## THE PROF. M. VIJAYAN SCHOOL OF MACROMOLECULAR X-RAY CRYSTALLOGRAPHY AND PROTEIN STRUCTURE PREDICTION

The BRIC-National Institute of Immunology (BRIC-NII) presents a minisymposium and a workshop on "Macromolecular X-Ray Crystallography and Protein Structure Prediction." Join us for an immersive 3-day event featuring talks from leading experts in the field and a workshop exploring the theoretical as well as practical aspects in macromolecular X-ray crystallography and structure prediction.

#### Highlights

- Cutting-edge insights into structural biology.
- Opportunities to network with professionals and researchers.
- Interactive sessions designed for skill enhancement.

#### **ORGANIZERS**

Dr Bichitra K Biswal, NII Dr Narendra Kumar, NII Dr K. Vengadesan, RCB







PROF. MRN MURTHY Distinguished Professor & Astrazeneca Chair IBAB, Bengaluru



PROF. MADHUMALAR ARUMUGAM **UGC-FRP Assistant Professor** Jamia Milia Islamia Central University, New Delhi



PROF. SHEKHAR MANDE Distinguished Professor Bioinformatics Centre, Savitribai Phule Pune University, Pune



PROF. DINAKAR SALUNKE Arturo Falaschi Emeritus Scientist ICGEB, New Delhi



PROF. TP SINGH Distinguished SERB Fellow AIIMS, New Delhi



PROF. VINOTHKUMAR K. RAGUNATH Faculty NCBS, Bengaluru



PROF. MANIDIPA BANERJEE Faculty IIT-Delhi, New Delhi



DR. DEBASISA MOHANTY Director BRIC-NII, New Delhi













## **SCHEDULE** SYMPOSIUM | 20 JANUARY 2025

09:30 AM - 10:00 AM Registrations

Inauguration and Welcome address 10:00 AM - 10:30 AM

10:30 AM - 11:30 AM The rise and fall (?) of X-ray crystallography

Prof. MRN Murthy

11:30 AM - 11:45 AM Tea Break

Structure-guided identification of 11:45 AM - 12:30 PM

protein function . Prof. Dinakar Salunke

How atomic view has enhanced our 12:30 PM - 01:15 PM

understanding of biology

Prof. Shekhar Mande

01:15 PM - 02:00 PM Lunch

02:00 PM - 02:45 PM Introducing a tag-based approach to new drug

> discovery Prof. T. P. Singh

Electron cryomicroscopy of macromolecules Prof. Vinothkumar K. Raghunath 02:45 PM - 03:30 PM

03:30 PM - 03:45 PM Tea Break

03:45 PM - 04:30 PM CryoEM provides snapshots of dynamic

> biological processes Prof. Manidipa Banerjee

04:30 PM - 05:15 PM Predicting protein structure dynamics and its

applications

Prof. Madhumalar Arumugam

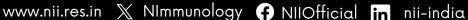
05:15 PM - 06:00 PM Recent advances in AI/ML-based methods for

protein structure prediction and protein design

Dr. Debasisa Mohanty









# **SCHEDULE WORKSHOP | 21 JANUARY 2025**

Understanding crystal symmetry 11:00 AM - 01:00 PM

Dr. B. K. Biswal

Lunch 01:00 PM - 02:00 PM

02:00 PM - 04:00 PM Principles of protein crystallization

Prof. K. Vengadesan

#### **WORKSHOP | 22 JANUARY 2025**

Crystal mounting, data collection, structure solution and structure analysis 11:00 AM - 01:00 PM

Dr. G. Senthilkumar and Dr. Ravikant Pal, NII

Lunch 01:00 PM - 02:00 PM

Hands-On session for protein structure 02:00 PM - 04:00 PM

prediction by AlphaFold3 and ESMFold Dr Sanjeet Mahtha and Mr Sureshkumar V, NII

04:00 PM - 05:00 PM High-Tea





