

**Journey of Tetraazamacrocycles from Dijon to Delhi
Toward Theragnostics and Radioligands CNS Disorder**

Dr. Anil Kumar Mishra, Vendredi 15 décembre, 10 h 30

To develop smart and specific tracers to investigate *in vivo* topography, and connections and titration of biochemical's non-invasively using imaging techniques are essence of time in diagnosis and therapy or to use it in the combination as theragnostic. Our ongoing efforts are to innovate and translate multimodal molecular pharmaceuticals of broad interest in health care through state of art construction of chemical chaperons.

Imaging probes are a special class of tracers that are used in conjunction with imaging techniques such as MRI, CT, and nuclear imaging (PET and SPECT), allowing healthcare practitioners to see disease and injuries in a non-invasive way. In the post genomics era, there is the opportunity to advance probes to the point where they can target specific biochemical signatures associated with disease. Because changes in biochemistry occur before diseases reach an advanced stage, molecular imaging probes will foster earlier and more personalized diagnosis of disease that covers oncology, neurology and infection. Our Lab is focused on bringing the power of modern synthesis to bear on the development of molecular imaging probes and agents.

These probes and agents are being developed to visualize specific molecular targets and pathways in live cells, tissues and organism (from plants, mouse to human). The specific aim is to 1) design and synthesize new imaging probes/agents, 2) develop and use novel amplification schemes for the development of 'next generation' imaging probes, 3) optimize pharmacokinetics and 'imagability', 4) efficiently synthesize and produce complex and diverse small molecules, and test their ability as imaging agents. To design and synthesis the next generation of imaging probes/agents for MRI, PET and SPECT, and optical imaging is the core mandate of our research lab.



Dr Anil Kumar Mishra is director at Institute of Nuclear Medicine and Allied Sciences, Defence Research and Development Organization, Ministry of Defence, Govt. of India. Currently, he is professor at Indian Institute of Technology Roorkee, India.

He obtained his M.S. (Chemistry) in 1984 from Gorakhpur University, Gorakhpur, and Ph.D. (Chemistry) in 1988 from Banaras Hindu University, Varanasi. During his career, he held positions as Post-doctorate fellow at Université de Bourgogne, Dijon, France; Research Scientist at University of California, Davis, USA; Senior Scientist at INSERM U-463, Nantes, France, and Visiting Professor at Max-Planck Institute, Germany. Dr. Mishra has published more than 312 papers, in various journals of international repute. Dr Mishra is granted US, European and Indian patents. He has received several awards and most prestigious one is DRDO-Young scientist by Prime Minister (Shri Atal Bihari Vajpayee) of India in 1999.

- Honorary Professor Deakin University Australia
- Task force member Department of Biotechnology, Government of India
- Task force member Department of Science and Technology, Government of India
- Core Member of Radiopharmaceutical of India (DCGI)
- Associate Editor Frontiers in Nuclear Medicine
- Expert Radiopharmaceuticals International Atomic Energy Agency, Vienna, Austria

Research Interest:

- Molecular Imaging Probes (SPECT-PET-MR-OI), Radiochemistry
- Coordination chemistry
- Synthetic chemistry
- Bioconjugate chemistry