



Prof. (Dr.) Poodipedi Sarat Chandra

M.B.B.S. · M.Ch. (Neurosurgery) · Post-Doctoral Fellowship (UCLA) · FNASc · FNAMS

Professor & Head

Department of Neurosurgery & Gamma Knife, Neurosciences Centre

All India Institute of Medical Sciences, New Delhi

In charge, Epilepsy Surgery & Functional Neurosurgery Fellowship Programme

Prepared in the field sequence of the AIIMS Faculty Master Format. Each numbered heading below corresponds to one field of that format.

PART A IDENTIFICATION & APPOINTMENT

2. Salutation	Prof.
3. Doctor's Name	Prof. (Dr.) Poodipedi Sarat Chandra
4. Gender Category	Male
5. Profile Photo	Photograph enclosed (see above; supplied separately as a JPEG file)
6. Name of Department / Centre	Department of Neurosurgery & Gamma Knife, Neurosciences Centre, AIIMS, New Delhi
7. Faculty / Staff / Student Category	Faculty
8. Designation	Professor & Head, Department of Neurosurgery & Gamma Knife
9. Study Designation	M.Ch. (Neurosurgery)
10. Contact No.	011-26594888, 011-26593291
11. Email ID	saratpchandra3@gmail.com

Positions held

Period	Position
1998–2003	Assistant Professor, Department of Neurosurgery, AIIMS, New Delhi
2003–2008	Associate Professor, Department of Neurosurgery, AIIMS, New Delhi
2005–2006	Post-Doctoral Fellow, Department of Neurosurgery, UCLA, Los Angeles, USA
2008–2011	Additional Professor, Department of Neurosurgery, AIIMS, New Delhi
2011–2025	Professor and Head of Unit I, Department of Neurosurgery, AIIMS, New Delhi
July 2025 onwards	Professor and Head, Department of Neurosurgery & Gamma Knife, AIIMS, New Delhi

Over 33 years of teaching experience, of which more than 27 years have been on the faculty of AIIMS, New Delhi.

Subspecialties

- Epilepsy surgery and functional neurosurgery
- Deep brain stimulation
- Neuromodulation
- Complex spine and cranio-vertebral junction anomalies
- Minimally invasive neurosurgery, including cranial and spinal endoscopy
- Cerebrovascular surgery
- Pituitary tumours
- Large complex tumours

PART B PROFILE, DISTINCTIONS & RESPONSIBILITIES

12. About Prof. (Dr) P Sarat Chandra

Prof. (Dr.) P. Sarat Chandra is Professor and Head of the Department of Neurosurgery & Gamma Knife at the All India Institute of Medical Sciences, New Delhi, where he has served on the faculty since 1998. He has an operative experience of a large number of cases across the full spectrum of neurosurgery — among the largest for any single neurosurgeon — including over 4,000 epilepsy operations performed since 1998 and more than 2,000 operations on the craniovertebral junction. The department he heads is among the busiest neurosurgical services anywhere, performing approximately 130 operations and 30 Gamma Knife procedures each week, with outpatient clinics drawing patients referred from every part of the country.

A number of operations now in international use were first described by him. These include the world's first endoscope-assisted interhemispheric transcallosal hemispherotomy and the first endoscopic corpus callosotomy with commissurotomy; the robotic thermocoagulative hemispherotomy (ROTCH), a “bloodless” robot-guided technique; the single-stage, posterior-only DCER (Distraction–Compression–Extension–Reduction) technique for severe basilar invagination and atlantoaxial dislocation, which roughly halves operating time and morbidity; absolute-alcohol embolisation with short-segment instrumentation for vertebral haemangiomas; robot-guided radiofrequency ablation for hypothalamic hamartoma; and the first Indian series of SEEG-guided radiofrequency thermocoagulation of epileptogenic networks. Affordability has been a deliberate principle of this work — absolute-alcohol embolisation, for instance, costs a few rupees against more than ₹5 lakh for conventional embolic materials.

He conceived and leads, as Principal Investigator and Team Leader, India's first Centre of Excellence for Epilepsy, and is Co-Principal Investigator of the MEG Resource Facility — established alongside the Prof. P. N. Tandon Neurobiology Laboratory and a dedicated Genomics Laboratory, the first such integrated facility in the country. This work has been supported by more than ₹100 crore in competitive research grants from the Department of Biotechnology, ICMR, DST–SERB, BIRAC, DAE–BRNS and the Office of the Principal Scientific Adviser to the Government of India. He was the only surgeon co-leading the world's first randomised controlled trial of epilepsy surgery in children, published in the New England Journal of Medicine. His record comprises 716 peer-reviewed publications, an h-index of 52, an i10-index of 232 and a cumulative journal impact factor of approximately 907, together with granted and filed Indian and United States patents.

As a teacher he has trained close to 100 M.Ch. neurosurgery residents — many of whom now head departments across India — and guided 7 doctoral scholars. He contributed to the framing of a national curriculum for neurosurgery and directs the epilepsy surgery and functional neurosurgery fellowship programme at AIIMS. He served as Editor of Neurology India (2019–2024) and chairs the Publication Committee of the World Federation of Neurosurgical Societies. He has been President of the Skull Base Surgery Society of India, the Cerebrovascular Society of India, the Indian Epilepsy Society and the Neuroendoscopic Society of India, and was Chairman of Neurosciences-20 (N20) under India's G20 presidency. He is a Fellow of the National Academy of Sciences, India and of the National Academy of Medical Sciences, India. Beyond AIIMS, he has mentored the establishment of

epilepsy-surgery programmes in Indonesia, Morocco and Nepal, including the first ILAE Surgical Mentorship Programme.

13. Awards & Fellowships

Academy fellowships

- Fellow, National Academy of Sciences, India (FNASc), 2020
- Fellow, National Academy of Medical Sciences, India (FNAMS), 2024

Training fellowships

- Post-Doctoral Fellowship in epilepsy surgery and functional neurosurgery (including deep brain stimulation), University of California, Los Angeles, 2005–2006
- J. Kiffin Penry Epilepsy Fellowship, Wake Forest University School of Medicine, Winston-Salem, USA, 2006
- Fellowship, University Hospital Düsseldorf (UKD), Germany, June 2013

National and international awards

- Lifetime Outstanding Achievement Award in Epilepsy — Asian & Oceanian Commission for Epilepsy, International League Against Epilepsy (ILAE), 2022
- VASVIK National Award in Biological Sciences (Vividhlaxi Audyogik Samshodhan Vikas Kendra Industrial Research Award), 2020
- Sun Pharma Research Award, 2019 — Best Clinical Researcher in India
- Lifetime Achievement Award, International Spinal Cord Society, 2019
- AIIMS Excellence Award for Best Clinical Researcher, 2018
- Annual Research Orator Award, 3rd Annual Research Day, JIPMER, Puducherry, 2017
- Tadokoro Award, International League Against Epilepsy, 2006
- Undergraduate distinctions — honours and gold medals in Biochemistry, Physiology, Obstetrics & Gynaecology and Surgery; Best Outgoing Student of the batch; Pfizer Medallion, MKCG Medical College, Berhampur

Named and presidential orations

- Prof. B. C. Bansal–Uma Bansal Oration, Pt. B. D. Sharma University of Health Sciences, PGIMS, Rohtak, 2025
- Presidential Oration, Neuroendoscopic Society of India, 2025 — “Applying the Science of Metacognition to Neuroendoscopy”
- Presidential Oration, Indian Epilepsy Society and Asian–Oceanian Commission for Epilepsy, 2024 — “Newer Innovations in Epilepsy Surgery: A Personal Journey of Over 20 Years”
- P. N. Tandon Oration, Indian Academy of Neurosciences, 2023 — “Translational Research to Find Abnormal Epileptogenic Networks: The Role of the Surgeon”
- Dave–Newton Oration, King George’s Medical University, Lucknow, 2023 — “The Science and Art of Finding New Cheese”
- Presidential Oration, Cerebrovascular Society of India, 2023 — “Situation Awareness in Aneurysm Surgery”
- Prof. B. S. Sharma Oration, 2023 — “The Need for Innovation in Neurosurgery”
- K. S. Mani Oration, Indian Epilepsy Society, Kochi, 2022 — “Developing Newer Paradigms and Techniques for Epilepsy Surgery”
- Presidential Oration, Skull Base Surgery Society of India, 2020–2021
- A. D. Sehgal Oration, Indian Epilepsy Society, 2016 — “Pushing the Envelope for Epilepsy Surgery”

Visiting and adjunct appointments

- Adjunct Professor, Dr Soetomo General Academic Hospital / Universitas Airlangga, Surabaya, Indonesia
- Adjunct Professor, National Brain Research Centre (NBRC), Manesar
- Visiting Professor, International Neurosciences Institute (INI), Hannover, Germany

14. Research Projects

Cumulative extramural and intramural research funding exceeds ₹100 crore, drawn from the Department of Biotechnology (DBT), the Indian Council of Medical Research (ICMR), DST–SERB, BIRAC, the Board of Research in Nuclear Sciences (DAE) and the Office of the Principal Scientific Adviser to the Government of India, together with AIIMS intramural grants.

A. Major funded programmes

Project	Funding Agency
Centre of Excellence in Epilepsy — a collaborative programme between NBRC and AIIMS (Phase I)	DBT
Investigating the role of metabolites and neurotransmitters in abnormal synaptic transmission in MTLE and FCD — biomarkers for localisation of epileptogenic foci, under Centre of Excellence for Epilepsy Research Phase II / MEG Resource Facility (multi-PI)	DBT
Advanced Research for Epilepsy — AI algorithm for EEG and portable video-EEG; newer anti-seizure drugs; connectomics; multi-omics	Office of the Principal Scientific Adviser, Govt. of India
Novel techniques for reduction of basilar invagination and atlantoaxial dislocation, and surgical instruments thereof	BIRAC — Biotechnology Ignition Grant
Role of kynurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy	DBT
Study of FBN1 gene mutations in congenital non-syndromic basilar invagination and atlantoaxial dislocation	DBT
Effect of plasma jet on tumour tissues resected from patients with tumour-linked refractory epilepsy	BRNS, Dept. of Atomic Energy
Assessment of mutations in the GABRG2 gene from micro-electrocorticographically defined areas of hippocampus and amygdala in MTLE	DBT
Deciphering the role of casein kinase 2 in mesial temporal lobe epilepsy	DST — Young Scientist scheme
Comparative analysis of Src kinase-mediated glutamatergic activity in the anterior temporal lobe and hippocampus in hippocampal sclerosis	DBT
Deciphering the role of ATF3 and TGF- β signalling in mesial temporal lobe epilepsy	AIIMS Institute Research Grant
Deciphering the role of histone deacetylases (HDACs) in mesial temporal lobe epilepsy	AIIMS Intramural
Deciphering the role of GABA-A receptor alterations in paediatric and adult patients with focal cortical dysplasia	AIIMS Institute Research Grant

B. Current and ongoing projects

- An observational study of the gut microbiota composition of patients with drug-refractory epilepsy (PI — AIIMS Intramural), with a related case–control study using whole-metagenome shotgun sequencing
- Modulators of $\alpha 4$ -containing GABA-A receptors as potential therapy for focal cortical dysplasia (Co-PI — ICMR)
- Deciphering the role of platelets in drug-resistant epilepsy (Co-PI — ICMR)
- Role of non-coding RNAs in the clinicopathological classification of, and molecular perturbations associated with, focal cortical dysplasia (Co-PI — DBT)
- Differentially expressed synaptic-activity-associated long non-coding RNAs in drug-resistant epilepsy (AIIMS Intramural)

C. New surgical techniques devised

- **Endoscope-assisted interhemispheric transcallosal hemispherotomy** — the first description in the literature of hemispheric disconnection through an opening of about 3 cm rather than a large craniotomy. In a series now exceeding 75 children, a seizure-free outcome of about 90% has been achieved.
- **Endoscopic corpus callosotomy with anterior, hippocampal and posterior commissurotomy** — the first description of combined commissurotomy performed through a mini-craniotomy in Lennox–Gastaut syndrome, controlling drop attacks in almost all cases and reducing other seizures by over 56%.
- **DCER (Distraction–Compression–Extension–Reduction)** — a single-stage, posterior-only correction of severe basilar invagination and atlantoaxial dislocation, replacing the earlier two-stage trans-oral and posterior procedure and reducing operative time by more than half.
- **Absolute-alcohol (ethanol) embolisation with instrumented fixation for vertebral body haemangiomas** — an affordable, indigenous technique with more than twenty years of follow-up showing safety, efficacy and freedom from recurrence, at a small fraction of the cost of conventional embolic materials.
- **Robotic thermocoagulative hemispherotomy (ROTCH)** — the world’s first “bloodless” hemispheric disconnection, achieved through robot-guided radiofrequency thermocoagulation via 2.1 mm drill holes; 76% of an initial 42 children became seizure-free. The work featured on the cover of the Journal of Neurosurgery and has been adopted internationally.
- **Robot-guided radiofrequency ablation for hypothalamic hamartoma** — the first description of a minimally invasive treatment for hypothalamic hamartoma presenting with gelastic epilepsy.

D. Patents and technological innovations

Title	Application / Patent number	Year
Novel techniques for reduction of basilar invagination and atlantoaxial dislocation, and surgical instruments thereof (DCER)	US 14/897,156 · US20160128736A1 (United States / PCT)	2014
A disposable nasal retractor for endoscopic trans-sphenoidal pituitary gland surgery	Indian Patent 201911005181 · Patent No. 552208 (granted)	2019
A compact, portable ambulatory video-electroencephalography (EPISAVES) unit with AI analysis for seizure monitoring	Indian Patent Application 201811033960	2018
Occipito–C1 and C2 spacer for the DCER technique	Indian Patent Application 201611023116	2016
Implant system to enhance cervico-occipital (craniovertebral junction) stabilisation	Indian Patent Application 201911002700	2019
Disposable multi-port system for cranial endoscopic surgeries	Indian Patent Application 201911012505	2019

Title	Application / Patent number	Year
Disposable endoscopic carpal tunnel release set (in commercial production; unit cost under US\$ 10)	Indian Patent Application 306/Del/2009	2009
Kynurenic acid as a biomarker for localisation of the epileptogenic zone	Indian Patent Application TEMP/E-1/27566/2017-DEL	2017
Special monopolar cautery for trans-oral craniovertebral junction surgery	Patent filed	—

15. Publications

716 peer-reviewed publications · h-index 52 · i10-index 232 · cumulative journal impact factor approximately 907. Impact factors are taken from the Clarivate Journal Citation Reports (2024); h-index and i10-index from Google Scholar.

Publications by theme

Thematic area	Papers	Cumulative IF	h-index
Epilepsy & epilepsy surgery	284	≈ 492	38
Craniovertebral junction, spine & skull base	145	≈ 160	21
Neuro-oncology & brain tumours	67	≈ 55	18
Translational & basic neuroscience	53	≈ 40	16
Neurovascular surgery	42	≈ 37	13
Neurotechnology, innovation, imaging & education	25	≈ 14	13
Functional, stereotactic & radiosurgery	17	≈ 28	4
Neurosurgical outcomes, complications & general neurosurgery	15	≈ 18	7
Neurotrauma & neurocritical care	13	≈ 10	5
Other	55	≈ 55	12
Total	716	≈ 907	52

Fifteen selected publications

The papers below are selected not for the highest impact factors but for their bearing on patient care and for their standing as first descriptions in the literature.

1. Surgery for Drug-Resistant Epilepsy in Children

Dwivedi R, Ramanujam B, Chandra PS, Sapra S, Gulati S, Kalaivani M, Garg A, Bal CS, Tripathi M, Dwivedi SN, Sagar R, Sarkar C, Tripathi M. N Engl J Med. 2017 Oct 26;377(17):1639–1647. doi:10.1056/NEJMoa1615335. PMID: 29069568.

Impact factor 78.5 · cited more than 700 times. The world’s first randomised controlled trial of paediatric epilepsy surgery, conducted entirely at AIIMS, which changed clinical practice internationally and was named a “Top Story of 2018” and “Practice Changing” by NEJM Journal Watch Neurology.

2. Endoscopy-Assisted Interhemispheric Transcallosal Hemispherotomy: Preliminary Description of a Novel Technique

Chandra PS, Kurwale N, Garg A, Dwivedi R, Malviya SV, Tripathi M. Neurosurgery. 2015;76(4):485–494. doi:10.1227/NEU.0000000000000675. PMID: 25710106.

Impact factor 3.9. The first description of hemispheric disconnection performed endoscopically, through an incision of about 4 cm, reducing blood loss, hospital stay, morbidity and mortality by more than half. Demonstrated as live surgery in centres in India, Malaysia and Morocco.

3. Endoscopic-Assisted (Through a Mini-Craniotomy) Corpus Callosotomy Combined with Anterior, Hippocampal and Posterior Commissurotomy in Lennox–Gastaut Syndrome

Chandra PS, Kurwale NS, Chibber SS, Banerjee J, Dwivedi R, Garg A, Bal C, Tripathi M, Sarkar C, Tripathi M. Neurosurgery. 2016;78(5):743–751. doi:10.1227/NEU.0000000000001060. PMID: 26474092.

Impact factor 3.9. First in the literature to combine complete corpus callosotomy with anterior, hippocampal and posterior commissurotomy through a 3 cm incision, proving significantly more effective than callosotomy alone in a condition with no medical cure.

4. Robotic Thermocoagulative Hemispherotomy (ROTCH): Concept, Feasibility, Outcomes and Safety of a New “Bloodless” Technique

Chandra PS, Doddamani R, Girishan S, Samala R, Agrawal M, Garg A, Ramanujam B, Tripathi M, Bal C, Nehra A, Tripathi M. J Neurosurg Pediatr. 2021;27(6):688–699. doi:10.3171/2020.10.PEDS20673. PMID: 33799306.

Impact factor 2.1. A world-first technique achieving hemispheric disconnection through robot-guided radiofrequency thermocoagulation without blood loss, now being adopted internationally, including by a visiting team from Tel Aviv Medical University.

5. SEEG-Guided Radiofrequency Thermocoagulation of the Epileptogenic Networks: Utility for Both Treatment and Validation of Epileptogenic-Network Localisation

Chandra PS, Doddamani RS, Honna R, Suresh A, Tripathi M, Garg A, Parihar J, Tripathi M. Stereotact Funct Neurosurg. 2025;103(5):312–325. doi:10.1159/000548196. PMID: 40889253.

Impact factor 2.4. The first study from India demonstrating minimally invasive stereo-EEG-guided radiofrequency thermocoagulation of epileptogenic networks, used both to treat and to validate network localisation.

6. Intra-operative Co-registration of MRI, PET and Electrocorticographic Data for Neocortical Lesional Epilepsies May Improve Localisation of the Epileptogenic Focus

Chandra PS, Bal CS, Jain S, Joshua SP, Gaikwad S, Garg A, Ansari A, Nehra A, Sarkar C, Tripathi M. World Neurosurg. 2013.

Impact factor 2.1. The first paper to describe the concept of multimodal imaging for localising epileptogenic networks — now a foundation of pre-surgical evaluation.

7. Distraction, Compression and Extension Reduction of Basilar Invagination and Atlantoaxial Dislocation: A Novel Pilot Technique (DCER)

Chandra PS, Kumar A, Chauhan A, Ansari A, Mishra NK, Sharma BS. Neurosurgery. 2013;72(6):1040–1053. doi:10.1227/NEU.0b013e31828bf342. PMID: 23426148.

Impact factor 3.9. The foundational description of the DCER technique, allowing correction of severe basilar invagination and atlantoaxial dislocation through a posterior approach alone.

8. The Severity of Basilar Invagination and Atlantoaxial Dislocation Correlates with Sagittal Joint Inclination, Coronal Joint Inclination and Craniocervical Tilt: New Indexes for the Craniovertebral Junction

Chandra PS, Goyal N, Chauhan A, Ansari A, Sharma BS, Garg A. Neurosurgery. 2014;10(Suppl 4):621–629. doi:10.1227/NEU.0000000000000470. PMID: 25320950.

Impact factor 3.9 · Editor’s Choice · basis of two international patents. The first paper from India ever published in Neurosurgery as an Editor’s Choice. Introduces indices that quantify severity and allow the operation to be planned patient by patient; now applied in over 300 cases, with roughly half the morbidity and less than half the hospital stay of trans-oral odontoid excision with posterior fixation.

9. Distraction, Compression, Extension and Reduction Combined with Joint Remodeling and Extra-articular Distraction: Two New Modifications — Prospective Study in 79 Cases

Chandra PS, Prabhu M, Goyal N, Garg A, Chauhan A, Sharma BS. Neurosurgery. 2015;77(1):67–80. doi:10.1227/NEU.0000000000000737. PMID: 25793730.

Impact factor 3.9. Prospective validation in 79 cases of two modifications of DCER — joint remodelling and extra-articular distraction — extending the technique to the most severe deformities.

10. Treatment of Vertebral Haemangiomas with Absolute Alcohol (Ethanol) Embolisation, Cord Decompression and Single-Level Instrumentation

Singh P, Mishra NK, Dash HH, Thyalling RK, Sharma BS, Sarkar C, Chandra PS. Neurosurgery. 2011;68(1):78–84. doi:10.1227/NEU.0b013e3181fc60e9. PMID: 21099721. Long-term results: Chandra SP, Singh P, Kumar R, et al. Spine J. 2019;19(1):131–143. PMID: 29890263.

Impact factor 3.9. An affordable indigenous technique for lesions that carry a high risk of catastrophic intra-operative bleeding. More than twenty years of follow-up show safety, efficacy and freedom from recurrence, at a cost of a few rupees against over ₹5 lakh for conventional embolic materials.

11. Extended Costotransversectomy to Achieve Circumferential Fusion for Pathologies Causing Thoracic Instability

Chandra PS, Ramdurg SR, Kurwale N, Chauhan A, Ansari A, Garg A, Sarkar C, Sharma BS. Spine J. 2014;14(9):2094–2101. PMID: 24448191.

Impact factor 4.7. Among the first descriptions of three-column circumferential thoracic fusion achieved through a single approach.

12. Altered Glutamatergic Tone Reveals Two Distinct Resting-State Networks at the Cellular Level in Hippocampal Sclerosis

Banerjee J, Dixit A, Srivastava A, Ramanujam B, Kakkar A, Sarkar C, Tripathi M, Chandra PS. Sci Rep (Nature). 2017;7(1):319. doi:10.1038/s41598-017-00358-7. PMID: 28336943.

Impact factor 3.9. Demonstrated for the first time, at cellular level, that epileptogenesis in hippocampal sclerosis arises from two networks — hippocampal and anterior temporal — overturning the prevailing single-network view and supporting anterior temporal lobectomy with amygdalohippocampectomy over selective amygdalohippocampectomy.

13. RNA-Seq Analysis of Hippocampal Tissues Reveals Novel Candidate Genes for Drug-Refractory Epilepsy in Patients with MTLE-HS

Dixit AB, Banerjee J, Srivastava A, Tripathi M, Sarkar C, Kakkar A, Jain M, Chandra PS (corresponding author). Genomics. 2016;107(5):178–188. PMID: 27094248.

Impact factor 3.0. Identifies novel genetic markers as candidate biomarkers of drug-refractory epilepsy.

14. FDG-PET/MRI Co-registration and Diffusion-Tensor Imaging Distinguish Epileptogenic Tubers and Cortex in Tuberous Sclerosis Complex

Chandra PS, Salamon N, Huang J, Wu JY, Koh S, Vinters HV, Mathern GW. Epilepsia. 2006;47(9):1543–1549. doi:10.1111/j.1528-1167.2006.00627.x. PMID: 16981871.

Impact factor 6.6. The world's first demonstration of PET–MRI fusion for localising epileptogenic tubers in tuberous sclerosis complex.

15. Infantile Spasm-Associated Microencephaly in Tuberous Sclerosis Complex and Cortical Dysplasia

Chandra PS, Salamon N, Nguyen ST, Chang JW, Huynh MN, Cepeda C, Leite JP, Neder L, Koh S, Vinters HV, Mathern GW. Neurology. 2007;68(6):438–445. doi:10.1212/01.wnl.0000252952.62543.20. PMID: 17283320.

Impact factor 8.5. Foundational work correlating infantile spasms with cortical microdysgenesis in tuberous sclerosis and cortical dysplasia.

Complete list of publications — the remaining papers, with citation counts, are available on Google Scholar: scholar.google.com/citations?user=C_ftZQsAAAAJ

16. Additional Responsibility

At AIIMS, New Delhi

- Head, Department of Neurosurgery & Gamma Knife
- Principal Investigator and Team Leader, Centre of Excellence for Epilepsy (www.coepilepsy.in)
- Co-Principal Investigator, MEG and Brain Mapping Resource Facility (AIIMS–NBRC)
- In charge, Epilepsy Surgery and Functional Neurosurgery Fellowship Programme

National and international scientific societies

- Chairman, Publication and Web Committee, World Federation of Neurosurgical Societies (WFNS), 2025–2027

- President, Neuroendoscopic Society of India, 2024–2025
- President, Indian Epilepsy Society, 2023–2024
- President, Cerebrovascular Society of India, 2022–2023
- President, Skull Base Surgery Society of India, 2020–2021
- Chair, Epilepsy Surgery, Asian–Oceanian Epilepsy Congress, International League Against Epilepsy
- Representative for developing countries, International League Against Epilepsy
- Faculty 1000 — recognised among the top global faculty for epilepsy, International League Against Epilepsy
- Chairman, Neurosciences-20 (N20), under India's G20 presidency
- Editor, Neurology India — journal of the Neurological Society of India, 2019–2024

17. Office Details

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18. Research Profile

Research is organised around a single principle — translation: carrying a clinical problem from mechanism and biomarker through to a new operation, an affordable device or a definitive trial. Four programmes run in parallel.

Epilepsy and epilepsy surgery

Clinical research spans surgical technique, pre-surgical localisation and outcome, including the world's first randomised controlled trial of paediatric epilepsy surgery. Localisation research combines video-EEG, ictal SPECT, PET, MEG and robotically placed stereo-EEG electrodes to identify seizure networks even when the MRI is normal.

Basic and translational neuroscience

Two laboratories — the Prof. P. N. Tandon Neurobiology Laboratory and a dedicated Genomics Laboratory — study surgically resected tissue to ask why the brain seizes. Areas of work include intracellular electrophysiology and glutamatergic tone; endogenous NMDA-receptor activation; GABA-A receptor configuration in focal cortical dysplasia; the kynurenine and mTOR pathways; histone deacetylases and epigenetic regulation; genome-wide DNA methylation, RNA-sequencing and non-coding RNAs; the gut microbiome; and the role of platelets in drug resistance. Kynurenic acid has been identified and patented as a candidate biomarker for localising the epileptogenic zone.

Craniovertebral junction and complex spine

Work on the craniovertebral junction combines surgical innovation with aetiological research. The DCER technique and its associated joint indices and implants arose from this programme, as did the finding of FBN1 gene mutations in congenital non-syndromic basilar invagination and atlantoaxial dislocation, which led to the “weak ligaments and sloping joints” hypothesis for how these deformities develop and why they are comparatively common in this region.

Neurotechnology and artificial intelligence

Development of indigenous, affordable devices — among them EPISAVES, a portable, smartphone-linked video-EEG system with an artificial-intelligence algorithm for automated EEG interpretation, developed with support from the Office of the Principal Scientific Adviser and now in advanced stages of commercial production; a disposable nasal retractor for endoscopic trans-sphenoidal surgery; a disposable endoscopic carpal-tunnel release set; and customised craniovertebral junction implants.

19. Research Publication Profile

716 peer-reviewed publications · h-index 52 · i10-index 232 · cumulative journal impact factor approximately 907. Publications span epilepsy and epilepsy surgery, craniovertebral junction and spine, neuro-oncology, neurovascular and functional neurosurgery, translational neuroscience and neurotechnology, and include first descriptions in the New England Journal of Medicine, Neurosurgery, the Journal of Neurosurgery, Epilepsia, Neurology, Scientific Reports (Nature) and Genomics.

- Google Scholar — scholar.google.com/citations?user=C_ftZQsAAAAJ
- Editorial profile, Journal of Spinal Surgery (2024) — [“Prof. P. Sarat Chandra: A Trailblazer in Neurosurgery”](#)
- Centre of Excellence for Epilepsy, AIIMS — www.coeepilepsy.in
- International League Against Epilepsy profile — www.ilae.org/p-sarat-chandra

20. PubMed

<https://pubmed.ncbi.nlm.nih.gov/?term=Chandra+PS%5BAuthor%5D>

21. Google Scholar

https://scholar.google.com/citations?user=C_ftZQsAAAAJ&hl=en

22. ORCID

0000-0002-3375-6803 <https://orcid.org/0000-0002-3375-6803>

PART D CLINICAL SERVICE & TEACHING

23. Surgery Days

Tuesday, Wednesday and Friday.

24. Speciality Work

- Epilepsy surgery and functional neurosurgery
- Deep brain stimulation
- Neuromodulation
- Complex spine surgery, including the craniovertebral junction
- Cerebrovascular surgery
- Minimally invasive neurosurgery

26. General OPD/ Epilepsy — Days

Monday, 9:30 a.m. to 1:00 p.m., and Thursday, 2:00 p.m. to 5:00 p.m.

27. General OPD — Address

Room No. 19, Ground Floor, C. N. Centre, AIIMS, New Delhi – 110029.

28. Special Clinic — Day

Spine Clinic — Saturday, 9:30 a.m. to 1:00 p.m.

Selected Media, Press and Public-Education Links

Publicly available coverage, interviews, lectures and educational material, grouped by theme. All items are open-access and intended for a general audience unless otherwise indicated.

Television and public broadcast

- “Hello Doctor” — Brain Tumour — Doordarshan, 2024 youtu.be/hZzZiQr3Mgo
- “Hello Doctor” — World Parkinson’s Day — Doordarshan youtu.be/0Qp4CRCKCXw
- Talk on Epilepsy — Doordarshan DD-1 youtu.be/P_9BcH2V5mM
- Epilepsy Surgery 101 — The Checkup youtu.be/wU_bPCACiJk
- Question Hour — Vaccines — India Science youtu.be/z-pXMvmHVB0
- AIIMS expert on COVID-19 — DNA India youtu.be/7B1Pvy7T3IE
- Briefing on mucormycosis (“black fungus”) — Oneindia Hindi youtu.be/wDyfpDsMgVA
- In conversation — The Human Library Cafe youtu.be/hppLWocrBnQ
- The brain, focus and Vedic science — Podcast interview youtu.be/EAYqpPcNte8

Press coverage — robotic and epilepsy surgery

- Drug-Resistant Epilepsy Care Gets a Robotic Boost — “ROSA–ROTCH” — Schiller India schillerindia.com
- ROTCH Robotic Technique Revolutionises Epilepsy Surgery — Neurosurgical.TV neurosurgical.tv
- AIIMS Delhi’s New Robotic Surgery Brings Fresh Hope to Epilepsy Patients — Drug Today Online drugtodayonline.com
- Robotic Needle Surgery Offers Hope in Drug-Resistant Epilepsy — CAAS India News en.caasindia.in
- Electrodes in Brain: New Hope for Severe Cases of Epilepsy — The Times of India timesofindia.indiatimes.com
- AIIMS Uses Laser to Treat Epilepsy — The Times of India timesofindia.indiatimes.com

Press coverage — spine and craniovertebral junction surgery

- AIIMS Doctors Find New Method to Operate on Spine — The Times of India timesofindia.indiatimes.com
- AIIMS Doctors Devise New Technique for Spine Surgery — Business Standard (IANS) business-standard.com

Press coverage — affordable innovation and public health

- AIIMS Doctor Uses Alcohol to Treat Spine Tumour — Medical Dialogues speciality.medicaldialogues.in
- AIIMS Doctor Curing Tumour with Alcohol, Lauded by Many — DailyRounds dailyrounds.org
- “India Is Facing a Hidden Epidemic of Epilepsy” — The HealthSite thehealthsite.com

Profiles, awards and recognition

- Prof. P. Sarat Chandra: A Trailblazer in Neurosurgery — Journal of Spinal Surgery, editorial profile, 2024 journals.lww.com
- Asian & Oceanian Outstanding Achievement Epilepsy Award, 2022 — International League Against Epilepsy ilae.org
- Profile and committee roles — International League Against Epilepsy ilae.org/p-sarat-chandra
- Publication Committee — World Federation of Neurosurgical Societies wfns.org/committees
- Leadership profile — Society for Brain Mapping and Therapeutics worldbrainmapping.org
- VASVIK National Award — list of awardees — VASVIK vasvik.org/award-winners
- Sun Pharma Research Award — list of awardees — Sun Pharma Science Foundation sunpharmasciencefoundation.net

- **Fellowship citation** — National Academy of Sciences, India nasi.nic.in
- **Faculty page** — All India Institute of Medical Sciences, New Delhi aiims.edu

Public lectures, orations and educational films

- **Grand Rounds, Department of Neurosurgery, Columbia University, 2025** youtu.be/QTvtYMDBLHU
- **“Applying the Science of Metacognition to Neuroendoscopy”** — Presidential Oration, Neuroendoscopic Society of India youtube.com/watch?v=dftDBsyzcU
- **“Situation Awareness in Aneurysm Surgery”** — Presidential Oration, Cerebrovascular Society of India linkedin.com
- **“Epilepsy Surgery — Case by Case, Step by Step”** — ILAE webinar series, faculty ilae.org
- **“Epilepsy Surgery — Case by Case, Step by Step”: archived replay** — ILAE youtube.com/watch?v=CFxjtASXVsM
- **“Epilepsy Surgery: Current and Future”** — Walter E. Dandy Neurosurgical Society youtu.be/zNgtetmT-vM
- **“Revolutionizing Epilepsy Surgery” — CME lecture** — Neuro Foundation youtu.be/MHxpsV-q884
- **Understanding epilepsy — public-education film** — Centre of Excellence for Epilepsy, AIIMS youtu.be/igGIEG4_77c
- **Translational epilepsy research and the neurobiology laboratory** youtube.com/watch?v=qRUfiPp5csU
- **Faculty teaching lecture, AIIMS** youtu.be/Y9yK7R0gTmU

Surgical teaching videos (for professional audiences)

- **Endoscope-assisted hemispherotomy — narrated demonstration** youtube.com/watch?v=FmO9NVG1dhk
- **Endoscopic hemispherotomy — teaching lecture** youtu.be/Tjj0662TrDE
- **Epilepsy surgery at AIIMS — operative teaching video** youtube.com/watch?v=h5RbjOIRDYs
- **Stereo-EEG (SEEG) electrode implantation** youtu.be/EX9KnQ2u2ys
- **Temporal lobectomy with amygdalohippocampectomy** youtu.be/zlpBffRbzVk
- **EASYTRAC-P nasal retractor for pituitary surgery — demonstration** youtu.be/cr33ZZSRtIY

Institutional, outreach and patient-support links

- **Centre of Excellence for Epilepsy, AIIMS** coeepilepsy.in
- **Ekatwam — epilepsy patient-support charity** — co-founder ekatwam.org
- **ILAE Surgical Mentorship Programme, Indonesia** — International League Against Epilepsy ilae.org
- **Epilepsy-surgery workshop, Nepal, 2023 — report** — International League Against Epilepsy ilae.org
- **Adjunct Professorship, Universitas Airlangga, Surabaya, Indonesia** youtu.be/rr60A7e8QaE
- **Continuing news coverage — archive** — Google News news.google.com

Links were compiled from publicly accessible sources and should be checked as live before publication on the Institute website.

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