

## **Dr. Sujeet Kumar Mewar**

Scientist-I

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### **Educational Qualification: Degrees obtained**

Ph.D., All Indian Institute of Medical Sciences, New Delhi.

M.Sc., Chemistry, Jiwaji University, Gwalior, M.P., India

### **Professional Experience:**

2002-2005: Research work using NMR & IR spectroscopy, DRDE, Gwalior, M.P.

2005- 2006: Scientist- Gd-II, Department of Medicinal Chemistry, CIL, NIPR, Mohali. Punjab.

2006-present: Scientist-I, All India Institute of Medical Sciences, New. Delhi.

### **Professional Memberships**

(I) Indian Biophysical Society

(ii) NMR Society

(iii) ISMRM, Indian, chapter

### **Research Area**

The core of research area focus on clinical application of MRI and advanced MR techniques for disease diagnosis and treatment management. In preclinical research, focuses on structural MRI studies utilizing animal experimental models particularly rat model to investigate disease mechanisms in vivo study. Metabolomics study of biological samples by the use of NMR Spectroscopy. This includes the metabolic profiling and parameter characterisation of diverse biological samples, including tissues, blood, urine, and cells to decode pathological chemical alterations. PhD work in the field of Clinical diagnosis methods using Pre-biopsy mpMRI and In-bore MRI-guided targeted prostate biopsy for early detection of prostate cancer. This facility is the first time successfully established at Dept of NMR in the AIIMS in India.

### **Publications:**

- 1 Thokchom SD, Gupta S, **Mewar SK**, Kumar P, Kalra C, Kapoor R. Metabolome profiling of arbuscular mycorrhizal fungus treated *Ocimum tenuiflorum* L. provides insights into deviation in allocation of carbon compounds to secondary metabolism. *Plant Physiol Biochem.* 2023 Sep 13; 203:108039. doi: 10.1016/j.plaphy.2023.108039. Epub ahead of print. PMID: 37717347.
- 2 Sharma M, **Mewar SK**. Interesting Nuclear Magnetic Resonance studies of some N, N-bis(2-methoxyethyl) substituted Benzamides. *Journal of Forensic Chemistry and Toxicology*:2023; 9 (2): 77-90; 10.21088/jfct.2454.9363.9223.2.
- 3 M.S. Naveen Kumar, Gaurav Gupta, Virendra Kumar, N.R. Jagannathan, Sanjeev Sinha, **Sujeet**

- Mewar**, Pradeep Kumar. Differentiation between sepsis survivors and sepsis non-survivors through blood serum metabolomics: A proton nuclear magnetic resonance spectroscopy (NMR) study. Magnetic Resonance Imaging, In Press, Journal Pre-proof, Available online 18 February 2022.
- 4 Mewar SK, Sharma S, Thulkar S, Dhamijia E, Kumar P, Jayasundar R, Jagannathan NR, Kumaran SS, S. Gupta SD, Kumar R and Kumar V. mpMRI Guided In-bore Biopsy to Increase the Detection Rate of Prostate Cancer. *Experimental NMR*, USA, 85, 2020.
  - 5 Mewar SK, Sharma S, Thulkar S, Dhamijia E, kumar P, Panaiyadiyan S, Jayasundar R, Kumaran SS, S. Gupta SD, Jagannatha NR, Kumar R, and Kumar V. Prebiopsy mpMRI to Increase the Detection Rate and Reduce the Overdiagnosis of Prostate Cancer. *Intl Soc Magn Reson Med (ISMRM)*. 4947, USA, 2020.
  - 6 Mewar SK, Sharma S, Thulkar S, Dhamijia E, kumar P, Panaiyadiyan S, Jayasundar R, Kumaran SS, S. Gupta SD, Jagannatha NR, Kumar R, and Kumar V. MR Targeted In-Bore Biopsy of Prostate Cancer. *NMRS*,18, 2020.
  - 7 Mewar SK, Sharma S, Dhamijia E, Thulkar S, Kumar P, Kumar V, Kumaran SS, Gupta SD, Panaiyadiyan S, Kumar R and Jagannathan NR. Comparison of detection rate between mpMRI guided in- bore biopsy and TRUS biopsy. *Intl Soc Magn Reson Med (ISMRM)*, Canada, 2068, 2019.
  - 8 Mewar SK, Sharma S, Dhamijia E, Thulkar S, Kumar P, Kumar V, Kumaran SS, Gupta SD, Kumar R and Jagannathan NR. In-bore MR guided prostate biopsy using multiparametric MRI to avoid unnecessary biopsies. *Intl. Soc. Magn. Reson. Med (ISMRM)*. 2576, 2018.
  - 9 Sharma U, Upadhyay D, **Mewar S**, Mishra A, Das P, Gupta SD, Dwivedi SN, Makharia GK, Jagannathan NR J. Metabolic abnormalities of gastrointestinal mucosa in celiac disease: An in vitro proton nuclear magnetic resonance spectroscopy study. *Gastroenterol Hepatol*. 2015 Oct; 30(10):1492-8.
  - 10 Kuma Vivek, Nag Tapas, Sharma Uma, **Mewar Sujeet**, Jagannathan N.R., Wadhawa Shashi. High resolution <sup>1</sup>H NMR-based metabonomic study of the auditory cortex analogue of developing chick (*Gallus gallus domesticus*) following prenatal chronic loud music and noise exposure. *J. Neurochemistry International*, July 15, 2014:79: 99-108.
  - 11 Kumar Manoj, Singh Gural, Arora, **Mewar Sujeet**, Sharma Uma, Jagannathan N.R., Sameer Sapra, Dinda Amit, Kharbanda Surender, Singh Harpal, Cellular interaction of folic acid conjugated superparamagnetic iron oxide nanoparticles and its use as contrast agent for targeted magnetic imaging of tumor cells, *J. Nanomedicine*, Vol. 2012:2, July 2012: 3503- 3516.
  - 12 Dilnawaz Fahima, Singh Abhalaxmi, **Mewar Sujeet**, Sharma Uma, Jagannathan N.R., Sahoo Sanjeeb Kumar. The transport of nan- surfactant based paclitaxel loaded magnetic nanoparticules across the blood brain barrier in a model. *J. Biomaterials*, January 20, 2012:33: 2936- 2951.
  - 13 Singh Abhalaxmi, Dilnawaz Fahima, **Mewar Sujeet**, Sharma Uma, Jagannathan N. R., Sahoo Sanjeeb Kumar. Composite Polymeric Magnetic Nanoparticles for Co-Delivery of Hydrophobic and Hydrophilic Anticancer Drugs and MRI Imaging for Cancer Therapy. *J.ACS Appl. Mater. Interfaces*, March 3, 2011: 3: 842–856.
  - 14 Sharma Mamta, Gupta A. K, **Mewar Sujeet**, Beldar Anil, Suryanarayana M. V. S., Raza S. K., Direct detection of alkyl phosphonic acids in environmental matrices by proton coupled phosphorus NMR, *J. Magnetic Resonance in chemistry*. 2009; VoL 47:478-487.
  - 15 Ramdurg Shashank R., Suri Ashish, Gupta Deepak, **Mewar Sujeet**, Sharma Uma, Jagannathan N.R.,

Sharma Bhavani S. Magnetic resonance imaging evaluation of subarachnoid hemorrhage in rats and the effects of intra-cisternal injection of papavarine and nitroglycerine in the management of cerebral vasospasm, *J. Neurology India*. 2010 May-Jun; 58(3):377-83.

- 16 Jaiswal A.K., T. Millo, **Mewar S. K.**, Sharma M., Moon D.V., Moharana M. Do's & Don'ts for Sophisticated Analytical Instruments Vol III. *J. Forensic Med. Toxicology* 2008; 25: 14-19.
- 17 Jaiswal A.K, Millo T., Gauru G.K., Sharma R.C., Lal, N., **Mewar S. K.**, Giri N.G. Detection and Characterization of Kerosene in Fire Debris by Thin Layer Chromatography. *Amity Journal of Behavioural and Forensic Sciences* 2008; 4:79-83.