



National Conference of EMSI – North Zone

Electron Microscopy in Biological & Material Sciences

(EMBM 2026)

8th-9th May 2026



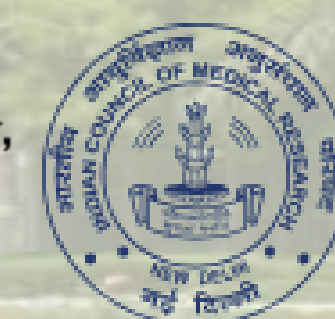
Anusandhan
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DEPARTMENT OF
SCIENCE & TECHNOLOGY



Department of
BioTechnology,
Government
of India



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The **National Conference of EMSI – North Zone** on “**Electron Microscopy in Biological and Material Sciences**” will provide a vibrant platform for interdisciplinary exchange among biological, medical and material science communities. The conference will be held at **AIIMS, New Delhi**, on **08–09 May 2026**, preceded by many **pre-conference workshops (06–07 May 2026)**.

The conference will feature covering recent advances and emerging trends in electron microscopy on biological and material Science.

- **Expert lectures (Plenary/key Notes),**
- **Parallel scientific sessions,**
- **Poster/Oral presentations**

Session themes

Biological Science

- **Electron microscopy in biomedical field**
- **Cryo-Electron Microscopy/Tomography**
- **EM in Cellular and Tissue Ultrastructural Imaging**
- **Electron Microscopy in Health and Disease**
- **Nanobiology and Nanomedicine**
- **Super resolution Microscopy in biological imaging**
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Material Science

- **Atomic-Scale and High-Resolution Imaging**
- **Spectroscopy and Chemical Mapping (EDS/EELS)**
- **Nanomaterials and Functional Materials**
- **Energy, Electronic and Quantum Materials**
- **Metallurgy, and Manufacturing**
- **Polymers, Soft Matter, and Biomaterials**
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Tentative Speakers

- **Prof. TC Nag**
- **Prof. Krishanu Ray, BRIC-NBRC**
- **Prof. Krishanu Biswas, IIT Kanpur**
- **Prof. Manideepa Banerjee, IIT Delhi**
- **Dr. Partha Ghoshal, DMRL Hyderabad**
- **Dr. Dilip Kumar, Ashoka University**
- **Dr. Amit Kumar Dinda, ARCD, Faridabad**
- **Dr. Prem S Kaushal, RCB**
- **Prof. N.K. Lohiya**
- **Prof. A.S. Ansari**
- **Dr. A K. Jain**
- **Prof. S. B. Tikko, NIPER Mohali**
- **Dr. Vidya M Prasad, IISC Bangalore**
- **Prof. Atanu Basu, NIV Pune**
- **Dr. Tofayel Ahmed, SINT Kolkata**
- **Dr. Archana Singh, IGIB**
- **Prof. Sasanka Deka, University of Delhi**
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Following pre-conference workshop (Hands On) offering advanced training in **TEM, SEM, Sample preparation, and microscopy techniques,**

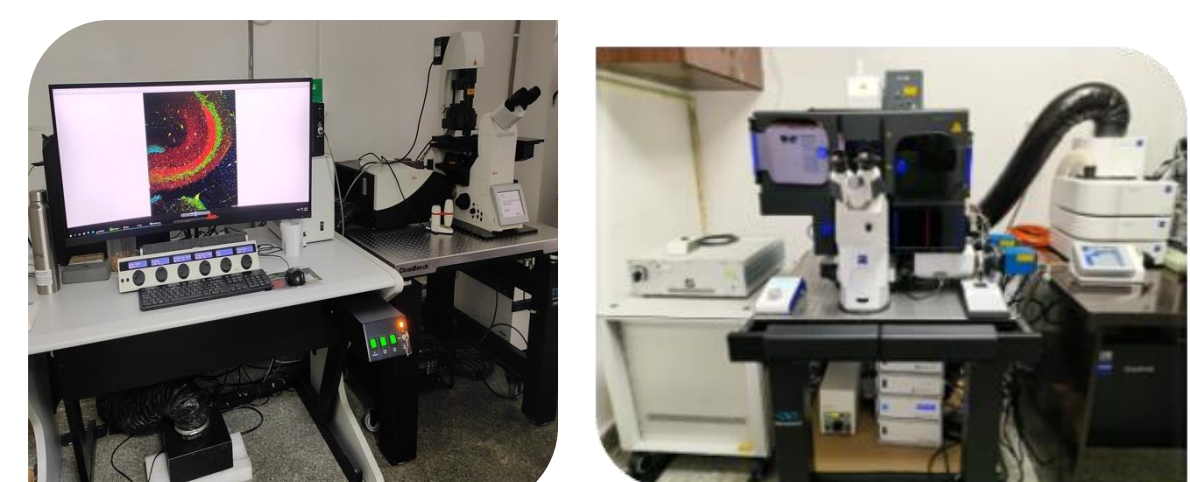
Environmental Scanning Electron Microscopy (E-SEM) [6-7th May 2026]

This hands-on session will introduce participants to **environmental and cryogenic SEM techniques** for imaging hydrated, soft, and beam-sensitive samples. Participants will gain practical experience in **sample preparation, cryo-fixation, low-vacuum imaging, charge mitigation, and contrast optimization**, enabling high-resolution surface and morphological analysis under near-native conditions.



Confocal and Super-Resolution Microscopy [6-7th May 2026]

This module will provide hands-on training in confocal laser scanning microscopy and advanced super-resolution techniques. Participants will learn optical sectioning, fluorophore selection, image acquisition strategies, resolution enhancement, and quantitative image analysis, with applications in biological and biomedical research.



Biological Atomic Force Microscopy (AFM) [7th May 2026]

The AFM session will offer practical exposure to topographical, mechanical, and functional imaging at the nanoscale. Participants will be trained in probe selection, scanning modes, force spectroscopy, surface characterization, and data interpretation, with examples from both biological and material systems.



Transmission Electron Microscopy (EDS/STEM/HAADF) [6-7th May 2026]

The Two-days Transmission Electron Microscopy (TEM) session focuses on advanced imaging and analytical techniques, including EDS and STEM-HAADF. Participants will learn the fundamentals of TEM operation, sample–electron interactions, and contrast mechanisms, followed by practical training in elemental analysis using EDS and high-resolution, Z-contrast imaging with STEM-HAADF. The session emphasizes data acquisition, interpretation, and best practices for obtaining high-quality structural and compositional information at the nanoscale.

| Participants for | Student/PhD/PDF/RA (EMSI Member/ Non-Member*) | Faculty and Scientist (EMSI Member/Non-Member) | Industries (EMSI Member/Non-Member) |
|--|--|---|--|
| National Conference | 2500/4000 + GST (18%) | 5000/6500 + GST | 7500/9000 + GST |
| Pre-conference Hands-on Workshop | | | |
| Environmental/Cryo SEM (6-7 th May) | 2500/4000 + GST | 4000/5500 + GST | 5000/6500 + GST |
| Confocal and Super resolution microscopy (6-7 th May) | 2500/4000 + GST | 4000/5500 + GST | 5000/6500 + GST |
| Atomic Force Microscopy (7 th May) | 1500 + GST | 2500 + GST | 4000 + GST |
| TEM (EDS/STEM HAADF) (6-7 th May) | 2500/4000 + GST | 4000/5500 + GST | 5000/6500 + GST |

*The additional 1500+GST (18%) is fee for EMSI Life Membership

Course Conveners



Dr. Subhash Chandra Yadav
Convener



Dr. Prabhakar Singh
Secretary



Call for abstract
for oral and poster



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Last date: 31st March 2026



8th – 9th May 2025



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CONVERGENCE BLOCK AIIMS, NEW DELHI

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