

## Day 1 26-11-2025

8.30-10.00	<b>Registration</b>			
10.00-11.00	<b>Inauguration</b>			
11.00-11.20	<b>Tea Break</b>			
	<b>Session Chair: Prof. Rajib Bandyopadhyay PDEU, Gandhinagar</b>			
11.20-12.00	PS1: Prof. V. R Desai IIT Dharwad		Ancient Indian Wisdom for a Sustainable (i.e., Net Zero) infrastructure in Water, Energy and Wastes.	
12.00-12.30	PS2: Prof. V. Chandrasekhar TIFR Hyderabad		Phosphorus-based Ligands in Molecular Magnetism and Catalysis	
12.30-1.00	PS3: Prof. Dipankar Deb, IIT Mandi		Catalyzing Sustainable Innovation: The Role of IIT Mandi Catalyst in Fostering Impact-driven Startups in the Himalayas	
1.00-2.30	<b>Group Photo and Lunch Break</b>			
	<b>Parallel Session-I</b>		<b>Parallel Session-II</b>	
	<b>Session Chair: Prof. Amit Paul IISER Bhopal</b>		<b>Prof. Dr. Katchala Nanaji IIT Bhilai</b>	
2.30-3.00	KN1: Prof. Junseong Lee Chonnam National University	Metal Complexes Containing Azole Ligands	KN3: Prof. Indrajit Mukhopadhyay PDEU, Gandhinagar	Phosphoric acid treatment of gossypium herbaceum shell-derived hard carbon for developing high energy density negative electrode material for sodium-ion batteries
3.00-3.25	IL1: Dr. Basudeb Dutta KIIT, Bhubaneswar	Modulating photo-salient effects in crystalline metal-organic coordination compounds	IL5: Dr. Chinmoy Das SRM University, Amaravati	Flexible and Optically Transparent Sodium Superionic Solid-State Electrolytes Toward Cost-effective Design of Supercapacitors
3.25-3.50	IL2: Prof. (Dr.) Suranjana V. Mayani Marwadi University, Rajkot	Development of a Green Polyaniline–Graphene Oxide Nanocomposite Catalyst for Dye Removal from Water	IL6: Dr. Debasis Ghosh, Jain University, Bengaluru	Laser-Scribed Graphene as a Platform for Planar Flexible Energy Storage Devices
3.50-4.15	IL3: Dr. Anushree Khandale IIITDM Kancheepuram	Materials Engineering for Next-Generation Energy Systems	IL7: Dr. Dipsikha Ganguly National University of Singapore	Overcoming Commercial Barriers in Solid-State Lithium-Metal Batteries through Advanced Polymer Electrolyte Design
4.15-4.30	<b>Tea Break</b>			
	<b>Session Chair: Prof. Junseong Lee, Chonnam National University</b>		<b>Session Chair: Prof. Indrajit Mukhopadhyay PDEU, Gandhinagar</b>	
4.30-5.00	KN2: Prof. Rajib Bandyopadhyay PDEU, Gandhinagar	Hierarchical, Micro-mesoporous Zeolites for Industrial Applications	IL8: Dr. Katchala Nanaji IIT Bhilai	Dry Electrode Coating: A Solvent-Free Path to Sustainable Li-Ion Battery Manufacturing
5.00-5.25	IL4: Prof. (Dr.) Uttam Kumar Bhui PDEU, Gandhinagar	Natural Clay Adsorbent for REE Extraction from Carbonatite Host Rock: A Spectroscopic Approach for Futuristic Method Development	IL9: Dr. Soumen Giri KIIT, Bhubaneswar	Molecules to Materials: The Architecture of Electrode Design for Energy Storage Applications
5.25-5.35	OL1: Hemanga Pradhan IISER Pune	A Membrane less Natural Seawater Electrolyzer for Hydrogen Production	OL4: Tukadiya Namrataben Arjan The M. S. University of Baroda	Predicting SLME for Inorganic Absorber Materials: A Machine Learning Approach Using DFT-Derived Dataset
5.35-5.45	OL2: Dr. Soumya Roy Chonnam National University, Korea	Trinuclear ZnII-LnIII Complexes: Single-Ion Magnet Behavior in the Zn <sub>2</sub> Dy Analogue	OL5: Kompella Venkata Sri Lahari IITRAM	Impact of Defect Engineering on the Performance of Hybrid Perovskite Solar Cell
5.50-6.0	OL3: Shekharkumar Raval GSFC	Copper Metal Recovery from Copper Smelter and Sulphuric Acid Plant's Revert, Jam and Sludge by Hydro metallurgy.	OL6: Nilesh Mahantesh Chougala KLE Technological University, Hubballi	Magnetic Field Dependent Multifunctional LaFeO <sub>3</sub> Nanoflakes for Energy Storage, Electrocatalysis, and Sensing
7.00	<b>Gala Dinner, Venue: The Mist</b>			

## Day 2 27-11-2025

**Session Chair: Prof. P. K. Jha**  
The M. S. University of Baroda

9.30-10.10	PS4: Prof. Swapan K Pati JNCASR, Bengaluru	Computational Modeling of Materials for Applications in Energy Conversion and Storage
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**Move To Parallel Sessions**

	Session Chair: Dr. Sudheer Sahoo IIT Dharwad	Session Chair: Dr. D. K. Singh Delhi University
10.15-10.45	KN-4: Prof. Musthafa Ottakam Thotiyl, IISER Pune Electricity from Acid Base Reaction	KN7: Prof. B. R. K. Nanda, IIT Madras Atomistic Modelling and Design of Efficient Battery Materials: A DFT+ML perspective
10-45-11.15	IL:10 Dr. Biswajit Mondal IIT Gandhinagar A Unified Electrochemical Approach for the Conversion of Biomass and Waste Plastic into Valuable Chemicals and Hydrogen Fuel at High Current Densities	KN8: Prof. P. K. Jha The M. S. University of Baroda Accelerating Energy Materials Discovery with Machine Learned Force Fields
11.15-11.30	<b>Tea Break</b>	
11.30-12.00	KN5: Prof. Amit Paul IISER Bhopal Solid-State Proton Conduction in Functionalized Graphenes	KN9: Prof. G. Vaitheeswaran University of Hyderabad Topological Phononic Features and Drumhead-like Surface States in Ternary KCuX (X = Se, Te) Compounds
12.00-12.25	IL11: Dr. Amit Rajput J.C. Bose University Photo-switchable behaviour of spiropyran and fulgimide ligands	IL15: Dr. P. S. Ghosh BARC, Mumbai Efficient Screening of Single-Phase High-Entropy Alloys using Machine Learning Approaches
12.25-12.50	IL12: Dr. Pravin Bhalerao Marwadi University, Rajkot Synthesis and metal uptake properties of an aromatic co-polymer	IL16: Dr. Alpa Dashora The M. S. University of Baroda Critical role of co-catalyst dimensionality in interfacial charge dynamics for Photocatalytic reaction
12.50-1.00	OL7: Dr. Dhwanik Natvarlal Patel Dharmsinh Desai University Hydrodynamic Cavitation for Green Water Disinfection: A Feasibility Study on Energy Efficiency and Microbial Inactivation	OL11: MuthuKrishnan Sundaram IIT Madras Synergistic effect of co-adsorbed Gas pollutants on the TMO surfaces by first-principles study.
1.00-1.10	OL8: Vidhya Sivan Sacred heart College, Kochi HfO2 based metal-ferroelectric-metal (MFM) capacitor structure for back-end-of-line (BEOL)-compatible non-volatile memory applications	OL12: SAURAV PATEL The M. S. University of Baroda Intertwined Hyperferroelectricity, Fermionic and Bosonic Topology and Giant Rashba Effect in LiZnAs Compound
1.10-1.20	Industry Talk	
1.20-2.30	<b>Lunch Break</b>	
	Session Chair: Prof. Musthafa Ottakam Thotiyl IISER Pune	Session Chair: Dr. P. S. Ghosh BARC Mumbai
2-30-3.00	KN6: Prof. Arnab Dutta IIT Bombay A Mn-based molecular catalyst grafted electrolyze assembly unravels selective conversion of aqueous CO2 to CH3OH	KN10: Prof. K. C. Jena IIT Ropar Influence of Ions on Molecules Present at the Air-Aqueous Interface
3.00-3.25	IL13: Dr. Atanu Dey GITAM University Facile water oxidation using Coll molecular complexes	IL17: Dr. Alok Rai Delhi University Suppression of Jahn-Teller distortion of $\delta$ -MnO2 cathode using 3d and 4d block elements doping to improve zinc ion battery performance
3.25-3.50	IL14: Dr. Sudheer Kumar Sahoo IIT Dharwad First-principles studies of interactions of redox-active covalent organic frameworks-based electrodes with alkali metals and electrolytes	IL18: Shidaling Matteppanavar <i>KLE Society's Basavaprabhu Kore Arts Science and Commerce College, Chikkodi</i> Nanostructured Rare Earth and Transition Metal Perovskites for Energy Storage Applications
3.50-4.00	OL9: Riddhiben Mukeshbhai Desai Veer Narmad South Gujrat University DFT Insights into the Photocatalytic Potential of 2D ScBiSe3 Monolayer	OL13: Dr. Thangvel Ramchandran U V Patel College of Engineering Ganpat University Holistic Approach on Modern Developments in Piezoelectric Energy Harvesters: Design Approaches, Materials, and Circuit Integration
4.00-4.10	OL10: Gangotri Kumari IITRAM, Ahmedabad Current Trends in Adsorption Kinetic Models and Their Engineering Applications	OL14: Arindom Das IIT Madras Role of chemical bonding behind the formation of altermagnetism
4.10	<b>Tea Break and Poster Session</b>	

## Day 3 28-11-2025

Session Chair: Dr. Sumit Tripathi IITRAM		Session Chair: Dr. Alok Rai Delhi University		
9.30-10.00	KN11: Dr. Bappi Paul NFSU, Gandhinagar	Carbon dioxide: A greenhouse gas to future fuel	IL22: Prof. Deepak Gadani Gujarat University	Various Methods for the Measurement of Dielectric Properties of Materials
10.00-10.25	IL19: Dr. Rama Gaur PDEU, Gandhinagar	Cost-effective & Instrument-Free Detection of Agrochemicals in Rural Water Systems	IL23: Dr. D. K. Singh Delhi University	Carbon Dot-Based Nanomaterials: A Sustainable Approach to Water Purification
10.25-10.50	IL20: Prof (Dr) Pragneshkumar Nirnjanbhai Dave Sardar Patel University, Anand	ANN-Assisted Investigation of the Thermal Decomposition Behavior of Ammonium Perchlorate/ $\text{LaMn}_{0.4}\text{Fe}_{0.6}\text{O}_3$	IL24: Dr. Nishad G Deshpande IIIT Surat	Functional Materials for remediation of contaminated water
10.50-11.15	IL21: Prof. Manish Sharma RGNAU, Amethi	Innovations in healthcare infrastructure using Artificial Intelligence and Machine Learning	IL25: Dr. Chetna Chauhan Nirma University	Synthesis and Functional Applications of Hexaferrite Materials
11.15-11.30	<b>Tea Break</b>			
Session Chair: Prof. Manish Sharma RGNAU, Amethi		Session Chair: Dr. Rahul Kumar IITRAM		
11.30-11.45	OL15: Prof. Diptiben Ganatra Ganpat University	Intelligent Control Strategies for Torque Ripple Minimization in PMSM Drives Using Fuzzy Logic and Neural Networks	OL22: Dr. Vidyashree Hebbar IIT-Madras (Previous)	Tailoring Li-rich layered oxide as a high-performance cathode material
11.45-12.00	OL16: Dr. Gourab Das PEC Chandigarh	A Novel Dielectric-Based Multi-Port MIMO Antenna for High-Efficiency Microwave Communication	OL23: Sourabh Vairat RCU, Belagavi	Tuning the polar monoclinic phase in ferroelectric CsGeX3 (X= Cl, Br, I)
12.00-12.15	OL17: Monali Darshan Joshi Karnavati University, Uvarsad, Gandhinagar	A Review of Research on Cluster-Based Routing Protocols in Wireless Sensor Networks	OL24: Manan Haren Shah IITRAM, Ahmedabad	Development of Sustainable Al7050/Basalt Fiber Metal Matrix Composites: Microstructural Characterization and Mechanical Performance
12.15-12.30	OL18: Dr. Ayyanna Habal IITRAM, Ahmedabad	Laboratory Investigation of Pyrolysis Oil Modified Asphalt Binders for Environmental Friendly Road Construction	OL25: Amarjeet Pandey Ganpat University	Holistic Approach for Life Cycle Assessment and Recycling Trends of Solar Photovoltaic Modules: Global Impacts, Policy, and Technological Innovations
12.30-12.40	OL19: Ved Kolte IITRAM Ahmedabad	Life Cycle Assessment of Vehicle Tyres Production using Graphene and Carbon Black in the context of Climate Impact	OL26: Sachin Sharma IITRAM, Ahmedabad	Recycling Strategies for Titanium and Nickel-Based Superalloy Machining Chips: A Review of Methods, Morphology, and Circular Economy Perspectives
12.40-12.50	OL20: Shivam Senghani IITRAM, Ahmedabad	Comparative Study on Climate Impact Assessment of Geo-Polymer Concrete and Cement Concrete	OL27: Astha Mehta IITRAM, Ahmedabad	Application of Deep Learning Models for Performance Indicating Parameters Prediction in Additively Manufactured Inconel 625
12.50-1.00	OL21: Husain M Lokhandwala IITRAM, Ahmedabad	A Comprehensive Review of Digital Twin Technology in Additive and Subtractive Manufacturing for Smart and Sustainable Infrastructure	OL28: Nandan Kusumgar IITRAM, Ahmedabad	Emulsion Technologies for Sustainable Agriculture: Stability, Mechanisms, and Applications
1.00-1.30	Valedictory			
1.30-2.30	<b>Lunch Break</b>			

Day 2 27-11-2025 Session 3 Online		
9.30-10.00	IL1: Dr. Shashi B Mishra Binghamton University-SUNY, USA	Insights into the surface chemistry of oxide semiconductors
10.00-10.20	IL2: Dr. Nikhilesh Maity University of South Florida, USA	Defect engineering in BiVO <sub>4</sub> for efficient NH <sub>3</sub> detection
10.20-10.40	IL3: Dr. Mayank Gupta University of Wisconsin Madison, USA	Spatio-Temporal Spin and Charge Transport in Chiral Material from First-Principles Density-Matrix Dynamics
10.40-11.00	IL4: Dr. Abduljelili Popoola Washington State University	Hidden Rashba-Edelstein Effect in Cubic halide perovskites
11.00-11.20	IL5: Dr. Athrey C D Alliance university, Bengaluru	Halide Double Perovskites: Interplay Between Structure, Composition, Lattice Dynamics, and Optoelectronic Properties
11.20-11.30	Break	
11.30-11.40	OL1: Dr. Jitendra R. Jahagirdar Government First Grade College, Hulkoti	Quantum Confinement-Induced femtosecond optical nonlinearity in CdS and CdSe Quantum dots
11.40-11.50	OL2: Akash Deep Das Maulana Azad National Institute of Technology, Bhopal	Functionalized ordered mesoporous silica nanocomposites for the removal of toxic aromatics chlorinated phenols under environmentally friendly protocol
11.50-12.00	OL3: Pondkule Sunil Mahadeo Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering and Technology, Baramati, India.	Remaining Useful Life (RUL) Prediction of Cutting Tools in CNC Milling: A Smarts Manufacturing
12.00-12.10	OL4: Sathya T Kongu Engineering College, Erode, Tamil Nadu	Smart Waste Classification Based on Deep Learning for Sustainable Waste Management
12.10-12.20	OL5: Acharya Anandkumar Girishkumar Ganpat University	Advancements in Acoustic-Based Partial Discharge Detection and Localization in Power Transformers: A Review with Focus on Genetic Algorithm Applications
12.20-12.30	OL6: Dr. Prashant Khanna IITRAM Ahmedabad	Assessing the Impact of Polymer and Additive Properties in the Rotational Molding Process: A Review
12.30-2.30	Break	
2.30-3.00	IL6: Dr. Jacopo Tessarolo Chonnam National University	Chirality transfer in coordination-driven supramolecular cages
3.00-3.20	IL7: Dr. Biswajit Mahanty SR University, Warangal, Telangana	Self-Powered Sensing: Harnessing Piezoelectric and Triboelectric Nanogenerators for Next-Generation Healthcare Devices
3.20-3.40	IL8: Dr. Anamika Ghosh TU Delft Netherlands	Magnetic Field and Pulsed Power strategies for water electrolysis: Potential and challenges
3.40-4.00	IL9: Dr. Gangadhar Banappanavar Linkoping University, Sweden	Fundamental understanding of the charge generation in non-fullerene acceptors using dilute donor strategy
4.00-4.10	OL7: Dr. Jeel Swami University of Duisburg-Essen	Investigation on doped-Lanthanum Chromite as an Interconnect in Solid Oxide Fuel Cells
4.10-4.20	OL8: Ramandeep Kaur Bhatia Maulana Azad National Institute of Technology, Bhopal	Synthesis and Characterization of Mesoporous Silica-LDH nanocomposites for environmentally benign organic transformations.
4.20-4.30	OL9: Dipanjana Sarkar IIT Jodhpur	Structure-Activity Relationship and Mechanistic Pathways in Water Oxidation Catalysis by a Heterogenized Co(III)-Aminophenol Complex
4.30-4.40	OL10: Indrajit D. Pharne IITRAM Ahmedabad	Cell and Module Level Modelling of Cs <sub>4</sub> CuSb <sub>2</sub> Cl <sub>12</sub> -based Lead-Free Solar Photovoltaics using SCAPS-1D and SAM