

Sandeep Verma

CMI-P-41

Professor, IIT Kanpur (India)

Email: sverma@iitk.ac.in

Website: <https://home.iitk.ac.in/~sverma/>

Social Media: https://x.com/Sandeep_1966



Research Keywords

Chemical neuroscience, Microfluidic devices, New antibiotics

Academic Career

MSc, 1989 (Banaras Hindu University, India)

PhD, 1994 (University of Illinois Medical Center, Chicago, USA)

Postdoctoral Fellow 1994-1996 (Johns Hopkins Medical Institutions, USA)

DFG Research Scientist 1996-1997 (MPI for Experimental Medicine, Germany)

Professor, 1998-present (IIT Kanpur, India)

Selected Publications

Hydrogen sulfide-releasing insulin polypeptide mitigates hyperglycemia-induced neurotoxicity and cognitive deficits in vivo. *ACS Chem. Neurosci.*, 2025, 16, 3323-3339.

SERS-based microfluidic bioscreening platform for selective detection of β -amyloid peptide. *Langmuir* 2024, 40, 24463–24470.

Synthesis of a highly thermostable insulin by phenylalanine conjugation at B29 Lysine. *Commun. Chem.*, 2024, 7, 161 (<https://doi.org/10.1038/s42004-024-01241-z>)

Membrane-targeting, ultrashort lipopeptide acts as an antibiotic adjuvant and sensitizes MDR Gram-negative pathogens toward narrow-spectrum antibiotics. *Biomed. Pharmacother.* (2024) (<https://doi.org/10.1016/j.biopha.2024.116810>)

Peptide-triggered IL-12 and IFN- γ mediated immune response in CD4⁺ T-cells against *Leishmania donovani* infection. *Chem. Commun.* 2024, 60, 4092-4095.

Why My Lab?

My lab can offer...

My laboratory offers scope to work in the area of gaseous neuromodulators in chemical neuroscience. With strong collaborations spanning *C. elegans* and mice models, we are poised to explore complex issues concerning cognition, behavior, and inflammasome biology in neurological disorders and traumatic brain injuries. Another domain of microfluidics offers 3D printing setups and lithography approaches for the creation of microfluidic channels in bioanalyte detection.