

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

*Programme*

<b>17/07/2017</b>		
<b>Time</b>	<b>Venue</b>	<b>Programme</b>
08:00	Reg. Stalls	Registration
<b>09:00</b>	<b>Confluence-1</b>	<b>Inaugural and Awards Ceremony</b>
<b>10:15</b>	<b>Ex-Hall</b>	<b>Inauguration of Exhibition</b> <i>High Tea at Exhibition Hall</i>
<b>10:45</b>	<b>Confluence-1</b>	<b>EMSI Award Lectures</b>
10:45	Confluence-1	Professor N. N. Dasgupta – A Trailblazer in Electron Microscopy in Asia
10:55	Confluence-1	Professor N. N. Dasgupta Memorial Lecture – <b>Prof. D. Banerjee</b> <i>Electron Microscopy in Materials Engineering</i>
11:15	Confluence-1	EMSI Lifetime Achievement Award Lecture – <b>Prof. G. V. S. Sastry</b> <i>On Stabilising the Unstable</i>
<b>11:35</b>	<b>Confluence-1</b>	<b>Panel Discussion</b>
<b>12:00</b>	<b>Confluence-1</b>	<b>Plenary Session PL-1</b> <b>Prof. A. I. Kirkland</b> <i>Structural Studies of Defects and Defect Dynamics in 2D Materials</i> <b>Prof. Hamish Fraser</b> <i>Possibilities and limitations of spatially-resolved determinations of chemical composition</i>
12:50	Lawn	Group Photo
13:00		Lunch
<b>14:00</b>	<b>Confluence-1</b>	<b>Plenary Session PL-2</b> <b>Prof. J. Mayer</b> <i>Chromatic Aberration Corrected TEM: State of the Art and Applications in Materials Science</i> <b>Prof. K. Chattopadhyay</b> <i>Alloy development and modern microscopy</i> <b>Dr. G. K. Dey</b> <i>Examination of weld Interfaces and other interfaces through Transmission Electron Microscopy</i>
15:15		Tea and Assembly in Session Hall
<b>15:30</b>	<b>Sess-Halls</b>	<b>Technical Session TS-1 (1A – 1G)</b> <i>Industrial applications of electron microscopy</i> <i>Electron microscopy – In situ and Operando techniques – I</i> <i>Electron microscopy of advanced engineering materials – I</i> <i>High-resolution including aberration-corrected microscopy</i> <i>Chemistry and spectroscopic techniques</i> <i>Atom-probe tomography</i> <i>Bio-materials and nanotechnology for life sciences</i>
<b>17:10</b>	<b>Confluence-2</b>	<b>Poster Session PS-1</b>
<b>19:10</b>	<b>Confluence-1</b>	<b>EMSI Annual General Body Meeting</b>
20:10		Dinner

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

<b>18/07/2017</b>		
<b>09:00</b>	<b>Confluence-1</b>	<b>Plenary Session PL-3</b> <b>Prof. Pavel Hozak</b> <i>Advanced microscopy detects new nuclear lipidic structures involved in gene transcription</i> <b>Prof. S. Ramaswamy</b> <i>Atomic resolution structures with Electron cryo-microscope: Structure of PaaZ</i> <b>Dr. Ben Lich (FEI)</b> <i>Cryo EM workflows for Single Particle Analysis and Tomography of hydrated, intact cells</i>
10:15		Tea
<b>10:30</b>	<b>Confluence-1</b>	<b>Plenary Session PL-4</b> <b>Prof. Robert Sinclair</b> <i>In Situ High Resolution and Environmental Electron Microscopy Studies of Material Reactions</i> <b>Dr. K. Muraleedharan</b> <i>TEM Study of Role of Nitridation during GaN growth by MOCVD on c-plane Sapphire</i> <b>Dr. L. Houben</b> <i>Low-voltage and energy-filtered chromatic aberration-corrected high-resolution TEM on the PICO instrument</i>
11:45		Tea
<b>11:55</b>	<b>Confluence-1</b>	<b>Plenary Session PL-5</b> <b>Prof. Rafal Dunin-Borkowski</b> <i>Model-based high-resolution electron holography of 2D materials</i> <b>Prof. M. Sundararaman</b> <i>Microstructural characterisation journey – Superalloys to Intermetallics</i> <b>Prof. Christoph Koch</b> <i>Recovering the 3D atom-resolved scattering potential from tilt series of HRTEM and HAADF-STEM images</i>
13:10		Lunch
<b>14:00</b>	<b>Confluence-1</b>	<b>Plenary Session PL-6</b> <b>Prof. R. Banerjee</b> <i>L<sub>12</sub> precipitation in fcc-based high entropy alloys: Al<sub>0.3</sub>CoCrFeNi versus Al<sub>0.3</sub>CuCrFeNi<sub>2</sub></i> <b>Prof. R. P. Tandon</b> <i>High resolution electron microscopy of pristine and LaB<sub>6</sub> decorated carbon nanotubes</i> <b>Dr. P. Clifton (AMETEK)</b> <i>Recent Advances in Atom Probe Tomography</i>
15:15		Tea
<b>15:30</b>	<b>Sess-Halls</b>	<b>Technical Session TS-2 (2A – 2G)</b> <i>Microscopy of Functional Materials – I</i> <i>Electron microscopy – In situ and Operando techniques – II</i> <i>Electron microscopy of advanced engineering materials – II</i> <i>Diffraction, Crystallography and Aperiodic Structures</i> <i>Microscopy of Low-dimensional Materials – I</i> <i>Electron microscopy for earth sciences</i> <i>Macromolecular structure function</i>
<b>17:00</b>	<b>Sess-Halls</b>	<b>Technical Session TS-3 (3A – 3G)</b> <i>Advances in scanning electron and ion microscopy techniques</i> <i>Microscopy of Thin-films coatings and interfaces – I</i> <i>Electron microscopy of advanced engineering materials – III</i> <i>EBSD, TKD and related techniques – I</i> <i>Microscopy of Low-dimensional Materials – II</i> <i>Microscopical studies of physiology and disease</i>
<b>18:30</b>	<b>Confluence-2</b>	<b>Poster Session PS-2</b> Tea
19:00	Confluence-1	Cultural Program
20:15		Banquet

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

<b>19/07/2017</b>		
Time_from	Venue	Programme
<b>09:00</b>	<b>Confluence-1</b>	<b>Plenary Session PL-7</b> <b>Prof. J. Arbiol</b> <i>Free-standing nanostructures at atomic scale: from growth mechanisms to local properties at the nanoscale</i> <b>Prof. Friedhelm Finger</b> <i>Application of electron microscopy for the development of thin film materials and devices shown on a combined photovoltaic-electrochemical system to generate solar fuels</i> <b>Prof. Wolfgang Jaeger</b> <i>Advanced Transmission Electron Microscopy of Functional Nanomaterials</i> <b>Prof. R. K. Mandal</b> <i>Studies on the Effect of Stabilizers on Morphologies of Au, Ag, Au-Cu, and Ag-Cu Nanostructures through Transmission Electron Microscopy</i>
10:40		Tea
<b>10:55</b>	<b>Confluence-1</b>	<b>Plenary Session PL-8</b> <b>Prof. Hing Hiang Lian</b> <i>Diagnostic Electron Microscopy Application in Emerging Infectious Diseases</i> <b>Prof. A. N. Ghosh</b> <i>Of Vibrios and Vibriophages</i> <b>Prof. Pulak Sengupta</b> <i>The Marble Rock : from sight to insight</i>
12:10		Tea
<b>12:20</b>	<b>Confluence-1</b>	<b>Plenary Session PL-9</b> <b>Prof. Sergei V. Kalinin</b> <i>Big, deep, and smart data in atomically resolved imaging: From better materials towards Atom by Atom fabrication</i> <b>Prof. Vasiliki Tileli</b> <i>Electron microscopy insights for the oxygen reduction and oxygen evolution reactions</i>
13:35		Lunch
<b>14:25</b>	<b>Confluence-1</b>	<b>Selected Poster Presentations (5min each)</b>
15:25		Tea
<b>15:40</b>	<b>Sess-Halls</b>	<b>Technical Session TS-4 (4A – 4G)</b> <i>Microscopy of Functional Materials – II</i> <i>Microscopy of Thin-films coatings and interfaces – II</i> <i>EBSD, TKD and related techniques – II</i> <i>Defects and Radiation Damage</i> <i>Scanning probe techniques and Spectroscopy</i> <i>Microscopy for Life Sciences including cryo-microscopy</i>
<b>17:25</b>	<b>Confluence-1</b>	<b>Valedictory Session</b>

**Session Programme ... →**

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1710 hrs.

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>Session</b>	<b>Industrial applications of electron microscopy</b>	<b>Electron microscopy – <i>In situ</i> and Operando techniques - I</b>	<b>Electron microscopy of advanced engineering materials - I</b>	<b>High-resolution including aberration-corrected microscopy</b>	<b>Chemistry and spectroscopic techniques</b>	<b>Atom-probe tomography</b>	<b>Bio-materials and nanotechnology for life sciences</b>
Invited Talks	G. Ravi Chandra S. Dheepa V. Balachandran	P. Ghosal K. Biswas J. Basu V. Balakrishnan	V. K. Vasudevan D. Srivastava R. Balamuralikrishna	N. Prabhu A. Yalcin T. Oikawa	R. Dutta T. N. Narayanan M. Takakura T. Nylese K. Dicks	F. U. Renner Aniruddha Biswas K. Chang	S. C. Yadav Pankaj Poddar, Annie John Y. Yamaguchi
Contributed Oral	P. Raghupatruni Amit Mondal	B. Pavithra	Meenu Prashar Surya D. Yadav	Chanchal Ghosh Piu Rajak		Sudip Sarkar Marshall Amalraj Sarita Ahlawat	S. Srivastava S. J. Cho C. Acharya

Technical Session TS-2: 18/July/2017 1530 – 1700 hrs.

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>Session</b>	<b>Microscopy of Functional Materials - I</b>	<b>Electron microscopy – <i>In situ</i> and Operando techniques - II</b>	<b>Electron microscopy of advanced engineering materials - II</b>	<b>Diffraction, Crystallography and Aperiodic Structures - I</b>	<b>Microscopy of Low-dimensional Materials - I</b>	<b>Electron microscopy for earth sciences - I</b>	<b>Macromolecular structure function</b>
Invited Talks	S. M. Shivaprasad N. Pradhan P. Sujatha Devi	P. V. Satyam C. V. S. Kiran M. Oezaslan	Alok Singh S. Sankaran Parth Sarathi De P. Parameswaran	N. K. Mukhopadhyay R. Tewari R. Mythili K. Dicks	N. Ravishankar Somnath Bhattacharya P. K. Giri	Minati Roy Pranesh Sengupta R. Pattanaik Mona Moret	R. Natesh, M. Banerjee, R. Chauhan, S Chinnathambi
Contributed Oral	Ajit Mahapatro Ahin Roy	G. M. Bhalerao S. J. Cho	R. Sarkar	Anuradha Ashok S. Purandare	M. Y. Rekha J. Parmar	U. K. Bhui	I. Pramanick G. M. Becker

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1830 hrs.

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>G</b>
<b>Session</b>	<b>Advances in scanning electron and ion microscopy techniques</b>	<b>Microscopy of Thin-films coatings and interfaces - I</b>	<b>Electron microscopy of advanced engineering materials - III</b>	<b>EBSD, TKD and related techniques - I</b>	<b>Microscopy of Low-dimensional Materials - II</b>	<b>Microscopical studies of physiology and disease</b>
Invited Talks	Y. Yamamoto A. Savenko R. Zarnetta A. Rajagopal	R. Mitra P. K. Sahoo S. Bysakh	B. K. Choudhary S. K. Dhua C. Sudha Pampa Ghosh	S. Suwas K. Dicks	Chandan Srivastava Anandh Subramanian Aditi Halder	A.K. Jain Krishanu Ray, Archana Singh, Smarajit Polley
Contributed Oral	E. Burkart H. Mamgain	Usha Bhat B. Hymavathi	Santosh Kumar Pradeep K. Singh	C. Mondal L. Venkatesh Dipti Samantaray	M. Sathish Pradyumna Parida	S. K. Gupta G. Morgan Sayani Das

Technical Session TS-4: 19/July/2017 1540 – 1720 hrs.

	<b>A</b>	<b>B</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>Session</b>	<b>Microscopy of Functional Materials - II</b>	<b>Microscopy of Thin-films coatings and interfaces - II</b>	<b>EBSD, TKD and related techniques - II</b>	<b>Defects and Radiation Damage</b>	<b>Scanning probe techniques and Spectroscopy</b>	<b>Microscopy for Life Sciences including cryo-microscopy</b>
Invited Talks	A. K. Mukhopadhyay B. B. Jha P. Rama Rao D. Gala	H. Tsuda B. Satpati J. R. Mohanty R. Ramaseshan	K. S. Suresh L. Palasse	B. K. Panigrahi K. Ananthasivan S. Amrithapandian	A. Subrahmanyam Shikha Varma Sangam Banerjee	Somnath Dutta Jayati Sengupta, Vinoth Kumar, G. K. Maurya
Contributed Oral	R. D. Bapat R. Pandian	Arun K Prasad B. Vishal	S. V. Ramana Rao B. P. Badgujar N. Bibhanshu	Bijay Ojha K.G. Raghvendra	S. Nandy Shamima Hussain	L. Mekala

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1700 hrs.

Venue: Hall A

**Industrial applications of electron microscopy**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Utility of electron microscopy in the design of PVD multi-layer nitride coatings with industrial applications – Ravi C. Gundakaram (ARCI, Hyderabad)
1550	(Invited) Microscopy in Gas Turbine Component Life Extension – Dheepa Srinivasan (GE, Bengaluru)
1610	(Invited) Construction Design for a High Resolution Electron Microscope Facility – Vijai S. Balachandran
1630	Characterization of Cold-Sprayed Coatings (IN718, Al6061, Ti-6-4) on Self-mated Substrates for Gas Turbine Repair applications – Prasad Raghupatruni (GE, Bengaluru)
1645	Optimum imaging technique for HRTEM imaging of ZSM-5 Zeolites – Amit Mondal (SABIC Technology Centre, Bengaluru)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1705 hrs.

Venue: Hall B

**Electron microscopy – *In situ* and *Operando* techniques - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Phase and Morphological Characterization using Advanced Microscopy: SEM in-situ and TEM-PED – Partha Ghosal (DMRL, Hyderabad)
1550	(Invited) In-situ study of crack initiation and propagation in a dual phase AlCoCrFeNi high entropy alloy – Krishanu Biswas (IIT, Kanpur)
1610	(Invited) In-situ Electron Microscopy for Understanding Mechanisms at Nanoscale – Joysurya Basu (IIT-BHU, Varanasi)
1630	(Invited) Probing in situ growth and local properties of coexisting metallic-insulating domains in VO <sub>2</sub> microbeams – V. Balakrishnan (IIT, Mandi)
1650	Thermal Stability of Ultrathin Metal/Alloy Nanowires – Pavithra B. (IISc, Bengaluru)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1700 hrs.

Venue: Hall C

**Electron microscopy of advanced engineering materials - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Phase Transformations, Microstructure Evolution and Mechanical Properties of Nickel-Base Superalloys Studied by Analytical Scanning and Transmission Electron Microscopy – Vijay K. Vasudevan (U. Cincinnati, USA)
1550	(invited) Discontinuous precipitation in Ni-Cr alloy – Dinesh Srivastava (NFC, Hyderabad)
1610	(Invited) Bainite, martensite or something else? Towards a better understanding of the microstructure of low alloy steels – R. Balamuralikrishnan (DMRL, Hyderabad)
1630	Kinetics of Precipitation in $Ni_{50.3}Ti_{29.7}Hf_{20}$ High Temperature Shape Memory Alloy: TEM & SANS Study – Meenu Prasher (BARC, Mumbai)
1645	Measurement of dislocation densities in 9-12% Cr steels: A need for physical models – S. D. Yadav (IGCAR, Kalpakkam)



**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1700 hrs.

Venue: Hall D

**High-resolution including aberration-corrected microscopy**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Minimum detectable solute concentration in atomic-resolution transmission electron microscopy – Nithyanand Prabhu (IIT, Bombay)
1550	(Invited) Themis Z, the ultimate in optical performance, reproducibility and flexibility – Anil Yalcin (FEI)
1610	(Invited) Advanced Applications using Aberration-Corrected Analytical TEM/STEM from JEOL - Tetsuo Oikawa (JEOL)
1630	HRTEM and ALCHEMI Studies on V Site Substitution in V-TiCr <sub>2</sub> Laves Phase – Chanchal Ghosh (IGCAR, Kalpakkam)
1645	Correlation of mean inner potential depths at a SrTiO <sub>3</sub> bicrystal grain boundary annealed at different temperatures with thermal roughening transition – Piu Rajak (IIT, Madras)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1710 hrs.

Venue: Hall E

**Chemistry and spectroscopic techniques**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Nanoscale quantitative magnetic information by EMCD and HR-EELS in an aberration corrected transmission electron microscope – Ranjan Datta (JNCASR, Bengaluru)
1550	(Invited) Carbon Nanotube Junctions & Their Aftereffects – Tharangattu N. Narayanan (TIFR, Hyderabad)
1610	(Invited) Introduction of newly developed Soft X-ray Emission Spectrometer (SXES) and its applications - Masaru Takakura (JEOL)
1630	(Invited) Redefining the Limits of Detection and Accuracy with EDS The Impact of High Throughput SDDs – Taralyn Nylese (AMETEK)
1650	(Invited) Maximising Spatial Resolution and Surface Sensitivity for EDS – Keith Dicks (Oxford)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1715 hrs.

Venue: Hall F

**Atom-probe tomography**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Complex Energy Materials Studied by Atom Probe Tomography – Frank Uwe Renner (Hasselt University, Belgium)
1550	(Invited) APT analysis of carbon in Fe-Cu system – Aniruddha Biswas (BARC, Mumbai)
1610	(Invited) Nano-scale phase separation in Cr <sub>2</sub> Al(Si)C MAX phase self-healing coatings – Keke Chang (RWTH Aachen University, Germany)
1630	Quantification of cementite dissolution in heavily drawn pearlitic steel wires: an atom probe study – Sudip Kumar Sarkar (BARC, Mumbai)
1645	Atomic scale characterization of FeMnCoCrAl high entropy alloy - Marshal A. (RWTH Aachen University, Germany)
1700	Correlative SANS and 3DAP study of evolution of Cu precipitates in a binary Fe-Cu alloy - Sarita Ahlawat (BARC, Mumbai)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-1: 17/July/2017 1530 – 1720 hrs.

Venue: Hall G

**Bio-materials and nanotechnology for life sciences**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Targeted Delivery System for Cancer Cells Consist of Multiple Ligands Conjugated Genetically Modified CCMV Capsid on Doxorubicin GNPs Complex - Subhash Chandra Yadav (TERI University, New Delhi)
1550	(Invited) Multifunctional platforms based on lanthanide-ion-doped rare earth phosphors for the multimodel imaging and drug delivery application – Pankaj Poddar (CSIR-National Chemical Laboratory, Pune)
1610	(Invited) Electron Microscopy for Skeletal Tissue Engineering in Regenerative Medicine - Annie John (University of Kerala, Thiruvananthapuram)
1630	(Invited) Recent challenges in three-dimensional analysis of soft materials including polymers by Scanning Electron Microscopy – Yuuki Yamaguchi (JEOL, Japan)
1650	Characterization of polyhydroxyalkanoates (PHA) from FACE isolated Bacillus cereus SS105 - Shaili Srivastava (Amity University Gurugram)
1700	Scanning Ion Conductance Microscopy for Single Live Cell Research – Sang Joon Cho (Park Systems, Korea)
1710	Electron microscopic illustration of uranium bioprecipitation under acid and alkaline conditions by a metal tolerant Serratia strain – C. Acharya (BARC, Mumbai)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1700 hrs.

Venue: Hall A

**Microscopy of Functional Materials - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Multi-functionality of Nano-structured GaN films – S. M. Shivaprasad (JNCASR, Bengaluru)
1550	(Invited) Hetero-Junctions in Hetero-Nanostructures: Analysis from Electron Microscope - Narayan Pradhan (IACS, Kolkata)
1610	(Invited) Unraveling the Importance of Functional Materials in Fuel Cell and Solar Cell Applications - P. Sujatha Devi (CSIR-CGCRI, Kolkata)
1630	Bipolar Resistive Switching in Annealed Graphene Oxide Thin Film Devices - Ajit K. Mahapatro (University of Delhi, New Delhi)
1645	Adsorption Mediated Band Structure Engineering of Te Nanowires - Ahin Roy (Kyushu University, Japan)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1700 hrs.

Venue: Hall B

**Electron microscopy – In situ and Operando techniques - II**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Real time Growth and Diffusion studies for thin metallic films on semiconductors: using real time insitu TEM and XRD – P. V. Satyam (IoP, Bhubaneswar)
1550	(Invited) Recent Advances in in situ Transmission Electron Microscopy of Electrochemical Material Systems - Venkata Sai Kiran Chakravadhanula (Karlsruhe Institute of Technology, Germany)
1610	(Invited) Electrocatalysis – From Single Nanocrystals to Thin Films - Mehtap Oezaslan (University of Oldenburg, Germany)
1630	HRTEM study of Structure Evolution of MWCNTs in-situ Electron Irradiation - G.M. Bhalerao (UGC-DAE CSR Kalpakkam Node, Kokilamedu)
1645	Self-Optimizing and Pinpoint AFM Control for Quantitative Measurement – Sang Joon Cho (Park Systems, Korea)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1705 hrs.

Venue: Hall C

**Electron microscopy of advanced engineering materials - II**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Study of severely plastically deformed alloys by application of scanning transmission electron microscopy techniques – Alok Singh (National Institute for Materials Science, Japan)
1550	(Invited) Nitrogen Driven Substructural Changes and Consequences in High Temperature Fatigue of 316LN Stainless Steel, S. Sankaran (IIT Madras)
1610	(Invited) Precipitate coarsening in a Ni based superalloy during cyclic aging – Parth Sarathi De (IIT Bhubaneswar)
1630	(Invited) Electron microscopy studies for selection, processing and performance of materials – P. Parameswaran (IGCAR, Kalpakkam)
1650	Characterization of an intermetallic phase formed in a WHA – Rajdeep Sarkar (DMRL, Hyderabad)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1720 hrs.

Venue: Hall D

**Diffraction, Crystallography and Aperiodic Structures - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Electron Microscopy on stability and grain size softening behaviour in mechanically milled nanostructured Al-base complex metallic alloys – N. K. Mukhopadhyay (IIT BHU, Varanasi)
1550	(Invited) Formation mechanism of stable NbC carbide phase in the Nb-1%Zr-0.1%C alloy – R. Tewari (BARC, Mumbai)
1610	(Invited) Study of deformation induced changes in microstructure in SS304L by Precession Assisted Orientation Imaging Microscopy in TEM – R. Mythili (IGCAR, Kalpakkam)
1630	(Invited) The Introduction of CMOS Detector Technology in EBSD Systems – Dramatically Increased Sensitivity, Speed (3000Hz) and Indexing Ability using a Single Detector – Keith Dicks (Oxford, UK)
1650	Superstructure Formation through Vacancy Ordering in Complex Perovskites: A TEM Perspective – Anuradha Ashok (PSG Institute of Advanced Studies, Coimbatore)
1705	Study of medium range order in amorphous bimetallic glasses – S. C. Purandare (TIFR, Mumbai)



**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1700 hrs.

Venue: Hall E

**Microscopy of Low-dimensional Materials - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) A study on the structure and microstructure of ion-exchanged titania nanotubes – N. Ravishankar (IISc, Bengaluru)
1550	(Invited) Influence of supporting amorphous carbon film thickness on measured strain variation within a nanoparticle - Somnath Bhattacharyya (IIT Madras)
1610	(Invited) Mesoporous Si Nanowire Templated Growth of Organo-Metal Halide Perovskite Nanoparticles and Its Photoluminescence Enhancement – P. K. Giri (IIT Guwahati)
1630	Synthesis and Electron Microscopy of Graphene-Multimetal Nanoparticle Composites – Rekha M. Y. (IISc, Bengaluru)
1645	A novel way of preparing cross-sectional TEM samples of semiconductor nanowires – Jayesh B. Parmar (TIFR, Mumbai)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1705 hrs.

Venue: Hall F

**Electron microscopy for earth sciences - I**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) Electron Probe Micro-analysis, a significant analytical tool for characterisation of Atomic Minerals in India – Minati Roy (AMDER, Hyderabad)
1550	(Invited) Electron Microscopy Study of Thorianite – Pranesh Sengupta (BARC, Mumbai)
1610	(Invited) Ultrastructure and composition of fossil vertebrate dental remains from India – Rajeev Patnaik (Panjab University, Chandigarh)
1630	(Invited) Quantitative Microanalysis with Electron Probe SXFive – Mona Moret (CAMECA, France)
1650	Wettability alteration of kaolinite during low saline water flooding: A study based on Scanning Electron Microscopy – Uttam K. Bhui (Pandit Deendayal Petroleum University, Gandhinagar)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-2: 18/July/2017 1530 – 1710 hrs.

Venue: Hall G

**Macromolecular structure function**

<b>Time</b>	<b>Lecture</b>
1530	(Invited) A short story of unfolding the protein folding states - Ramanathan Natesh (IISER, Thiruvananthapuram)
1550	(Invited) Understanding host cell entry and disassembly of non-enveloped viruses – Manidipa Banerjee (IIT Delhi)
1610	(Invited) Electron microscopy based structural analysis of the central transport channel of the nuclear pore complex – Radha Chauhan (National Centre for Cell Science, Pune)
1630	(Invited) Microtubule associated Tau Squared by Molecular Chaperones in Alzheimer's Disease- Subashchandrabose Chinnathambi (CSIR - National Chemical Laboratory, Pune)
1650	Structural and functional studies of polyketide synthase - Ishika Pramanick (IISc, Bengaluru)
1700	G. M. Becker

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1850 hrs.

Venue: Hall A

**Advances in scanning electron and ion microscopy techniques**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) UHR FE-SEM Analysis in Material Science - Yasuaki Yamamoto (JEOL)
1720	(Invited) Large volume 3D analysis and Ga-free sample preparation using Xe plasma FIB of Helios PFIB DualBeam system – Aleksei Savenko (FEI)
1740	(Invited) Advances in electron microscope - Robert Zarnetta (Carl Zeiss)
1800	(Invited) Advances in 3d tomography – A. Rajagopal (Carl Zeiss)
1820	THE NANOWORKBENCH: Automated Nanorobotic system inside of Scanning Electron or Focused Ion Beam Microscopes - Eva Burkart (Klocke Nanotechnik GmbH, Aachen)
1835	New correlative Raman Imaging-SEM integrated microscope: Unique features and applications – Hitesh Mamgain (WITec, Germany)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1830 hrs.

Venue: Hall B

**Microscopy of Thin-films coatings and interfaces - I**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) Structure and Chemistry of Interfaces in Sintered SiC and ZrB <sub>2</sub> -SiC Based Composites – R. Mitra (IIT Kharagpur)
1720	(Invited) Bilayer thin film to hybrid nano-dots evolution by ion beam induced dewetting – Pratap K. Sahoo (NISER, Bhubaneswar)
1740	(Invited) Analytical Transmission Electron Microscopy of functional thin films – Sandip Bysakh (CSIR-CGCRI, Kolkata)
1800	Atomic resolution electron holography in ZnO epitaxial thin film – Usha Bhat (JNCASR, Bengaluru)
1815	Effect of Post-annealing Temperature on Structural, Morphological and Optical properties of Nanostructured Cr doped CdO Thin Films – B. Hymavathi (Anil Neerukonda Institute of Technology & Sciences Visakhapatnam).

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1835 hrs.

Venue: Hall C

**Electron microscopy of advanced engineering materials - III**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) Mechanical Properties-Microstructure: A Conjugal Relation - B. K. Choudhary (IGCAR, Kalpakkam)
1720	(Invited) Applications of Transmission Electron Microscopy for Development of Advanced Naval Grade High Strength Cu-bearing HSLA Steels - Sanjay Kumar Dhua (SAIL, Ranchi)
1740	(Invited) Study of Structural and Microchemical Changes in Dissimilar Joints of Fe and Ti based Alloys using Experimental and Computational Tools– A General Overview – C. Sudha (IGCAR, Kalpakkam)
1800	(Invited) Microstructural Evaluation of Weld Joint Produced through Solid State Magnetic Pulse Welding – Pampa Ghosh (Tata Steel, Jamshedpur)
1820	Effect of Tool Travel Speed on Microstructure of the Stir Zone in Friction Stir WeldedCuCrZr Plates – Santosh Kumar (BARC, Mumbai)
1835	Effect of electron beam irradiation on aromatic polymers – Pradeep K. Singh (SABIC Technology Centre, Bengaluru)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1825 hrs.

Venue: Hall D

**EBSD, TKD and related techniques - I**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) An EBSD based study of deformation mechanisms in high to medium Mn steels – Satyam Suwas (IISc, Bengaluru)
1720	(Invited) Introduction to Transmission Kikuchi Diffraction (TKD) in the SEM using an EBSD detector; Extending the capabilities of SEM EBSD into the realm of TEM – Keith Dicks (Oxford Instruments, UK)
1740	Microstructural Attributes to the Stability of Crystallographic Texture during Hot and Cold Rolling of 7010 Al Alloy – Chandan Mondal (DMRL, Hyderabad)
1755	Microstructure and Grain Boundary Characteristics of Rapidly Sintered Nanostructured Fe-40Al alloy – L. Venkatesh (ARCI, Hyderabad)
1810	Analysis of Grain Boundary Character Distribution of 316LN Austenitic stainless steel during hot deformation – Dipti Samantaray (IGCAR, Kalpakkam)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1830 hrs.

Venue: Hall E

**Microscopy of Low-dimensional Materials - II**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) Chandan Srivastava (IISC, Bengaluru)
1720	(Invited) Liquid like Nucleation in Nanoscale Thin Films – Anandh Subramaniam (IIT Kanpur)
1740	(Invited) Hydrophobic Photocatalytically Active surface of Nanostructured Copper Oxide – Aditi Halder (IIT Mandi)
1800	Supercritical Fluids Assisted Exfoliation of 2D layered Materials and Their Applications – M. Sathish (CSIR – CECRI, Karaikudi)
1815	Influence of Ti content on stoichiometry of Y-Ti-O complex oxides in Fe-Y <sub>2</sub> O <sub>3</sub> -Ti model ODS alloys - Pradyumna Kumar Parida (IGCAR, Kalpakkam)



**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-3: 18/July/2017 1700 – 1850 hrs.

Venue: Hall G

**Microscopical studies of physiology and disease**

<b>Time</b>	<b>Lecture</b>
1700	(Invited) Pathological changes in placenta in relation to low birth weight babies on PAH exposure – A. K. Jain (National Institute of Pathology (ICMR), New Delhi)
1720	(Invited) Morphological analysis of soma-germline interface in Drosophila testis – Krishanu Ray (TIFR, Mumbai)
1740	(Invited) Visualizing cutaneous wounds in skin diseases: Focus on depigmenting disorder vitiligo – Archana Singh (CSIR-Institute of Genomics & Integrative Biology, New Delhi)
1800	(Invited) Cryo-EM and X-ray Crystallographic Analyses of NF-kappaB Activating I-kappaB Kinase1/alpha - Smarajit Polley (Bose Institute, Kolkata)
1820	- S. K. Gupta
1830	Sample preparation with ultra microtomy for TEM - G. Morgan (RMC)
1840	El Tor Vibriophage M4: Cryoelectron Microscopic Studies – Sayani Das (ICMR-National Institute of Cholera and Enteric Diseases, Kolkata)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of  
the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1730 hrs.

Venue: Hall A

**Microscopy of Functional Materials - II**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) Electron Microscopy of Nano-Ceramic Powders and Surface Engineered Metals for Functional Applications – Anoop Kumar Mukhopadhyay (CSIR – CGCRI, Kolkata)
1600	(Invited) Damage Evaluation of Yttria Stabilised Zirconia (YSZ) Thermal Barrier Coatings – B. B. Jha (CSIR – CGCRI, Kolkata)
1620	(Invited) Microstructural characterization of brazed Ti joint using Ti <sub>20</sub> Zr <sub>20</sub> Cu <sub>50</sub> Ni <sub>10</sub> metallic glass ribbon as filler - P. Rama Rao (CSIR – CGCRI, Kolkata)
1640	(Invited) Nanocomposite Structural Characterization by SAXS – Dharmesh Gala (Anton Paar India)
1700	Use of Electron Microscopy for the Characterization and Growth Optimization of GaN Nanowires - Rudheer D. Bapat (TIFR, Mumbai)
1715	Fabrication of Single GaN Nanowire Devices using FIB-SEM – Ramanathaswamy Pandian (IGCAR, Kalpakkam)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1730 hrs.

Venue: Hall B

**Microscopy of Thin-films coatings and interfaces - II**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) TEM Observation of Titanium Precipitation in TiC Particles of Ti Matrix Composites Prepared Using the Reactive Arc-Melting Method – Hiroshi Tsuda (Osaka Prefecture University, Japan)
1600	(Invited) Bilayer thin film to hybrid nano-dots evolution by ion beam induced dewetting - B. Satpati (NISER, Bhubaneswar)
1620	(Invited) Modification of Magnetic Microstructure in Thin Film and Multilayer – Jyoti Mohanty (IIT Hyderabad)
1640	(Invited) Synthesis of Yttrium thin films by Magnetron sputtering – R. Ramaseshan (IGCAR, Kalpakkam)
1700	Growth and Characterization of Vanadium Oxide Films prepared by Pulsed DC Sputtering – Arun K. Prasad (IGCAR, Kalpakkam)
1715	Substrate induced tuning of compressive strain and phonon modes in large area MoS <sub>2</sub> and WS <sub>2</sub> van der Waals epitaxial thin films – Badri Vishal (JNCASR, Bengaluru)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1705 hrs.

Venue: Hall D

**EBSD, TKD and related techniques - II**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) Phase analysis and evolution of microstructure in Ti–Al–Cr–Co alloys – K. S. Suresh (IIT Roorkee)
1600	(Invited) Quantitative characterization of nanostructured materials using TKD in SEM – Laurie Palasse (Bruker Nano)
1620	Study of Micro Structural Variation through EBSD in Ti-Al-Zr Single Phase Alloy and Ti-Al-V two phase alloy at Different Annealing Treatments – S. V. Ramana Rao (NFC, Hyderabad)
1635	Characterization of Electron Beam Welds of Nb-1Zr-0.1C Alloy and A387 Grade P91 Steel – B. P. Badgajar (BARC, Mumbai)
1650	Microstructural Analysis of Dynamic Recrystallization in a Three Phase Titanium Aluminide - Nitish Bibhanshu (IISc, Bengaluru)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1725 hrs.

Venue: Hall E

**Defects and Radiation Damage**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) Effect of radiation damage and alloying elements on microstructure of ODS steels – B. K. Panigrahi (IGCAR, Kalpakkam)
1600	(Invited) Microstructural Characterization of Nano Nuclear Ceramics – K. Ananthasivan (IGCAR, Kalpakkam)
1620	(Invited) TEM Investigations on Ion Irradiated Nuclear Ceramic Materials – S. Amirthapandian (IGCAR, Kalpakkam)
1640	Transmission Electron Microscopy of low-dose Irradiated SS316L(N) and SS304L(N) – Bijay K. Ojha (IGCAR, Kalpakkam)
1655	Novel ZrO <sub>2</sub> dispersion strengthened 9 Cr steel: Synthesis and Microstructural Characterization – Raghavendra K. G. (IGCAR, Kalpakkam)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1710 hrs.

Venue: Hall F

**Scanning probe techniques and Spectroscopy**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) Kelvin Probe Microscopy for non-destructive and dynamic surface analyses - an overview – A. Subrahmanyam (IIT Madras)
1600	(Invited) DNA Sensing of Nanoparticles by Scanning Probe Microscopy – Shikha Varma (Institute of Physics, Bhubaneswar)
1620	(Invited) Scanning Probe Microscopic study of Graphene for application in bio-sensing and energy storage devices – Sangam Banerjee (Saha Institute of Nuclear Physics, Kolkata)
1640	Ferroelectric and Photovoltaic Studies in Polycrystalline BiFeO <sub>3</sub> Thin Films - Subhajit Nandy (IIT Madras)
1655	Morphological and bonding environmental modulation in free-standing flexible PVDF and composite (Graphene oxide/PVDF) films with poling – Shamima Hussain (UGC-DAE CSR, Kalpakkam Node, Kokilamedu)

**International Conference on Electron Microscopy and Allied Techniques and XXXVIII Annual Meeting of the Electron Microscope Society of India (EMSI-2017), 17 – 19 July, 2017**

Technical Session TS-4: 19/July/2017 1540 – 1710 hrs.

Venue: Hall G

**Microscopy for Life Sciences including cryo-microscopy**

<b>Time</b>	<b>Lecture</b>
1540	(Invited) Single particle electron microscopy of membrane protein complexes – Somnath Dutta (IISc, Bengaluru)
1600	(Invited) Cryo-EM studies reveal interaction of regulatory factors with bacterial ribosome – Jayati Sengupta (CSIR - Indian Institute of Chemical Biology, Kolkata)
1620	(Invited) Protein Structures by single particle electron cryo microscopy – Kutti Vinoth Kumar (National Centre for Biological Sciences, Bangalore)
1640	(Invited) Freeze the moment of your discovery – G. K. Maurya (Leica Microsystems, India)
1700	Ultra structural pathology of paraquat (pq) induced acute and subacute lung injury in experimental rats – Mekala Lakshman (College of Veterinary Science, Hyderabad)