



immt



# Online - Seminar on Special Techniques in Electron Microscopy For Materials Science Applications (STEM – 2020) November 6<sup>th</sup> - 7<sup>th</sup>, 2020

## Patrons

**Prof. R. V. Raja Kumar**, Director, IIT Bhubaneswar  
**Prof. S. Basu**, Director, CSIR-IMMT  
**Dr. A. K. Srivastava**, Director, CSIR-AMPRI & President, EMSI

## Local organising committee

**Convenor:** Prof. P. V. Satyam ([satyam@iitbbs.ac.in](mailto:satyam@iitbbs.ac.in))  
**Co-Convenor:** Dr. Ashutosh Rath ([ashutosh@immt.res.in](mailto:ashutosh@immt.res.in))

Dr. Shahid Anwar      Dr. Benadict Rakesh  
Dr. K.J Sankaran      Dr. P. S. De  
Dr. Simantini Nayak      Dr. Ramakrishna Sabat

## About the Seminar

Welcome to the 2-Days Virtual Seminar on “**Special Techniques in Electron Microscopy for Materials Science**” jointly organized by IIT Bhubaneswar, CSIR-IMMT, Bhubaneswar and the Electron Microscope Society of India – East Zone, Kolkata as an event of EMSI. It is meant to provide few basic and advanced lectures on high-resolution scanning /transmission electron microscopy (S/TEM) and its associated techniques. There would be **one Panel Session on “Atmanirbhar Bharat Abhiyan” and seven Technical Sessions.**

**Venue:** Online platform

**Webcast:** Link would be sent to the registered participants.

**Expected Participants:** Students/Faculty/Scientists of IIT Bhubaneswar, CSIR-IMMT, CGCRI and all the Life Members of EMSI.

### How to Apply:

The participants should submit the completed registration form ([link below](#)) by **5pm, 4<sup>th</sup> November 2020**. The no. of participants is limited to 150 participants (first cum first). The e-certificate for participation will be given to registered participant only.

**Pre-requisite:** Materials Science and Basic Physics; prior exposure to electron microscopy (SEM/TEM) would benefit. The talks would give a general overview of the methods.

## Invited Speakers

1. Prof. D. Banerjee, IISc, Bengaluru
2. Prof. S. Banerjee, Chancellor, HBNI
3. Prof. S. Basu, Director, CSIR-IMMT, Bhubaneswar
4. Prof. K. Chattopadhyaya, IISc, Bengaluru
5. Dr. G. K. Dey, BARC, Mumbai
6. Dr. K. Muraleedharan, Director, CSIR-CGCRI, Kolkata
7. Prof. B. S. Murthy, Director, IIT Hyderabad
8. Prof. R. V. Rajakumar, Director, IIT Bhubaneswar
9. Dr. A. Srivastava, President EMSI and Director, AMPRI Bhopal
10. Dr. Madangopal Krishan BARC, Mumbai
11. Dr. R. Tewari, BARC, Mumbai
12. Dr. Partha Ghosal, DMRL, Hyderabad
13. Prof. Rahul Mitra, IIT KGP
14. Dr. S. Saha, DMRL, Hyderabad
15. Dr. B. Satpati, SINP, Kolkata
16. Dr. D. Sridhara Rao, DMRL, Hyderabad
17. Dr. Pranesh Sengupta, BARC, Mumbai
18. Dr Arup Dasgupta, IGCAR
19. Dr. P. S. De, IIT Bhubaneswar
20. Dr. Ashutosh Rath, CSIR-IMMT, Bhubaneswar
21. Prof. J. Basu, IIT-BHU
22. Dr. G. Ravi Chandra, ARCI, Hyderabad
23. Dr. Ramakrishna Sabat, IIT Bhubaneswar
24. Dr. P. Nukala, IISC, Bengaluru
25. Dr. Chandra Sekhar Tiwary, IIT Kharagpur
26. Dr. C.V Kiran, VSSC, Thiruvananthapuram
27. Dr. R. R. Juluri, Forevision Instruments, Hyderabad
28. Dr. Sandip Bysakh, CSIR-CGCRI, Kolkata

**Registration Link:**

<https://forms.gle/U4SN8m5e17QB192M8>

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**Contact details:** [stememsi2020@gmail.com](mailto:stememsi2020@gmail.com)  
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November 6<sup>th</sup> - 7<sup>th</sup>, 2020

## Program Details

### Day 1: 6<sup>th</sup> November 2020

**Panel Session: : 10:00 AM – 11:45 AM**

#### TOPIC: ATMANIRBHAR BHARAT ABHIYAN

Prof. D. Banerjee, IISc, Bangalore  
 Prof. S. Banerjee, Chancellor, HBNI  
 Prof. S. Basu, Director, IMMT Bhubaneswar  
 Prof. K. Chattopadhyaya, IISc, Bangalore  
 Dr. G. K. Dey, Raja Ramman Fellow, BARC, Mumbai  
 Dr. K. Muraleedharan Director, CGCRI  
 Prof. B. S. Murthy, Director, IIT Hyderabad  
 Prof. R. V. Rajakumar, Director, IIT Bhubaneswar  
 Dr. A. Srivastava, President EMSI and Director, CSIR-AMPRI Bhopal

**Coordinator:** Prof. P. V. Satyam, IIT Bhubaneswar

#### TS 01: 12:00 – 13:00 Session Chair: Prof. K. Chattopadhyay

12:00 – 12:25: Prof. Dipankar Banerjee –IISc (T1) (Aberration Corrected TEM)  
 12:30 – 12:55: Dr. Madangopal Krishan (MSD BARC) (T2) (SEM)

**Lunch Break: 13:00 – 14:00**

#### TS 02: 14:00 – 15:30; Session Chair: Dr. K. Muraleedharan

14:00 – 14:25: Dr. G. K. Dey (T3) (Fluctuation Electron Microscopy)  
 14:30 – 14:55: Dr. R. Tewari, BARC (T4) (Conventional TEM and Ab Corr TEM)  
 15:00 – 15:25: Dr. Partha Ghosal, DMRL, Hyderabad (T5) (PED)

**15:30 – 16:00 Break**

#### TS 03: 16:30 – 17:30 Session Chair: Dr. Partha Ghosal

16:00 – 16:25: Prof. Rahul Mitra, IIT KGP (T6)  
 16:30 – 17:00: Dr. G. Ravi Chandra, ARCI, Hyderabad (T7) (Texture)  
 17:00 -17:30: Dr. B. Satpati, SINP, Kolkata (T8) (STEM – EELS and EDS)

### Day 2: 7<sup>th</sup> November 2020

#### TS 04: 10:00 -13:10: Session Chair: Dr. R. Tewari,

10:00 – 10:25: Dr. D. Sridhara Rao, DMRL (T9) (CBED)  
 10:30 – 10:55: Dr. P. Sengupta, BARC (T10) (EPMA)  
 11:00 – 11:30: Dr Arup Dasgupta, IGCAR (T11) (Nanobeam Diffraction)

**11:30 – 11:45 Break**

#### TS 05: 11:45 -13:00: Session Chair: Dr. Bibhuranjan Nayak

11:45 – 12:10 Dr. Balamurali Krishna , DMRL (T12) Advanced Characterization methods for Steel Materials)  
 12:15 – 12:40 : Dr. P. S. De, IIT BBSR (T13) (EBSD)  
 12:45 – 13:10: T13 Dr. Ashutosh Rath, CSIR-IMMT (T14) (Aberration-Corrected STEM)

**13:10 – 14:30 Lunch**

#### TS 06: 14:30: Session Chair: Dr. Animesh Mandal

14:30 – 14:55: Dr. S. Saha, DMRL (T15)  
 15:00 – 15:25: Dr. R. Sabat, IIT BBSR (T16) (Texture)  
 15:30 – 15:55: Dr. B. Viswanadh DTEM (T17)  
 16:00 – 16:20: Dr. P. Nukala, IISc (T18) (In-situ TEM)

#### TS07: Session Chair: Prof. P. V. Satyam,

16:20 – 16:35: Dr. C.S. Tiwary, IIT KGP (T19) (2D Materials)  
 16:40 – 16:55: Dr. C.V Klran, VSSC, Kerala (T20) (In-situ)  
 17:00 – 17:15: Dr Sandip Bysakh, CSIR-CGCRI (T21)  
 17:15 – 17:30: Dr. R. R. Juluri, Fore vision Instruments, Hyderabad (T22) (FIB)

#### 17:30 – 17:45: Concluding Remarks:

**Dr. K. Muraleedharan, Dr. A. K. Srivastava, Dr. Rahul Mitra**

**Registration Link:**

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