

# International Conference on Frontiers in Materials Engineering (ICFME-2022)

December 14 – 16, 2022

Department of Metallurgy Engineering and Materials Science (MEMS)  
INDIAN INSTITUTE OF TECHNOLOGY INDORE

Day-1: 14 <sup>th</sup> December 2022 (Wednesday)	
Time	Event
8:00-9:30	Registration
9:30-10:00	Inauguration
10:00-10:30	High-Tea
<b>Session-I</b>	
Venue: Maitreyi Seminar Hall, IIT Indore Chair: Prof. Tapas Laha	
10:30-11:05	<b>Keynote Talk: Prof. Pravat Kumar Giri, IIT Guwahati</b> Title: <i>Heterostructures of Two-Dimensional Layered Materials: Intriguing Photo-Physics and Emerging Applications</i>
11:05-11:30	<b>Invited Talk: Dr. Manoj Kumar Tiwari, RRCAT Indore</b> Title: <i>X-ray Fluorescence Spectroscopy in Materials Science</i>
11:30-11:55	<b>Invited Talk: Dr. Ashish Kumar Mishra, IIT BHU</b> Title: <i>Transition Metal Dichalcogenides as Efficient Electrocatalysts for Environmentally Friendly Rechargeable Zinc Air Battery</i>
11:55-12:30	<b>Keynote Talk: Prof. Koushik Biswas, IIT Kharagpur</b> Title: <i>Li-Ion Battery (LIB) Materials: Design guidelines and state-of-the-art</i>
12:30-14:00	Lunch (at Central Dining Facility)
<b>Session-II</b>	
14:00-14:35	<b>Keynote Talk: Prof. Tapas Laha, IIT Kharagpur</b> Title: <i>Corrosion behavior of Fe-based metallic glass composite coating: Synergistic effect of amorphicity and porosity</i> Venue: Maitreyi Seminar Hall, IIT Indore Chair: Prof. Pravat Kumar Giri
	<b>Parallel Session-IIA</b> Venue: Maitreyi Seminar Hall Chair: Prof. Pravat Kumar Giri
	<b>Parallel Session-IIIB</b> Venue: Gargi Seminar Hall Chair: Dr. Manoj Kumar Tiwari
14:40-15:05	<b>Invited Talk: Prof. Harish Kumar, Central Univ. Haryana</b> Title: <i>Conducting polymer and reduced graphene oxide-based advanced functional nanomaterials for novel applications</i>
15:05-16:30	<b>Invited Talk: Dr. Santosh S. Hosmani, IIT Indore</b> Title: <i>Surface Engineering of Steels: Microstructure and Properties</i>
16:30-16:50	Oral Presentations (contributed papers, nos. 1-7)
16:50-18:00	Oral Presentations (contributed papers, nos. 8-14)
16:30-16:50	Tea Break
16:50-18:00	Poster Presentations (Poster nos. 1-34)
Day-2: 15 <sup>th</sup> December 2022 (Thursday)	
<b>Session-III</b>	
Time	Event
9:30-10:05	<b>Keynote Talk: Prof. Tarun Kumar Kundu, IIT Kharagpur</b> Title: <i>Photocatalytic Abatement of Water Pollutants by Li/P-g-C<sub>3</sub>N<sub>4</sub> Nanosheet: An Experimental and DFT Study</i> Venue: Maitreyi Seminar Hall, IIT Indore Chair: Prof. Rajesh Kumar
	<b>Parallel Session-IIIA</b> Venue: Maitreyi Seminar Hall Chair: Prof. Rajesh Kumar
	<b>Parallel Session-IIIB</b> Venue: Gargi Seminar Hall Chair: Dr. S. Hosmani
10:10-10:35	<b>Invited Talk: Dr. Jeetikanta Mohapatra, University of Texas at Arlington, USA</b> Title: <i>Coercivity limits in nanoscale ferromagnets: Brown's paradox revisited</i>
10:35-11:25	<b>Invited Talk: Dr. Payal Saxena, Government College of Dentistry, Indore</b> Title: <i>Biomimetic Materials in Dentistry: Current Status &amp; Future Aspects</i>
11:25-11:40	Oral Presentations (contributed papers, nos. 15-18)
11:40-12:05	Oral Presentations (contributed papers, nos. 19-22)
11:25-11:40	Tea Break
11:40-12:05	<b>Invited Talk: Dr. Vivek Kumar Yadav, Central University of Allahabad</b> Title: <i>Novel two-dimensional thin films efficient for energy and environment applications: A Density Functional Theory (DFT) study</i>
12:05-12:30	<b>Invited Talk: Prof. Ajit Kumar Patra, Central University of Rajasthan</b> Title: <i>Magnetic ground state of geometrically frustrated Mn<sub>2-x</sub>Fe<sub>1+x</sub>Al Heusler alloys</i>
12:05-12:30	<b>Invited Talk: Dr. Alok Kumar Rai, University of Delhi</b> Title: <i>Morphology dependent behaviour of <math>\delta</math>-MnO<sub>2</sub> cathode for aqueous zinc ion batteries</i>
12:30-13:05	<b>Invited Talk: Dr. Upendra Kumar, K. I. C. E.T., South Korea</b> Title: <i>Bandgap analysis of transition-metal dichalcogenide and oxide via machine learning approach</i>
12:30-13:05	<b>Keynote Talk: Dr. Mohit Sharma, IMRE, ASTAR, Singapore</b> Title: <i>Advanced Composite Technologies: Interfacial Strengthening, Sustainability and Prospective for Industrial Deployment.</i> Venue: Maitreyi Seminar Hall, IIT Indore Chair: Prof. Rajesh Kumar
13:05-14:00	Lunch (at Central Dining Facility)
<b>Session-IV</b>	
14:05-15:30	Poster Presentations (Poster nos. 35-69)
15:30-18:00	Networking Session

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Day-3: 16 <sup>th</sup> December 2022 (Friday)		
Session-V		
Time	Event	
9:30-10:05	<b>Keynote Talk: Prof. Gandham Phanikumar, IIT Madras</b> Title: <i>Parametric space mapping for microstructure prediction in ICME</i> Venue: Maitreyi Seminar Hall, IIT Indore Chair: Dr. H. Borkar	
	<b>Parallel Session-VA</b> Venue: Maitreyi Seminar Hall Chair: Dr. H. Borkar	<b>Parallel Session-VB</b> Venue: L-04 Lecture Hall Complex, IIT Indore Chair: Dr. Sunil Kumar
10:10-10:35	<b>Invited Talk: Dr. Sachin Gupta, Bennett University</b> Title: <i>Ultra-low Schottky barrier height in single layer MoS<sub>2</sub> with PMA electrodes</i>	<b>Invited Talk: Prof. Parasharam M. Shirage, IIT Indore</b> Title: <i>2D Metal Oxide Materials for Multifunctional Applications</i>
10:35-11:35	Oral Presentations (contributed papers, nos.23-27)	Oral Presentations (contributed papers, nos.28-32)
11:35- 11:50	Tea Break	
11:50- 12:50	Oral Presentations (contributed papers, nos.33-37)	Oral Presentations (contributed papers, nos.38-42)
12:50-14:00	Lunch (at Central Dining Facility)	
Session-VI		
14:00-14:35	<b>Keynote Talk: Prof. Yogendra Kumar Mishra, University of Southern Denmark</b> Title: <i>Tetrapods based Smart Materials for Advanced Technologies</i> Venue: Maitreyi Seminar Hall, IIT Indore Chair: Prof. P.M. Shirage	
	<b>Parallel Session-VIA</b> Venue: Maitreyi Seminar Hall Chair: Prof. P.M. Shirage	<b>Parallel Session-VIB</b> Venue: L-04 Lecture Hall Complex, IIT Indore Chair: Prof. S. Samal
14:40-16:05	Oral Presentation (contributed papers, nos.43-49)	Oral Presentation (contributed papers, nos.50-56)
16:05-16:30	<b>Invited Talk: Dr. Hemen K. Kalita, Gauhati University</b> Title: <i>Graphene derivatives-based sensing, monitoring, and remediation for environmental application</i>	<b>Invited Talk: Prof. Hitesh Borkar, NIT Warangal</b> Title: <i>Anion out-diffusion resistive switching in heterostructure thin films for memristor applications</i>
16:30-16:55	<b>Invited Talk: Prof. V. V. S. S. Srikanth, University of Hyderabad</b> Title: <i>Novel Processing Strategies of Few-Layered Graphene and Its Composites</i>	<b>Invited Talk: Dr. Rahul R, IIT ISM Dhanbad</b> Title: <i>ICME and Machine Learning approach for the accelerated design and development of advanced materials</i>
16:55-17:30	Valedictory Function	
17:30	High Tea	

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