



National Conference of EMSI – North Zone

Electron Microscopy in Biological & Material Sciences

(EMBM 2026)

8th-9th May 2026



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 various sessions covering recent advances and emerging trends in electron microscopy on biological and material Science.

- Expert lectures (Plenary/keynote/invited),
- Parallel scientific sessions,
- Poster/Oral presentations
- Pre-conference Hands-on

Session themes

EM in 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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EM in 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. T. C. Nag, AIIMS New Delhi
- Prof T.S. Roy, AIIMS New Delhi
- 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, Faridabad
- Prof. N.K. Lohiya, University of Rajasthan
- Prof. A.S. Ansari, University of Rajasthan
- Dr. A K. Jain, ICMR-NIP, New Delhi
- Prof. S. B. Tikko, NIPER Mohali
- Dr. Vidya M Prasad, IISc. Bangalore
- Prof. Atanu Basu, ICMR-NIV, Pune
- Dr. Tofayel Ahmed, SINT, Kolkata
- Dr. Archana Singh, CSIR-IGIB, New Delhi
- Prof. Sasanka Deka, University of Delhi
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Pre-conference workshop (Hands On) in TEM, SEM, Sample preparation & Advance Microscopy

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 hands-on will focus on 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	5000/6500 + GST	7500/9000 + GST
Pre-conference Hands-on Workshop			
Environmental/Cryo SEM (6-7 th May)	2500 + GST	4000 + GST	5000 + GST
Confocal and Super resolution microscopy (6-7 th May)	2500 + GST	4000 + GST	5000 + GST
Atomic Force Microscopy (7 th May)	1500 + GST	2500 + GST	4000 + GST
TEM (EDS/STEM HAADF) (6-7 th May)	2500 + GST	4000 + GST	5000+ 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**

Last date: 31st March 2026

**REGISTRATION & SUBMISSIONS
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8th – 9th May 2025



**ELECTRON MICROSCOPY FACILITY
DEPARTMENT OF ANATOMY (-1) BASEMENT
CONVERGENCE BLOCK AIIMS, NEW DELHI**

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