	1330000000
Fees/Subscriptions	14		
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	15		
Income for Royalty, Publication etc.	16		
Interest Earned	17	8608456	8269995
Other Income	18	292733	492743
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
<b>TOTAL (A)</b>		<b>1423618660</b>	<b>1375314080</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	981291416	939015472
Other Administrative Expenses etc.	21	347866480	427437756
Expenditure on Grants, Subsidies etc.	22	0	77055214
Interest	23		
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>1329157896</b>	<b>1443508442</b>
<b>Balance being excess of income over Expenditure (A-B)</b>			
Transfer to Special Reserve (Specify each)		94460764	-68194362
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>1423618660</b>	<b>1375314080</b>

ACCOUNTS OFFICER

CHIEF, RPC

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**RECEIPT AND PAYMENTS FOR THE YEAR ENDED 31-03-2020**

Receipts		Payments		(Amount in Rupees)	
		2019-20	2018-19	2019-20	2018-19
<b>1. Opening Balances</b>					
(a) Cash in Hand	32500	26500	981291416	939015472	424575638
Add: in compliance with Audit Observation (Audit Memo No.13/2,)		3500	30000		
(b) Bank Balances					
(i) In current accounts	201260596	283651688	21814888	20969581	49004198
Less: in compliance with Audit Observation (Audit Memo No.13/2,)		3500		0	
(ii) Patient Treatment Account	30578209	283648188	102324190	81859679	174127696
(iii) RPC Research Accounts	25686792		125780224		
<b>2. Grant Received</b>					
(a) From Government of India through AIIMS (Main)					
(i) Grant in Aid (Plan) (Capital Assets)	230000000	400000000	0	14208334	
(ii) Grant in Aid (General)	397075500	400000000	0	27055214	50000000
(iii) Grant in Aid (Salaries)	982462900	930000000			
(iv) Swachhita Action Plan					
(v) Grant in Aid (General) (Non-Plan)		0	80558777	183471508	
(b) From state Government			30000000	30000000	
(c) NPS Amount received from NSDL			119423111	169150628	
(d) From other sources (RPC Research Projects)	16714004	33282385	0	1306694	20430
Amt transfer from Main RPC for RPC Patient Treatment Account		18535561			
Amt transfer from Main RPC for RPC Research Account		50000000			
<b>3. Income on Investment from</b>		27055214			
(a) Earmarked/Endow. Funds					
(b) Own funds (Oth. Investments)					
TFR					
FD					
<b>4. Interest received</b>					
(a) On bank deposits	8386321	7915922	435787	7061	18959
(b) Interest earned on Patient Treatment Account	880943	1392310	57695	10608	1097
(c) Interest earned on Research Project	583095	1066695			
(d) Loans, Advances etc.					
Car		40000		538305	148213
HBA	202900	308117	2083000	5384176	
Computer	19235	5956	5867947	5971254	154425093
Festival			162643359	83378947	
			95324330		



All India Institute of Medical Sciences, New Delhi  
Dr. Rajendra Prasad Centre for Ophthalmic Sciences  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

	(Amount in Rupees)	
	2019-20	2018-19
<b>SCHEDULE 1- CORPUS/CAPITLA FUND:</b>		
Balances as at the beginning of the year	3606471076	3206471076
Add : Contributions towards Corpus/Capital Fund	230000000	400000000
Less : Fixed Assets Condemned during the year	0	0
	3836471076	3606471076
<b>BALANCE AS AT THE YEAR-END</b>	<b>3836471076</b>	<b>3606471076</b>

	(Amount in Rupees)	
	Current Year	Pervious Year
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>		
1. <u>Capital Reserve:</u>		
As per last Account		
Addition during the year		
Less: Deductions during the year		
2. Revaluation Reserve		
As per last Account		
Addition during the year		
Less: Deductions during the year		
3. Special Reserves		
As per last Account		
Addition during the year		
Less: Deductions during the year		
4. General Reserve		
As per last Account	72101573	140295935
Addition during the year	94460764	-68194362
Less: Deductions during the year		
	166562337	72101573
<b>TOTAL</b>	<b>0</b>	<b>0</b>
	<b>166562337</b>	<b>72101573</b>

ACCOUNTS OFFICER

All India Institute of Medical Sciences, New Delhi  
Dr. Rajendra Prasad Centre for Ophthalmic Sciences  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	Patient Treatment Account	Scheme Non-RPC		(Amount in Rupees)	
		Scheme Non-RPC	SAP*	2019-20	2018-19
a) Opening balance of the funds	30578209	25686792	0	0	402571885
b) Additions to the Funds:	266586376	0			
i. Donations/grants		15754906		0	0
ii. Income from investments made on account of funds	880943	583095			
iii. Other additions (specify nature)					0
iv. Less Expenditure during the year					
<b>TOTAL (a+b)</b>	<b>298045528</b>	<b>42024793</b>	<b>0</b>	<b>340070321</b>	<b>402571885</b>
c) Utilisation/Expenditure towards objectives of funds					
i. Capital Expenditure					
- Fixed Assets					
- Others					
ii. Revenue Expenditure					
- Salaries, Wages and allowances etc.					
- Rent					
- Other Administrative expenses		21269275	0		
- Exp on kits for patients	228104414				
<b>Total</b>	<b>228104414</b>	<b>21269275</b>	<b>0</b>	<b>249373689</b>	<b>325423429</b>
<b>TOTAL (c)</b>	<b>228104414</b>	<b>21269275</b>	<b>0</b>	<b>249373689</b>	<b>325423429</b>
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	69941114	20755518	0	90696632	77148456

\* Swachhta Action Plan

ACCOUNTS OFFICER

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2019-20</b>		<b>2018-19</b>	
1. Central Government				
2. State Government				
3. Financial Institutions				
a) Term Loans				
b) Interest accrued and due				
4. Banks:				
a) Term Loans				
- Interest accrued and due				
b) Other Loans (specify)				
- Interest accrued and due				
5. Other Institutions and Agencies				
6. Debentures and Bonds				
7. Others (Specify)				
<b><u>TOTAL</u></b>	0	0	0	0

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2019-20</b>	<b>2018-19</b>
1. Central Government		
2. State Government		
3. Financial Institutions		
4. Banks:		
a) Term Loans		
b) Other Loans (specify)		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Fixed Deposits		
8. Others (Specify)		
<b><u>TOTAL</u></b>	0	0

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b><u>TOTAL</u></b>	0	0

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2019-20</b>		<b>2018-19</b>	
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>				
1. Acceptances				
2. Sundry Creditors:				
a) For Goods				
b) Others (Engg. Outstanding )	1421013			1421013
c) Engg. Outstanding payment -2019-20 )	1421013	0		
3. Advances Received for patients from Govt Agencies				
i) NIAF				
Opening Balance	1655532		1555040	
Received during the year	1373164		248705	
Expenditure during the year	538305	2490391	148213	1655532
4. Projects Grants				
ii) NPCB		827		827
5. Interest accrued but not due on:				
a) Secured Loans/borrowings				
a) Unsecured Loans/borrowings				
6. Statutory Liabilities:				
a) Overdue				
a) Others				
7. Security Deposits (EMD)				
Opening Balance	6785496		9236734	
Received during the year	2042000		2932938	
Refund during the year	2083000	6744496	5384176	6785496
6. Other current Liabilities		227078		227078
9. Amt against NPS to be remitted to AIIMS (MAIN)				
Opening Balance	19074051		33282385	
Less : Remitted to AIIMS (MAIN)	0	19074051	14208334	19074051
10. Custom Duty to be paid to Store (D.O.)	0	0		
Opening Balance	0			
Less : Remitted to Research AIIMS (MAIN)	0	0		0
<b>TOTAL (A)</b>		<b>28536843</b>		<b>29163997</b>

<b>B. PROVISIONS</b>				
1. For Taxation				
2. Gratuity				
3. Superannuation/Pension				
6. Accumulated Leave Encashment				
6. Trade Warranties/Claims				
6. Others (specify)				
<b>TOTAL (B)</b>				
<b>TOTAL (A+B)</b>		<b>28536843</b>		<b>29163997</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

SCHEDULE 8-FIXED ASSETS	GROSS BLOCK				DEPRECIATION			NET BLOCK		
	Cost/valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end	As at the Previous year-end
<b>A. FIXED ASSETS:</b>										
1 LAND:										
a) Freehold										
b) Leasehold										
2 BUILDINGS:										
a) On Freehold Land	233443859	0	0	233443859	0	0	0	0	233443859	233443859
b) On Leasehold Land										
c) Ownership Flats/ Premises										
d) Superstructures on Land not belonging to the entity										
PLANT MACHINERY & EQUIPMENT	3032902692	229760175	0	3262662867	0	0	0	0	3262662867	3032902692
VEHICLES	8996266	0	0	8996266	0	0	0	0	8996266	8996266
FURNITURE, FIXTURES	18204524	18112	0	18222636	0	0	0	0	18222636	18204524
OFFICE EQUIPMENT										
COMPUTER/PERIPHERALS										
ELECTRIC INSTALLATIONS										
LIBRARY BOOKS										
TUBEWELLS & W. SUPPLY										
OTHER FIXED ASSETS										
<b>TOTAL OF CURRENT YEAR</b>	3293547341	229778287	0	3523325628	0	0	0	0	3523325628	3293547341
<b>PREVIOUS YEAR</b>										
<b>CAPITAL WORK-IN-PROGRESS</b>										
<b>TOTAL</b>										
<b>B.</b>										

ACCOUNTS OFFICER

All India Institute of Medical Sciences, New Delhi  
 Dr. Rajendra Prasad Centre for Ophthalmic Sciences  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b><u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		0
6. Others (to be specified)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 10 - INVESTMENTS - OTHERS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others (to be specified)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

ACCOUNTS OFFICER

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

		(Amount in Rupees)			
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>		<b>2019-20</b>		<b>2018-19</b>	
<b>A CURRENT ASSETS:</b>					
<b>1. Advances for Procurement</b>					
a) M&E Foreign Purchases	Opening Balance	192270582		109002733	
	Addition during the year	119423111		169150628	
	Adjusted during the year	169150628	142543065	85882779	192270582
b) Material and Supply	Opening Balance	9782099		10658362	
	Addition during the year	0		0	
	Adjusted during the year	0	9782099	876263	9782099
c) Stock-in-trade	Finished Goods				
	Work-in-progress				
	Raw Material				
<b>2. Sundry Debtors:</b>					
a) Debts Outstanding for a period exceeding six months			76253		76253
b) Others					
<b>3. Cash balances in hand (including cheques/ drafts and imprest)</b>					
			30500		32500
<b>4. Bank Balances:</b>					
<b>a) With Scheduled Banks:</b>					
	On Current Accounts		295667442		201260596
	Patient Treatment Account		69883419		30578209
	RPC Research Account		21158395		25686792
	On Deposit Accounts (includes margin money)				
	On Savings Accounts				
<b>b) With non-Scheduled Banks:</b>					
	On Current Accounts				
	On Deposit Accounts				
	On Savings Accounts				
<b>5. PDA Advance</b>					
	opening balance	341250		350055	
	adjusted during the year	63495	277755	8805	341250
<b>6. Custom Duty Advance</b>					
	Opening Balance	31121127		30781224	
	Added during the year	30000000		30000000	
	Adjusted during the year	1708648	59412479	29660097	31121127
			0		
<b>TOTAL (A)</b>			<b>598831407</b>		<b>491149408</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	(Amount in Rupees)	
	2019-20	2018-19
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		
<b>B</b>		
<b>LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans:</b>		
a) Staff		
i) Motor car	0	0
Opening Balance		
Less : Recovered during the year	0	0
ii) House Building Advance		
Opening Balance	0	0
Less : Recovered during the year	0	0
iii) Computer Advance		
Opening Balance	166500	
Less : Recovered during the year	78500	
Add: Addition during the year	0	166500
iv) Festival Advance		
Opening Balance	21853	
Less : Recovered during the year	0	
Add: Addition during the year	0	21853
<b>2. Advances and other amounts recoverable in cash or in kind or for value to be received:</b>		
a) On Capital Account		
b) Prepayments		
c) Others		
<b>3. Income Accrued:</b>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others (includes income due unrealised - Rs.....)		
<b>4. Claims Receivable:</b>		
	109853	188353
<b>TOTAL (B)</b>	<b>598941260</b>	<b>491337761</b>
<b>TOTAL (A + B)</b>		

ACCOUNTS OFFICER

All India Institute of Medical Sciences, New Delhi  
Dr. Rajendra Prasad Centre for Ophthalmic Sciences  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

(Amount in Rupees)

<b><u>SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b>2019-20</b>	<b>2018-19</b>
<b><u>1) Income from Sales</u></b>		
1. Hospital receipts	33636878	35608158
2. Administrative charges (Projects)	1542193	943184
3. Sale of Scraps		
<b><u>2) Income from Services</u></b>		
a) Labour and Processing Charges		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt		
<b><u>TOTAL</u></b>	<b>35179071</b>	<b>36551342</b>

<b><u>SCHEDULE 13 - GRANTS /SUBSIDIES</u></b>	<b>2019-20</b>	<b>2018-19</b>
<b><u>1) Income from Sales</u></b>		
<b><u>(Irrevocable Grants &amp; Subsidies Received)</u></b>		
1. Central Government (Through AIIMS Main)	1379538400	1330000000
2. State Government(s)		
3. Government Agencies		
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify)		
<b><u>TOTAL</u></b>	<b>1379538400</b>	<b>1330000000</b>

ACCOUNTS OFFICER

**All India Institute of Medical Sciences, New Delhi  
Dr. Rajendra Prasad Centre for Ophthalmic Sciences**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

<b><u>SCHEDULE 14 - FEES/SUBSCRIPTIONS</u></b>	<b>(Amount in Rupees)</b>	
	2019-20	2018-19
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 15 - INCOME FROM INVESTMENTS</u></b> (Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	<b>Investment from Earmarked Fund</b>		<b>Investment-Others</b>	
	2019-20	2018-19	2019-20	2018-19
1. Interest				
a) On Govt. Securities				
a) Other Bonds/Debentures				
2. Dividends:				
a) On Shares				
a) On Mutual Fund Securities				
3. Rents				
4. Others (Specify)				
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

ACCOUNTS OFFICER

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

**(Amount in Rupees)**

<b><u>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</u></b>	<b>2019-20</b>	<b>2018-19</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 17 - INTEREST EARNED</u></b>	<b>2019-20</b>	<b>2018-19</b>
1. On Term Deposits:		
a) With Scheduled Banks	8386321	7915922
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2. On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) Post Office Savings Accounts		
d) Others		
3. On Loans:		
a) Employees/Staff	222135	354073
b) Others		
4. Interest on Debtors and other Receivables		
<b><u>TOTAL</u></b>	<b>8608456</b>	<b>8269995</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 18 - OTHERS INCOME</b>	<b>2019-20</b>	<b>2018-19</b>
1. Misc. Receipt	292733	492743
2. Estb. Receipt (Scheme)		
3. Others (specify)		
<b>TOTAL</b>	<b>292733</b>	<b>492743</b>

<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>2019-20</b>	<b>2018-19</b>
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>	<b>Current Year</b>	<b>Previous Year</b>
Salaries and Wages	946577538	910451812
Allowances and Bonus		
Travelling Allowances	11535938	10871019
Contribution to NPS	23177940	17692641
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses		
Expenses on Employees "Retirement and Terminal Benefits"		
Others (NPS & LSPC)		
<b>TOTAL</b>	<b>981291416</b>	<b>939015472</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**  
**(Amount in Rupees)**

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)	167683035	239132104
b) Material received against advance paid during last years	0	876263
c) Office Expenses	24772323	7313374
d) Securities	41127611	35526612
e) Other Outsourcing Agency	4007908	14735314
f) Administrartive Charges (Research Projects)	545613	537725
g) Repairs and maintenance (M&E)	19924099	16781216
h) Bank charges RPC, Patient Treatment Account and research project	504090	27117
i) Payment to AIIMS RPC Patient Treatment A/C		0
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Sanitation	55100296	49770997
q) Maintaince of Buildings (Minor Work RG)	8207583	30974166
r) Payment to Engg.	1421013	
s) Maintaince of Building (Non-plan)	24572909	31762868
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Swap Charges (IDBI Debit/Credit Card Commission)	0	0
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Insurance		
z) Advertisement and Publicity		
aa) Others (specify)(Contingency charge)		
<b>TOTAL</b>	<b>347866480</b>	<b>427437756</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF RECEIPT & PAYMENT FOR THE YEAR ENDED 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)	167683035	239132104
b) Office Expenses	24772323	7313374
c) Securities	41127611	35526612
d) Other Outsourcing Agency	4007908	14735314
e)SAP Payment	0	0
f) Payment to AIIMS RPC Patient Treatment A/C	0	0
g) Repairs and maintenance (M&E)	19924099	16781216
h) Excise Duty		
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Sanitation	55100296	49770997
q) Maintaince of Buildings (Minor Work RG)	8207583	30974166
r) Payment to Engg.	0	0
s) Maintaince of Building (Non-plan)	25993922	30341855
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Swap Charges/Bank charges (IDBI Debit/Credit Card Commission)	0	0
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Advertisement and Publicity		
z) Others (specify)(Contingency charge)		
<b>TOTAL</b>	<b>346816777</b>	<b>424575638</b>

**ACCOUNTS OFFICER**

**All India Institute of Medical Sciences, New Delhi**  
**Dr. Rajendra Prasad Centre for Ophthalmic Sciences**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**  
**(Amount in Rupees)**

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a). Grants given to RPC Research Account	0	27055214
b). Grant given to RPC Patient Treatment Account	0	50000000
b). Subsidies given to Institutions/organisations		
<b>Total</b>	<b>0</b>	<b>77055214</b>

<b>SCHEDULE 23- INTEREST</b>	<b>2019-20</b>	<b>2018-19</b>
a) On fixed Loans		
b) On other Loans ( including Bank charges)		
c) Others( Specify)		
<b>Total</b>	<b>0</b>	<b>0</b>

**ACCOUNTS OFFICER**

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS**  
**BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
CORPUS/CAPITAL FUND	1	2,804,054,126	2,761,091,131
RESERVES AND SURPLUS	2	85,943,750	56,284,082
EARMARKED/ENDOWMENT FUNDS	3	214,337,816	157,228,257
SECURED LOANS AND ABORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CRDIT LIABILITIES	6	.....	.....
CURRENT LIABILITIES AND PROVISIONS	7	2,193,820	9,796,232
<b>TOTAL</b>		<b>3,106,529,512</b>	<b>2,984,399,702</b>
<b>ASSETS</b>			
FIXED ASSETS	8	2,431,383,334	2,380,561,426
INVESTMENTS – FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS – OTHERS	10	-	-
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	675,146,178	603,838,276
MISCELLANEOUS EXPENDITURE (Balance of excess of expenditure over income) (to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>3,106,529,512</b>	<b>2,984,399,702</b>
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

**F & CAO**

**Chief (Dr.BRAIRCH)**

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL , AIIMS  
INCOME AND EXPENDITURE ACCOUNT FOR THE FINANCIAL YEAR 2019-20**

(Amount in ₹)

<b>INCOME</b>	<b>Schedule</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
Income form sales/services	12	27,067,493	25,275,987
Grants/Subsidies	13	1,509,005,496	1,571,296,695
Fees/Subscriptions	14		-
Income from Investments (Income on Invest, from earmarked/endow. Fund transferred to Funds)	15		-
Income from Royalty, Publication etc.	16		
Interest Earned	17	4,325,062	6,696,406
Other Income	18	-	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL(A)</b>		<b>1,540,398,051</b>	<b>1,603,269,088</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	968,554,264	905,629,239
Other Administrative Expenses etc.	21	542,145,059	674,972,163
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23		-
Depreciation (Net Total at the year-end – corresponding to schedule 8)			-
<b>TOTAL(B)</b>		<b>1,510,699,323</b>	<b>1,580,601,402</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>29,698,728</b>	<b>22,667,686</b>
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve			-
<b>BALANCE BEING SURPLUS/(DEFICIT) (Adjusted in Income &amp; Expenditure)</b>		<b>29,698,728</b>	<b>22,667,686</b>
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

**(F & CAO)**

**Chief (Dr.BRAIRCH)**

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
RECEIPTS AND PAYMENTS FOR THE FINANCIAL YEAR 2019-20**

(Amounts in ₹)

RECEIPTS	Current Year 2019-20	Previous Year 2018-19	PAYMENTS	Current Year 2019-20	Previous Year 2018-19
<b>I. Balances (Opening)</b>			<b>I. Expenses</b>		
(a) Cash In hand	-		a) Establishment Expenses (corresponding to schedule 20)	968,554,264	905,629,239
(b) Bank Balances			b) Administrative Expenses (corresponding to schedule 21)	542,145,059	674,972,163
(i) Current Accounts	205,945,979	208,495,385	c) NPS Amount transferred to GFF	1,657,293	5,476,603
(ii) Deposit Account	30,000,000	30,000,000	<b>NSDL (NPS) Transfer to Director, AIIMS A/c.</b>	8,622,338	
			a) Out of Earmarked/Endowment funds		
			b) Revolving funds		
<b>(a) Grant received from Government of India through AIIMS (Main)</b>			(i) R T Revolving Fund	-	-
(i) Grant in Aid (Capital Assets)	80,000,000	266,680,553	(ii) Medical Oncology Fund	-	-
(ii) Grant in Aid (Salary)	969,005,496	911,296,695	(iii) Poor Patient A/c	932,765	107,355
(iii) Grant in Aid (General)	540,000,000	660,000,000	(iv) Patient Treatment A/c	106,888,016	123,312,506
(iv) Swachhta Action Plan	-	-	(v) HMCPE A/c	13,566,536	1,568,212
(c) From Other Sources-Scrap Sales	330,600	217,120	(vii) Swachhta Action Plan	4,163,988	35,910,080
<b>II. On Investments from</b>				-	-
(a) Earmarked/Endow. Funds			<b>III. Expenditure on Fixed Assets &amp; Capital Work-in-progress</b>		
(b) Revolving Funds			a) Purchase of Fixed Assets	38,646,039	163,646,279
(i) R T Revolving Fund	2,915,925	2,955,000	b) Advance for M&E	42,754,872	84,365,482
(ii) Medical Oncology Fund	801,400	471,100	b) Custome duty advance	-	20,000,000
(iii) Poor Patient A/c	601,000	1,000,384			
(iv) Patient Treatment A/c	154,089,109	125,710,793	<b>IV. Refund of surplus money/Loans</b>		
(v) HMCPE A/c	22,000,000	-	a) To the Government of India		
NPS funds received from NSDL	2,886,219	12,870,015	b) To the State Government		
			c) To other providers of fund		

<b>III. Interest Received</b>								
(a) On Bank deposits								
Interest on TDR	4,325,062	6,696,406						
Interest on poor patient account	2,253,430	1,496,488				471,000		1,875,000
Interest on patient treatment account								
(b) Loans & Advances etc.								
								-
								580,000
								-
<b>IV. Other Income (Specify)</b>								
(a) Donation/Grant								
(d) Hospital Receipts	26,736,893	25,058,867						
(e) TDR Issued	-	-						
<b>V. Loan, Advances &amp; Other Assets</b>								
(i) Conveyance Advance	18,300	28,800						
(ii) Computer Advances	126,488	80,852						7,590
(iii) Festival Advances Recovery	-	4,500						
<b>VI. Other receipts</b>								
(a) Earnest Money Deposits	262,000	365,000					283,895,731	205,977,449
(b) Employees Recovery							30,000,000	30,000,000
<b>Total</b>	<b>2,042,297,901</b>	<b>2,253,427,958</b>	<b>2,042,297,901</b>	<b>Total</b>	<b>2,042,297,901</b>	<b>2,253,427,958</b>		

(F & CAO)

Chief (Dr. BRAIRCH)

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)		
<b>SCHEDULE 1 - CORPUS/CAPITAL FUND:</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
Balance as at the beginning of the year	2,761,091,131	2,494,410,578
Add: Contributions towards Corpus/Capital Fund	80,000,000	266,680,553
Less: M & E Condemned	37,037,005	-
Less: Excess Capitalized	-	-
Add/ (Deduct) : Balance of net income/(expenditure) Transferred from the Income and Expenditure Account	42,962,995	266,680,553
<b>BALANCE AS AT THE YEAR-END</b>	<b>2,804,054,126</b>	<b>2,761,091,131</b>
<b>SCHEDULE 2 - RESERVES AND SURPLUS:</b>		
<b>1. Capital Reserve :</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
	-----	-----
<b>2. Revaluation Reserve :</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
	-----	-----
<b>3. Special Reserves :</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
	-----	-----
<b>4. General Reserves :</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
As per last Account	-	....
Additional during the year	-	....
Less : Deductions during the year	-----	(....)
	-----	-----
<b>5. Excess of Income over Expenditure</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
As per last Account	56,284,082	33,616,396
Less : Transfer to NCI Accounts	39,060	-
Additional during the year	29,698,728	22,667,686
	85,943,750	56,284,082
	-	-----
<b>TOTAL</b>	<b>85,943,750</b>	<b>56,284,082</b>

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

	(Amount in ₹)	
<b>SCHEDULE 4 - SECURED LOANS AND BORROWINGS:</b>	Current Year 2019-20	Previous Year 2018-19
1. Central Government		.....
2. State Government (Specify)		.....
3. Financial Institutions	.....	
a) Terms Loans	.....	
b) Interest accrued and due	.....	
4. Banks:	.....	
a) Term Loans	.....	
- Interest accrued and due	.....	
b) Other Loans (Specify)	.....	
- Interest accrued and due	.....	
5. Other Institutions and Agencies		.....
6. Debentures and Bonds		.....
7. Others (Specify)		.....
<b>TOTAL</b>		
<b>Note : Amounts due within one year</b>		

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**DR. BHIM RAO AMBEDKAR INSTITUE ROTARY CANCER HOSPITAL, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 5 - UNSECURED LOANS AND BORROWINGS:	Current Year 2019-20	Previous Year 2018-19
1. Central Government	.....	.....
2. State Government (Specify)	.....	.....
3. Financial Institutions	.....	.....
4. Banks:		
a) Term Loans	.....	.....
b) Other Loans (Specify)	.....	.....
5. Other Institutions and Agencies	.....	.....
6. Debentures and Bonds	.....	.....
7. Fixed Deposits	.....	.....
8. Others (Specify)	.....	.....
Total		
<b>Note : Amounts due within one year</b>		

SCHEDULE 6 – DEFERRED CREDIT LIABILITIES:	Current Year 2019-20	Previous Year 2018-19
a) Acceptances secured by hypothecation of capital equipment and other assets	.....	.....
b) Others		
<b>TOTAL</b>	.....	.....
<b>Note : Amounts due within one year</b>		

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 7 – CURRENT LIABILITIES AND PROVISIONS	Current Year 2019-20		Previous Year 2018-19	
<b>A. CURRENT LIABILITIES</b>				
1. Acceptance				
2. Sundry Creditors:				
a) For Goods		.....		.....
b) Others	.....		.....	
3. Advances Received	.....		.....	
4. Interest accrued but not due on:				
a) Secured Loans/borrowings		.....		.....
b) Unsecured Loans/borrowings	.....		.....	
5. Statutory Liabilities:				
a) Overdue				.....
NPS (PRAN) Opening Balance	73,93,412			
Add : NPS during 2019-20	2886219		12,870,015	
Less NPS Amonut transfer to GPF 2019-20	1657293	-	5,476,603	7,393,412
Less : Paid during the year Refund (Director, AIIMS)	8622338	NIL	-	7,393,412
6. Other current liabilities				
a) Bank Overdraft (as per Cash Book)		-	-	
b) EMD/ Security Deposits			-	
Opening Balance	2402820		3,912,820	
Add During 2019-20	262000		365,000	
Less Payment During 2019-20	471000	2,193,820	1,875,000	
c) FDR Issued			-	2,402,820
<b><u>TOTAL (A)</u></b>		<b>2,193,820</b>		<b>9,796,232</b>
<b>A. PROVISIONS</b>				
1. For Taxation		.....		-
2. Gratuity			.....	
3. Superannuation/Pension				
4. Accumulated Leave Encashment				
5. Trade Warranties/Claims				
Others (Specify			.....	-
<b><u>TOTAL (B)</u></b>			.....	-
<b><u>TOTAL (A+B)</u></b>		<b>2,193,820</b>		<b>9,796,232</b>

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

<b>SCHEDULE 9 – INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
1. In Government Securities	.....	
2. Other approved Securities	.....	
3. Shares	.....	
4. Debentures and Bonds	.....	
5. Subsidiaries and joint Ventures	.....	
6. Others (to be specified)	.....	
<b><u>TOTAL</u></b>	.....	

<b>SCHEDULE 10 – INVESTMENTS - OTHERS</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
1. In Government Securities	.....	
2. Other approved Securities	.....	
3. Shares	.....	
4. Debentures and Bonds	.....	
5. Subsidiaries and joint Ventures	.....	
6. Others (to be specified)	.....	
<b><u>TOTAL</u></b>	.....	

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC.	Current Year 2019-20		Previous Year 2018-19	
<b>A. CURRENT ASSETS:</b>				
1. Inventors:				
a) Stores and Spares	-		-	
b) Loose Tools	-		-	
c) Stock-in-trade				
Finished Goods	-		-	
Work-in-progress	-		-	
Raw Materials	-	-	-	-
2. Sundry Debtors:				
a) Debts Outstanding for a period exceeding six months	-		-	
b) Others		-	-	-
3. Cash balance in hand (including cheques/drafts and imprest)	-		7,590	
4. Bank Balances:				
a) With Scheduled banks:				
-On Current Accounts (IRCH)	118,844,876		98,451,346	
On Current Accounts (NCI)	-		31,470	
-On Current Accounts (PATIENT TREATMENT A/C)	147,326,936		100,125,843	
-On Current Accounts (POOR PATIENT A/C)	9,012,603		7,090,938	
-On Current Accounts (HMCPF)	8,711,316		277,852	
-On Deposit Accounts (PATIENT TREATMENT A/C)(FDR)	30,000,000		30,000,000	
-On Deposit Accounts (IRCH) (FDR)		-	-	
b) With non-Scheduled Banks:				
-On Current Accounts	-		-	
-On Deposit Accounts	-		-	
-On Saving Accounts	-		-	
	-	313,895,731	-	235,985,039
5. Post Office Saving Accounts				
<b><u>TOTAL (A)</u></b>		313,895,731		235,985,039

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)	(Amount in ₹)	
	Current Year 2019-20	Previous Year 2018-19
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
1. Loans:		
a) Staff -	643,848	178,000
	-	580,000
	144,788	114,152
	499,060	643,848
b) Other Entities engaged in activities/objectives similar to that of the Entity		
c) Other (Specify)		
2. Advances and other amounts recoverable in cash or in kind or for value to be received:		
a) On Capital Account		
Machinery and Equipment	314,181,664	283,489,616
Opening Balance	42,754,872	84,365,482
Add: Addition during the year	43,626,441	53,673,434
Less : Adjusted during the year		314,181,664
Customs Duty/PDA Advance		
Opening Balance	50,401,725	54,503,411
Add: Addition during the year	-	20,000,000
Less : Adjusted during the year	5,586,433	24,101,686
Less : Previous year adjustment	-	-
b) NDMC (Security Deposit)	44,815,292	50,401,725
c) Others	2,626,000	2,626,000
3. Income Accrued:		
a) On Investments from Earmarked/Endowment Funds		
b) On Investments – Others	-	-
c) On Loans and Advances	-	-
d) Others	-	-
(includes income due unrealized Rs.....)	-	-
4. Claims Receivable	-	-
<b>TOTAL (B)</b>	361,250,447	367,853,237
<b>TOTAL (A+B)</b>	675,146,178	603,838,276

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)		Current Year 2019-20	Previous Year 2018-19
<b>SCHEDULE 12 – INCOME FROM SALES/SERVICES</b>			
1) Income from Sales			
a) Sale of Finished Goods			
b) Sale of Raw Material		330,600	217,120
c) Sale of Scraps			
2) Income from Services			
a) Hospital Receipts			
b) Professional/Consultancy Services		26,736,893	25,058,867
c) Agency Commission and Brokerage			
d) Maintenance Services (Equipment/property)			
e) Others (Specify)			
<b>TOTAL</b>		<b>27,067,493</b>	<b>25,275,987</b>
<b>SCHEDULE 13 – GRANTS/SUBSIDIES</b>			
(Irrevocable Grants & Subsidies Received)			
1) Central Government (Through AIIMS Main)			
2) State Government(s)		1,509,005,496	1,571,296,695
3) Government Agencies			
4) Institutions/Welfare Bodies			
5) International Organizations			
<b>TOTAL</b>		<b>1,509,005,496</b>	<b>1,571,296,695</b>

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

<u>SCHEDULE 14 – FEES/SUBSCRIPTIONS</u>	Current Year-2019-20	Previous Year-2018-19
1) Entrance Fees		
2) Annual Fees/subscriptions		
3) Seminar/Program Fees		
4) Consultancy Fees		
5) Others (Specify)		
<b>TOTAL</b>		
<b>Note – Accounting Policies towards each item are to be disclosed</b>		

<u>SCHEDULE 15 – INCOME FROM INVESTMENTS</u> (Income on Invest. From Ear4marked/Endowment Funds transferred to funds)	Investment from Earmarked Fund		Investment - Others	
	Current Year 2019-20	Previous Year 2018-19	Current Year 2019-20	Previous Year 2018-19
1) Interest				
a) On Govt. Securities				
b) Other Bonds/Debtentures				
2) Dividends:				
a) On Shares				
b) On Mutual Fund Securities				
3) Rents				
4) Others (Specify)				
<b>TOTAL</b>				
<b>TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS</b>				

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL,AIIMS  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 16 – INCOME FROM ROYALTY, PUBLICATIONS ETC.	Current Year 2019-20	Previous Year 2018-19
1) Income from Royalty 2) Income from Publications 3) Others (Specify)		
<u>TOTAL</u>		

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL,AIIMS  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

SCHEDULE 17 – INTEREST EARNED	Current Year 2019-20	Previous Year 2018-19
1) On Term Deposits: a) With Scheduled Banks b) With Non-Scheduled Banks c) With Institutions d) Others 2) On Savings Accounts: a) With Scheduled Banks b) With Non-Scheduled Banks c) Post Office Savings Accounts d) Others 3) On Loans: a) Employees/Staff b) Others 4) Interest on Debtors and Other Receivables	4,325,062	6,696,406
<b>TOTAL</b>	4,325,062	6,696,406

Note – Tax deducted at source to be indicated

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL,AIIMS  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

<b>SCHEDULE 18 – OTHER INCOME</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
1) Profit on sale/disposal of Assets:		
a) Owned assets		
b) Assets acquired out of grants, or received free of cost		
2) Export Incentives realized		
3) Fees for Miscellaneous Services		
4) Miscellaneous-Adjustment on account of Festival and computer advance	-	-
<b><u>TOTAL</u></b>	-	-

<b>SCHEDULE 19 – INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
a) Closing Stock		
-Finished Goods		
-Work-in-progress		
b) Less: Opening Stock		
-Finished Goods		
-Work-in-progress		
<b>NET INCREASE/(DECREASE) (a+b)</b>		

<b>SCHEDULE 20 – ESTABLISHMENT EXPENSES</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
a) Salaries and Wages	958,772,845	890,450,458
b) Travelling Allowance	9,781,419	15,178,781
c) Contribution to Provident Fund		.....
d) Contribution to Other Fund (Specify)	....	.....
e) Staff Welfare Expenses	....	.....
f) Expenses on Employees Retirement and Terminal Benefits	...	.....
g) Others :Computer advance excess adjusted to salary and wages		.....
<b><u>TOTAL</u></b>	968,554,264	905,629,239

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL,AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 22 – EXPENDITURE ON GRANTS, SUBSIDIES ETC.	Current Year 2019-20	Previous Year 2018-19
a) Grants given to Institutions/Organisations		
b) Subsidies given to Institutions/Organisations		
<b><u>TOTAL</u></b>		

Note – Name of the Entities, their Activities along with the amount of Grants/subsidies are to be disclosed.

(Amount in ₹)

SCHEDULE 23 – INTEREST	Current Year 2019-20	Previous Year 2018-19
a) On Fixed Loans		
b) On Other Loans (including bank Charges)		
c) Others (specify)		
<b><u>TOTAL</u></b>		

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**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL,AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 21 – OTHER ADMINISTRATIVE EXPENSIVE ETC.	Current Year 2019-20	Previous Year 2018-19
a) Purchase (Material and Supply)	305,436,301	420,321,204
b) Regents	48,323,293	79,038,583
c) Hiring of Manpower	83,134,196	72,771,772
d) Minor Works (Engineering)	5,396,209	12,006,115
e) Sanitation Expenses	19,803,608	6,328,894
f) Maintenance of Building	26,333,491	22,682,249
g) Repairs and maintenance (M&E)	10,021,720	17,128,957
h) CAMC	42,101,408	36,975,261
i) Others (specify) Contingency Bill	1,594,833	7,719,128
<b><u>TOTAL</u></b>	<b>542,145,059</b>	<b>674,972,163</b>

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	FUND-WISE BREAK UP						TOTALS	
	R.T. Revolving Fund	Medical Oncology Revolving Fund	Poor Patient A/c Fund	Patient Treatment A/c Fund	HMCPF	Swachhata Action Plan	Current Year 2019-20	Previous Year 2018-19
a) Opening balance of the funds	11,820,723	3,235,219	7,090,938	130,125,843	277,852	4,677,682	157,228,257	186,492,645
b) Additions to the Funds:								
i) Donations/grants	2,915,925	801,400	601,000	154,089,109	22,000,000		180,407,434	130,137,277
ii) Income from investments made on account of funds	-	-	-	-	-	-	-	-
iii) Other additions (specify nature)			2,253,430				2,253,430	1,496,488
<b>TOTAL (a+b)</b>	<b>14,736,648</b>	<b>4,036,619</b>	<b>9,945,368</b>	<b>284,214,952</b>	<b>22,277,852</b>	<b>4,677,682</b>	<b>339,889,121</b>	<b>318,126,410</b>
a) Utilization/Expenditure towards objectives of funds								
i) Capital Expenditure	-	-	-	-	-	-	-	-
- Fixed Assets	-	-	-	-	-	-	-	-
- Others	-	-	932,765	106,888,016	13,566,536	4,163,988	125,551,305	160,898,153
Total	-	-	932,765	106,888,016	13,566,536	4,163,988	125,551,305	160,898,153
ii) Revenue Expenditure	-	-	-	-	-	-	-	-
- Salaries, Wages and allowances etc.	-	-	-	-	-	-	-	-
- Other Administrative expenses	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-
<b>TOTAL (c)</b>	<b>-</b>	<b>-</b>	<b>932,765</b>	<b>106,888,016</b>	<b>13,566,536</b>	<b>4,163,988</b>	<b>125,551,305</b>	<b>160,898,153</b>
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	<b>14,736,648</b>	<b>4,036,619</b>	<b>9,012,603</b>	<b>177,326,936</b>	<b>8,711,316</b>	<b>513,694</b>	<b>214,337,816</b>	<b>157,228,257</b>

**Notes**

- Disclosures shall be made under relevant heads based on conditions attaching to the grants
- Plan fund received from Central/State Governments are to be shown as separate Funds and not be mixed up with any other funds.

(F & CAO)

**DR.BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

	GROSS BLOCK							DEPRECIATION				NET BLOCK	
	Cost/valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end	As at the previous year-end			
<b>SCHEDULE 8 – FIXED ASSETS</b>													
<b>A. FIXED ASSETS:</b>													
1. LAND:													
a) Freehold													
b) Leasehold													
2. BUILDINGS:													
a) On Freehold Land	339,060,768			339,060,768								339,060,768	
b) On Leasehold Land													
c) Ownership Flats/Premises													
d) Superstructures on Land													
Not belonging to the entity													
3. PLANT MACHINERY & EQUIPMENT	2,025,921,010	87,500,539	37,037,005	2,076,384,544					2,076,384,544	2,025,921,010		2,025,921,010	
4. VEHICLES	3,563,988	-		3,563,988					3,563,988	3,563,988		3,563,988	
5. FURNITURE, DIXTURES	12,015,660	358,374		12,374,034					12,374,034	12,015,660		12,015,660	
6. OFFICE EQUIPMENT													
7. COMPUTER/PERIPHERALS													
8. ELECTRIC INSTALLATIONS													
9. LIBRARY BOOKS													
10. TUBEWELLS & W.SUPPLY													
11. OTHER FIXED ASSETS													
<b>TOTAL OF CAURRENT YEAR</b>	<b>2,380,561,426</b>	<b>87,858,913</b>	<b>-</b>	<b>2,431,383,334</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,431,383,334</b>	<b>2,380,561,426</b>	<b>-</b>	<b>2,380,561,426</b>	
<b>PREVIOUS YEAR</b>	<b>2,139,140,027</b>	<b>241,421,399</b>	<b>-</b>	<b>2,380,561,426</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,380,561,426</b>	<b>2,139,140,027</b>	<b>-</b>	<b>2,139,140,027</b>	

(Note to be given as to cost of assets on hire purchase basis include above)

(F & CAO)

**All India Institute of Medical Sciences, New Delhi**

अखिल भारतीय आयुर्विज्ञान संस्थान

**Jai Prakash Narayan Apex Trauma Centre**

जय प्रकाश नारायण एपेक्स ट्रॉमा सेंटर

**BALANCE SHEET AS AT 31-03-2020**

तुलन पत्र ३१ मार्च, २०२० तक

(Amount in Rupees)

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>		<b>Schedule</b>	<b>2019-20</b>	<b>2018-19</b>
CORPUS/CAPITAL FUND		1	3,183,920,671.00	3,080,668,244.00
RESERVES AND SURPLUS		2	118,975,614.47	162,126,645.00
EARMARKED/ ENDOWMENT FUNDS		3	25,801,285.00	26,958,208.00
SECURED LOANS AND BORROWINGS		4		
UNSECURED LOANS AND BORROWINGS		5		
DEFERRED CREDIT LIABILITIES		6		
CURRENT LIABILITIES AND PROVISIONS		7	46,678,036.00	46,214,776.00
<b>TOTAL</b>			<b>3,375,375,606.47</b>	<b>3,315,967,873.00</b>
<b>ASSETS</b>				
FIXED ASSETS		8	3,058,103,381.00	2989866526.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS		9		
INVESTMENTS-OTHERS		10		
CURRENT ASSETS, LOANS, ADVANCES ETC.		11	317,272,227.29	326,101,347.82
MISCELLANEOUS EXPENDITURE				
(to the extent not written off or adjusted)				
<b>TOTAL</b>			<b>3,375,375,608.29</b>	<b>3,315,967,873.82</b>

AO

CHIEF, JPNATC

**All India Institute of Medical Sciences, New Delhi**

अखिल भारतीय आयुर्विज्ञान संस्थान

**Jai Prakash Narayan Apex Trauma Centre**

जय प्रकाश नारायण एपेक्स ट्रॉमा सेंटर

**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2019**

आय और व्यय का खाता

	Schedule	2019-20	2018-19
<b>INCOME</b>			
Income from Sales/Services (Hospital Receipts)	12	30,625,746.77	32,445,169.00
Grants/Subsidies	13	2,001,700,000.00	1,925,166,374.00
Fees/Subscriptions	14		-
Income from Investments (Income on Invest. From earmeked/endow. Funds transfered to funds)	15		
Income for Royalty, Publication etc.	16		
Interest Earned	17	7,951,442.00	13,752,061.00
Other Income	18		
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
<b>TOTAL (A)</b>		<b>2,040,277,188.77</b>	<b>1,971,363,604.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	1,218,707,909.00	1,085,166,374.00
Other Administrative Expenses etc.	21	864,720,309.30	878,010,667.00
Expenditure on Grants, Subsidies etc.	22		
Interest	23		
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>2,083,428,218.30</b>	<b>1,963,177,041.00</b>
<b>Balance being excess of Expenditure over income (B-A)</b>			
Transfer to Special Reserve (Specify each)		(-43151030.53)	8,186,563.00
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>(-43151030.53)</b>	<b>8,186,563.00</b>

Accounts Officer

CHIEF, JPNATC





**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	<b>2019-20</b>		<b>2018-19</b>	
	3,080,668,244.00	2,982,352,665.00	138,646,715.00	3,080,668,244.00
<b>SCHEDULE 1- CORPUS/CAPITAL FUND:</b>				
Balances as at the beginning of the year	134,100,000.00	40,331,136.00	3,183,920,671.00	3,080,668,244.00
Add : Contributions towards Corpus/Capital Fund	30,847,573.00			
Less : Fixed Assets Condemned during the year				
<b>BALANCE AS AT THE YEAR-END</b>	<b>3,183,920,671.00</b>	<b>3,183,920,671.00</b>		
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>				
1. Capital Reserve:				
As per last Account				
Addition during the year				
Less: Deductions during the year				
2. Revaluation Reserve				
As per last Account				
Addition during the year				
Less: Deductions during the year				
3. Special Reserves				
As per last Account				
Addition during the year				
Less: Deductions during the year				
4. General Reserve				
As per last Account	162,126,645.00	153,940,082.00	8,186,563.00	
Addition during the year	(-43151030.53)			
Less: Deductions during the year				
<b>TOTAL</b>	<b>118,975,614.47</b>	<b>118,975,614.47</b>		<b>162,126,645.00</b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

SCHEDULE 3 - EARMARKED/ENDOWMENT FUN	Scheme Non-JPNATC				Scheme Non-JPNATC				Scheme Non-JPNATC				(Amount in Rupees)				
	RIA Lab	SAP	Ayush	RIA Lab	RIA Lab	SAP	Ayush	RIA Lab	RIA Lab	SAP	Ayush	RIA Lab	SAP	2019-20	2018-19	2017-18	TOTALS
a) Opening balance of the funds	41650.00	26586558.00	330000.00	41650.00	41650.00	45688405.00		41650.00	0.00			41650.00	0.00	26958208.00	45730055.00	41650.00	
b) Additions to the Funds:																	
i. Donations/grants from AYUSH				0.00	0.00	0.00	330000.00	0.00	50000000.00							50000000.00	
ii. Income from investments made on account of funds																	
iii. Other additions (specify nature)																	
iv. Less Expenditure during the year																	
<b>TOTAL (a+b)</b>	<b>41650.00</b>	<b>26586558.00</b>	<b>330000.00</b>	<b>41650.00</b>	<b>41650.00</b>	<b>45688405.00</b>	<b>330000.00</b>	<b>41650.00</b>	<b>50000000.00</b>			<b>41650.00</b>	<b>50000000.00</b>	<b>26958208.00</b>	<b>45730055.00</b>	<b>50041650.00</b>	
c) Utilisation/Expenditure towards objectives of funds																	
i. Capital Expenditure																	
- Fixed Assets		1156923.00				19101847.00							4311595.00			4311595.00	
- Others																	
ii. Revenue Expenditure																	
- Salaries, Wages and allowances etc.																	
- Rent																	
- Other Administrative expenses												0.00	0.00			0.00	
<b>Total</b>						19101847.00			4311595.00			0.00	4311595.00	1156923.00	1910847.00	4311595.00	
<b>TOTAL (c)</b>		<b>1156923.00</b>				<b>19101847.00</b>			<b>4311595.00</b>			<b>0.00</b>	<b>4311595.00</b>	<b>1156923.00</b>	<b>1910847.00</b>	<b>4311595.00</b>	
<b>NET BALANCE AS AT THE YEAR-END(a+b-c)</b>	<b>41650.00</b>	<b>25429635.00</b>	<b>330000.00</b>	<b>41650.00</b>	<b>41650.00</b>	<b>26586558.00</b>	<b>330000.00</b>	<b>41650.00</b>			<b>330000.00</b>			<b>25801285.00</b>	<b>26958208.00</b>	<b>45730055.00</b>	

\* Swachhta Action Plan

All India Institute of Medical Sciences, New Delhi  
 Jai Prakash Narayan Apex Trauma Centre  
 SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

	<u>2019-20</u>	2018-19	2017-18
<b><u>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</u></b>			
1. Central Government			
2. State Government			
3. Financial Institutions			
a) Term Loans			
b) Interest accrued and due			
4. Banks:			
a) Term Loans			
- Interest accrued and due			
b) Other Loans (specify)			
- Interest accrued and due			
5. Other Institutions and Agencies			
6. Debentures and Bonds			
7. Others (Specify)			
<b><u>TOTAL</u></b>	<u>0</u>	<u>0</u>	<u>0</u>

(Amount in Rupees)

**All India Institute of Medical Sciences, New Delhi  
Jai Prakash Narayan Apex Trauma Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	(Amount in Rupees)		
	2019-20	2018-19	2017-18
<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>			
1. Central Government			
2. State Government			
3. Financial Institutions			
4. Banks:			
a) Term Loans			
b) Other Loans (specify)			
5. Other Institutions and Agencies			
6. Debentures and Bonds			
7. Fixed Deposits			
8. Others (Specify)			
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>	<b>0</b>

	Current Year	Previous Year	Previous Year
<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>			
a) Acceptances secured by hypothecation of capital equipment and other assets			
b) Others			
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>	<b>0</b>

All India Institute of Medical Sciences, New Delhi  
Jai Prakash Narayan Apex Trauma Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2019-20</b>		<b>2018-19</b>	
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>				
1. Acceptances				
2. Sundry Creditors:				
a) For Goods				
a) Others				
3. Advances Received for patients from Govt Agencies				
i) NIAF				
Opening Balance				
Received during the year				
Expenditure during the year				
4. Projects Grants				
ii) NPCB				
5. Interest accrued but not due on:				
a) Secured Loans/borrowings				
a) Unsecured Loans/borrowings				
6. Statutory Liabilities:				
a) Overdue				
a) Others				
7. Security Deposits (EMD)				
Opening Balance	9,061,968.00		9,813,968.00	
Received during the year	2,674,000.00		3,838,000.00	
Refund during the year	2,179,000.00	9,556,968.00	4,590,000.00	9,061,968.00
6. Other current Liabilities		37,121,068.00		37,152,808.00
9. Amt against recoveries to be remitted to AIIMS (MAIN)				
Opening Balance			3,078,017.00	
Add : Create during the year			-	
Less : Remitted to AIIMS (MAIN)			3,078,017.00	-
10. Custom Duty to be paid to Store (D.O.)				
Opening Balance				
Less : Remitted to AIIMS (MAIN)				
<b>TOTAL (A)</b>		<b>46,678,036.00</b>		<b>46,214,776.00</b>
<b>B. PROVISIONS</b>				
1. For Taxation				
2. Gratuity				
3. Superannuation/Pension				
6. Accumulated Leave Encashment				
6. Trade Warranties/Claims				
6. Others (specify)				
<b>TOTAL (B)</b>				
<b>TOTAL (A+B)</b>		<b>46,678,036.00</b>		<b>46,214,776.00</b>

AO

All India Institute of Medical Sciences, New Delhi  
Jai Prakash Narayan Apex Trauma Centre  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

		GROSS BLOCK				GROSS BLOCK				NET BLOCK			
		Cost/Valuation AS at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	Cost/Valuation AS at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	As at the Current year-end	As at the Previous year-end	As at the Previous year-end	As at the Previous year-end
<b>SCHEDULE 8-FIXED ASSETS</b>													
<b>DISCRPTION</b>													
<b>A. FIXED ASSETS:</b>													
1	LAND:												
	a) Freehold	54,310,794.00			54,310,794.00	54,310,794.00			54,310,794.00	54,310,794.00	54,310,794.00	54,310,794.00	54,310,794.00
	b) Leasehold												
<b>BUILDING</b>													
2	S:												
	a) On Freehold Land	689,076,549.00			689,076,549.00	689,076,549.00			689,076,549.00	689,076,549.00	689,076,549.00	689,076,549.00	689,076,549.00
	b) On Leasehold Land												
	c) Ownership Flats/ Superstructures on Land not belonging to the entity												
<b>PLANT MACHINERY &amp; EQUIPMENT</b>													
3	EQUIPMENT	2,219,455,359.00	97,493,549.00	30,847,573.00	2,286,101,335.00	2,114,916,592.00	144,869,903.00	40,331,136.00	2,219,455,359.00	2,289,176,191.00	2,219,455,359.00	2,114,916,592.00	2,114,916,592.00
4	VEHICLES	8,395,972.00			8,395,972.00	8,395,972.00			8,395,972.00	8,395,972.00	8,395,972.00	8,395,972.00	8,395,972.00
5	FURNITURE, FIXTURES & OFFICE EQUIPMENT	18,627,852.00	1,590,879.00		20,218,731.00	15,294,125.00	3,333,727.00		18,627,852.00	20,218,731.00	18,627,852.00	15,294,125.00	15,294,125.00
6	OFFICE EQUIPMENT												
7													
8	ELECTRIC												
9	LIBRARY BOOKS												
10	TUBEWELLS & W.												
11	OTHER FIXED ASSETS												
<b>TOTAL OF CURRENT YEAR</b>		<b>2,989,866,526.00</b>	<b>99,084,428.00</b>	<b>30,847,573.00</b>	<b>3,058,103,381.00</b>	<b>2,881,994,032.00</b>	<b>148,203,630.00</b>	<b>40,331,136.00</b>	<b>2,989,866,526.00</b>	<b>3,061,178,237.00</b>	<b>2,989,866,526.00</b>	<b>2,881,994,032.00</b>	<b>2,881,994,032.00</b>
<b>B. CAPITAL WORK-IN-PROGRESS</b>													
<b>TOTAL</b>													

AO

*Purchased of Assets (M&E) During the Year*

**Amount**  
**2019-20**

**2018-19**

*Assets During the Year as per Receipts and Payment Account*  
*Less- Furniture Purchased during the Year*

Less- L.C. Margin During the Year (Separately showed in Schedule 11)  
Less- M&E Payable Set off during the Year

Less- Custom Duty Incorporation during the year

Add- Custom Duty Incorporation Adjusted during the Year

Add- PDA Incorporation Adjusted during the Year

**Net Assets (M&E) Purchased during the year**

138,646,715.00  
3,333,727.00

13,071,577.00

5,000,000.00  
117,241,411.00

27,386,132.00

242,360.00

**144,869,903.00**

All India Institute of Medical Sciences, New Delhi  
 Jai Prakash Narayan Apex Trauma Centre  
 All India Institute of Medical Sciences, New Delhi

(Amount in Rupees)

<u>SCHECULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u>	<u>2019-20</u>	<u>2018-19</u>	<u>2017-18</u>
1. In Government Securities			
2. Other approved Securities			
3. Shares			
4. Debenutres and Bonds			
5. Subsidiaries and Joint Venutres			0
6. Others (to be specified)			
<b><u>TOTAL</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>

<u>SCHECULE 10 - INVESTMENTS - OTHERS</u>	<u>2019-20</u>	<u>2018-19</u>	<u>2017-18</u>
1. In Government Securities			
2. Other approved Securities			
3. Shares			
4. Debenutres and Bonds			
5. Subsidiaries and Joint Venutres			
6. Others (to be specified)			
<b><u>TOTAL</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2019**

<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>		<b>(Amount in Rupees)</b>			
		<b>2019-20</b>		<b>2018-19</b>	
<b>A CURRENT ASSETS:</b>					
<b>1. Advances for Procurement</b>					
a) M&E Foreign Purchases	Opening Balance	89,078,600.00		76,007,023.00	
	Addition during the year	6,579,256.00		13,071,577.00	
	Adjusted during the year	-	95,657,856.00		89,078,600.00
b) Material and Supply	Opening Balance				
	Addition during the year				
	Adjusted during the year				
c) Stock-in-trade	Finished Goods				
	Work-in-progress				
	Raw Material				
<b>2. Sundry Debtors:</b>					
a) Debts Outstanding for a period exceeding six months					
b) Others					
<b>3. Cash balances in hand (including cheques/ drafts and imprest)</b>					
<b>4. Bank Balances:</b>					
a) With Scheduled Banks:					
	On Current Accounts		160,808,940.29		204,653,632.82
	On Deposit Accounts (includes margin money)				
	On Savings Accounts				
b) With non-Scheduled Banks:					
	On Current Accounts				
	On Deposit Accounts				
	On Savings Accounts				
<b>5. PDA Advance</b>					
	opening balance	7,709,265.00		7,951,625.00	
	adjusted during the year	2,750.00	7,706,515.00	242,360.00	7,709,265.00
<b>6. Custom Duty Advance</b>					
	Opening Balance	9,676,170.00		32,062,302.00	
	Added during the year	30,000,000.00		5,000,000.00	
	Adjusted during the year	1,560,934.00	38,115,236.00	27,386,132.00	9,676,170.00
<b>8. Others</b>					
a. HSCC			6,500,000.00		6,500,000.00
b. NDMC			5,979,000.00		5,979,000.00
c. IGL			1,334,680.00		1,334,680.00
d. TRIGEN			1,170,000.00		1,170,000.00
<b>TOTAL (A)</b>			<b>317,272,227.29</b>		<b>326,101,347.82</b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

	2019-20	2018-19
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		
<b>B</b>		
<b>LOANS, ADVANCES AND OTHER ASSETS</b>		
1. <u>Loans:</u>		
a) Staff		
i) Motor car		
Opening Balance		
Less : Recovered during the year		
ii) House Building Advance		
Opening Balance		
Less : Recovered during the year		
iii) Computer Advance		
Opening Balance		
Less : Recovered during the year		
Add: Addition during the year		
iv) Festival Advance		
Opening Balance		
Less : Recovered during the year		
Add: Addition during the year		
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account		
b) Prepayments		
c) Others		
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others		
(includes income due unrealised - RS.....)		
4. <u>Claims Receivable:</u>		
<b>TOTAL (B)</b>		
<b>TOTAL (A + B)</b>		

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b><u>SCHECULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUN</u></b>		<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
<b><u>1) Income from Sales</u></b>			
1. Hospital receipts		30,625,746.77	32,445,169.00
2. Administrative charges (Projects)			-
3. NSDL Employee's Share			-
4. NSDL Employer's Share			-
<b><u>2) Income from Services</u></b>			
a) Labour and Processing Charges			
b) Professional / Consultancy Services			
c) Agency Commission and Brokerage			
d) Maintenance Services (Equipment/Property)			
e) Others (Specify) Fees			-
<b><u>TOTAL</u></b>		<b>30,625,746.77</b>	<b>32,445,169.00</b>
<b><u>SCHECULE 13 - GRANTS /SUBSIDIES</u></b>			<b>2018-19</b>
<b><u>1) Income from Sales</u></b>			
<b>(Irrevocable Grants &amp; Subsidies Received)</b>			
1. Central Government (Through AIIMS Main)		2,001,700,000.00	1,925,166,374.00
2. State Government(s)			
3. Government Agencies			
4. Institutions/ Welfare Bodies			
5. International Organisations			
6. Others (Specify) Grant from Ministry of Ayush			-
<b><u>TOTAL</u></b>		<b>2,001,700,000.00</b>	<b>1,925,166,374.00</b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-20**  
**(Amount in Rupees)**

<b><u>SCHEDULE 14 - FEES/SUBSCRIPTIONS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		28,585.00
4. Consultancy Fees		
5. Others (Specify) EHS		
<b><u>TOTAL</u></b>	<b><u>0</u></b>	

<b><u>SCHEDULE 15 - INCOME FROM INVESTMENTS</u></b>	<b>Investment from Earmarked Fund</b>	
(Income on Invest. From Earmarked/Endowment Funds transferred to)	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. Interest		
a) On Govt. Securities		
a) Other Bonds/Debentures		
2. Dividends:		
a) On Shares		
a) On Mutual Fund Securities		
3. Rents		
4. Others (Specify)		
<b><u>TOTAL</u></b>		
<b><u>TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS</u></b>	<b><u>0</u></b>	<b><u>-</u></b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

**(Amount in Rupees)**

<b><u>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION E</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b><u>TOTAL</u></b>		
<b><u>SCHEDULE 17 - INTEREST EARNED</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. On Term Deposits:		
a) With Scheduled Banks	7,951,442.00	13,752,061.00
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2. On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) Post Office Savings Accounts		
d) Others		
3. On Loans:		
a) Employees/Staff		
b) Others		
4. Interest on Debtors and other Receivables		
<b><u>TOTAL</u></b>	<b>7,951,442.00</b>	<b>13,752,061.00</b>

**Accounts Officer**

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

<b><u>SCHEDULE 18 - OTHERS INCOME</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. Misc. Receipt		
2. Estb. Receipt (Scheme)		
3. Others (specify)		
<b><u>TOTAL</u></b>		
<b><u>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b><u>NET INCREASE/(DECREASE) [a+b]</u></b>		
<b><u>SCHEDULE 20 - ESTABLISHMENT EXPENSES</u></b>	<b><u>Current Year</u></b>	<b><u>Previous Year</u></b>
Salaries and Wages	₹ 1,218,707,909.00	₹ 1,081,937,255.00
Allowances and Bonus		
Travelling Allowances		₹ 3,229,119.00
Contribution to NPS		
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses		
Expenses on Employees "Retirement and Terminal Benefits"		
Others (NPS & LSPC)		
<b><u>TOTAL</u></b>	<b>₹ 1,218,707,909.00</b>	<b>₹ 1,085,166,374.00</b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)	475,193,231.00	489,153,948.00
b) Material received against advance paid during last years		
c) Office Expenses		
d) Securities	81,512,110.00	68,571,200.00
e) Other Outsourcing Agency	112,614,169.00	100,782,470.00
f) Administrative Charges (Projects)		
g) Engg. Maintenances	176,400,925.00	191,553,312.00
h) Bank charges	8,909.30	4,956.00
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Sanitation		
q) Maintaince of Buildings (Minor Work RG)		3,144,063.00
r) Maintaince of M&E (CAMC/AMC)		
s) Maintaince of Building (Non-plan)		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Swap Charges (IDBI Debit/Credit Card Commission)		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Insurance		
z) Advertisement and Publicity		
aa) Others (specify)(Contingency charge)	18,990,965.00	24,800,718.00
<b>TOTAL</b>	<b>864,720,309.30</b>	<b>878,010,667.00</b>

**Accounts Officer**

**Other Current Liabilities**

	<b>2019-20</b>		<b>2018-19</b>	
<b>i) ATLS</b>				
Opening	629739.00		629,739.00	
Add - Received During the Year				
Less- Expenditure During the Year				
ATLS on Closing Date		629739.00		629,739.00
<b>ii) AITSC</b>				
Opening	8998.00		8,998.00	
Add - Received During the Year				
Less- Expenditure During the Year				
Less Adjusted During the Year				
AITSC on Closing date		8998.00		8,998.00
<b>iii) Grant /Receipt for Patients</b>				
Opening Balance	15450239.00		12,798,299.00	
Add- Receipts During the year	2046537.00		4,714,260.00	
Add- Adjusted Durign the year	2,155,949.00		2,062,320.00	
Deduct - Expenditure during the year			-	
Project on Closing Date		15340827.00		15,450,239.00
<b>v) Unadjusted Cancel Cheque during the year</b>				
	6461055.00		1,087,349.00	
Add - Cancel Cheques During the Year	77,672.00		5,373,706.00	
Less- Cheque Cleared During the Year			-	
Cancel Cheque on Closing Date		6538727.00		6,461,055.00
<b>vi) Performance Bank Gurantee</b>	131000.00	131000.00		131,000.00
<b>vii) Festival Advance from Main AIIMS</b>		7350.00		7,350.00
<b>viii) CTRF</b>				
Opening	84000.00		84,000.00	
Add - Received During the Year				
Less- Expenditure During the Year				
CTRF on Closing Date		84000.00		84,000.00
<b>ix) NSDL Employer's Share</b>		4,550,190.00		4,550,190.00
<b>x) Other Liabilities</b>				-
<b>xi) M&amp;E Payble</b>				
Opening	9,830,237.00		9,830,237.00	
Add - Received During the Year			-	
Less- Expenditure During the Year			-	
M&E Payble on Closing Date		9830237.00		9,830,237.00
		<b>37121068.00</b>		<b>37,152,808.00</b>

**All India Institute of Medical Sciences, New Delhi**  
**Jai Prakash Narayan Apex Trauma Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

(Amount in Rupees)

<b>SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)(478268087.00-3074856)	475,193,231.00	489,153,948.00
b) Material received against advance paid during last years		
c) Office Expenses		
d) Securities	81,512,110.00	68,571,200.00
e) Other Outsourcing Agency	112,614,169.00	100,782,470.00
f) Administrative Charges (Projects)		
g) Engg. Maintenances	176,400,925.00	191,553,312.00
h) Bank charges	8,909.30	4,956.00
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Sanitation		
q) Maintaince of Buildings (Minor Work RG)		3,144,063.00
r) Maintaince of M&E (CAMC/AMC)		
s) Maintaince of Building (Non-plan)		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Swap Charges (IDBI Debit/Credit Card Commission)		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Insurance		
z) Advertisement and Publicity		
aa) Others (specify)(Contingency charge)	18,990,965.00	24,800,718.00
<b>TOTAL</b>	<b>864,720,309.30</b>	<b>878,010,667.00</b>

Accounts Officer

**All India Institute of Medical Sciences, New Delhi**  
 अखिल भारतीय आयुर्विज्ञान संस्थान  
**Jai Prakash Narayan Apex Trauma Centre**  
 जय प्रकाश नारायण एपेक्स ट्रॉमा सेंटर  
**RECEIPT AND PAYMENTS FOR THE YEAR ENDED 31-03-2019**  
 आय और व्यय का खाता

**Poor Patients Fund A/c Trauma Centre**

<b>Receipts</b>	<b>Amount In Rupees</b>	<b>Payments</b>	<b>Amount In Rupees</b>
<b>Opening Balance as on 02.04.2019</b>			
Received against ch. No. 736703 Sh Shekh Ali	40,000.00	AC keeping fee deducted by the bank dt. 27.01.2020	1,297.00
Received against Ch. 315813	75,000.00	AC Keeping fee deducted by the bank dt 12.03.20	649.00
Received against Ch. 000312	5,000.00	<b>Balance as on 31.03.2020</b>	118,054.00
<b>Total</b>	<b>120,000.00</b>	<b>Total</b>	<b>120,000.00</b>

Accounts Officer  
 Trauma Centre, AIIMS





**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity** CENTRE FOR DENTAL EDUCATION & RESEARCH  
**BALANCE SHEET AS AT 31-03-2020**

		(Amount-Rs.)	
	Schedule	Current Year	Pervious Year
<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS/CAPITAL FUND	1	650,505,049.00	630,151,200.00
RESERVES AND SURPLUS	2	25,594,507.40	30,507,482.00
earmarked/ endowment funds	3	34,869,667.00	52,325,359.00
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	7,899,112.00	7,773,112.00
<b>TOTAL</b>		<b>718,868,335.40</b>	<b>720,757,153.00</b>
<b><u>ASSETS</u></b>			
FIXED ASSETS	8	637,063,995.00	623,297,295.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS-OTHERS	10	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	11	81,804,340.40	97,459,858.00
MISCELLANEOUS EXPENDITURE			
(to the extent not written off or adjusted)			
<b>TOTAL</b>		<b>718,868,335.40</b>	<b>720,757,153.00</b>
SIGIFICANT ACCOUNTING POLICIES	24		-
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

**Chief, CDER**

(Accounts Officer)  
**CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31- 03-2020**

<u>INCOME</u>	Schedule	Current Year	Previous Year
Hospital Receipts	12	1,957,065.00	2,183,330.00
Grants/Subsidies	13	380,701,513.00	192,435,117.00
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmarked/endow.Fund transferred to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	-	3,837,361.00
Other Income	18	337,956.00	219,801.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL (A)</b>		<b>382,996,534.00</b>	<b>198,675,609.00</b>
<u>EXPENDITURE</u>			
Establishment Expenses	20	270,905,625.60	64,935,117.00
Other Administrative Expenses etc.	21	116,997,730.00	126,630,245.00
Adjusment of Advances	21 (A)	-	23,420.00
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	6,153.00	2,415.00
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>387,909,508.60</b>	<b>191,591,197.00</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>			
Transfer to Special Reserve (Specify each)		-4,912,974.60	7,084,412.00
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>			

**Chief, CDER**

**(Accounts Officer) CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

<b><u>SCHEDULE 1- CORPUS/CAPITLA FUND:</u></b>	<b>Current Year</b>	<b>Previous Year</b>
Balances as at the beginning of the year	630,151,200.00	
Add : Contributions towards Corpus/Capital Fund	20,353,849.00	630,151,200.00
Less : Fixed Assets Condemned during the year		
<b>BALANCE AS AT THE YEAR-END</b>	<b>650,505,049.00</b>	<b>630,151,200.00</b>

<b><u>SCHEDULE 2- RESERVES AND SURPLUS:</u></b>		
1. <u>Capital Reserve:</u>		
As per last Account		
Addition during the year		
Less: Deductions during the year		
2. Revaluation Reserve		
As per last Account		
Addition during the year		
Less: Deductions during the year		
3. Special Reserves		
As per last Account		
Addition during the year		
Less: Deductions during the year		
4. General Reserve		
As per last Account	30,507,482.00	30,507,482.00
Addition during the year	-4,912,974.60	
Less: Deductions during the year		
<b><u>TOTAL</u></b>	<b>25,594,507.40</b>	<b>30,507,482.00</b>

**(Accounts Officer) CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	FUND-WISE BREAK UP							TOTALS				
	NOHP	SAP Fund	NRRIDS	Sugar Fund	Pit & Fissure	Web & Mobile App Project	Patient Treatment	WHO	WHO (MOOC)	Workshop Drafting Policy	Current Year	Previous Year
a) Opening balance of the funds	5,023,419.00	45,237,848.00	-	33,924.00	6,861.00	841,972.00	412,722.00	86,790.00	400,000.00	281,823.00	52,325,359.00	53,868,326.00
b) Additions to the Funds:												
i. Donations/grants	-	-	-	-	-	90,435.00	1,174,818.00	-	1,200,000.00	-	2,465,253.00	6,900,779.00
ii. Income from investments made on account of funds												
iii. Other additions (specify nature)												
<b>TOTAL (a+b)</b>	<b>5,023,419.00</b>	<b>45,237,848.00</b>	<b>-</b>	<b>33,924.00</b>	<b>6,861.00</b>	<b>932,407.00</b>	<b>1,587,540.00</b>	<b>86,790.00</b>	<b>1,600,000.00</b>	<b>281,823.00</b>	<b>54,790,612.00</b>	<b>60,769,105.00</b>
c) Utilisation/Expenditure towards objectives of funds												
i. Capital Expenditure												
- Fixed Assets												
- Others												
ii. Revenue Expenditure												
- Salaries, Wages and allowances etc.							972,818.00		1,556,360.00	281,360.00	19,920,945.00	8,443,746.00
- Rent												
- Other Administrative expenses	4,583,758.00	12,526,649.00										
Total	4,583,758.00	12,526,649.00					972,818.00		1,556,360.00	281,360.00	19,920,945.00	8,443,746.00
<b>TOTAL (c)</b>	<b>4,583,758.00</b>	<b>12,526,649.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>972,818.00</b>	<b>86,790.00</b>	<b>1,556,360.00</b>	<b>281,360.00</b>	<b>19,920,945.00</b>	<b>8,443,746.00</b>
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	<b>439,661.00</b>	<b>32,711,199.00</b>	<b>-</b>	<b>33,924.00</b>	<b>6,861.00</b>	<b>932,407.00</b>	<b>614,722.00</b>	<b>86,790.00</b>	<b>43,640.00</b>	<b>463.00</b>	<b>34,869,667.00</b>	<b>52,325,359.00</b>

(Accounts Officer)  
 CDER

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2019**

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>		
1. Central Government		
2. State Government		
3. Financial Institutions		
a) Term Loans		
b) Interest accrued and due		
4. Banks:		
a) Term Loans		
- Interest accrued and due		
b) Other Loans (specify)		
- Interest accrued and due		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Others (Specify)		
<b>TOTAL</b>	0	0
<u>Note</u> : Amounts due within one year		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2019**

**(Amount-Rs.)**

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>Current Year</b>	<b>Previous Year</b>
1. Central Government		
2. State Government		
3. Financial Institutions		
4. Banks:		
a) Term Loans		
b) Other Loans (specify)		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Fixed Deposits		
8. Others (Specify)		
<b>TOTAL</b>	0	0
<u>Note</u> : Amounts due within one year		

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b>TOTAL</b>	0	0
<u>Note</u> : Amount due within one year		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PR</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>		
<b>1. Acceptances</b>		
<b>2. Sundry Creditors:</b>		
a) For Goods		
a) Others		
<b>3. Advances Received</b>		
<b>4. Interest accrued but not due on:</b>		
a) Secured Loans/borrowings		
a) Unsecured Loans/borrowings		
<b>5. Statutory Liabilities:</b>		
a) Overdue		
a) Others		
<b>6. Other current Liabilities</b>		
<b>Less: Paid during the year</b>		
<b>Addition : Created during the year</b>		
<b>7. Security Deposits (Opening Balance)</b>		
<b>Add: Received during the year</b>		
<b>Less: Refunded during the year</b>	7,899,112.00	7,773,112.00
<b>TOTAL (A)</b>	<b>7,899,112.00</b>	<b>7,773,112.00</b>
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/Pension	-	-
6. Accumulated Leave Encashment	-	-
6. Trade Warranties/Claims	-	-
6. Others (specify)	-	-
<b>TOTAL (B)</b>	-	-
<b>TOTAL (A+B)</b>	<b>7,899,112.00</b>	<b>7,773,112.00</b>

**(Accounts Officer)**  
**CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount - Rs.)

<u>SCHEDULE 8-FIXED ASSETS</u> <u>DISCRIPTION</u>	<u>GROSS BLOCK</u>			<u>DEPRICIATION</u>			<u>NET BLOCK</u>				
	Cost/valuation As at beginning of the year	Additions during the year	Additions during the year (LC)	Deductions during the year	Cost/ Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end	As at the Previous year-end
A. <u>FIXED ASSETS:</u>											
1.00 <u>LAND:</u>											
a) Freehold											
b) Leasehold											
2.00 <u>BUILDINGS:</u>											
a) On Freehold Land	308,762,005.00	-			308,762,005.00					308,762,005.00	308,762,005.00
b) On Leasehold Land											
c) Ownership Flats/ Premises											
d) Superstructures on Land not belonging to the entity											
3.00 <u>EQUIPMENT</u>	314,535,290.00	13,766,700.00			328,301,990.00					328,301,990.00	314,535,290.00
4.00 <u>VEHICLES</u>											
5.00 <u>FURNITURE, FIXTURES</u>											
6.00 <u>OFFICE EQUIPMENT</u>											
7.00 <u>COMPUTER/PERIPHERALS</u>											
8.00 <u>ELECTRIC INSTALLATIONS</u>											
9.00 <u>LIBRARY BOOKS</u>											
#### <u>TUBEWELLS &amp; W. SUPPLY</u>											
#### <u>OTHER FIXED ASSETS</u>											
<b>TOTAL OF CURRENT YEAR PREVIOUS YEAR</b>	<b>623,297,295.00</b>	<b>13,766,700.00</b>			<b>637,063,995.00</b>					<b>637,063,995.00</b>	<b>623,297,295.00</b>
B. <u>CAPITAL WORK-IN-</u>											
<u>TOTAL</u>	623,297,295.00	13,766,700.00			637,063,995.00					637,063,995.00	623,297,295.00

**PLANT MACHINERY & EQUIPMENT**

M&E Purchase during the Year	13,174,250.00
Custom Duty Adjusted during the year	576,205.00
PDA adjusted during the year	16,245.00
<b>Total Assets</b>	<b>13,766,700.00</b>

(Accounts Officer)  
**CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity** CENTRE FOR DENTAL EDUCATION & RESEARCH  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2019**

(Amount - Rs.)

<b><u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>Current Year</u></b>	<b><u>Previous Year</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres	0	
6. Others (to be specified)		0
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 10 - INVESTMENTS - OTHERS</u></b>	<b><u>Current Year</u></b>	<b><u>Previous Year</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others (to be specified)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>A</b>		
<b><u>CURRENT ASSETS:</u></b>		
1. <u>Inventories:</u>		
a) Stores and Spares		
b) Loose Tools		
c) Stock-in-trade		
Finished Goods		
Work-in-progress		
Raw Material		
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding for a period exceeding six months		
b) Others		
3. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>	5,000.00	5,000.00
4. <u>Bank Balances:</u>		
a) <u>With Scheduled Banks:</u>		
On Current Accounts		
CDER- 10874584984	22,063,005.40	88,354,704.00
On Deposit Accounts (includes margin money)		
On Savings Accounts		
b) <u>With non-Scheduled Banks:</u>		
On Current Accounts		
On Deposit Accounts		
On Savings Accounts		
5. <u>Post Office - Savings Accounts</u>		
6. <u>Investment- (TDR)</u>	40,000,000.00	
<b>TOTAL (A)</b>	<b>62,068,005.40</b>	<b>88,359,704.00</b>

**(Accounts Officer) CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

<b>SCHEDULE 11 (II) - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>			<b>Current Year</b>	<b>Previous Year</b>
<b>B</b>	<b><u>LOANS, ADVANCES AND OTHER ASSETS</u></b>			
	<b><u>1. Loans:</u></b>			
	a) Staff			
	b) Other Entities engaged in activities/objectives similar to that of Entity			
	c) Other (specify) Advance to Iron & steel and Hindustan steel			
	<b><u>2. Advances and other amounts recoverable in cash or in kind or for value to be received:</u></b>			
	a) On Capital Account			
	b) Prepayments			
	c) Others			
	<b><u>3. Income Accrued:</u></b>			
	a) On Investments from Earmarked / Endowment Funds			
	b) On Investments - Others			
	c) On Loans and Advances			
	d) Others			
	(includes income due unrealised - Rs.....)			
	<b><u>4. Claims Receivable:</u></b>			
	<b><u>5. Other Advance</u></b>			
	i. Advance Paid to NDMC		2,364,500.00	2,364,500.00
	ii. Security Deposit to NDMC		3,000,000.00	3,000,000.00
	iii. Advance paid to DGS&D		469,471.00	469,471.00
	iv. Letter of Credit	Opening Balance 3,266,183.00	8,994,814.00	3,266,183.00
		LC Issued 5,728,631.00		
		Machinery Rec.		
		<b>Closing Balance 8,994,814.00</b>		
	v. Custom Duty	Opening Balance	-	
		Custom Duty paid 5,000,000.00		
		Custom Duty Adjusted 576,205.00	4,423,795.00	
	vi. PDA	Opening Balance		
		PDA paid 500,000.00		
		PDA Adjusted 16,245.00		
			483,755.00	
	<b><u>TOTAL (B)</u></b>		<b>19,736,335.00</b>	<b>9,100,154.00</b>
	<b><u>TOTAL (A + B)</u></b>		<b>81,804,340.40</b>	<b>97,459,858.00</b>

(Accounts Officer)  
CDER

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount - Rs.)

<b><u>SCHECULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT</u></b>	<b><u>Current Year</u></b>	<b><u>Previous Year</u></b>
<b>1) Income from Sales</b>		<b><u>Current Year</u></b>
1. Sale of Finished Goods		
2. Sale of Raw Material		
3. Sale of Scraps		
<b>2) Income from Services</b>		
a) Labour and Processing Charges		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt	1,957,065.00	2,183,330.00
<b><u>TOTAL</u></b>	<b>1,957,065.00</b>	<b>2,183,330.00</b>
<b><u>SCHECULE 13 - GRANTS /SUBSIDIES</u></b>	<b><u>Current Year</u></b>	<b><u>Previous Year</u></b>
<b>1) Income from Sales</b>		
<b>(Irrevocable Grants &amp; Subsidies Received)</b>		
1. Central Government		
2. State Government(s)		
<b>3. Government Agencies</b>		
Grant in Aid (Salary)	263,700,000.00	64,935,117.00
Grant in Aid (General)	117,001,513.00	127,500,000.00
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify)		
<b><u>TOTAL</u></b>	<b>380,701,513.00</b>	<b>192,435,117.00</b>

(Accounts Officer)  
CDER

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

(Amount-Rs.)

<b><u>SCHEDULE 14 - FEES/SUBSCRIPTIONS</u></b>	Current Year	Previous Year
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>
<b>Note-</b> Accounting Policies towards each item are to be disclosed		

<b><u>SCHEDULE 15 - INCOME FROM INVESTMENTS</u></b> (Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	Investment from Earmarked Fund		Investment-Others	
	Current Year	Previous Year	Current Year	Previous Year
1. Interest				
a) On Govt. Securities				
a) Other Bonds/Debentures				
2. Dividends:				
a) On Shares				
a) On Mutual Fund Securities				
3. Rents				
4. Others (Specify)				
<b><u>TOTAL</u></b>				
<b><u>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</u></b>				

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**

Name of Entity **CENTRE FOR DENTAL EDUCATION & RESEARCH**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

**(Amount-Rs.)**

<b>SCHEDULE 18 - OTHERS INCOME</b>	<b>Current Year</b>	<b>Previous Year</b>
1. Misc. Receipt	337,956.00	219,801.00
2. Estb. Receipt (Scheme)		
3. Others (specify)	-	-
<b>TOTAL</b>	<b>337,956.00</b>	<b>219,801.00</b>

<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; W</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>		

<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>	<b>Current Year</b>	<b>Previous Year</b>
Salaries and Wages	270,905,625.60	64,935,117.00
Allowances and Bonus		
Contribution to Provident Fund		
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses		
Expenses on Employees "Retirement and Terminal Benefits"		
Others (NPS & LSPC)		
<b>TOTAL</b>	<b>270,905,625.60</b>	<b>64,935,117.00</b>

**(Accounts Officer) CDER**

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR**  
**ENDED 31-03-2020**

(Amount-Rs.)

<b><u>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES</u></b>		
<b><u>ETC.</u></b>	<b>Current Year</b>	<b>Previous Year</b>
a) Purchases of Material & Supply	38,531,174.00	38,686,005.00
b) Labour and processing expenses		
c) Cartage and Carriage Inwards		
d) Electricity and power		
e) Water charges		
f) Insurance		
g) Out sourced manpower services		
i) Security services	44,890,969.00	16,651,709.00
ii) Sanitation services		13,521,880.00
iii) Man Power		17,221,096.00
h) Repairs and maintenance	33,170,493.00	39,633,996.00
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Advertisement and Publicity		
z) Others (specify)(Contingency charge)	405,094.00	915,559.00
<b><u>TOTAL</u></b>	<b>116,997,730.00</b>	<b>126,630,245.00</b>

(Accounts Officer)  
CDER

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

(Amount-Rs.)

<b><u>SCHEDULE 21 (A) Adjustment of Advances</u></b>	<b>Current Year</b>	<b>Previous Year</b>
1. Contingency Advance		23420
2. Others (specify)	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>23,420.00</b>

(Accounts Officer)  
CDER

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**Name of Entity CENTRE FOR DENTAL EDUCATION & RESEARCH**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

	<b>(Amount-Rs.)</b>	
<b><u>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</u></b>	<b>Current Year</b>	<b>Previous Year</b>
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
<b><u>Total</u></b>	-	-
<b><u>Note</u></b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>Current Year</b>	<b>Previous year.</b>
a) On fixed Loans		
b) On other Loans ( including Bank charges)	6153	2415
c) Others( Specify)		
<b><u>Total</u></b>	<b>6153</b>	<b>2415</b>

**(Accounts Officer)**  
**CDER**

**NATIONAL REFERRAL AND RESEARCH INSTITUTE FOR HIGHER DENTAL STUDIES (NARRIDS)**

**CENTRE FOR DENTAL EDUCATION & RESEARCH  
ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI**

**RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR ENDED 31.03.2020**

<b>Income</b>	<b>Amount</b>	<b>Expenditure</b>	<b>Amount</b>
To Opening Balance			
Current Account - 37619267325	91,424,260.50	By Expenditure incurred	3,766,978.00
To Interest Earned	5,841,471.00	By Closing Balance	
		Current Account - 37619267325	93,498,753.50
	<b>97,265,731.50</b>		<b>97,265,731.50</b>

**CHIEF, CDER**

**ACCOUNTS OFFICER, CDER**

**NCI JHAJJAR, AIIMS**  
**BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

CORPUS/CAPITAL FUND AND LIABILITIES		Schedule	Current Year 2019-20	Previous Year 2018-19
CORPUS/CAPITAL FUND	1	7,976,994	-	
RESERVES AND SURPLUS	2	2,188,705	-	
EARMARKED/ENDOWMENT FUNDS	3	-	-	
SECURED LOANS AND BORROWINGS	4	-	-	
UNSECURED LOANS AND BORROWINGS	5	-	-	
DEFERRED CREDIT LIABILITIES	6	-	-	
CURRENT LIABILITIES AND PROVISIONS	7	-	-	
<b>TOTAL</b>		10,165,699	-	
<b>ASSETS</b>				
FIXED ASSETS	8	7,976,994	-	
INVESTMENTS – FROM EARMARKED/ENDOWMENT FUNDS	9	-	-	
INVESTMENTS – OTHERS	10	-	-	
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	2,188,705	-	
MISCELLANEOUS EXPENDITURE (Balance of excess of expenditure over income)		-	-	
(to the extent not written off or adjusted)				
<b>TOTAL</b>		10,165,699	-	
SIGNIFICANT ACCOUNTING POLICIES	24			
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25			

(Amount in ₹)

**F & CAO**  
**(Accounts Officer)**

**F & CAO**

**Head (NCI Jhajjar)**

**NCI JHAJJAR, AIIMS**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE FINANCIAL YEAR - 2019-20**

	Schedule	Current Year 2019-20	Previous Year 2018-19
<b>INCOME</b>			
Income from sales/services	12	3,384,763	39,060
Grants/Subsidies	13	554,122,146	-
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest, from earmarked/endow. Fund transferred to Funds)	15	-	-
Income from Royalty, Publication etc.	16	-	-
Interest Earned	17	1,472,326	-
Other Income	18	-	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL(A)</b>		558,979,235	39,060
<b>EXPENDITURE</b>			
Establishment Expenses	20	165,688,176	-
Other Administrative Expenses etc.	21	391,141,414	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end – corresponding to schedule 8)		556,829,590	-
<b>TOTAL(B)</b>		2,149,645	39,060
<b>Balance being excess of Income over Expenditure (A-B)</b>			
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) (Adjusted in Income &amp; Expenditure)</b>		2,149,645	39,060
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

(Amount in ₹)

(F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIIMS**  
**RECEIPTS AND PAYMENTS FOR THE FINANCIAL YEAR 2019-20**

(Amounts in ₹)

RECEIPTS	Current Year 2019-20	Previous Year 2018-19	PAYMENTS	Current Year 2019-20	Previous Year 2018-19
<b>I. Balances (Opening)</b>			<b>I. Expenses</b>		
(a) Cash In Hand	7,590		a) Establishment Expenses (corresponding to schedule 20)	165,688,176	
(b) Bank Balances			b) Administrative Expenses (corresponding to schedule 21)	391,141,414	
(i) Current Accounts	31,470				
			<b>II. Expenditure on Fixed Assets &amp; Capital Work-in-progress</b>		
<b>(a) Grant received from Government of India through AIIMS (Main)</b>			a) Purchase of Fixed Assets	7,976,994	
(i) Grant in Aid (Capital Assets)	7,976,994		b) Advance for M&E		
(ii) Grant in Aid (Salary)	164,122,146		b) Custome duty advance	-	
(iii) Grant in Aid (General)	390,000,000				
			<b>III. Other Payments (specify)</b>		
<b>II. Interest Received</b>			(a) Donation/Grant		

(a) On Bank deposits			(b) EMD	
Interest on TDR	1,472,326			
				-
<b>III. Other Income (Specify)</b>			<b>IV. Closing Balances</b>	
(a) Donation/Grant			a) Cash in hand	7,590
(b) Hospital Receipts	3,384,763		b) Cash at Bank	2,188,705
(c) TDR Issued	-		i) In current accounts	31,470
<b>IV. Employee Recovery (Advances)</b>				
(i) Conveyance Advance				
(ii) Computer Advances				
<b>Total</b>	<b>566,995,289</b>		<b>Total</b>	<b>566,995,289</b>
				<b>39,060</b>

(F & CAO) (Accounts Officer)

Head (NCI Jhajjar)

**NCI JHAJJAR, AIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

	Current Year 2019-20	Previous Year 2018-19
<b>SCHEDULE 1 -CORPUS/CAPITAL FUND:</b>		
Balance as at the beginning of the year	-	
Add: Contributions towards Corpus/Capital Fund	7,976,994	
Less: M & E Condemned	-	
Less: Excess Capitalized	-	
Add/ (Deduct) : Balance of net income/(expenditure) Transferred from the Income and Expenditure Account	7,976,994	
<b>BALANCE AS AT THE YEAR-END</b>	<b>7,976,994</b>	

	Current Year 2019-20	Previous Year 2018-19
<b>SCHEDULE 2 -RESERVES AND SURPLUS:</b>		
<b>1. Capital Reserve :</b>		
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
<b>2. Revaluation Reserve :</b>		
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
<b>3. Special Reserves :</b>		
As per last Account	....	....
Additional during the year	....	....
Less : Deductions during the year	(....)	(....)
<b>4. General Reserves :</b>		
As per last Account	....	....
Additional during the year	-	....
Less : Deductions during the year	-	(....)
<b>5. Excess of Income over Expenditure</b>		
As per last Account	39,060	39,060
Additional during the year	2,149,645	2,188,705
Less : Deductions during the year	-	-
<b>TOTAL</b>	<b>2,188,705</b>	<b>39,060</b>

(Accounts Officer)

(F & CAO)

**NCI JHAJJAR, AIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)



**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)	
SCHEDULE 5 - UNSECURED LOANS AND BORROWINGS:	
Current Year 2019-20	Previous Year 2018-19
1. Central Government	.....
2. State Government (Specify)	.....
3. Financial Institutions	.....
4. Banks:	
a) Term Loans	.....
b) Other Loans (Specify)	.....
5. Other Institutions and Agencies	.....
6. Debentures and Bonds	.....
7. Fixed Deposits	.....
8. Others (Specify)	.....
Total	
<b>Note : Amounts due within one year</b>	

SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:	Current Year 2019-20	Previous Year 2018-19
a) Acceptances secured by hypothecation of capital equipment and other assets		.....
b) Others	.....	
<b>TOTAL</b>	.....	.....
<b>Note : Amounts due within one year</b>		

(F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 7 – CURRENT LIABILITIES AND PROVISIONS	Current Year 2019-20		Previous Year 2018-19	
<b>A. CURRENT LIABILITIES</b>				
1. Acceptance				
2. Sundry Creditors:				
a) For Goods	.....		.....	
b) Others	.....		.....	
3. Advances Received	.....		.....	
4. Interest accrued but not due on:				
a) Secured Loans/borrowings	.....		.....	
b) Unsecured Loans/borrowings	.....		.....	
5. Statutory Liabilities:				
a) Overdue				.....
6. Other current liabilities				
a) Bank Overdraft (as per Cash Book)	-			
b) EMD/ Security Deposits				
Opening Balance				
Add During 2019-20				
Less Payment During 2019-20				
c) FDR Issued				
<b><u>TOTAL (A)</u></b>				
<b>A. PROVISIONS</b>				
1. For Taxation		.....		
2. Gratuity		.....		
3. Superannuation/Pension				
4. Accumulated Leave Encashment				
5. Trade Warranties/Claims				
Others (Specify)				
<b><u>TOTAL (B)</u></b>				
<b><u>TOTAL (A+B)</u></b>				

(F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 9 – INVESTMENTS FROM ARMARKEDED/ENDOWMENT FUNDS	Current Year 2019-20	Previous Year 2018-19
1. In Government Securities	....	
2. Other approved Securities	....	
3. Shares	....	
4. Debentures and Bonds	.....	
5. Subsidiaries and joint Ventures	....	
6. Others (to be specified)	.....	
<b><u>TOTAL</u></b>	.....	

SCHEDULE 10 – INVESTMENTS - OTHERS	Current Year 2019-20	Previous Year 2018-19
1. In Government Securities	....	
2. Other approved Securities	....	
3. Shares	.....	
4. Debentures and Bonds	....	
5. Subsidiaries and joint Ventures	....	
6. Others (to be specified)	....	
<b><u>TOTAL</u></b>	.....	

(F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

	(Amount in ₹)	
<b>SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC.</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>
<b>A. CURRENT ASSETS:</b>		
1. Inventors:		
a) Stores and Spares	-	-
b) Loose Tools	-	-
c) Stock-in-trade	-	-
Finished Goods	-	-
Work-in-progress	-	-
Raw Materials	-	-
2. Sundry Debtors:		
a) Debts Outstanding for a period exceeding six months	-	-
b) Others	-	-
3. Cash balance in hand (including cheques/drafts and imprest)	-	7,590
4. Cash at Bank:		
a) With Scheduled banks:		
On Current Accounts (NCI)	2,188,705	31,470
-On Deposit Accounts (IRCH) (FDR)	-	-
b) With non-Scheduled Banks:		
-On Current Accounts	-	-
-On Deposit Accounts	-	-
-On Saving Accounts	-	-
Previous year Closing Balance transfer to NCI A/c.	-	39,060
5. Post Office Saving Accounts	2,188,705	2,188,705
<b><u>TOTAL (A)</u></b>	<b>2,188,705</b>	<b>39,060</b>

( F & CAO )

(Accounts Officer)



**NCI JHAJJAR,AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

	Current Year 2019-20	Previous Year 2018-19
<b>SCHEDULE 12 – INCOME FROM SALES/SERVICES</b>		
1) Income from Sales		
a) Sale of Finished Goods		
b) Sale of Raw Material		
c) Sale of Scraps		
2) Income from Services	3,384,763	39,060
a) Hospital Receipts		
b) Professional/Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/property)		
e) Others (Specify)		
<b>TOTAL</b>	<b>3,384,763</b>	<b>39,060</b>

	Current Year 2019-20	Previous Year 2018-19
<b>SCHEDULE 13 – GRANTS/SUBSIDIES</b>		
(Irrevocable Grants & Subsidies Received)		
1) Central Government (Through AIIMS Main)	554,122,146	
2) State Government(s)		
3) Government Agencies		
4) Institutions/Welfare Bodies		
5) International Organizations		
<b>TOTAL</b>	<b>554,122,146</b>	<b>-</b>

(F & CAO)

Accounts Officer)

**NCI JHAJJAR,AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

<u>SCHEDULE 14 – FEES/SUBSCRIPTIONS</u>	Current Year 2019-20	Previous Year 2018-19
1) Entrance Fees		
2) Annual Fees/subscriptions		
3) Seminar/Program Fees		
4) Consultancy Fees		
5) Others (Specify)		
<b>TOTAL</b>		

**Note – Accounting Policies towards each item are to be disclosed**

	Investment from		Investment - Others	
	Current Year 2019-20	Previous Year 2018-19	Current Year 2019-	Previous Year 2018-19
<b>SCHEDULE 15 – INCOME FROM INVESTMENTS</b> (Income on Invest. From Ear4marked/Endowment Funds transferred to funds)				
1) Interest				
a) On Govt. Securities	....	....	....	....
b) Other Bonds/Debentures	....	....	....	....
2) Dividends:				
a) On Shares	....	....	....	....
b) On Mutual Fund Securities	....	....	....	....
3) Rents	....	....	....	....
4) Others (Specify)				
<b>TOTAL</b>				
<b>TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS</b>				

(F & CAO)

(Accounts Officer)



**NCI JHAJJAR,AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

		(Amount in ₹)	
<b>SCHEDULE 18 – OTHER INCOME</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>	
1) Profit on sale/disposal of Assets:			
a) Owned assets			
b) Assets acquired out of grants, or received free of cost			
2) Export Incentives realized			
3) Fees for Miscellaneous Services	-	-	
4) Miscellaneous-Adjustment on account of Festival and computer advance			
<b><u>TOTAL</u></b>	-	-	

<b>SCHEDULE 19 – INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>	
a) Closing Stock			
-Finished Goods			
-Work-in-progress			
b) Less: Opening Stock			
-Finished Goods			
-Work-in-progress			
<b>NET INCREASE/(DECREASE) (a+b)</b>			

<b>SCHEDULE 20 – ESTABLISHMENT EXPENSES</b>	<b>Current Year 2019-20</b>	<b>Previous Year 2018-19</b>	
a) Salaries and Wages	162,935,133		
b) Travelling Allowance	2,753,043		
c) Contribution to Provident Fund		.....	
d) Contribution to Other Fund (Specify)	....	.....	
e) Staff Welfare Expenses	....	.....	
f) Expenses on Employees Retirement and Terminal Benefits	...	.....	
g) Others :Computer advance excess adjusted to salary and wages		.....	
<b><u>TOTAL</u></b>	165,688,176		

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**(Accounts Officer)**

**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 22 – EXPENDITURE ON GRANTS, SUBSIDIES ETC.	Current Year 2019-20	Previous Year 2018-19
a) Grants given to Institutions/Organisations		
b) Subsidies given to Institutions/Organisations		
<b><u>TOTAL</u></b>		

**Note – Name of the Entities, their Activities along with the amount of Grants/subsidies are to be disclosed.**

(Amount in Rs.)

SCHEDULE 23 – INTEREST	Current Year 2019-20	Previous Year 2018-19
a) On Fixed Loans		
b) On Other Loans (including bank Charges)		
c) Others (specify)		
<b><u>TOTAL</u></b>		

F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 21 – OTHER ADMINISTRATIVE EXPENSIVE ETC.	Current Year 2019-20	Previous Year 2018-19
a) Purchase (Material and Supply)	133,066,836	
b) Maintenance of Building	7,635,345	
c) Hiring of Manpower	125,785,932	
d) Electirc Bills	118,951,300	
e) Telephone Bills/Internet Charges	5,702,001	
f) CAMC		
i) Others (specify) Contingency Bill		
<b><u>TOTAL</u></b>	<b>391,141,414</b>	-

(F & CAO)

(Accounts Officer)

**NCI JHAJJAR, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	FUND-WISE BREAK UP					TOTALS
a) Opening balance of the funds						
b) Additions to the Funds:						
i. Donations/grants						
ii. Income from investments made on account of funds						
iii. Other additions (specify nature)						
<b>TOTAL (a+b)</b>						
a) Utilization/Expenditure towards objectives of funds						
i. Capital Expenditure						
- Fixed Assets						
- Others						
Total						
ii. Revenue Expenditure						
- Salaries, Wages and allowances etc.						
- Other Administrative						
Total						
<b>TOTAL (c)</b>						
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>						

**Notes**

1. Disclosures shall be made under relevant heads based on conditions attaching to the grants
2. Plan fund received from Central/State Governments are to be shown as separate Funds and not be mixed up with any other funds.

(F & CAO)

(Accounts Officer)

**DR. BHIM RAO AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET FOR THE FINANCIAL YEAR - 2019-20**

(Amount in ₹)

SCHEDULE 8 – FIXED ASSETS	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost/valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end	As at the previous year-end
<b>A. FIXED ASSETS:</b>										
<b>1. LAND:</b>										
a) Freehold	-									
b) Leasehold										
<b>2. BUILDINGS:</b>										
a) On Freehold Land										
b) On Leasehold Land										
c) Ownership Flats/Premises										
d) Superstructures on Land										
Not belonging to the entity										
<b>3. PLANT MACHINERY &amp; EQUIPMENT</b>										
<b>4. VEHICLES</b>										
<b>5. FURNITURE, DIXTURES</b>										
<b>6. OFFICE EQUIPMENT</b>										
<b>7. COMPUTER/PERIPHERALS</b>										
<b>8. ELECTRIC INSTALLATIONS</b>										
<b>9. LIBRARY BOOKS</b>										
<b>10. TUBEWELLS &amp; W.SUPPLY</b>										
<b>11. OTHER FIXED ASSETS</b>										
<b>TOTAL OF CAURRENT YEAR</b>		<b>7,976,994</b>		<b>7,976,994</b>					<b>7,976,994</b>	
<b>PREVIOUS YEAR</b>										

(F & CAO)

(Accounts Officer)

**National Drug Dependence Treatment Centre**  
**RECEIPT AND PAYMENTS FOR THE YEAR ENDED 31-03-2020**

Receipts	2019-20	2018-19	Payments	2019-20	2018-19
<b>1. Opening Balances</b>			<b>1. Expenses</b>		
(a) Cash in Hand			(a) Establishment Expenses (Schedule 20)	154,572,718.00	138,631,377.00
(b) Bank Balances			(b) Administrative Expenses (Schedule 21A)	148,322,009.00	107,351,051.00
(i) In current accounts	36,293,687.00	60,305,453.00			
(ii) In deposit accounts					
(iii) In saving accounts					
			<b>2. Advance payment</b>		
			(i) Material and Supply	120,000.00	132,635.00
			(ii) Temp adv for training programme (DTCs Scheme)	20,000.00	27,901,917.00
			(iii) For Nurses Training Programm	240,000.00	
			<b>3. Investments and deposits made</b>		
<b>2. Grant Received</b>					
(a) From Government of India (Ministry of H&FW)			(a) Out of Earmarked/Endowment Funds		
Grant in Aid (Capital Assets)	10,474,468.00	15,000,000.00	(b) Out of Own funds (Investments-others)		
Grant in Aid (General)	104,429,940.00	117,500,000.00			
Grant in Aid (Salaries)	124,882,683.00	145,000,000.00	<b>4. Expenditure on Fixed Assets &amp; Capital Work-in-Progress</b>		
Grant in aid (General/DTCs Scheme)	36,437,865.00	45,000,000.00	(a) Purchase of Fixed Assets (Schedule 8)	20,941,032.00	18,391,691.00
Grant in aid (Nurses training programme)	330,600.00		(b) Expenditure on capital work-in-progress	-	-
<b>3. Income on Investment from</b>			<b>5. Refund of surplus money/loans</b>		
a) Earmarked/endow. funds			(a) To the Government of India		
b) own funds (oth. Investments)			(b) To the State Government		
			(c) Repayment of loan to AIIMS (Schedule 7)	15,000,000.00	85,000,000.00
			(d) Refund to UNDCP A/c		11,221.00
<b>4. Interest received</b>					
(a) On bank deposits			<b>6. Finance Charges (Interest)</b>		
(b) Loans, Advances etc.					
			<b>7. Other Payments (Specify)</b>		
			Outside Recoveries (GPF, NPS, HBA, Income Tax, License Fee etc.)		
<b>5. Income from Hospital Services</b>					
Hospital Receipts	675,275.00	689,040.00	(a) Projects	-	-
			(b) Refund of Earnest Money Deposit		50,000.00
<b>6. Other Income</b>			(c) Employees Recovery payment		
Miscellaneous receipt	358,743.00	31,679.00	(f) Recoveries from employees remitted to AIIMS (Main)	918,962.00	915,054.00
Receipts 5% Admin. cost from UNDCAP A/C	3,231,270.00				
Wrongly receipt form UNDCP A/c		11,221.00			
<b>7. Amount Borrowed</b>					
Loan from AIIMS (Main)	37,500,000.00	30,000,000.00	(ii) Outside Recoveries	25,386,021.00	21,671,504.00
Loan from UNDCP A/c	5,000,000.00	-	(iii) GPF (Subscription and Advances)	12,613,758.00	13,477,375.00
			(iv) NPS Recovery	5,152,376.00	4,187,563.00
<b>8. Any other receipts</b>			(v) NPS Recovery (without PRAN)	277,798.00	280,370.00
a) Projects			Previous year Recovery		
(b) Earnest Money Deposits	75,000.00		<b>Loan, Advances and Other Assets</b>		

**National Drug Dependence Treatment Centre  
RECEIPT AND PAYMENTS FOR THE YEAR ENDED 31-03-2020**

	2019-20	2018-19	Payments	2019-20	2018-19
<b>Receipts</b>					
(c) Employees Recovery(Income Tax)		213,031.00	Advance payment for purchase of Material and Supply		
(i) Recoveries from employees	918,962.00	920,209.00	Computer Advance		
(ii) Outside Recoveries	25,386,021.00	21,679,504.00	Festival Advance		
(iii) GPF (Subscription and Advances)	12,613,758.00	13,477,375.00	Recovery/Deductions (Engg Works)		
(iv) NPS Recovery	5,152,376.00	4,187,563.00	Recovery/Deductions (other than Engg Works)	3,082,277.00	1,737,119.00
(v) NPS Recovery (without PRAN)	277,798.00	280,370.00	Repayment of loan (UNDCP)	-	-
			<b>8. Closing Balances</b>		
<b>9.Loan, Adv. and Other Assets/Recovery</b>			(a)Cash in hand		
Car Advance Recovery		-	(b)Bank Balances		
Computer Advance Recovery		-	(i)In current accounts	20,473,772.00	36,293,687.00
House Building Advance Recovery		-	(ii)In deposit accounts		
Festival Advance Recovery		-	(iii)In saving accounts		
Recovery/Deductions (Engg Works)		-			
Recovery/Deductions (other than Engg Works)	3,082,277.00	1,737,119.00			
<b>Total</b>	<b>407,120,723.00</b>	<b>456,032,564.00</b>	<b>Total</b>	<b>407,120,723.00</b>	<b>456,032,564.00</b>

A.O.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31-03-2020**

<b>INCOME</b>	<b>Schedule</b>	<b>2019-20</b>	<b>2018-19</b>
Income from Sales/Services (Hospital Receipts)	12	675,275.00	689,040.00
Grants/Subsidies	13	266,081,088.00	307,500,000.00
Fees/Subscriptions	14		
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	15		
Income for Royalty, Publication etc.	16		
Interest Earned	17	-	-
Other Income	18	3,590,013.00	31,679.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
<b>TOTAL (A)</b>		<b>270,346,376.00</b>	<b>308,220,719.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	154,572,718.00	138,631,377.00
Other Administrative Expenses etc.	21	161,262,903.00	142,980,098.00
Expenditure on Grants, Subsidies etc.	22		
Interest	23		
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>315,835,621.00</b>	<b>281,611,475.00</b>
<b>Balance being excess of Expenditure over income (B-A)</b>		(45,489,245.00)	26,609,244.00
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>270,346,376.00</b>	<b>308,220,719.00</b>

**A.O.,NDDTC,AIIMS**

**CHIEF,NDDTC,AIIMS**

**NATIONAL DURG DEPENDENCE TREATMENT CENTRE  
BALANCE SHEET AS AT 31-03-2020**

(Amount in Rupees)

<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>	<b>Schedule</b>	<b>2019-20</b>	<b>2018-19</b>
CORPUS/CAPITAL FUND	<b>1</b>	275,463,393.00	266,672,470.00
RESERVES AND SURPLUS	<b>2</b>	1,000,518.00	46,489,763.00
EARMARKED/ ENDOWMENT FUNDS	<b>3</b>	-	-
SECURED LOANS AND BORROWINGS	<b>4</b>	-	-
UNSECURED LOANS AND BORROWINGS	<b>5</b>	-	-
DEFERRED CREDIT LIABILITIES	<b>6</b>	-	-
CURRENT LIABILITIES AND PROVISIONS	<b>7</b>	42,986,370.00	15,411,370.00
<b>TOTAL</b>		<b>319,450,281.00</b>	<b>328,573,603.00</b>
<b><u>ASSETS</u></b>			
FIXED ASSETS	<b>8</b>	295,017,813.00	275,760,326.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	<b>9</b>	-	-
INVESTMENTS-OTHERS	<b>10</b>	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	<b>11</b>	24,432,468.00	52,813,277.00
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)			
<b>TOTAL</b>		<b>319,450,281.00</b>	<b>328,573,603.00</b>

AO., NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

<b><u>SCHEDULE 1- CORPUS/CAPITAL FUND:</u></b>	<b>2019-20</b>	<b>2018-19</b>
Balances as at the beginning of the year	266,672,470.00	251,672,470.00
Add : Contributions towards Corpus/Capital Fund	10,474,468.00	15,000,000.00
Less : Fixed Assets Condemned during the year	1,683,545.00	275,463,393.00
<b>BALANCE AS AT THE YEAR-END</b>	<b>275,463,393.00</b>	<b>266,672,470.00</b>

<b><u>SCHEDULE 2- RESERVES AND SURPLUS:</u></b>	<b>2019-20</b>	<b>2018-19</b>
1. <u>Capital Reserve:</u>		
As per last Account		
Addition during the year		
Less: Deductions during the year		
2. Revaluation Reserve		
As per last Account		
Addition during the year		
Less: Deductions during the year		
3. Special Reserves		
As per last Account		
Addition during the year		
Less: Deductions during the year (AIIMS LOAN REVERSE)		
4. General Reserve		
As per last Account	46,489,763.00	
Adjusted during the year	(45,489,245.00)	1,000,518.00
<b>TOTAL</b>	<b>1,000,518.00</b>	<b>46,489,763.00</b>

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020

(Amount-Rs.)

<u>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</u>	Scheme Non		TOTALS	
	Scheme		2019-20	2018-19
a) Opening balance of the funds				
b) Additions to the Funds:				
i. Donations/grants				
ii. Income from investments made on account of funds		0		
iii. Other additions (specify nature)				
iv. Less Expenditure during the year			0	
<b>TOTAL (a+b)</b>			<b>0</b>	<b>0</b>
c) Utilisation/Expenditure towards objectives of funds				
i. <u>Capital Expenditure</u>				
- Fixed Assets				
- Others				
ii. <u>Revenue Expenditure</u>				
- Salaries, Wages and allowances etc.				
- Rent				
- Other Administrative expenses				
<b>Total</b>				
<b>TOTAL (c)</b>			<b>0</b>	<b>0</b>
<u>NET BALANCE AS AT THE YEAR-END (a+b-c)</u>				
			<b>0</b>	<b>0</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2019-20</b>		<b>2018-19</b>	
1. Central Government				
2. State Government				
3. Financial Institutions				
a) Term Loans				
b) Interest accrued and due				
4. Banks:				
a) Term Loans				
- Interest accrued and due				
b) Other Loans (specify)				
- Interest accrued and due				
5. Other Institutions and Agencies				
6. Debentures and Bonds				
7. Others (Specify)				
<b><u>TOTAL</u></b>	0	0	0	0
<b>Note :</b> Amounts due within one year				

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2019-20</b>	<b>2018-19</b>
1. Central Government		
2. State Government		
3. Financial Institutions		
4. Banks:		
a) Term Loans		
b) Other Loans (specify)		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Fixed Deposits		
8. Others (Specify)		
<b><u>TOTAL</u></b>	0	0
<b>Note:</b> Amounts due within one year		

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>2019-20</b>	<b>2018-19</b>
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b><u>TOTAL</u></b>	0	0
<b>Note:</b> Amount due within one year		

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount -Rs.)

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2019-20</b>		<b>2018-19</b>	
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>				
1. Acceptances				
2. Sundry Creditors:				
a) For Good:				
b) Others (Outside recoveries to be paid to AIIMS	13,155.00	13,155.00		13,155.00
i) AIIMS Employes (OB)				
ii) Outside recoveries(OB)				
Opening Balance				
Less adjust during the year				
3. Advances Received for patients from Govt Agencies				
i) NIAF				
4. Projects Grants				
ii) NPCB				
5. Interest accrued but not due on:				
a) Secured Loans/borrowings				
a) Unsecured Loans/borrowings				
6. Statutory Liabilities:				
a) Overdue				
a) Others				
7. Security Deposits (EMD)				
Opening Balance	285,000.00			285,000.00
Received during the year	75,000.00			
Refund during the year		360,000.00		
6. Other current Liabilities	113,215.00	113,215.00		113,215.00
Refund to UNDCP A/c				
9. Loan from UNDCP A/c	5,000,000.00			
Less : Loan refund to UNDCP A/c	-	5,000,000.00		-
10. Loan from AIIMS (Main) (OB)	15,000,000.00			-
Loan from AIIMS (Main)	37,500,000.00			15,000,000.00
Loan refund to AIIMS (Main)	15,000,000.00	37,500,000.00		
<b>TOTAL (A)</b>		<b>42,986,370.00</b>		<b>15,411,370.00</b>
<b>B. PROVISIONS</b>				
1. For Taxation				
2. Gratuity				
3. Superannuation/Pension				
6. Accumulated Leave Encashment				
6. Trade Warranties/Claims				
6. Others (specify)				
<b>TOTAL (B)</b>				
<b>TOTAL (A+B)</b>		<b>42,986,370.00</b>		<b>15,411,370.00</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rs.)

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 19-20	As at the previous year-end 18-19
<b>A. FIXED ASSETS:</b>										
1. LAND:										
a) Freehold										
b) Leasehold										
2. BUILDINGS:										
a) Engineering related capital work	121,273,254.00	3,799,575.00		125,072,829.00					125,072,829.00	121,273,254.00
b) On Leasehold Land										
c) Ownership Flats/Premises										
d) Superstructures on Land										
Not belonging to the entity										
3. PLANT MACHINERY & EQUIPMENT	78,810,211.00	4,217,837.00	1,030,472.00	81,997,576.00					81,997,576.00	78,810,211.00
4. VEHICLES	13,331,349.00			13,331,349.00					13,331,349.00	13,331,349.00
5. FURNITURE, FIXTURES	13,740,723.00	2,317,064.00	653,073.00	15,404,714.00					15,404,714.00	13,740,723.00
6. OFFICE EQUIPMENT										
7. COMPUTER/PERIPHERALS										
8. ELECTRIC INSTALLATIONS										
9. LIBRARY BOOKS	46,471,229.00	10,606,556.00		57,077,785.00					57,077,785.00	46,471,229.00
10. TUBEWELLS & W.SUPPLY	2,133,560.00			2,133,560.00					2,133,560.00	2,133,560.00
11. OTHER FIXED ASSETS (SAP)										
<b>TOTAL OF CAURRENT YEAR PREVIOUS YEAR</b>	<b>275,760,326.00</b>	<b>20,941,032.00</b>	<b>1,683,545.00</b>	<b>295,017,813.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>295,017,813.00</b>	<b>275,760,326.00</b>
<b>B. CAPITAL WORK-IN-PROGRESS</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL</b>	<b>275,760,326.00</b>	<b>20,941,032.00</b>	<b>1,683,545.00</b>	<b>295,017,813.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>295,017,813.00</b>	<b>275,760,326.00</b>

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount - Rs.)

<b><u>SCHECULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others (to be specified)		0
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

<b><u>SCHECULE 10 - INVESTMENTS - OTHERS</u></b>	<b><u>2019-20</u></b>	<b><u>2018-19</u></b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others (to be specified)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

		(Amount - Rs.)	
		2019-20	2018-19
<b>A</b>			
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>			
<b>CURRENT ASSETS:</b>			
1. <u>Advances for Procurement</u>			
a) Material and Supply	Opening Balance	255,000.00	255,000.00
	Addition during the year	120,000.00	132,635.00
	Adjusted during the year	120,000.00	132,635.00
		255,000.00	255,000.00
b) Nurses Training programme:			
	Opening Balance	-	
	Addition during the year	240,000.00	
	Adjusted during the year	115,000.00	
		125,000.00	
2. <u>Advance for training Programme</u>			
	Opening Balance	15,823,882.00	23,418,377.00
	Addition during the year	20,000.00	27,901,917.00
	Adjusted during the year	12,705,894.00	35,496,412.00
		3,137,988.00	15,823,882.00
3. <u>Sundry Debtors:</u>			
a) Debts Outstanding for a period exceeding six months			
b) Others Over payment under salaries head (Income tax)			
Imprest	Opening balance		
	Adjusted during the year		
4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>			
		-	-
5. <u>Bank Balances:</u>			
a) <u>With Scheduled Banks:</u>			
	On Current Accounts		
	On Deposit Accounts (includes margin money)	20,473,772.00	36,293,687.00
	On Savings Accounts		
b) <u>With non-Scheduled Banks:</u>			
	On Current Accounts		
	On Deposit Accounts	400,000.00	400,000.00
	On Savings Accounts	40,708.00	40,708.00
6. <u>Customs Duty Advance</u>			
7. <u>Outside Recovery</u>			
		400,000.00	400,000.00
		40,708.00	40,708.00
<b>TOTAL (A)</b>		<b>24,432,468.00</b>	<b>52,813,277.00</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount - Rs.)

<b>SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>	<b>2019-20</b>	<b>2018-19</b>
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans:</b>		
a) Staff		
i) Motor car		
ii) House Building Advance		
iii) Computer Advance		
iv) Festival Advance		
<b>2. Advances and other amounts recoverable in cash or in kind or for value to be received:</b>		
a) On Capital Account		
b) Prepayments		
c) Others		
<b>3. Income Accrued:</b>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others		
(includes income due unrealised - Rs.....)		
<b>4. Claims Receivable:</b>		
<b>TOTAL (B)</b>	0	0
<b>TOTAL (A + B)</b>	24,432,468.00	52,813,277.00

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2020**

(Amount - Rs.)

<b>SCHECULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2019-20</b>	<b>2018-19</b>
<b>1) Income from Sales</b>		
1. Hospital receipts	675,275.00	689,040.00
2. Administrative charges(Project)		
3. Sales of scraps		
<b>2) Income from Services</b>		
a) Labour and Processing Charges		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt		
<b>TOTAL</b>	675,275.00	689,040.00

<b>SCHECULE 13 - GRANTS /SUBSIDIES</b>	<b>2019-20</b>	<b>2018-19</b>
<b>1) Income from Sales</b>		
(Irrevocable Grants & Subsidies Received)		
1. Central Government	266,081,088.00	307,500,000.00
2. State Government(s)		
3. Government Agencies		
4. Institutions/ Welfare Bodies (SAP)		
5. International Organisations		
6. Others (Specify) LOAN FROM AIIMS		
<b>TOTAL</b>	266,081,088.00	307,500,000.00

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	<b>(Amount-Rs.)</b>	
	<b>2019-20</b>	<b>2018-19</b>
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

**Note-** Accounting Policies towards each item are to be disclosed

<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>	<b>Investment from Earmarked Fund</b>		<b>Investment-Others</b>	
	<b>2019-20</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2018-19</b>
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)				
1. Interest				
a) On Govt. Securities				
a) Other Bonds/Debentures				
2. Dividends:				
a) On Shares				
a) On Mutual Fund Securities				
3. Rents				
4. Others (Specify)				
<b>TOTAL</b>				
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>				

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

**(Amount-Rs.)**

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2019-20</b>	<b>2018-19</b>
1. On Term Deposits:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2. On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) Post Office Savings Accounts		
d) Others		
3. On Loans:		
a) Employees/Staff		
b) Others		
4. Interest on Debtors and other Receivables		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2021**

<b>SCHEDULE 18 - OTHERS INCOME</b>	<b>2019-20</b>	<b>2018-19</b>
1. Misc Receipts	358,743.00	31,679.00
2. Receipts 5% Admn. Cost form UNDCAP A/c	3,231,270.00	
3. Others (specify)		
<b>TOTAL</b>	<b>3,590,013.00</b>	<b>31,679.00</b>

<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>2019-20</b>	<b>2018-19</b>
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>-</b>	<b>-</b>

<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>	<b>2019-20</b>	<b>2018-19</b>
Salaries	144,572,490.00	134,025,070.00
Salaries expenditure under 5% Admn. Cost received from UNDCAP A/C contribution fo NPS	2,072,718.00	
Contribution to Other Fund (Scheme Cell)	7,927,510.00	4,606,307.00
Staff Welfare Expenses		
Expenses on Employees " :Retirement and Terminal Benefits"		
Others (NPS & LSPC)		
<b>TOTAL</b>	<b>154,572,718.00</b>	<b>138,631,377.00</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)	56,257,449.00	53,073,788.00
b) Housekeeping service:	21,452,084.00	18,204,715.00
c) Misc expenditure (Adj. of advances)	120,000.00	132,635.00
d) Wages for security and contractual staff	32,913,376.00	21,353,767.00
e) Misc Exp from Impres:	95,751.00	99,586.00
f) Imrest adjusted (19-20) Misc expenditure		
g) Repairs and maintenance (M&E)		
h) Excise Duty		
i) Rent, Rates and Taxe:		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charge:		
l) Printing and Stationary		
m) Nurses Training program (Adjustment of Advances)	115,000.00	
n) Expenses under Nurses Training programme	46,314.00	
o) Expenses under DTCs Scheme	37,476,165.00	11,035,948.00
p) Expenses on Sanitation (SAP)	80,870.00	3,583,247.00
q) Maintenance of Buildings (Minor Work RG)		
r) Maintenance of M&E (CAMC/AMC)		
s) Maintenance of Building (Non-plan)		
t) Provision for Bad and Doubtful Debts/Advance:		
u) Irrecoverable Balances Written-off		
v) Swap Charges (IDBI Debit/Credit Card Commission)		
w) Freight and Forwarding Expenses:		
x) Distribution Expenses:		
y) Advertisement and Publicity		
z) Others (specify) Training programme	12,705,894.00	35,496,412.00
<b>TOTAL</b>	<b>161,262,903.00</b>	<b>142,980,098.00</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF RECEIPTS & PAYMENT FOR THE YEAR ENDED 31-03-2020**

(Amount-Rs.)

<b>SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2019-20</b>	<b>2018-19</b>
a) Purchases (Material and Supply)	56,257,449.00	53,073,788.00
b) HOUSEKEEPING SERVICES (SAP)	21,452,084.00	18,204,715.00
c) Misc expenditure (Adj. of advances)		
d) Wages for security and contractual staff	32,913,376.00	21,353,767.00
e) Water charges		
f) Imrest adjusted (18-19)	95,751.00	99,586.00
g) Repairs and maintenance (M&E)		
h) Excise Duty		
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses under Nurses Training programme	46,314.00	
o) Expenses under DTCs Scheme	37,476,165.00	11,035,948.00
p) Expenses on Sanitation (SAP)	80,870.00	3,583,247.00
q) Maintenance of Buildings (Minor Work RG)		
r) Maintenance of M&E (CAMC/AMC)		
s) Maintenance of Building (Non-plan)		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Swap Charges (IDBI Debit/Credit Card Commission)		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Advertisement and Publicity		
z) Others (specify)(Contingency charge)(Adj. of advances)		
<b>TOTAL</b>	<b>148,322,009.00</b>	<b>107,351,051.00</b>

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**

**(Amount-Rs.)**

<b><u>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</u></b>	<b>2019-20</b>	<b>2018-19</b>
a). Grants given to Institutions/Organizations		
b). Subsidies given to Institutions/organisations		
<b><u>Total</u></b>	0	0
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b><u>SCHEDULE 23- INTEREST</u></b>	<b>2019-20</b>	<b>2018-19</b>
a) On fixed Loans		
b) On other Loans ( including Bank charges)		
c) Others( Specify)		
<b><u>Total</u></b>	0	0

**UNDCP ACCOUNT**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCE**  
**RECEIPTS AND PAYMENT ACCOUNT**  
**FOR THE YEAR ENDED ON 31st MARCH, 2020**

RECEIPTS	2019-20	2018-19	PAYMENTS	2019-20	2018-19
<b>I. Opening Balance</b>					
a) Cash in hand			I. Expenses		
b) Bank Balances			a) Establishment Expenses ( Schedule No.5)	2,364,869	1,924,206
(i) In current accounts	60,122,247	73,732,674	b) Administrative Expenses (Schedule No.6)	8,158,170	4,390,985
(ii) In deposit accounts			c) Bank charges (Schedule No.7)	649	649
(iii) Savings accounts			<b>V. Refund of Surplus Money/Loans</b>	5,000,000	
			a) To the Government of India		
			b) Grant refund to WHO		
			c) To other providers of Funds		
<b>II. Grants Received</b>					
a) From WHO	257,550	85,850			
b) From Ministry of Finance	874,628		<b>VI. Expenditure on fixed assets (Schedule No.2)</b>	28,947,635	7,499,950
c) From MOSJE	192,725,400	119,513			
			<b>VII. Other Payments</b>		
<b>V. Other Income</b>			a) Engg. Maintenances		
a) Hospital Receipts			b) Minor Works.		
b) Misc. Receipts			c) Misc Expenditure		
			d) Festival Advance Paid		
<b>VII. Any other receipts</b>			h) Patient Treatment		
a) Imprest			i) Advances paid as Custom Duty		
b) AITSC					
c) INCPT			<b>VIII. Closing Balances</b>		
d) Other Misc.			a) Cash in hand		
			b) Bank Balances		
			i) In Current accounts	209,508,502	60,122,247
			ii) In Deposit accounts		
			iii) Savings accounts		
	253,979,825	73,938,037		253,979,825	73,938,037

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
INCOME AND EXPENDITURE ACCOUNT**

INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR 31.3.2020

<b>INCOME</b>	<b>SCHEDULE</b>	<b>2019-20</b>	<b>2018-19</b>
Income from Services			
Grants/Subsidies	4	193,857,578.00	205,363
Fees/Subscriptions			
Income from Investments ( Income on Investment from earmarked/endow. Funds)			
Income from Royalty, Publication			
Interest Earned			
Other Income			
<b>Total (A)</b>		193,857,578.00	<b>205,363</b>
<b>EXPENDITURE</b>			
Establishment Expenses	5	2,364,869.00	1,924,206
Other Administrative Expenses	6	8,158,170.00	4,390,985
Expenditure on Grants, Subsidies			
Bank Charges	7	649.00	649
Depreciation			
Others			0
<b>Total (B)</b>		10,523,688	6,315,840
<b>Balance being excess of income over expenditure (A-B)</b>		183,333,890	-6,110,477
Transfer to Special Reserve (Specify Each)			
Transfer to General Reserve			
<b>Balance Being Surplus/ Deficit carried to General Reserve</b>		183,333,890	-6,110,477
		193,857,578	205,363

AO, NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
BALANCE SHEET as at 31st March, 2020**

<b>CORPUS / CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>2019-20</b>	<b>2018-19</b>
CORPUS / CAPITAL FUND			
RESERVE AND SURPLUS	1	251,001,087.00	67,667,197.00
EARMARKED / ENDOWMENT FUNDS			
SECURED LOANS AND BORROWINGS			
UNSECURED LOANS AND BORROWINGS			
DEFERRED CREDIT LIABILITIES			
CURRENT LIABILITIES AND PROVISIONS			
<b>Total Capital Fund and Liabilities</b>		<b>251,001,087.00</b>	<b>67,667,197.00</b>
<b>ASSETS</b>			
FIXED ASSETS			
INVESTMENTS - FROM EARMARKED / ENDOWMENT FUNDS	2	36,447,585.00	7,499,950.00
INVESTMENTS - OTHERS			
CURRENT ASSETS, LOANS, ADVANCES ETC.	3	214,553,502.00	60,167,247.00
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)			
<b>Total Assets</b>		<b>251,001,087.00</b>	<b>67,667,197.00</b>

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020**

<b>Schedule 1 - Reserve and Surplus</b>	<b>2019-20</b>	<b>2018-19</b>
<b>1. Capital Reserve :</b>		
As per last Account		
Addition during the year		
Less : Deduction During the year		
<b>2. Revaluation Reserve :</b>		
As per last Account		
Addition during the year		
Less : Deduction During the year		
<b>3. Special Reserves :</b>		
As per last Account		
Addition during the year		
Less : Deduction During the year		
<b>4. General Reserve :</b>		
As per last Account	67,667,197.00	
Less:- Excess of Expenditure over Income		73,777,674.00
Add :- Excess of Income over Expenditure	183,333,890.00	(6,110,477.00)
Less : Grant refund to ministry	251,001,087.00	
<b>Closing Balance</b>	<b>251,001,087.00</b>	<b>67,667,197.00</b>

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2020**

(Amount in Rs.)

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 19-20	As at the previous year-end 18-19
<b>A. FIXED ASSETS:</b>										
1. LAND:										
a) Freehold										
b) Leasehold										
2. BUILDINGS:										
a) On Freehold Land (construction)										
b) On Leasehold Land										
c) Ownership Flats/Premises										
d) Superstructures on Land										
Not belonging to the entity										
3. PLANT MACHINERY & EQUIPMENT	7,499,950.00	28,947,635.00		36,447,585.00					36,447,585.00	7,499,950.00
4. VEHICLES										
5. FURNITURE, DIXTURES										
6. OFFICE EQUIPMENT										
7. COMPUTER/PERIPHERALS										
8. ELECTRIC INSTALLATIONS										
9. LIBRARY BOOKS										
10. TUBEWELLS & W.SUPPLY										
11. OTHER FIXED ASSETS (SAP)										
<b>TOTAL OF CAURRENT YEAR PREVIOUS YEAR</b>	<b>7,499,950.00</b>	<b>28,947,635.00</b>	<b>-</b>	<b>36,447,585.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36,447,585.00</b>	<b>7,499,950.00</b>
<b>B. CAPITAL WORK-IN-PROGRESS</b>										
<b>TOTAL</b>	<b>7,499,950.00</b>	<b>28,947,635.00</b>	<b>-</b>	<b>36,447,585.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36,447,585.00</b>	<b>7,499,950.00</b>

AO, NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2020**

Schedule 3 Current Assets, Loans, Advances	2019-20	2018-19
<b>1. Cash in hand ( including cheques/drafts and imprest)</b>		
<b>2. Bank Balances:</b>		
a) Current Account	209,508,502.00	60,122,247.00
b) Deposit Account ( Fixed Deposit )		
<b>3. Loans:</b>		
a) To Employees of Entity		
<b>5. Advances and Other amounts recoverable:</b>		
a) From Employees of Entity		
b) From Others (NDDTC) loan for NDDTC	5,000,000.00	
Less :- Adjustment during the year		-
<b>6. Others</b>		
<b>Advances</b>	45,000.00	45,000.00
<b>Less- Advance adjust during the year</b>		
<b>Balance as at the Year End</b>	<b>214,553,502.00</b>	<b>60,167,247.00</b>

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**FORM OF FINANCIAL STATEMENTS  
ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE ENDED 31.3.2020**

Schedule 4 - Grants and Subsidies	2019-20	2018-19
a) From WHO	257,550.00	85,850.00
b) From Ministry of Finance	874,628.00	
c) From MOSJE	192,725,400.00	119,513.00
<b>Total</b>	<b>193,857,578.00</b>	<b>205,363.00</b>

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**FORM OF FINANCIAL STATEMENTS  
ALL INDIA INSTITUTE OF MEDICAL SCIENCE**

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2020

<b>Schedule 5- Establishment Expenditure</b>	<b>2019-20</b>	<b>2018-19</b>
Establishment Charges (Salaries)	2,364,869.00	1,924,206.00
<b>Total</b>	<b>2,364,869.00</b>	<b>1,924,206.00</b>

<b>Schedule 6- Other Administrative Expenses Etc.</b>	<b>2019-20</b>	<b>2018-19</b>
Purchase (Material & Supply )	3,961,901.00	4,182,693.00
Transfer of funds to various centre	752,000.00	
Travelling Expenditure	207,999.00	119,513.00
5% of grants transferred to NDDTC	3,231,270.00	
Miscellaneous Expenditure	5,000.00	88,779.00
<b>Total</b>	<b>8,158,170.00</b>	<b>4,390,985.00</b>

AO,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**FORM OF FINANCIAL STATEMENTS  
ALL INDIA INSTITUTE OF MEDICAL SCIENCE**

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2020

<b>Schedule 7- Bank Charges</b>	<b>2019-20</b>	<b>2018-19</b>
Bank Charges	649	649
<b>Total</b>	<b>649</b>	<b>649</b>

AO,NDDTC,AIIMS

**Centre For Intergrative Medicine & Research (AIIMS)**  
**Balance Sheet as at 31.03.2020**

		(Amount in Rs.)	
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>Current Year</b>	<b>Previous Year</b>
Corpus/Capital Fund	1	17,040,904	16,174,915
Reserves and Surplus	2	12,276	6,671
Earmarked/ Endowment Funds	3	-	-
Revolving Funds	4	-	-
Secured Loans and Borrowings	5	-	-
Unsecured Loans and Borrowings	6	-	-
Deferred Credit Liabilities	7	-	-
Current Liabilities and Provisions	8	95,000	95,000
<b>TOTAL</b>		<b>17,148,181</b>	<b>16,276,586</b>
<b>ASSETS</b>			
Fixed Assets	9	17,033,853	16,167,864
Investments-From Earmarked/Endowment Funds	10	-	-
Investment-Others	11	-	-
Current Assets, Loans, Advances Etc.	12	114,328	108,722
Miscellaneous Expenditure		-	-
(To the extent not written off or adjusted)			
Balance of excess of expenditure over income			
<b>TOTAL</b>		<b>17,148,181</b>	<b>16,276,586</b>
Significant Accounting Policies	25		
Contingent Liabilities and Notes on Accounts	26		

**PROFESSOR I/C, CIMR**

**Accounts Officer, CNC**

**Centre For Integrative Medicine & Research (AIIMS)**

**Income and Expenditure Account for the year ending on 31.03.2020**

	Schedule	Current Year	Pervious Year
<b><u>INCOME</u></b>			(Amount Rs.)
Income from Sales/services	13	5,605	3,698
Grants/Subsidies	14	1,499,163	699,245
Fees/Subscriptions	15	-	-
Income from Investments (Income on Invest. From earmarked/endow. Funds Transferred to Funds)	16	-	-
Income from Royalty, publications etc.	17	-	-
Interest Earned	18	-	-
Other Income	19	-	-
Increase/(decrease) of Finished goods and works-in-progress	20	-	-
<b>TOTAL(A)</b>		<b>1,504,768</b>	<b>702,943</b>
<b><u>EXPENDITURE</u></b>			
Establishment Expenses	21	-	-
Other Administrative Expenses etc.	22	300,566	293,861
Payment made against fund for various projects	22 (A)	-	-
Material & Supply	23	1,198,597	405,359
Expenditure on Grants, Subsidies Etc.	24	-	-
Interest & Finance Expenses	25	-	-
Depreciation (Net Total at the year-end-corresponding to Schedule 11)			
<b>TOTAL (B)</b>		<b>1,499,163</b>	<b>699,220</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		5,605	3,723
Transfer to Special Reserve (Specify each)		-	-
Transfer to/from General Reserve		-	-
<b>Balance being surplus/(deficit) carried to corpus/capital fund</b>		<b>5,605</b>	<b>3,723</b>
Significant Accounting Policies	25		
Contingent Liabilities and Notes on Accounts	26		

**PROFESSOR I/C, CIMR**

Accounts Officer

**Centre For Integrative Medicine & Research (AIIMS)**

**Schedules forming part of the Balance Sheet as at 31.03.2020**

		(Amount in Rs.)	
<b>Schedule 1 – Corpus/ Capital Funds</b>		<b>Current Year</b>	<b>Pervious Year</b>
Balance as at the beginning of the year		16,174,915	16,174,915
<u>Add:</u> Contributions towards Corpus/Capital Fund (Through Aiims Main)		865,989	
Add: Corpus/Capital Created out of Donation			
<b><u>Add/Deduct:</u></b> Balance of net income / (expenditure) transferred from the Income and Expenditure Account		-	-
<b>Balance as at the end of the year</b>		<b>17,040,904</b>	<b>16,174,915</b>

		(Amount Rs.)	
<b>Schedule 2 – Reserves and Surplus</b>		<b>Current Year</b>	<b>Pervious Year</b>
<b>1. Capital Reserve</b>			
Balance as at the beginning of the year		6,671	6,671
CIMR A/c		5,605	
<u>Add:</u> Additions during the year			
CIMR A/c			
2. Revaluation Reserves			
Balance as at the beginning of the year		-	-
<u>Add:</u> Additions during the year			
<u>Less:</u> Deductions during the year			
3. Special Reserve			
Balance as at the beginning of the year		-	-
<u>Add:</u> Additions during the year			
<u>Less:</u> Deductions during the year			
4. General Reserve			
Balance as at the beginning of the year		-	-
<u>Add:</u> Additions during the year			
<u>Less:</u> Deductions during the year			
5. Excess of income over expenditure			
<b>TOTAL</b>		<b>12,276</b>	<b>6,671</b>

(Amount in Rs.)

Schedule -3 Earmarked/ Endowment Funds	XXX	YYY	Current Year	Previous Year
			Total	Total
<b>a) Opening balance of the funds</b>	-	-	-	-
<b>b) Additions to the Funds</b>	-	-	-	-
i. Donations/grants	-	-	-	-
ii. Income from Investments made on account of funds	-	-	-	-
iii. Received from patients	-	-	-	-
iv. Other additions (specify nature )	-	-	-	-
<b>TOTAL (a+b)</b>	-	-	-	-
<b>c) Utilisation/Expenditure towards objectives of funds</b>				
i. Capital Expenditure				
Fixed Assets	-	-	-	-
Others	-	-	-	-
<b>TOTAL (c.i)</b>	-	-	-	-
<b>ii. Revenue Expenditure</b>				
Salaries, Wages and allowances etc.	-	-	-	-
Rent	-	-	-	-
Bank Charges	-	-	-	-
Other Administrative expenses	-	-	-	-
<b>TOTAL c (ii)</b>	-	-	-	-
<b>TOTAL (c)</b>	-	-	-	-
<b>d) Refunds to Patients</b>	-	-	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c-d)</b>	-	-	-	-

(Amount in Rs.)

Schedule -4 Revolving Fund	Current Year			Previous Year
	XX	YY	Total	Total
<b>a) Opening balance of the funds</b>	-	-	-	-
<b>b) Additions to the Funds</b>				
i. Received From Patients	-	-	-	-
ii. Grant Receive (17-18)	-	-	-	-
<b>TOTAL (a+b)</b>	-	-	-	-
<b>c) Utilisation/Expenditure towards objectives of funds</b>				
i. <b>Capital Expenditure</b>				
Fixed Assets	-	-	-	-
Others (Specify)	-	-	-	-
<b>TOTAL (c.i)</b>	-	-	-	-
ii. <b>Revenue Expenditure</b>				
Material & Supply	-	-	-	-
Others (Specify)	-	-	-	-
Transfer to various pts. A/c	-	-	-	-
<b>TOTAL (c.ii)</b>	-	-	-	-
<b>TOTAL (c)</b>	-	-	-	-
<b>Balance as at the end of the year (a+b-c)</b>	-	-	-	-

Schedule 5 - Secured Loans And Borrowings		(Amount in Rs.)	
	Current Year	Previous Year	
<b>1. Capital Government</b>	-	-	-
<b>2. State Government (Specify)</b>	-	-	-
<b>3. Financial Institutions</b>			
a) Term Loans			-
b) Interest accrued and due			-
<b>4. Banks</b>			
a) Term Loans			
- Interest accrued and due			-
b) Other Loans (specify)			
- Interest accrued and due			-
<b>5. Other Institutions and Agencies</b>			-
<b>6. Debentures and Bonds</b>			-
<b>7. Others (specify)</b>			-
<b>TOTAL</b>	-		-
<b>Note:</b> Amounts due within one year			

(Amount in Rs.)		
<b>Schedule 6-Unsecured Loans And Borrowings</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1. Capital Government</b>	-	-
<b>2. State Government (Specify)</b>	-	-
<b>3. Financial Institutions</b>	-	-
a) Term Loans	-	-
b) Interest accrued and due	-	-
<b>4. Banks</b>	-	-
a) Term Loans	-	-
- Interest accrued and due	-	-
b) Other Loans (specify)	-	-
- Interest accrued and due	-	-
<b>5. Other Institutions and Agencies</b>	-	-
<b>6. Debentures and Bonds</b>	-	-
<b>7. Others (specify)</b>	-	-
<b>TOTAL</b>	-	-
<b>Note:</b> Amounts due within one year		

(Amount in Rs.)		
<b>Schedule 7- Deferred Credit Liabilities</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Acceptance secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	-	-
<b>Note:</b> Amount due within one year		

(Amount in Rs.)

<b>Schedule 8-Current Liabilities</b>	<b>Current Year</b>	<b>Pervious Year</b>
<b>A. Current Liabilities</b>		
1. <i>Acceptances</i>	-	-
2. <i>Sundry Creditors</i>		
a) For Goods	-	-
b) Others		
3. <i>Advances Received</i>	-	-
4. <i>Interest accrued but not due on</i>		
a) Secured Loans/borroings	-	-
b) Unsecured Loans/borrowings	-	-
5. <i>Statutory Liabilities</i>		
a) Overdue	-	-
b) Others	-	-
6. <i>Other Current Liabilities</i>	-	-
7. <i>Security Deposit</i>	95,000	95,000
8. <i>Imprest</i>	-	-
9. <i>Aiims Neuro Sciences Poor Pts. A/c</i>	-	-
<b>TOTAL (A)</b>	<b>95,000</b>	<b>95,000</b>
<b>B. Provisions</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/ Pension	-	-
4. Accumulated Leave Encashment	-	-
5. Trade Warranties/ Claims	-	-
6. Accumulated Depreication	-	-
7. Others	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
<b>TOTAL (A)+(B)</b>	<b>95,000</b>	<b>95,000</b>

Particulars	GROSS BLOCK						DEPRECIATION			NET BLOCK			
	Cost/Valuation as at beginning of the year	Additions during the year	Deductions during the year	Additions during the year (Letter of Credit)	Additions during the year (PDA)	Additions during the year (Custom Duty)	Cost/Valuation at the year-end	As at the begni. of the year	For the year	On ded. during the year	Total up to the year-end	As at the current year-end	As at the previous year-end
<b>FIXED ASSETS</b>													
<b>LAND</b>													
a) Freehold	-	-	-	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>BUILDINGS</b>													
a) On Freehold Land	-	-	-	-	-	-	-	-	-	-	-	-	-
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-	-	-	-
d) Superstructures on Land not belonging to the entity	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>INTANGIBLE FIXED ASSETS</b>													
a) Software	14,675,269	865,989	-	-	-	-	-	-	-	-	-	15,541,258	14,675,269
<b>PLANT, MACHINERY &amp; EQUIPMENT*</b>													
VEHICLES	-	-	-	-	-	-	-	-	-	-	-	-	-
FURNITURE, FIXTURES	906,555	-	-	-	-	-	-	-	-	-	-	906,555	906,555
COMPUTER/ PERIPHERALS	586,040	-	-	-	-	-	-	-	-	-	-	586,040	586,040
ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-	-	-	-
LIBRARY BOOKS	-	-	-	-	-	-	-	-	-	-	-	-	-
Tube well & Water-supply	-	-	-	-	-	-	-	-	-	-	-	-	-
OFFICE EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL OF CURRENT YEAR</b>	<b>16,167,864</b>	<b>865,989</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17,033,853</b>	<b>16,167,864</b>
<b>PREVIOUS YEAR</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CAPITAL WORK-IN-PROGRESS</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL</b>	<b>16,167,864</b>	<b>865,989</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17,033,853</b>	<b>16,167,864</b>

(Amount in Rs.)

SCHEDULE 9 - FIXED ASSETS

<b>Schedule 10 - Investments from Earmarked/Endowment Funds</b>		(Amount in Rs.)	
	<b>Current Year</b>	<b>Previous Year</b>	
1. In Government Securities	-	-	
2. Other approved Securities	-	-	
3. Shares	-	-	
4. Debentures and Bonds	-	-	
5. Subsidiaries and Joint Ventures	-	-	
6. Others (to be specified)	-	-	
<b>TOTAL</b>	-	-	

<b>Schedule 11 - Investments Others</b>		(Amount in Rs.)	
	<b>Current Year</b>	<b>Previous Year</b>	
1. In Government Securities	-	-	
2. Other approved Securities	-	-	
3. Shares	-	-	
4. Debentures and Bonds	-	-	
5. Subsidiaries and Joint Ventures	-	-	
6. Others (to be specified)	-	-	
i. Fixed Deposit (Gamma Knife)			
ii. Fixed Deposit (Angio Pts. A/c)			
iii. Fixed Deposit (Neuro Surgery Pts. A/c)			
<b>TOTAL</b>	-	-	

(Amount in Rs.)

<b>Schedule 12-Current Assets, Loans, Advances Etc.</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>A. Current Assets</b>		
<b>1. Inventories</b>		
a) Stores and Spares	-	-
b) Loose Tools	-	-
c) Stock in trade		
Finished Goods	-	-
Work-in-progress	-	-
Raw Materials	-	-
<b>2. Sundry Debtors</b>		
a) Debts outstanding for a period exceeding six months		
b) Others		
<b>3. Cash balances in hand (Including cheques/drafts and imprest)</b>		
a) Imprest		
<b>4. Bank Balances</b>		
a) With Scheduled Banks:		
-On Current Accounts	114,328	108,722
-On Deposit Accounts (Includes margin money)		-
-On Savings Accounts	-	-
b) With Non-Scheduled Banks:		
-On Current Accounts	-	-
-On Deposit Accounts	-	-
-On Savings Accounts	-	-
<b>5. Post Office - Savings Accounts</b>	-	-
<b>TOTAL (A)</b>	<b>114,328</b>	<b>108,722</b>

(Amount in Rs.)

<b>SCHEDULE 12-CURRENT ASSETS LOANS, ADVANCES ETC. (CONTD.)</b>	<b>Current Year</b>	<b>Pervious Year</b>
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans</b>		
a) Staff		
b) Other Entities engaged in activities/objectives similar to that of the Entity		
c) Other (Patient Treatment- CGHS)		
<b>2. Advances and other amounts recoverable in cash or in kind or for value to be received</b>		
a) On Capital Accounts		
b) Prepayments		
c) Temporary Contingent Advances		
d) Others		
<b>3. Income Accrued</b>		
a) On Investments fro Earmarked / Endowment Funds		
b) On Investments-Others		
c) On Loans and Advances		
d) Others		
(Includes income due unrealized-Rs.....)		
<b>4. Claims Receivable</b>		
<b>5. Letter of Credit</b>	-	
<b>6. Custom Duty</b>		
<b>7. Pre-Deposits Advance</b>		
<b>TOTAL (B)</b>	-	-
<b>TOTAL (A)+(B)</b>	<b>114,328</b>	<b>108,722</b>

(Amount in Rs.)

<b>SCHEDULE 17- INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
1) Income from Royalty	-	-
2) Income from Publications	-	-
3) Others (Specify)	-	-
<b>TOTAL</b>	-	-

(Amount in Rs.)

<b>SCHEDULE 18- INTEREST EARNED</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1) On Term Deposits</b>		
a) with Schedule Banks (CNC Main)		
with Schedule Banks (Gamma Knife)		
with Schedule Banks (Angio Pts. A/c)		
with Schedule Banks (C.T. Pts. A/c)		
with Schedule Banks (Neuro Surgery Pts. A/c)	-	
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
<b>2) On Savings Accounts</b>		
a) with Schedule Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
<b>3) On Loans</b>		
a) Employee/Staff		
b) Others	-	-
<b>4) Interest on Debtors and Other Receivables</b>	-	-
<b>TOTAL</b>	-	-
<b>Note-</b> Tax deducted at source to be indicated		

(Amount in Rs.)

SCHEDULE 13-INCOME FROM SALES/SERVICE	Current Year	Previous Year
<b>1) <i>Income from sales</i></b>		
a) Sales of Finished Goods	-	-
b) Sales of Raw Material	-	-
c) Sales of Scraps	-	-
<b>2) <i>Income from Services</i></b>		
a) Labour and Processing Charges	-	-
b) Professional/Consultancy Service	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Hospital Receipts	-	-
f) Others (Specify) Suspense Receipt	5,605	3,698
<b>TOTAL</b>	<b>5,605</b>	<b>3,698</b>

SCHEDULE 14-GRANTS/SUBSIDIES	Current Year	Current Year
<b>(Irrevocable Grant &amp; Subsidies Received)-Through Aiims Main</b>		
1) Central Government	-	-
<b>Revenue General (Plan)</b>		
(ii) Grant in Aid- (Salary)	-	-
(iii) Grant in Aid- (General)	-	-
<b>Non Plan</b>		
(iii) Grant in Aid- (General)	1,499,163	699,245
(ii) Grant in Aid- (Salary)	-	-
2) State Government(s)	-	-
3) Governments Agencies	-	-
4) Institutions/Welfare Bodies	-	-
5) International Organisations	-	-
6) Others (Specify)	-	-
<b>TOTAL</b>	<b>1,499,163</b>	<b>699,245</b>

<b>SCHEDULE 15-FEES/SUBSCRIPTIONS</b>		
	(Amount in Rs.)	
	Current Year	Previous Year
1) Entrance Fees	-	-
2) Annual Fees/Subscriptions	-	-
3) Seminar/Program Fees	-	-
4) Consultancy Fees	-	-
5) Tender Fees	-	-
6) Other Income	-	-
<b>TOTAL</b>	-	-

**Note-** Accounting Policies towards each item are to be disclosed

<b>SCHEDULE 16- INCOME FROM INVESTMENTS</b>				
(Income on Invest. Earmarked/Endowment Funds transferred to Funds)				
	Investment from Earmark Fund		Investment Other	
	Current Year	Previous Year	Current Year	Previous Year
<b>1) Interest</b>	-	-	-	-
a) On Govt. Securities	-	-	-	-
b) Other Bonds/Debentures	-	-	-	-
<b>2) Dividends</b>	-	-	-	-
a) On Shares	-	-	-	-
b) On Mutual Fund Securities	-	-	-	-
<b>3) Rents</b>	-	-	-	-
<b>4) Other (Specify)</b>	-	-	-	-
<b>TOTAL</b>	-	-	-	-

(Amount in Rs.)

**Note-** Transferred to earmarked/endowment funds

(Amount in Rs.)

<b>SCHEDULE 19- OTHER INCOME</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>1) Profit on Sale/disposal of Assets</b>		
a) Owned assets	-	-
b) Assets acquired out of grants, or received free of cost	-	-
<b>2) Export Incentives realized</b>		
a) Liquid Damage	-	-
<b>3) Fees for Miscellaneous Services</b>	-	-
<b>4) Miscellaneous Receipt</b>		
<b>5) Lice. Fee Recovery</b>		
<b>TOTAL</b>	-	-

(Amount in Rs.)

<b>SCHEDULE 20- INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Closing stock</b>		
Finished Goods	-	-
Work-In-Progress	-	-
<b>b) Less: Opening Stock</b>		
Finished Goods	-	-
Work-In-Progress	-	-
<b>NET INCREASE/(DECREASE) [a-b]</b>	-	-

(Amount in Rs.)

<b>SCHEDULE 21- ESTABLISHMENT EXPENSES</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Salaries and Wages (Plan)		
b) Salaries and Wages (Non-Plan)		
c) Contribution to Provident Fund		
d) Contribution to Other Fund - (NPS)		
e) Staff Welfare Expenses		
f) Expenses on Employees Retirement and Terminal Benefits		
g) Travelling and Conveyance Expenses	-	-
h) Others (specify)	-	-
<b>TOTAL</b>	-	-

(Amount in Rs.)

<b>SCHEDULE 22- OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
Imprest	-	
Manpower (Outsources)	300,566	293,861
Refreshments	-	
Others (specify)		
<b>TOTAL</b>	<b>300,566</b>	<b>293,861</b>

(Amount in Rs.)

<b>SCHEDULE 22 (A) PAYMENTS MADE AGAINST FUNDS FOR VARIOUS PROJECTS</b>	<b>Current Year</b>	<b>Previous Year</b>
NSC Poor Patients	-	-
Others (specify)		
<b>TOTAL</b>	<b>-</b>	<b>-</b>

(Amount in Rs.)

<b>SCHEDULE 23- Material &amp; Supply</b>	<b>Current Year</b>	<b>Previous Year</b>
Material & Supply	1,198,597	405,359
Others (Specify)		
<b>TOTAL</b>	<b>1,198,597</b>	<b>405,359</b>

(Amount in Rs.)

<b>SCHEDULE 24- EXPENDITURE ON GRANTS SUBSIDIES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Grants given to Institutions/Organisations	-	-
b) Subsidies given to Institutions/Organisations	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

**Note-** Name of the Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed.

(Amount in Rs.)

<b>SCHEDULE 25- INTEREST &amp; FINANCE EXPENSES</b>	<b>Current Year</b>	<b>Previous Year</b>
a) On Fixed Loans	-	-
b) On Other Loans (including Bank Charges)	-	-
c) Bank Charges	-	-
d) Others (specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

**Centre For Intergrative Medicine & Research (AIIMS)  
Receipts and Payments for the year ended 31.03.2020**

Receipts	2019-2020	2018-19	Payments	2019-2020	2018-19
<b>I. Opening balances</b>			<b>I. Expenses</b>		
a) cash in Hand		-	a) Establishment Expenses (corresponding to schedule 21)	-	-
<b>b) Bank Balances</b>			b) Administrative Expenses (corresponding to Schedule 22)	300,566	293,861
(i) In current Account	108,722	110,953	c) Material & Supply	1,198,597	405,359
(ii) In Deposit Account		-			
(iii) In Savings Account		-	<b>II. Payments made against funds for various Projects</b>		
<b>c) Fixed Deposits</b>					
<b>II. Grant Received</b>					
a) From Government of India-- Through Aiims Main Capital (Assets New)			<b>III. Investments and deposits made</b>		
(i) Grant in Aid (M&E)	1,000,000	1,490,358	a) Out of Earmarked/Endowment funds	-	-
Refund to Aiims Main	134,011		b) Revolving Fund	-	-
<b>Revenue General</b>			<b>IV. Expenditure on Fixed Assets &amp; Capital</b>		
(ii) Grant in Aid- (General)	1,600,000	699,245	Work-in-Progress	-	-
Refund to Aiims Main	100,836		a) Purchase of Fixed Assets	865,989	1,483,312
			b) Expenditure on Capital Work-in-progress	-	-
			c) Letter of Credit (M&E)	-	-
b) From State Government		-	<b>V. Refund of surplus money/Loans</b>		
c) From Other Sources (details)		-	a) To the Government of India	-	-
<b>(Grant for capital and Revenue expenditure to shown</b>			b) To the State Government	-	-
<b>III. Income on Investments From</b>			c) To other providers of funds	-	-
a) Earmarked Funds/ Endowments funds			<b>VI. Finance Charges (Interest)</b>		
b) Revolving Fund			Bank Charges	-	-
<b>IV. Interest Received</b>					
a) On Bank Deposits			<b>VII. Other Payments (Specify)</b>		
b) loans And Advances etc.			Donation/Grant	-	-
			Earnest Money Deposits		13,000
<b>V. Other Income</b>			<b>Loan, Advances &amp; Other Assets/Recovery</b>		
Tender Fee			Advance to Employee	-	-
<b>VI. Amount Borrowed</b>			<b>VIII. Closing Balances</b>		
			a) Cash in hand	-	-

Receipts	2019-2020	2018-19	Payments	2019-2020	2018-19
<b>VII. Any Other Receipts (Give Details)</b>			<b>b) Bank Balances</b>		
a) Donation		-	(i) In current Account	114,328	108,722
b) Earnest Money Deposits		-	ii) In deposit accounts	-	-
c) Miscellaneous Receipt	5,605	3,698	iii) Savings accounts	-	-
<b>Loan, Advances &amp; Other Assets/Recovery</b>					
Advance to Employee			<b>c) Fixed Deposits</b>	-	-
<b>Total</b>	<b>2,479,480</b>	<b>2,304,254</b>	<b>Total</b>	<b>2,479,480</b>	<b>2,304,254</b>

PROFESSOR I/C, CIMR

Accounts Officer

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
RESEARCH SECTION**

**STATEMENT SHOWING THE EXPENDITURE OF THE GRANT RECEIVED FOR THE VARIOUS RESEARCH PROJECTS FOR THE YEAR 2019-20**

PARTICULARS	RECEIPT	AMOUNT	PARTICULARS	PAYMENTS			TOTAL PAYMENTS
				OTHER PAYMENTS	ESTB. PAYMENTS	UNDISBURSED PAYMENTS	
AMOUNT (In Rs.)				AMOUNT (In Rs.)			
<b>To Opening Balance:</b>			<b>By Payments Made during the Year:</b>				
DRDO			DRDO	8,510,319.00	-	-	8,510,319.00
AYUSH	13,702,498.60		AYUSH	15,063,116.50	-	-	15,063,116.50
DBT	23,456,414.00		DBT	293,848,984.00	-	-	293,848,984.00
DIET	281,073,286.27		DIET	2,934.50	-	-	2,934.50
AIIRD001 (BIRAC-BIG GRANT)	46,169.00		AIIRD001 (BIRAC-BIG GRANT)	-	-	-	-
DST			DST	171,100,457.04	-	-	171,100,457.04
ICMR	115,339,416.00		ICMR	471,703,126.32	-	-	471,703,126.32
<b>SCHEME CELL:</b>			<b>SCHEME CELL:</b>				
Abbot Laboratories GmbH			Abbot Laboratories GmbH	124,714.00	-	-	124,714.00
AIMS- IIT DELHI Collaborative Project			AIMS- IIT DELHI Collaborative Project	6,285,947.00	-	-	6,285,947.00
Balance as per Cash Book	333,233,976.18		Amil Pharmaceuticals India Ltd.	338,860.00	76,000.00	-	414,860.00
Balance in Fixed Deposit	100,000,000.00	<b>1,164,262,676.05</b>	ALKEM Laboratories Ltd	459,007.00	67,278.00	-	526,285.00
<b>To Receipts during the Year:</b>			AnaZeal Analyticals & Research Pvt. Ltd.	80,989.00	21,700.00	-	102,689.00
DRDO	3,752,503.00		AO Spine Asia	6,720.00	19,023.00	-	25,743.00
AYUSH	3,287,733.00		AOTRAUMA ASIA PACIFIC RESEARCH GRANT	52,745.00	-	-	52,745.00
DBT	180,204,774.00		Bharat Serum & Vaccine Ltd.	967,665.00	5,922.00	-	973,587.00
DIET	1,581.00		Bigtec Private Limited	291,188.00	33,000.00	-	324,188.00
AIIRD001 (BIRAC-BIG GRANT)	1,026,712.00		Bill & Melinda Gates Foundation, USA	34,801,769.00	703,219.00	-	35,504,988.00
DST	155,286,632.00		Boehringer Ingelheim India Private Ltd	827,229.00	34,058.00	-	861,287.00
ICMR	628,276,947.00		BRISTOL MYER SQUIBB(BMS), USA	1,282,607.00	92,381.00	-	1,374,988.00
<b>SCHEME CELL:</b>			Bristol Myer Squibb India Private Ltd.	1,241,748.00	53,706.00	-	1,295,454.00
Amil Pharmaceutical India Ltd.	1,260,000.00		British Heart Foundation, UK	1,049,244.00	-	-	1,049,244.00
Airport Authority of India (AAI)	1,460,000.00		BRNS Mumbai	701,190.00	13,500.00	-	714,690.00
ALKEM Laboratories Ltd	672,769.41		Cadila Health Care Ltd.	701,190.00	94,397.00	-	795,587.00
Ambrosia Life Sciences Pvt. Ltd.	324,000.00		Cadila Pharmaceutical Ltd.	678,063.00	20,000.00	-	698,063.00
AnaZeal Analyticals & Research Pvt. Ltd.	217,000.00		Cambridge University	20,000.00	-	-	20,000.00
AO Spine Asia	190,227.00		CCDC	519,702.00	108,592.00	-	628,294.00
APLAR	873,744.00		Centers for Disease Control and Prevention (CDC), USA	119,850,575.00	7,518,718.00	-	127,369,293.00
Astra Seneca Singapore Pvt. Ltd. Singapore	421,459.20		Central Council for Research in Ayurveda & Sidha	965,986.00	-	-	965,986.00
Bharat Serum & Vaccine Ltd.	266,463.00		Central Council for Research in Ayurvedic Science	2,010,273.00	262,360.00	-	2,272,633.00
Bigtec Private Limited	330,000.00		Central Council for Research in Homoeopathy (CCRH)	1,353,897.00	201,680.00	-	1,555,577.00
Bill & Melinda Gates Foundation, USA	41,030,195.00		Central Council for Research in Unani Medicine	2,576,719.00	299,769.00	-	2,876,488.00
Boehringer Ingelheim India Private Ltd	341,112.00		Centre for Health Research and Innovation (CHRI)	894,939.00	117,703.00	-	1,012,642.00
BRISTOL MYER SQUIBB(BMS), USA	923,811.00		CEO Azure Software Pvt. Ltd.	288,899.00	40,000.00	-	328,899.00
Bristol Myer Squibb India Private Ltd.	537,056.00		Christian Medical College, Vellore	1,690,217.00	1,35,722.00	-	1,825,939.00
BRNS Mumbai	997,120.00		Christoffel Blindenmission(CBM) India	3,786,951.00	403,292.00	-	4,190,243.00
Cadila Health Care Ltd.	158,615.00		CUNIRX Tangent RESEARCH PVT. LTD. GURGAON	847,199.00	119,754.00	-	966,953.00
Cadila Pharmaceutical Ltd.	495,000.00		Cochlear implant group of india	85,067.00	10,000.00	-	95,067.00
Cambridge University	1,101,149.00		Cognitive Health Rehabilitation Systems LLP	345,213.00	30,000.00	-	375,213.00
Centers for Disease Control and Prevention (CDC), USA	161,955,114.00		CONQUER CANCER FOUNDATION	65,135.00	-	-	65,135.00
Central Council for Research in Ayurvedic Science (CCRAS)	2,623,600.00		CSIR	3,667,299.00	33,917.00	-	3,701,216.00
Central Council for Research in Homoeopathy (CCRH)	2,016,798.00		Cuddles Foundation	712,957.00	79,982.00	-	792,939.00
Central Council for Research in Unani Medicine	3,097,686.00		Dabur India Ltd.	481,600.00	43,680.00	-	525,280.00
			DEFENSE INSTIT. OF PHY. & ALLIED SCIENCES (DIPAS)	528,726.00	-	-	528,726.00

Centre for Health Research and Innovation (CHRI)	1,247,196.00	Delhi Rheumatology Association	97,038.00	-	-	97,038.00	-	97,038.00
CEO Azure Software Pvt Ltd.	200,000.00	Delhi State Control Society/AIDS	626,043.00	-	-	626,043.00	-	626,043.00
Christian Medical College,Vellore	1,399,115.00	Department of Health Research	682,332.00	-	-	682,332.00	-	682,332.00
Christoffel Blindenmission(CBM) India	6,717,530.76	Diagno Searchlifesciences Pvt Ltd.	902,627.00	-	189,669.00	1,092,296.00	-	1,092,296.00
CLINIRX TANGENT RESEARCH PVT. LTD. GURGAON, HARYANA	1,197,540.00	DNDI Switzerland	5,581,776.00	-	753,209.00	6,334,985.00	-	6,334,985.00
Cochlear implant group of india	100,000.00	Donations/Grants	4,412.00	-	-	4,412.00	-	4,412.00
Cognitive Health Rehabilitation Systems LLP	350,000.00	Dr. Reddys Lab . Ltd.	497,201.00	-	-	497,201.00	-	497,201.00
CSIR	4,983,675.00	Duke University Usa	487,537.00	-	-	487,537.00	-	487,537.00
Cuddles Foundation	799,816.00	Eli Lilly and Company Pvt. Ltd	560,850.00	-	64,502.00	625,352.00	-	625,352.00
Dabur India Ltd	565,396.00	Excel Life Sciences Pvt. Ltd.	189,600.00	-	-	189,600.00	-	189,600.00
Delhi Rheumatology Association	25,000.00	Earnest Money Deposit	1,716,745.00	-	-	1,716,745.00	-	1,716,745.00
Delhi State Control Society/AIDS	385,125.00	FDC Limited	586,409.00	-	-	586,409.00	-	586,409.00
Diagno Searchlifesciences Pvt Ltd.	1,888,680.00	Find India	659,450.00	-	-	659,450.00	-	659,450.00
Directorate of Education (NSS)	213,750.00	GILEAD Sciences, Inc., California	589,857.00	-	68,524.00	658,381.00	-	658,381.00
DNDI Switzerland	9,012,787.00	Glaxo Smith Kline	213,767.00	-	-	213,767.00	-	213,767.00
Donations/Grants	4,412.00	Hamilton Health Sciences Corporation, Canada	237,280.00	-	24,091.00	261,371.00	-	261,371.00
Dr. Reddys Lab . Ltd.	17,520.00	Hetero Biopharma Limited	611,129.00	-	145,753.00	756,882.00	-	756,882.00
ECHO, INDIA	870,121.00	Hindustan Latex Ltd.	387,500.00	-	8,000.00	395,500.00	-	395,500.00
Earnest Money Deposit	2,138,928.00	IADR,U.S.A.	1,114,800.00	-	-	1,114,800.00	-	1,114,800.00
Entod Pharmaceuticals Ltd. (India)	506,000.00	IADVL	201,849.00	-	-	201,849.00	-	201,849.00
Eli Lilly and Company Pvt. Ltd	396,090.00	ICON Clinical Reserach India Pvt. Ltd.	1,757,130.00	-	143,744.00	1,900,874.00	-	1,900,874.00
Excel Life Sciences Pvt Ltd.	6,730.00	ICSSR	392,412.00	-	16,000.00	408,412.00	-	408,412.00
GILEAD Sciences, Inc., California	685,244.00	IIFCL	9,130,027.00	-	-	9,130,027.00	-	9,130,027.00
Glenmark Pharmaceuticals Ltd.	135,000.00	INCLIN	82,976.00	-	8,298.00	91,274.00	-	91,274.00
Hamilton Health Sciences Corporation, Canada	240,907.00	India Medtronic Pvt. Ltd	630,194.00	-	-	630,194.00	-	630,194.00
Hetero Biopharma Limited	1,369,100.00	Indian Council of Agriculture Research	592,714.00	-	-	592,714.00	-	592,714.00
Hindustan Latex Ltd.	814,500.00	Indian Institute of Public Health Hyderabad	28,829.00	-	-	28,829.00	-	28,829.00
ICON Clinical Reserach India Pvt. Ltd.	2,189,775.60	Indo German Science and Technology Centre, Govt of India	102,241.00	-	224,633.00	326,874.00	-	326,874.00
ICSSR	476,270.00	Indo US Sciences & Technology Forum	379,313.00	-	500.00	379,813.00	-	379,813.00
INCLIN	82,976.00	Indo-US Science & Technology Forum	154,238.00	-	104,725.00	258,963.00	-	258,963.00
India Medtronic Pvt. Ltd	161,100.00	Innaccel Tech Pvt Ltd.	18,608.00	-	-	18,608.00	-	18,608.00
Indo-US Science & Technology Forum	1,048,500.00	INSA	241,970.00	-	-	241,970.00	-	241,970.00
Indian Association of Dermatology & Venereology Grant	364,875.00	INTAS Pharmaceuticals Ltd.	377,532.00	-	16,574.00	394,106.00	-	394,106.00
INSA	230,000.00	International Atomic Energy Agency	1,347,055.00	-	195,284.00	1,542,339.00	-	1,542,339.00
INTAS Pharmaceuticals Ltd.	165,735.00	Intramural Research	68,414,594.00	-	-	68,414,594.00	-	68,414,594.00
International Atomic Energy Agency	1,953,324.00	Ipsa Laboratoris	198,361.00	-	6,160.00	204,521.00	-	204,521.00
I.S.H.T.M.	5,337,470.00	Janssen	4,192,334.00	-	533,690.00	4,726,024.00	-	4,726,024.00
Janssen	200,000.00	JIV Daya Foundation	347,742.00	-	20,000.00	367,742.00	-	367,742.00
JIV Daya Foundation	2,269,031.00	Kempegowda Institute of Medical Sciences	2,246,858.00	-	185,083.00	2,431,941.00	-	2,431,941.00
KlinEra	903,233.00	KlinEra	131,193.00	-	-	131,193.00	-	131,193.00
Lady Tata Memorial Trust	900,000.00	Lady Tata Memorial Trust	2,497,705.00	-	107,560.00	2,605,265.00	-	2,605,265.00
Lambda Therapeutic Research Ltd.	351,783.00	Lambda Therapeutic Research Ltd.	663,758.00	-	90,000.00	753,758.00	-	753,758.00
Lebara Foundation	916,667.00	Lebara Foundation	248,443.00	-	35,180.00	283,623.00	-	283,623.00
LUPIN LIMITED	1,152,800.00	Lebara Foundation	838,991.00	-	91,666.00	930,657.00	-	930,657.00
Maharishi Ayurveda Products Pvt. Ltd.	684,972.00	Mc Master University Canada	3,495,753.00	-	397,656.00	3,893,409.00	-	3,893,409.00
Max Neeman International	65,699.00	Meril Life Sciences Pvt. Ltd.	100,000.00	-	-	100,000.00	-	100,000.00
Mc Master University Canada	3,976,562.65	Micro Labs Limited	488,131.00	-	23,879.00	512,010.00	-	512,010.00
Meril Life Sciences Pvt Ltd.	118,800.00	Ministry of Comu. and Infor. & Tech.	880,162.00	-	151,000.00	1,031,162.00	-	1,031,162.00
Micro Labs Limited	1,268,774.00	Ministry of Environment, Forest & Climate Change	1,616,241.00	-	269,900.00	1,886,141.00	-	1,886,141.00
Ministry of Comu. and Infor. & Tech.	1,510,000.00	Ministry of Health And Family Welfare(N.A.C.O)	15,208,142.00	-	-	15,208,142.00	-	15,208,142.00
Ministry of Environment, Forest & Climate Change	2,699,000.00	Ministry of Health & Family Welfare	16,253,297.00	-	513,280.00	16,766,577.00	-	16,766,577.00
Ministry of Health And Family Welfare(N.A.C.O)	20,880,106.00	Ministry of Health & Family Welfare (Ayush)	159,699.00	-	-	159,699.00	-	159,699.00
Ministry of Health & Family Welfare	10,901,488.00	Ministry of Health & Family Welfare-DHR	285,509.00	-	-	285,509.00	-	285,509.00

Ministry of Home Affair	36,843,018.00	Ministry of Home Affair	34,269,546.00	1,842,151.00	36,111,697.00
Ministry of Social Justice and Empowerment	39,743,429.00	Ministry of Social Justice and Empowerment	12,229,393.00	3,969,960.00	16,199,353.00
Ministry of Health, Govt of Odisha	1,200,000.00	M/S Beckman Coulter Pvt. Ltd.	465,427.00	-	465,427.00
Michael J Fox Foundation	3,693,400.00	M/s Gilead Sciences Inc. USA	3,067,399.00	887,927.00	3,955,326.00
M/s Gilead Sciences Inc. USA	7,445,861.00	NIE (N-000)	41,340,403.62	-	41,340,403.62
MSD, Pharmaceuticals Pvt. Ltd.	298,383.57	National Cancer Grid Reserch	1,707,560.00	169,964.00	1,877,524.00
N-000	122,446,081.62	National Innovation Foundation	875,864.00	-	875,864.00
NAACO	2,600,183.00	National Institute for Health Research	4,954,058.94	-	4,954,058.94
National Cancer Grid Research	1,875,279.00	National Institute of Health, USA	49,236,114.94	5,489,272.00	54,735,386.94
National Institute for Health Research	1,048,859.00	National Institute of Mental Health, NH USA	633,044.00	11,737.00	644,781.00
National Institute of Health, USA	54,360,721.00	National Institute of Social Defence	354,000.00	72,975.00	426,975.00
National Institute of Mental Health, NH USA	235,685.00	National Perinatal Epidemiology Unit, University O	68,327.00	-	68,327.00
National Institute of Social Defence	729,750.00	NCDC	20,000.00	971,575.00	991,575.00
NCDC	42,016.00	Newron Pharmaceuticals S.P.A.	1,065,421.00	122,895.00	1,188,316.00
NCDC, MOH&FW	9,675,000.00	Next Gen Pharma India Private Limited	42,000.00	-	42,000.00
Newron Pharmaceuticals S.P.A.	1,228,950.00	NIPER,NEW Delhi-110001.	590,225.00	-	590,225.00
New India Biopharma Pvt. Ltd.	134,541.00	Niti Aayog	2,337,559.00	259,323.00	2,596,882.00
Niti Aayog	2,593,224.00	Nova Nordisk India Pvt. Ltd.	2,534,837.00	473,296.00	3,008,133.00
Nova Nordisk India Pvt. Ltd.	2,484,044.00	NOVARTIS	1,513,493.00	196,496.00	1,709,989.00
NOVARTIS	2,658,053.43	Novartis Healthcare Pvt Ltd.	945,233.00	26,330.00	971,563.00
Novartis India Ltd.	17,040.00	Novartis India Ltd.	45,152.00	-	45,152.00
Novartis Pharmaceuticals	194,000.40	Novartis Pharmaceuticals	556,868.00	135,800.00	692,668.00
NSRC, Ministry of Health & Family Welfare	2,047,578.00	NSRC, Ministry of Health & Family Welfare	1,963,834.00	47,777.00	2,011,611.00
Office of the Principal Scientific Adviser, GOI	1,885,000.00	Office of Science and Technology, Officer of Naval Research Global, US	148,517.00	-	148,517.00
Orbis	1,743,549.00	Office of the Principal Scientific Adviser, GOI	15,167,670.00	-	15,167,670.00
PAREXEL INTERNATIONAL Clinical Research Pvt Ltd	916,343.35	Oncology Forum	142,322.00	-	142,322.00
Parexel International Ltd. (U.K.)	238,025.42	Others	-	-	-
Pharmaz India Pvt. Ltd.	48,886.00	PAREXEL INTERNATIONAL Clinical Research Pvt Ltd	716,395.00	82,518.00	798,913.00
Phoenix Cardiac	144,650.00	Parexel International Ltd. (U.K.)	634,684.00	23,803.00	658,487.00
PHRI, ONTARIO CANADA	2,272,068.35	Pfizer Ltd.	102,606.00	-	102,606.00
Physicians Research Foundation Research Grant	281,000.00	Pharmaz India Pvt. Ltd.	315,094.00	29,189.00	344,283.00
PPD Pharmaceutical Development India Pvt. Ltd.	196,306.00	PHFI	2,267,758.00	-	2,267,758.00
PTC Therapeutics Inc. USA	1,314,636.00	PHRI, ONTARIO CANADA	2,173,624.00	227,206.00	2,400,830.00
Raj Gardhya Liver Unit	74,786.00	Physicians Research Foundation Research Grant	205,027.00	6,500.00	211,527.00
Saksin Lifesciences Pvt. Ltd.	812,057.00	PPD Pharmaceutical Development India Pvt. Ltd.	31,000.00	19,631.00	50,631.00
REC Power Distribution Company Ltd.	650,000.00	PTC Therapeutics Inc. USA	327,984.00	131,464.00	459,448.00
Saksin Lifesciences Pvt. Ltd.	29,552.24	Quintile Spectral India	130,319.00	-	130,319.00
Sanofi-Aventis Recherche & Development, France	450,000.00	Ranbaxy/Eliilly & Company Pvt. Ltd.	16,456.00	-	16,456.00
Sanofi Synthelabo (India) Private Limited	124,200.00	Rapim Research Ltd	334,851.00	-	334,851.00
Sanofi	297,888.00	REC Power Distribution Company Ltd.	1,287,259.00	65,000.00	1,352,259.00
Sciformix Technologies private limited	607,200.00	Sanofi	25,400.00	-	25,400.00
Sight Savers	838,695.00	Saksin Lifesciences Pvt. Ltd.	646,453.00	81,206.00	727,659.00
Singapore Clinical Research Institute, Singapore	118,009.00	Sanofi Synthelabo (India) Private Limited	482,281.00	221,468.00	703,749.00
SIRO CLIN PHARMA PVT. LTD	383,968.00	Sciformix Technologies private limited	180,833.00	29,789.00	210,622.00
SPARC	1,299,970.00	Seqindia Labs Pvt. Ltd.	457,419.00	60,720.00	518,139.00
State Health Society, Delhi Govt.	1,602,000.00	Sight Savers	2,232,133.00	141,131.00	2,373,264.00
Stempeatics Research Pvt Ltd	49,612.00	Singapore Clinical Research Institute, Singapore	1,085.00	11,692.00	12,777.00
Swami Sivananda Memorial Institute	1,000,187.00	Sinopharm India Pvt Ltd	14,326.00	-	14,326.00
SWAYAM (Ministry of HRD)	3,564,529.00	State Health Society, Delhi Govt.	1,060,739.00	80,100.00	1,140,839.00

Synapsica Technologies Private Limited	685,000.00			Stempeutics Reseach Pvt.Ltd	15,000.00	4,962.00		19,962.00
Tech Observer India Pvt. Ltd	59,400.00			Swami Sivananda Memorial Institute	1,288,445.00	100,000.00		1,388,445.00
The Cancer Foundation	1,000,000.00			SWAYAM (Ministry of HRD)	3,762,080.00	350,000.00		4,112,080.00
The Medical Research Council, United Kingdom	1,098,941.00			Tech Observer India Pvt. Ltd	51,217.00	5,940.00		57,157.00
THSTI	1,510,977.00			The Cancer Foundation	213,824.00	-		213,824.00
Torrent Pharmaceutical Ltd.	1,699,680.00			The Medical Research Council, United Kingdom	890,133.00	-		890,133.00
UCLAN, UK	2,064,213.00			THSTI	1,685,167.00	-		1,685,167.00
UNICEF	18,666,894.00			Torrent Pharmaceutical Ltd.	1,322,660.00	214,224.00		1,536,884.00
Unique Biotech Ltd	300,000.00			UCLAN, UK	1,622,612.00	202,714.00		1,825,326.00
Universal Elementary Education Mission, Deptt. of Education	2,880,000.00			U.G.C.	1,197,302.00	-		1,197,302.00
Universitair Ziekenhuis Antwerpen (UZA), Belgium	870,623.00			UNICEF	16,541,854.00	279,142.00		16,820,996.00
University of Pittsburgh	5,249,048.00			Unique Biotech Ltd	1,217,463.00	30,000.00		1,247,463.00
Unnique Biotech Ltd.	1,500,000.00			University of Pittsburgh	2,041,516.00	524,905.00		2,566,421.00
USV Private Limited	801,850.00			Unnique Biotech Ltd.	1,026,828.00	150,000.00		1,176,828.00
Veeda Clinical Research Pvt Ltd	906,898.00			USV Private Limited	721,394.00	80,185.00		801,579.00
Warwick University, UK	2,848,284.00			Veeda Clinical Research Pvt Ltd	283,707.00	87,398.00		371,105.00
WHO	13,376,148.22			Venus Remedies Ltd	11,371.00	-		11,371.00
National Health System Resource Centre	1,063,125.00			Waiter Bushnell	267,851.00	-		267,851.00
				Warwick University, UK	3,175,025.00	282,382.00		3,457,407.00
				Wellcome Trust, London, U.K.	331,814.00	-		331,814.00
<b>To Recovery of Charges</b>				WHO	14,276,336.00	30,973.00		14,307,309.00
TDS - Contractor	189,060.00			Airport Authority of India (AAI)	25,000.00	73,000.00		98,000.00
TDS - Professional	115,873.00			Ambrosia Life Sciences Pvt. Ltd.	59,214.00	32,400.00		91,614.00
RTGS Charges	5,360.00			APLAR	427,851.00	87,374.00		515,225.00
To Interest earned by bank on FDR	7,301,827.00			Biogenomics Limited	-	2,700.00		2,700.00
				Biotechnology Industry Research Assistance Council	858,661.00	485,040.00		1,343,701.00
				Cancer Foundation	-	100,000.00		100,000.00
				Covance india pharmaceutical services Pvt. Ltd.	-	28,697.00		28,697.00
				Directorate of Education (NSS)	-	21,375.00		21,375.00
				Directorate of Family Welfare	-	188,500.00		188,500.00
				ECHO, INDIA	116,311.00	87,012.00		203,323.00
				Endocrine Society of India	-	500.00		500.00
				Entod Pharmaceuticals Ltd. (India)	117,000.00	50,600.00		167,600.00
				Glenmark Pharmaceuticals Ltd.	-	52,639.00		52,639.00
				Health Effects Institute	-	200,234.00		200,234.00
				Indian Association of Dermatology and Venereology Researh Grant, 2019	71,037.00	36,488.00		107,525.00
				lupin limited	-	115,280.00		115,280.00
				Maharishi Ayurveda Products Pvt. Ltd.	284,607.00	68,492.00		353,099.00
				Max Neeman International	-	6,570.00		6,570.00
				Medical Research Council, United Kingdom	-	109,894.00		109,894.00
				Michael J Fox Foundation	355,612.00	369,340.00		724,952.00
				Ministry of Health, Govt of Odisha	538,266.00	120,000.00		658,266.00
				MSD ,Pharmaceuticals Pvt. Ltd.	201,161.00	29,838.00		230,999.00
				NACO	57,620.00	260,018.00		317,638.00
				National Health System Resource Centre	865,220.00	172,723.00		1,037,943.00
				New India Biopharma Pvt. Ltd.	110,500.00	26,908.00		137,408.00
				Nurithm Private Labs	70,000.00	10,000.00		80,000.00
				orbis	264,014.00	171,967.00		435,981.00
				Phoenix Cardiac	-	14,465.00		14,465.00
				Rahe Life Science	-	2,388.00		2,388.00
				SIROCLIN PHARMA PVT. LTD	820,434.00	92,025.00		912,459.00



**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
RESEARCH SECTION**

**STATEMENT SHOWING THE EXPENDITURE OF THE GRANT RECEIVED FOR THE VARIOUS RESEARCH PROJECTS FOR THE YEAR 2019-20**

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance		
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit	
A	Defence Research and Development Organization (DRDO)	13,434,235.60	-	3,752,503.00	8,111,374.00	398,945.00	-	8,676,419.60	-
B	Department of Science and Technology (DST)	82,411,429.00	-	155,286,632.00	152,740,767.04	18,359,690.00	-	66,597,603.96	-
C	Indian Council of Medical Research (ICMR)	305,158,689.18	-	628,276,947.00	431,449,428.32	40,253,698.00	-	461,732,509.86	-
D	Department of Biotechnology (DBT)	314,025,292.14	-	180,204,774.00	269,400,924.00	24,448,060.00	-	200,381,082.14	-
E	Department of Information Technology	3,230,523.00	-	1,581.00	2,934.50	-	-	3,229,169.50	-
F	Ministry of Ayush	22,867,782.72	-	3,287,733.00	14,586,261.50	476,855.00	-	11,092,399.22	-
G	AIFD001 (BIRAC Big Grant)	-	-	1,026,712.00	-	-	-	1,026,712.00	-
H	<b>Others:</b>								
	1 Abbot health care pvt Ltd	664,416.00	-	-	-	-	-	664,416.00	-
	2 Abbot Laboratories GmbH	-	(406,716.00)	-	124,714.00	-	-	-	(531,430.00)
	3 Abbot vascular USA	482,902.00	-	-	-	-	-	482,902.00	-
	4 Ace Pharmaceuticals BV NETHERLAND	6,439.00	-	-	-	-	-	6,439.00	-
	5 AAIMS- IIT DELHI Collaborative Project	-	-	-	6,285,947.00	-	-	-	(6,285,947.00)
	6 Aimil Pharmaceutical India Ltd	-	(500,000.00)	1,260,000.00	338,860.00	76,000.00	-	345,140.00	-
	7 Airport Authority of India	-	-	1,460,000.00	25,000.00	73,000.00	-	1,362,000.00	-
	8 Ajinomoto Co JAPAN	67,328.00	-	-	-	-	-	67,328.00	-
	9 Alkem Laboratories Ltd.	-	(174,611.00)	672,769.41	459,007.00	67,278.00	-	-	(28,126.59)
	10 Ambrosia Life Sciences Pvt. Ltd.	-	-	324,000.00	59,214.00	32,400.00	-	232,386.00	-
	11 American Academy of Paediatrics	519,226.00	-	-	-	-	-	519,226.00	-
	12 Amgen Technology Private Limited	1,427,224.00	-	-	-	-	-	1,427,224.00	-
	13 AnaZeal Analyticals & Research Pvt. Ltd.	3,000.00	-	217,000.00	80,989.00	21,700.00	-	117,311.00	-
	14 AO spine india	30,614.00	-	190,227.00	6,720.00	19,023.00	-	195,098.00	-
	15 AO spine international, hongkong	116.00	-	-	-	-	-	116.00	-
	16 AO Trauma Asia Pacific	539,817.00	-	-	52,745.00	-	-	487,072.00	-
	17 APLAR	-	-	873,744.00	427,851.00	87,374.00	-	358,519.00	-
	18 Appasamy Associates, Chennai	21,434.00	-	-	-	-	-	21,434.00	-
	19 Astra Seneca Singapore Pvt Ltd. Singapore	100,002.00	-	421,459.20	-	-	-	521,461.20	-
	20 Atomic Energy Regulatory Board	335,185.00	-	-	-	-	-	335,185.00	-
	21 Auxilium Technical & Management Services Pvt Ltd	400.00	-	-	-	-	-	400.00	-
	22 Avents Pharmaceuticals, USA	14,135.00	-	-	-	-	-	14,135.00	-
	23 AYUSH (Payments made from Scheme Cell)	-	-	-	159,699.00	-	-	-	(159,699.00)
	24 Beijing Toshihi Pharmaceuticals Co Ltd	180,235.00	-	-	-	-	-	180,235.00	-
	25 Bharat Biotech International Ltd	12,241.00	-	-	-	-	-	12,241.00	-
	26 Bharat Serum & Vaccines Ltd.	987,155.00	-	266,463.00	967,665.00	5,922.00	-	280,031.00	-
	27 Bigtec private limited	157,583.00	-	330,000.00	291,188.00	33,000.00	-	163,395.00	-
	28 Bill & Melinda Gates Foundation, USA	12,643.00	-	-	-	-	-	12,643.00	-
	29 Bill & Melinda Gates Foundation, USA	1,293,805.00	-	41,030,195.00	34,801,769.00	703,219.00	-	6,819,012.00	-
	30 Biogen Idec Limited, UK	167,198.00	-	-	-	-	-	167,198.00	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance		
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit	
31	Biogenomics Limited	-	-	-	-	2,700.00	-	-	(2,700.00)
32	Biomerieux India (P)Ltd	12,011.00	-	-	-	-	12,011.00	12,011.00	-
33	Biotechnology Industry Research Assistance Council (BIRAC)	-	-	-	-	485,040.00	-	-	(1,343,701.00)
34	Boehringer Ingelheim India Pvt Ltd	679,163.00	-	341,112.00	858,661.00	34,058.00	158,988.00	158,988.00	-
35	BONE & JOINT DECADE INDIA	130.00	-	-	827,229.00	-	130.00	130.00	-
36	Brains Gate Ltd ISRAEL	132.00	-	-	-	-	132.00	132.00	-
37	Bristol Meyer Squibb India Pvt Ltd	186,996.60	-	537,056.00	1,241,748.00	53,706.00	-	-	(571,401.40)
38	Bristol Meyer Squibb (BMS), USA	1,160,767.00	-	923,811.00	1,282,607.00	92,381.00	709,590.00	709,590.00	-
39	BRITISH COUNCIL, UK	3,277.00	-	-	-	-	3,277.00	3,277.00	-
40	British Heart Foundation, UK	252,175.00	-	-	1,049,244.00	-	-	-	(797,069.00)
41	BRNS,Mumbai	34,851,907.00	-	997,120.00	1,543,479.00	99,712.00	34,205,836.00	34,205,836.00	-
42	Cadila Health care ltd	27,062.00	-	158,615.00	701,190.00	13,500.00	-	-	(529,013.00)
43	Cadila Pharmaceutical Ltd	69,556.00	-	495,000.00	678,063.00	94,397.00	-	-	(207,904.00)
44	Cambridge University	-	-	485,583.00	20,000.00	48,559.00	417,024.00	417,024.00	-
45	CANNECTIN, Canada	64,436.00	-	-	-	-	64,436.00	64,436.00	-
46	CCDC	4,511,387.00	-	1,101,149.00	519,702.00	108,592.00	4,984,242.00	4,984,242.00	-
47	CD Pharma India Pvt Ltd	1,433,515.00	-	-	-	-	1,433,515.00	1,433,515.00	-
48	Cefipra, French	1,114,046.00	-	-	-	-	1,114,046.00	1,114,046.00	-
49	Centers for Disease Control and Prevention (CDC), USA	7,381,349.00	-	161,955,114.00	119,850,575.00	7,518,718.00	41,967,170.00	41,967,170.00	-
50	Centocor Research & Development, USA	4,797.00	-	-	-	-	4,797.00	4,797.00	-
51	Central Council for Research in Ayurveda & Sidha	776,710.00	-	-	965,986.00	-	-	-	(189,276.00)
52	Central Council for Research in Ayurvedic Science(CCRAS)	2,327,588.00	-	2,623,600.00	2,010,273.00	262,360.00	2,678,555.00	2,678,555.00	-
53	Central Council for Research in Homoeopathy (CCRH), New Delhi	496,778.00	-	2,016,798.00	1,353,897.00	201,680.00	957,999.00	957,999.00	-
54	Central Council for Research in Unani Medicine	675,802.00	-	3,097,686.00	2,576,719.00	299,769.00	897,000.00	897,000.00	-
55	Central Council for Research in Yoga And Naturopathy	17,652.00	-	-	-	-	17,652.00	17,652.00	-
56	Central Scientific Instruments Organisation	135,557.00	-	-	-	-	135,557.00	135,557.00	-
57	Centre For Chronic Disease Control New Delhi	1,466,054.00	-	-	-	-	1,466,054.00	1,466,054.00	-
58	Centre For Disease Control, New Delhi	4,003,373.00	-	-	-	-	4,003,373.00	4,003,373.00	-
59	Centre for Health Research and Innovation (CHRI)	48,957.00	-	1,247,196.00	894,939.00	117,703.00	283,511.00	283,511.00	-
60	Centre Franco-Indien Pour La Preomotion De La Recherche Advance (CEFIPRA), France	82,886.00	-	-	-	-	82,886.00	82,886.00	-
61	CEO,Azure Software Pvt Ltd.	7,749.00	-	200,000.00	288,899.00	40,000.00	-	-	(121,150.00)
62	Charak Pharma (P)Ltd	1,144.00	-	-	-	-	1,144.00	1,144.00	-
63	Charak Medical collage vellore	875,566.00	-	1,399,115.00	1,690,217.00	135,722.00	448,742.00	448,742.00	-
64	Christoffel Bindenmission (CBM) India	918,704.00	-	6,717,530.76	3,786,951.00	403,292.00	3,445,991.76	3,445,991.76	-
65	CLINCYTE, USA	665.00	-	-	-	-	665.00	665.00	-
66	Clinical Marketing Pvt Ltd	8,372.00	-	-	-	-	8,372.00	8,372.00	-
67	CLINIRX RESEARCH PVT LTD GURGAON, HARYANA	71,079.00	-	1,197,540.00	847,199.00	119,754.00	301,666.00	301,666.00	-
68	Cochlear implant group of india	-	-	100,000.00	85,067.00	10,000.00	4,933.00	4,933.00	-
69	CODMAN & SHURTLIFF, INC, USA	42,138.00	-	-	-	-	42,138.00	42,138.00	-
70	Cognitive Health Rehabilitation Systems LLP	43,978.00	-	350,000.00	345,213.00	30,000.00	18,765.00	18,765.00	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
71	CONARD, USA	591.00	-	-	-	591.00	-	-
72	CONQUER CANCER FOUNDATION	65,127.00	-	-	-	-	-	(8.00)
73	Convatee Sayibb	2,328.00	-	-	65,135.00	-	-	-
74	CORVENTIS, USA	4,454.00	-	-	-	-	-	-
75	Covance India Pharma Pvt Ltd.	395,522.00	-	-	-	-	28,697.00	-
76	CPWW Jersulam	6,534.00	-	-	-	-	-	-
77	Criterion	16,211.00	-	-	-	-	-	-
78	CSIR	3,424,434.00	-	4,983,675.00	3,667,299.00	-	-	-
79	CTC/ICDS	237,738.00	-	-	-	-	-	-
80	Cuddles Foundation	133,233.00	-	799,816.00	712,957.00	-	-	-
81	Curehealth Diagnostic Pvt Ltd	1,731.00	-	-	-	-	-	-
82	Cystic Fibrosis/World Wide, USA	14,605.00	-	-	-	-	-	-
83	Dabur India Ltd	-	-	565,396.00	481,600.00	-	43,680.00	-
84	Dabur Research & development Centre	8,913.00	-	-	-	-	-	-
85	Dabur Research Foundation	1,095,999.00	-	-	-	-	-	-
86	DANIDA RESEARCH COUNCIL	19.00	-	-	-	-	-	-
87	DEFENSE INSTIT. OF PHY. & ALLIED SCIENCES (DIPAS)	332,457.00	-	-	528,726.00	-	-	(196,269.00)
88	Delhi Rheumatology Association	67,500.00	-	25,000.00	97,038.00	-	-	(4,538.00)
89	Delhi State Control Society/AIDS	17,963.00	-	385,125.00	626,043.00	-	-	(222,955.00)
90	DELHI TAPEDIK UNIMULAN SAMITI	10,824.00	-	-	-	-	-	-
91	Department of Health and Human Services Centers for disease control, USA	4,036,384.51	-	-	-	-	-	-
92	Department of Health Research	3,925,672.00	-	-	682,332.00	-	-	-
93	Department of Information & Technology Upto 31st Dec	-	(3,222,572.00)	-	-	-	-	(3,222,572.00)
94	DEPTT OF ELECTRONICS	171.00	-	-	-	-	-	-
95	Deptt of Pharmaceuticals	27,904.00	-	-	-	-	-	-
96	Deptt Of woman & child Development	148,354.00	-	-	-	-	-	-
97	Diagno Searchlifesciences Pvt Ltd.	663,042.00	-	-	-	-	-	-
98	DIGENE CORPORATION, USA	42,184.00	-	1,888,680.00	902,627.00	-	189,669.00	-
99	Directorate General of Health Services	-	(57,267.00)	-	-	-	-	(57,267.00)
100	Directorate of Education (NSS)	-	(10,378.00)	-	-	-	-	-
101	DNDI Switzerland	1,516,870.00	-	213,750.00	-	-	21,375.00	-
102	Donations/Grants	-	-	9,012,787.00	5,581,776.00	-	753,209.00	-
103	Dr Reddys Lab Pvt Ltd	313,705.90	-	4,412.00	4,412.00	-	-	-
104	DRDE(Gwallior)	362,354.00	-	17,520.00	497,201.00	-	-	-
105	Duke University Usa	641,748.00	-	-	-	-	-	-
106	Earnest Money Deposit	1,528,769.90	-	2,138,928.00	487,537.00	-	-	-
107	ECHO, INDIA	-	-	870,121.00	1,716,745.00	-	87,012.00	-
					116,311.00			666,798.00

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
108	Eli Lilly	-	(87,027.00)	396,090.00	560,850.00	64,502.00	-	(316,285.00)
109	Encure Pharmaceutical Ltd	-	(6,380.00)	-	-	-	-	(6,380.00)
110	EMMES Corporation, Maryland, USA	3,297.00	-	-	-	-	3,297.00	-
111	Endronic Society of India	-	(22,435.00)	-	-	500.00	-	(22,935.00)
112	Entod Pharmaceuticals Ltd. (India)	-	-	506,000.00	117,000.00	50,600.00	-	-
113	European Commission	1,292,302.00	-	-	-	-	338,400.00	-
114	Excel Life Sciences Pvt Ltd.	752,926.00	-	6,730.00	189,600.00	-	1,292,302.00	-
115	FDC Limited	600,514.00	-	-	586,409.00	-	570,056.00	-
116	Fermish Clinical Technologist Pvt Ltd	263,226.00	-	-	-	-	14,105.00	-
117	Find India	3,853,956.00	-	-	659,450.00	-	263,226.00	-
118	Fliamentera AG, Switzerland	48,193.00	-	-	-	-	3,194,506.00	-
119	Fogarty International Centre, NIH, USA	5,807.00	-	-	-	-	48,193.00	-
120	Fondazione Angelo Bianchi Bonomi, Milan- Italy	106,888.00	-	-	-	-	5,807.00	-
121	FREEDOM TRIAL	86,353.00	-	-	-	-	106,888.00	-
122	Fulford India Ltd	96,246.00	-	-	-	-	86,353.00	-
123	Genelife Clinical Research Pvt Ltd.	-	(37,180.00)	-	-	-	96,246.00	(37,180.00)
124	GILEAD Sciences, Inc., California	1,610,063.00	-	685,244.00	589,857.00	68,524.00	1,636,926.00	-
125	Glaxo Smith Kline	350,533.00	-	-	213,767.00	-	136,766.00	-
126	GlaxoSmith Kline Asia Private Ltd	3,642.00	-	-	-	-	3,642.00	-
127	Glenmark Pharmaceuticals Ltd.	-	-	135,000.00	-	52,639.00	82,361.00	-
128	Global Cancer Concern India	-	-	-	-	-	3,647.00	-
129	GW Pharma Ltd UK	3,647.00	-	-	-	-	9,381.00	-
130	Hamilton Health Sciences & MCMaster University, Canada	5,155.00	-	-	237,280.00	24,091.00	-	(256,216.00)
131	Hamilton Health Sciences Corporation, Canada	33,642.00	-	240,907.00	-	-	274,549.00	-
132	Health Effects Institute	-	-	-	-	-	-	-
133	Hetero Biopharma Limited	413,784.00	-	1,369,100.00	611,129.00	200,234.00	-	(200,234.00)
134	Hindustan Latex Family Planning Promotion	-	(138,013.00)	814,500.00	-	145,753.00	1,026,002.00	(138,013.00)
135	Hindustan Latex Limited	2,121,884.00	-	-	387,500.00	8,000.00	2,540,884.00	-
136	Horiba India Pvt Ltd	-	(151,949.00)	-	-	-	-	(151,949.00)
137	IADR, U.S.A.	1,394,877.00	-	-	1,114,800.00	-	280,077.00	-
138	IADVL	305,437.00	-	-	201,849.00	-	103,588.00	-
139	ICCSR	-	(74,861.00)	-	-	-	-	(74,861.00)
140	ICGE&B	12,032.00	-	-	-	-	12,032.00	-
141	ICON Clinical Reserach India Pvt. Ltd.	471,700.00	-	2,189,775.60	1,757,130.00	143,744.00	760,601.60	-
142	ICSSR	-	(79,411.00)	476,270.00	392,412.00	16,000.00	-	(11,553.00)
143	IIFCL	14,822,555.00	-	-	9,130,027.00	-	5,692,528.00	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance		
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit	
144	Imperial Life Sciences(P) Ltd	16,350.00	-	-	-	-	-	16,350.00	-
145	INCLEN	-	(497,349.00)	82,976.00	82,976.00	-	8,298.00	-	(505,647.00)
146	INCLEN & USAID	24.00	-	-	-	-	-	24.00	-
147	India Medtronic Pvt Ltd	1,426,696.00	-	161,100.00	630,194.00	-	-	957,602.00	-
148	Indian Association of Dermatology & Venereology Grant	-	-	364,875.00	71,037.00	-	36,488.00	257,350.00	-
149	Indian Council of Agriculture Research	-	-	-	59,271.00	-	-	697,967.00	-
150	Indian council of Philosophical Research	1,290,681.00	(176,320.00)	-	-	-	-	-	(176,320.00)
151	Indian Heart Rhythm Society	2,560.00	-	-	-	-	-	2,560.00	-
152	Indian Institute of public health, Hydrabad	28,876.00	-	-	28,829.00	-	-	47.00	-
153	Indian Institute of Technology	-	(257,018.00)	-	-	-	-	-	(257,018.00)
154	Indian Society for bone & Mineral Research	-	(60,000.00)	-	-	-	-	-	(60,000.00)
155	Indo German Science & Technology centre	103,407.00	-	-	102,241.00	-	224,633.00	-	(223,467.00)
156	Indo-French Centre for the Promotion of Advanced Research	2,663,583.00	-	-	-	-	-	2,663,583.00	-
157	Indo-US Science & Technology Forum	295,155.22	-	1,048,500.00	533,551.00	-	104,725.00	705,379.22	-
158	INMAS (DRDO)	-	(870,046.00)	-	-	-	-	-	(870,046.00)
159	Innaceel Tech Pvt Ltd.	135,000.00	-	-	18,608.00	-	-	116,392.00	-
160	INSA	35,304.00	-	230,000.00	241,970.00	-	-	23,334.00	-
161	INSA	230,000.00	-	-	-	-	-	230,000.00	-
162	Institute of Genomics & Integrative Biology	766,226.00	-	-	-	-	-	766,226.00	-
163	Intas Research Grant (IRG)	41,993,488.00	-	-	68,414,594.00	-	500.00	-	(26,421,606.00)
164	Intas Biopharmaceuticals Ltd.	-	(50,063.00)	-	-	-	-	-	(50,063.00)
165	Intas pharmaceuticals Ltd.	95,871.00	-	165,735.00	377,532.00	-	16,574.00	17,975.00	(132,500.00)
166	International Union Against Tuberculosis and Lung Diseases	17,975.00	-	-	-	-	-	-	-
167	International Atomic Energy Agency	43,061.00	(861,128.00)	1,953,324.00	1,347,055.00	-	195,284.00	43,061.00	(450,143.00)
168	International Paedrics Nephrology Association	95,273.00	-	-	-	-	-	95,273.00	-
169	International Union Against Cancer (UICC)	-	(16.00)	-	-	-	-	-	(16.00)
170	International Union Against Tuberculosis and Lung Disease	-	(710,716.00)	-	-	-	-	-	(710,716.00)
171	Invictus Oncology	-	(751,341.00)	-	-	-	-	-	(955,862.00)
172	Ipca laboratories	401,854.00	-	5,337,470.00	198,361.00	-	6,160.00	1,013,300.00	-
173	ISHTM	71,608.00	-	200,000.00	4,192,334.00	-	533,690.00	-	(96,134.00)
174	Janssen	-	-	2,269,031.00	347,742.00	-	20,000.00	-	(529,345.50)
175	JIV DAYA FOUNDATION	-	(366,435.50)	-	2,246,858.00	-	185,083.00	-	-
176	JOHN HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH (JHBSPH)	260,845.00	-	-	-	-	-	260,845.00	-
177	Johnson & Johnson	-	(81,671.00)	-	-	-	-	-	(81,671.00)
178	JSS Medical Research India Pvt Ltd.	-	-	-	-	-	-	-	-
179	Kempegowda Institute of Medical Sciences	131,220.00	-	-	131,193.00	-	-	27.00	-
180	KHANDELWAL LABORATORIES LTD	55,608.00	-	-	-	-	-	55,608.00	-
181	KlinEra	1,803,870.00	-	903,233.00	2,497,705.00	-	107,560.00	101,838.00	-
182	KLPF,USA	-	-	-	-	-	-	-	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance		
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit	
183	KOBE, JAPAN	10,221.00	-	-	-	-	-	10,221.00	-
184	Lab India Healthcare	145,054.00	-	-	-	-	-	145,054.00	-
185	Lady Tata Memorial Trust	632,256.00	-	900,000.00	-	-	-	778,498.00	-
186	Lajolla Pharmaceutical Company, California	487.00	-	-	663,758.00	-	90,000.00	487.00	-
187	Lambda Therapeutic Research Ltd	508,120.00	-	351,783.00	248,443.00	-	35,180.00	576,280.00	-
188	Lebara Foundation	138,210.00	-	916,667.00	838,991.00	-	91,666.00	124,220.00	-
189	LG Chemicals India Pvt Ltd	-	-	-	-	-	-	-	-
190	LG Life Sciences India Pvt Ltd	75,186.00	-	-	-	-	-	75,186.00	-
191	Liver Foundation	155,987.00	-	-	-	-	-	155,987.00	-
192	London School of Hygiene & Tropical Medicine, UK	146,225.00	-	-	-	-	-	146,225.00	-
193	Lupin Limited	129,798.00	-	1,152,800.00	-	-	115,280.00	1,167,318.00	-
194	M/s ARCHIMEDES DEVELOPMENT LTD, UK	47,204.00	-	-	-	-	-	47,204.00	-
195	M/S ASPREVA PHARMACEUTICAL CORPORATION, CANADA	-	(41,266.00)	-	-	-	-	-	(41,266.00)
196	M/S Beckman Coulter Pvt. Ltd.	549,372.00	-	7,445,861.00	465,427.00	-	-	83,945.00	-
197	M/S Gilead Sciences Inc USA	12,109,563.00	(558,290.00)	-	3,067,399.00	-	887,927.00	15,600,098.00	(558,290.00)
198	M/s janacare solution pvt ltd	-	-	-	-	-	-	-	-
199	M/S Markans Research Division	56,728.00	-	-	-	-	-	56,728.00	-
200	M/s Merck Sharp & Dohme Corp, USA	-	(161,155.00)	-	-	-	-	-	(161,155.00)
201	M/S Merck Sharp & Dohme Corporation USA	18.00	-	-	-	-	-	18.00	-
202	Macleods Pharmaceutical Ltd	-	(6,352.00)	684,922.00	284,607.00	-	68,492.00	325,471.00	-
203	Maharishi Ayurveda Product Pvt Ltd.	-	-	65,699.00	-	-	6,570.00	59,129.00	-
204	Max Neeman International	8,867.00	-	-	-	-	-	8,867.00	-
205	MBI Kits	2,317,140.00	-	3,976,562.65	3,495,753.00	-	397,656.00	2,400,293.65	-
206	McMaster University, Canada	-	-	-	-	-	-	-	-
207	Media Lab Asia	-	-	-	-	-	-	-	-
208	Medpace	-	-	-	-	-	-	-	-
209	Medtronic India Pvt Ltd	122,167.00	-	-	-	-	-	122,167.00	-
210	Merck Pharmaceuticals Ltd	-	-	-	-	-	-	-	-
211	MERCK SERONO INTERNATIONAL SA, SWITZERLAND	217,685.00	-	-	-	-	-	217,685.00	-
212	Meril life Sciences Pvt Ltd	171,722.00	-	118,800.00	100,000.00	-	-	190,522.00	-
213	MERK & CO, INC USA	729,223.80	-	-	-	-	-	729,223.80	-
214	MERK & CO, INC USA	-	(67,291.00)	-	-	-	-	-	(67,291.00)
215	Metrohm India Ltd	28,657.00	-	-	-	-	-	28,657.00	-
216	Michael J Fox Foundation	-	-	3,693,400.00	355,612.00	-	369,340.00	2,968,448.00	-
217	Micro Labs Limited	-	-	1,268,774.00	488,131.00	-	23,879.00	756,764.00	-
218	Ministry of Chemical and Petrochemicals	-	(14,820.00)	-	-	-	-	-	(14,820.00)
219	Ministry of Communication and Information & Technology	2,776,381.00	-	1,510,000.00	880,162.00	-	151,000.00	3,255,219.00	-
220	Ministry of Defence (DRDO)	65,850.00	-	-	-	-	-	65,850.00	-
221	Ministry of Earth Science	184,977.00	-	-	-	-	-	184,977.00	-
222	Ministry of Environment, Forest & Climate Change	-	(42,383.00)	2,699,000.00	1,616,241.00	-	269,900.00	770,476.00	-
223	Ministry of Health And Family Welfare(NACO)	6,292,777.00	-	23,480,289.00	15,265,762.00	-	-	14,507,304.00	-
224	Ministry of Health and Family Welfare	3,475,966.03	-	10,901,488.00	16,253,297.00	-	513,280.00	-	(2,389,122.97)

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
225	Ministry of Health, Govt of Odisha	-	-	1,200,000.00	538,266.00	120,000.00	541,734.00	-
226	Ministry Of Home Affair	3,002,028.00	-	36,843,018.00	34,269,546.00	1,842,151.00	3,733,349.00	-
227	Ministry of Health and Family (AYUSH) DHR	-	-	-	285,509.00	-	-	(285,509.00)
228	Ministry of Social Justice and Empowerment	7,944,573.00	-	39,743,429.00	12,229,393.00	3,969,960.00	31,488,649.00	-
229	Ministry of welfare	2,100.00	-	-	-	-	2,100.00	-
230	Morphotek Inc USA	98,823.58	-	-	-	-	98,823.58	-
231	MSD (India) Pvt Ltd	236,463.00	-	298,383.57	201,161.00	29,838.00	303,847.57	-
232	Nag foundation, pune	342,138.00	-	-	-	-	342,138.00	-
233	NAIP	-	(59,810.00)	-	-	-	-	(59,810.00)
234	NAMS	-	(231,005.00)	-	-	-	-	(231,005.00)
235	NATCO Pharma India	110,079.00	-	-	-	-	110,079.00	-
236	National AIDS Control Organisation	-	-	-	-	-	-	-
237	National Cancer Grid Research	2,465.00	-	1,875,279.00	1,707,560.00	260,018.00	220.00	-
238	National Commission for Protection of Child Rights	889,923.00	-	-	-	169,964.00	889,923.00	-
239	National Commission for protection of child Rights	-	-	-	-	-	-	-
240	National disaster management authority	4,020,350.00	-	-	-	-	4,020,350.00	-
241	National Health and Medical Research Council , Australia	532,000.00	-	-	-	-	532,000.00	-
242	National Health System Resource Centre	-	-	1,063,125.00	865,220.00	172,723.00	-	-
243	National Information Centre	47,745.00	-	-	-	-	47,745.00	-
244	National Innovation Foundation	2,103,396.00	-	-	875,864.00	-	1,227,532.00	-
245	National Institute for Health Research	4,209,092.00	-	1,048,859.00	4,954,058.94	-	303,892.06	-
246	NATIONAL INSTITUTE OF HEALTH, USA	26,180,456.18	-	54,360,721.00	49,236,114.94	5,499,272.00	25,805,790.24	-
247	NATIONAL INSTITUTE OF MENTAL HEALTH, NIH USA	308,588.00	-	235,685.00	633,044.00	11,737.00	-	(100,508.00)
248	National Institute of Nutrition (NIN) Hyderabad	109.00	-	-	-	-	109.00	-
249	National Institute of pharmaceutical Education & Research	12,439.00	-	-	-	-	12,439.00	-
250	National Institute of Social Defence	-	-	729,750.00	354,000.00	72,975.00	302,775.00	-
251	National Knowledge Commission	331,672.00	-	-	-	-	331,672.00	-
252	National Perinatal Epidemiology Unit, University of Oxford, UK	444,629.55	-	-	-	-	376,302.55	-
253	NCBIR	79,837.00	-	-	68,327.00	-	79,837.00	-
254	NCDC	-	-	42,016.00	20,000.00	4,075.00	17,941.00	-
255	NCDC, MOH&FW	-	-	9,675,000.00	-	967,500.00	8,707,500.00	-
256	NCPvt Ltd	37,117.00	-	-	-	-	37,117.00	-
257	NCT	33,584.00	-	-	-	-	33,584.00	-
258	Neeman Medical International Asia Ltd	237,385.00	-	-	-	-	237,385.00	-
259	New India Biopharma Pvt. Ltd.	-	-	134,541.00	110,500.00	26,908.00	-	(2,867.00)
260	Newcastle University, UK	-	-	-	-	-	-	-
261	Newron Pharmaceuticals S.P.A.	61,441.00	-	-	-	-	102,075.00	-
262	Next Gen Invitro Diagnostics Pvt Ltd.	19,589.00	-	1,228,950.00	1,065,421.00	122,895.00	19,589.00	-
263	Next Gen Pharma India Pvt. Ltd	295,489.00	-	-	42,000.00	-	253,489.00	-
264	NIE (Others)	248,079,024.09	-	130,058,201.71	42,610,149.62	-	335,527,076.18	-
265	NIE (Advance Payment for Custom Duty)	-	-	-	10,000,000.00	-	-	(10,000,000.00)

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
266	NIPER, New Delhi 110001	5,993,650.00	-	-	590,225.00	-	5,403,425.00	-
267	Niti Aayog	-	-	2,593,224.00	2,337,559.00	259,323.00	-	(3,658.00)
268	Nova Nordisk India Pvt Ltd	3,650,560.00	-	2,484,044.00	2,534,837.00	473,296.00	3,126,471.00	-
269	Novabay Pharmaceuticals	54,353.69	-	194,000.40	-	-	248,354.09	-
270	Novartis	488,416.25	-	2,658,053.34	1,513,493.00	196,496.00	1,436,480.59	-
271	Novartis Health Care Pvt Ltd	953,595.25	-	-	945,233.00	26,330.00	-	(17,967.75)
272	Novartis India Ltd	40,841.22	-	17,040.00	45,152.00	-	12,729.22	-
273	Novartis Pharmaceuticals	-	-	-	556,868.00	135,800.00	-	(692,668.00)
274	NRDC	29,510.00	-	-	-	-	29,510.00	-
275	NSD (Security Deposit)	2,973,194.00	-	-	-	-	2,973,194.00	-
276	NSRC, Ministry of Health & Family Welfare	955,345.00	-	2,047,578.00	1,963,834.00	47,777.00	991,312.00	-
277	Nurithm Private Labs	-	-	-	70,000.00	10,000.00	-	(80,000.00)
278	Office of Science & Technology officer of naval research global, USA	200,398.00	-	-	148,517.00	-	51,881.00	-
279	Office of the Principal Scientific Adviser, GOI	20,219,607.00	-	1,885,000.00	15,167,670.00	188,500.00	6,748,437.00	-
280	Oncology Forum	135,000.00	-	-	142,322.00	-	-	(7,322.00)
281	Outside Recovery	-	(706,346.00)	-	-	-	-	(706,346.00)
282	Orbis	37,222.00	-	1,743,549.00	264,014.00	171,967.00	1,307,568.00	-
283	Ovation Pharmaceuticals, USA	190.00	-	-	-	-	37,222.00	-
284	Ovrseas associates	-	(121,244.75)	-	-	-	190.00	-
285	Oxford University, UK	-	-	-	-	-	-	(121,244.75)
286	Others	-	-	(0.00)	-	-	-	(0.00)
287	OXIGENE, USA	215,126.84	-	-	-	-	215,126.84	-
288	Ozone pharmaceuticals ltd	239.00	-	-	-	-	239.00	-
289	Panacea biotech Ltd	8,084.00	-	-	-	-	8,084.00	-
290	Parexel International Clinical Research Pvt. Ltd	1,553,703.00	-	916,343.35	716,395.00	82,518.00	1,671,133.35	-
291	PAREXEL INTERNATIONAL LTD, UK	2,222,704.27	-	238,025.42	634,684.00	23,803.00	1,802,242.69	-
292	Path/One world Health	-	(130,278.00)	-	-	-	-	(130,278.00)
293	Peregrine Pharmaceuticals, USA	-	(26,577.00)	-	-	-	-	(26,577.00)
294	Pfizer Ltd	52,020.00	-	-	102,606.00	-	-	(50,586.00)
295	Pharmacia India Pvt Ltd	-	-	-	-	-	-	-
296	Pharmacosmos A/S, Denmark	-	-	48,886.00	-	-	-	-
297	Pharmazz india Pvt. Ltd.	322,261.00	-	-	315,094.00	29,189.00	26,864.00	-
298	PHARM-OLAM INTERNATIONAL, LTD	16,923.00	-	-	-	-	16,923.00	-
299	PHFI	2,762,050.00	-	-	2,267,758.00	-	494,292.00	-
300	Phonenix Cardic	7,761.00	-	-	-	-	137,946.00	-
301	PHRI, ONTARIO CANADA	-	-	144,650.00	-	14,465.00	-	-
302	Physicians Research Foundation Research Grant	4,118,644.00	-	2,272,068.35	2,173,624.00	227,206.00	3,989,882.35	-
303	Piramal Healthcare Ltd	-	-	281,000.00	205,027.00	6,500.00	69,473.00	-
304	Piramal Life Sciences	210,987.00	-	-	-	-	210,987.00	-
305	PPD Pharmaceutical Development India Pvt Ltd	36,211.00	-	-	-	-	36,211.00	-
306	PTC Therapeutics Inc. USA	-	(167,881.72)	196,306.00	31,000.00	19,631.00	855,188.00	(22,206.72)
307	QED PHARMACEUTICAL SERVICES PVT LTD	577,043.00	-	1,314,636.00	327,984.00	131,464.00	577,043.00	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance		
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit	
308	Qiagen Inc/India	3,709.00	-	-	-	-	-	3,709.00	-
309	Quintiles Spectral India	3,046,971.56	-	-	-	130,319.00	-	2,916,652.56	-
310	Rahe Life Science	-	-	-	-	-	2,388.00	-	(2,388.00)
311	Raj Gardhiya Liver Unit	-	(66,157.00)	74,786.00	-	-	-	8,629.00	-
312	Rajiv Gandhi Cancer Institute and Research Centre	54.00	-	-	-	-	-	54.00	-
313	Ranbaxy/Eli Lilly & company pvt Ltd	1,816,383.00	-	-	-	16,456.00	-	1,799,927.00	-
314	Raptim Research Ltd	142,784.00	-	-	-	334,851.00	-	-	-
315	REC Power distribution company Ltd.	1,646,973.00	-	650,000.00	-	1,287,259.00	65,000.00	944,714.00	(192,067.00)
316	Reliance Clinical Research Services (P) Ltd	-	-	-	-	-	-	-	-
317	Reliance Clinical Research Services (P) Ltd	566,593.50	-	-	-	-	-	566,593.50	-
318	Relisys Medical Devices Ltd	-	(3,433.00)	-	-	-	-	-	(3,433.00)
319	Revolving Funds for Drugs / SNMC	195,710.00	-	-	-	-	-	195,710.00	-
320	ROCHE Products(India) Pvt Ltd	168,443.00	-	-	-	-	-	168,443.00	-
321	Russan Pharma Ltd Mumbai	433,750.00	-	-	-	-	-	433,750.00	-
322	Saksin Lifesciences Pvt. Ltd.	-	(80,464.00)	812,057.00	-	646,453.00	81,206.00	3,934.00	-
323	Sanat Product Ltd	-	(77,996.00)	-	-	-	-	-	(77,996.00)
324	SANOFI	35,743.00	-	124,200.00	-	25,400.00	-	134,543.00	-
325	Sanofi Pasteur India Pvt Ltd	123,346.00	-	-	-	-	-	123,346.00	-
326	Sanofi Synthelabo (India) Private Limited	100,778.00	-	479,552.24	-	482,281.00	221,468.00	-	(123,418.76)
327	Sarabhai Chemicals	-	(4,868.00)	-	-	-	-	-	(4,868.00)
328	Saver Biotech Limited	223,123.00	-	-	-	-	-	223,123.00	-
329	SAVING NEWBORN LIVES, USA	-	(10,898.00)	-	-	-	-	-	(10,898.00)
330	SCA Global Hygien products india pvt Ltd	59,214.00	-	-	-	-	-	59,214.00	-
331	Sciformix Technologies private limited	-	-	297,888.00	-	180,833.00	29,789.00	87,266.00	-
332	SeqIndia Labs Pvt. Ltd.	284,049.00	-	607,200.00	-	457,419.00	60,720.00	373,110.00	-
333	SERICARE	-	(182,191.00)	-	-	-	-	-	(182,191.00)
334	Shanta Biotechics Pvt Ltd	89,952.00	-	-	-	-	-	89,952.00	-
335	Shire Human Genetic Therapies, Inc, USA	1,114,905.40	-	-	-	-	-	1,114,905.40	-
336	Siemens Ltd	208,797.00	-	-	-	-	-	208,797.00	-
337	Sight savers	-	(127,782.00)	838,695.00	-	2,232,133.00	141,131.00	-	(1,662,351.00)
338	Singapore Clinical Research Institute, Singapore	-	(81,335.00)	118,009.00	-	1,085.00	11,692.00	23,897.00	-
339	Sinopharm India Pvt Ltd	-	(17,964.00)	-	-	14,326.00	-	-	(32,290.00)
340	SIRO CLIN PHARMA PVT LTD	-	(35,171.00)	383,968.00	-	820,434.00	92,025.00	-	(563,662.00)
341	SMB Corporation of India	-	(166,623.00)	-	-	-	-	-	(166,623.00)
342	Smith & Nephew Health care pvt lt	5,443.00	-	-	-	-	-	5,443.00	-
343	Society of American Gastrointestinal and Endoscopic Surgeons	7,001.00	-	-	-	-	-	7,001.00	-
344	Solumiks Herbaceuticals Limited	13.00	-	-	-	-	-	13.00	-
345	Solvey Pharma Ltd	13,465.00	-	-	-	-	-	13,465.00	-
346	SPARC	-	-	1,299,970.00	-	277,692.00	129,997.00	892,281.00	-
347	St Jude Medical Hong Kong	-	(5,014.00)	-	-	-	-	-	(5,014.00)
348	ST Jude Medical India Pvt Ltd	-	(44,021.00)	-	-	-	-	-	(44,021.00)
349	State Health Society, Delhi Govt.	-	-	1,602,000.00	-	1,060,739.00	80,100.00	461,161.00	-

S.No.	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
350	Stempeutics Research Pvt Ltd	96,334.00	-	49,612.00	15,000.00	4,962.00	125,984.00	-
351	Sterling Synergy System (P) Ltd	58,580.00	-	-	-	-	58,580.00	-
352	Stryker Global Technology Center Pvt Ltd.	-	(6,816.00)	-	-	-	-	(6,816.00)
353	Sun Pharmaceuticals	3,384.00	-	-	-	-	3,384.00	-
354	Swami Sivananda Memorial Institute	552,398.00	-	1,000,187.00	1,288,445.00	100,000.00	164,140.00	-
355	SWAYAM (Ministry of HRD)	590,509.00	-	3,564,529.00	3,762,080.00	350,000.00	42,958.00	-
356	Synergy Enironics Ltd.	-	(118,329.00)	-	-	-	-	(118,329.00)
357	Synapsica Technologies Private Limited	-	-	685,000.00	33,627.00	68,500.00	582,873.00	-
358	Synergy Network India Pvt Ltd,	-	(27,061.00)	-	-	-	-	(27,061.00)
359	Tech Observer India Pvt. Ltd	1,498.00	-	59,400.00	51,217.00	5,940.00	3,741.00	-
360	Texas A&M Research Foundation (TAMRF) USA	16,237.00	-	-	-	-	16,237.00	-
361	The Cancer Foundation	294,113.00	-	1,000,000.00	213,824.00	100,000.00	980,289.00	-
362	The Energy and Resources Institute	7,775.00	-	-	-	-	7,775.00	-
363	The George Institute for International Health, Australia	228,458.32	-	-	-	-	228,458.32	-
364	The Indian Ashtma Care Society	90,845.00	-	-	-	-	90,845.00	-
365	The International Society for Paediatric Neurosurgery (ISPNE)	408.00	-	-	-	-	408.00	-
366	The Media Lab Asia	77,500.00	-	-	-	-	77,500.00	-
367	The Medical Research Council, UK	725,090.00	-	1,098,941.00	890,133.00	109,894.00	824,004.00	-
368	THE MICRONUTRIENT INITIATIVE, ASIA	-	-	-	-	-	-	-
369	The Service de Dermatologie, France	5,163.00	(8,445.00)	-	-	-	5,163.00	(8,445.00)
370	The University of Alabama, USA	-	-	-	-	-	-	-
371	The University of Edingburgh and NHS Lothian	-	(71,269.00)	-	-	-	-	(71,269.00)
372	THRESHOLD PHARMACEUTICALS, USA	-	-	-	-	-	-	-
373	THSTI	-	(115,130.00)	-	-	-	-	(115,130.00)
374	Torrent Pharmaceutical Ltd	1,060,807.00	-	1,510,977.00	1,685,167.00	214,224.00	1,223,603.00	(289,320.00)
375	Troikaa Pharmaceutical Ltd	108,951.00	-	1,699,680.00	1,322,660.00	-	108,951.00	-
376	UCIAN, UK	1,380,280.00	-	2,064,213.00	1,622,612.00	202,714.00	1,619,167.00	-
377	UGC	-	(1,875,215.00)	-	1,197,302.00	-	-	(3,072,517.00)
378	UN international Drug and crime Control Programme	53,106.00	-	-	-	-	53,106.00	-
379	UNICEF	1,624,225.00	-	18,666,894.00	16,541,854.00	279,142.00	3,470,123.00	-
380	Unique Biotech Ltd	485,388.00	-	300,000.00	1,217,463.00	30,000.00	-	(462,075.00)
381	Universal Elementary Education Mission, Deptt. of Education	-	-	2,880,000.00	50,000.00	144,000.00	2,686,000.00	-
382	Universitair Ziekenhuis Antwerpen (UZA), Belgium	-	-	870,623.00	-	87,062.00	921,138.00	-
383	University of Bergen, Norway	137,577.00	-	-	-	-	369,583.00	-
384	UNIVERSITY OF CALGARY, CANADA	369,583.00	-	-	-	-	57,187.00	-
385	University of Maryland	57,187.00	-	-	-	-	90,282.00	-
386	University of Nottingham, UK	90,282.00	-	-	-	-	1,974.00	-
387	University of Pittsburgh	1,974.00	-	-	-	-	16,965,695.00	-
388	University of Warwick UK	14,283,068.00	-	5,249,048.00	2,041,516.00	524,905.00	-	(333,450.00)
389	UNM HSC	275,673.00	-	2,848,284.00	3,175,025.00	282,382.00	-	-
390	Unnique Biotech Ltd.	4,687.00	-	1,500,000.00	1,026,828.00	150,000.00	4,687.00	-
		1,025,705.00	-				1,348,877.00	-

S.No	Funding Agency	Opening Balance		Receipt	Payments		Closing Balance	
		Credit	Debit		Other Expenses	Estb. Expenses	Credit	Debit
391	US Science & Technology Forum, USA	399,323.00	-	-	-	399,323.00	-	-
392	USV Private Limited	-	-	801,850.00	721,394.00	-	80,185.00	-
393	Veeda Clinical Research Pvt Ltd	600,641.00	-	906,898.00	283,707.00	-	87,398.00	-
394	Veloce Biopharma LLC	143,028.00	-	-	-	143,028.00	-	-
395	Venus Remedies Ltd	14,330.00	-	-	11,371.00	-	-	-
396	Vsquare Medi Enterprises	-	-	-	-	2,959.00	-	(6,500.00)
397	Vulimini Ramalingaswami Foundation	162,000.00	-	-	-	-	6,500.00	-
398	Vyome Bioscience pvt Ltd	10,548.00	-	-	-	-	-	-
399	Walter Bushnell	845,286.00	-	-	267,851.00	-	-	-
400	Welcome Trust London, UK	145,869.25	-	-	331,814.00	-	-	-
401	WFPICCS	18,049.33	-	-	-	-	-	-
402	WHO	19,982,345.12	-	13,376,148.22	14,276,336.00	-	30,973.00	-
403	Wockhardt, Mumbai	1,176,899.00	-	-	-	-	-	-
404	Wyeth Pharmaceuticals Inc	225,950.00	-	-	-	-	-	-
405	Zenotech	32,037.00	-	-	-	-	-	-
406	Zimmer India Pvt Ltd	81,593.00	-	-	-	-	40,076.00	-
407	Zuventus	146,250.00	-	-	-	-	-	-
408	Credit In Scheme Fund Account instead of AYUSH Account	2,518,897.00	-	-	-	-	-	-
409	Ministry of Health And Family Welfare(N.A.C.O)	15,078.00	-	-	-	-	-	-
410	NOVARTIS	160,290.65	-	-	-	-	-	-
411	Veeda Clinical reserach Pvt. Ltd.	201,947.00	-	-	-	-	-	-
412	Micro Labs Limited	350,982.00	-	-	-	-	-	-
413	India Medtronic Pvt. Ltd	161,000.00	-	-	-	-	-	-
414	Merril Life Sciences Pvt Ltd.	118,800.00	-	-	-	-	-	-
	<b>TOTAL</b>	<b>1,351,679,571.65</b>	<b>(16,043,607.97)</b>	<b>1,669,425,853.22</b>	<b>1,475,901,727.86</b>	<b>1,480,320,787.33</b>	<b>120,827,754.00</b>	<b>(71,988,452.29)</b>

Jr. Accounts Officer  
Research Section

Accounts Officer  
Research Section

Dean  
Research Section



## 13.2. Audit Report

### Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of All India Institute of Medical Sciences (AIIMS), New Delhi for the year ended 31 March 2020

We have audited the attached Balance Sheet of the All India Institute of Medical Sciences (AIIMS), New Delhi as at 31 March 2018, the Income & Expenditure Account and Receipts & Payments Account for the year ended on that date, under Section 19 (2) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with section 18 (2) of the AIIMS Act, 1956. These financial statements are the responsibility of the AIIMS management. Our responsibility is to express an opinion on these financial statements based on our audit. **However, we are not able to form an opinion on the accounts of All India Institute of Medical Sciences (AIIMS), New Delhi for the year ended 31 March 2020 in view of the below:**

No depreciation has been charged by the AIIMS on fixed assets of Rs 5461.68 crore i.e., machinery and equipment, vehicles, buildings, Computers/Peripherals and library books etc., as required under AS - 6 of ICAI. In the absence of which audit is unable to certify the actual value of fixed assets and its impact on accounts. This issue has featured in our comments since the year 2015-16, however, AIIMS has not taken any corrective measures and has not yet charged depreciation on the fixed assets. Due to the absence of the actual value of fixed assets, we are not able to form an opinion on correctness of fixed assets.

There are eleven Centres including AIIMS (Main) which are maintaining separate accounts. However, AIIMS has not prepared consolidated accounts by combining the accounts of all the Centres. The same issue has been commented on since the year 2016-17, however, AIIMS has not taken any corrective measures. In view of this, a complete picture of the accounts cannot be arrived at.

The accounts of "AIIMS Delhi AROGYA KOSH" have not been consolidated in the annual accounts of AIIMS (Main). Instead, the Receipt and Payment account of this account has been attached without inclusion of the figures in the balance sheet. Thus, non-inclusion of this account has resulted in understatement of Liabilities as well as Current Assets by Rs 0.47 crore.

The accounts of "National Illness Assistance Fund (NIAF)" have not been consolidated in the annual accounts of AIIMS Main. Instead the receipt and payment account of this account has been attached without inclusion of the figures in the balance sheet. Thus, non-inclusion of this account has resulted in understatement of Liabilities by Rs 46.43 crore, understatement of Income by Rs 2.42 crore and understatement of Current Assets by Rs 48.85 crore. Similarly, the Account of Poor Patient Fund, Trauma Centre has not been included in the annual accounts of AIIMS Jai Prakash Narayan Apex Trauma Cente.

An amount of Rs 14.00 crore has been depicted as NPS fixed deposit. But, during physical verification, it was verified that fixed deposit of Rs 7.00 crore only was in place. The reasons for difference may be investigated and reconciled.

Schedule 8 – 'Fixed Assets', of the annual accounts of the AIIMS (Main) and other centres of the AIIMS disclosed assets valued at Rs 5461.68 crore as on 31 March 2020. However, an Assets Register required to be maintained in Form GFR-22 under General Financial Rules 2017 was not maintained by AIIMS.

An amount of Rs 27.83 crore has been shown as liability on account of New Pension Scheme (NPS). However, an incorrect entry of Rs 14 crore has been added resulting in overstatement of Liabilities by Rs 14 crore. Moreover, overstatement of Rs 2 crore which was also pointed out in the previous year's SAR has also not been rectified. Therefore, the Liabilities on account of NPS is overstated by Rs 16 crore.

An amount of Rs 32.37 crore has been shown as Others (specify) NPS in Schedule – 16 (Income from Royalty, Publication etc.). It included Rs 29.00 crore, which was received due to the maturing of FDRs pertaining to the NPS. As the amount of FDRs matured is not an Income, treating this amount as Income resulted into the overstatement of Income and overstatement of Liabilities by Rs 29.00 crore.

The Grant-in-Aid received from the Ministry is being invested by AIIMS in short term FDRs to earn interest. During the year 2019-20, AIIMS earned Rs 10.90 crore as interest on account of investment in FDRs. However, this amount has not been shown as refundable to the Ministry This has resulted in overstatement of Income and understatement of Liabilities by the like amount.

For and on behalf of the C& AG of India

Principal Director of Audit  
(Health Welfare & Rural Development)

New Delhi

Date: 04.12.2020





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