



**7th INTERNATIONAL CONFERENCE ON RECENT TRENDS IN MATERIALS AND DEVICES
(ICRTMD-2026)**

29th – 30th January 2026

Organized By

Amity Institute of Applied Sciences, Amity University Uttar Pradesh, Noida



TECHNICAL PROGRAM

Thursday, January 29, 2026 (Day 1)				
09:00 - 10:00 AM	Registration			
10:00 - 11:20 AM	Inaugural Session (F2 Auditorium)			
11:20 - 11:40 AM	HIGH TEA			
Plenary Session (F2 Auditorium)				
Session Chair	Prof. S. Annapoorni, Senior Professor, Department of Physics and Astrophysics, University of Delhi, Delhi			
11:40 AM - 12:20 PM	Plenary Lecture – 1: Prof. Yasuhiro Fukuma, Kyushu Institute of Technology, Japan Spintornics and spin-orbitronics			
12:20 PM - 01:00 PM	Plenary Lecture – 2: Prof. Minyoung Yoon, Kyungpook National University South Korea. Toward Utilization of Hydrogen as a Fuel: Generation, Storage, and Utilization			
1: 00 PM - 01:45 PM	LUNCH			
01:30 – 4:45 PM	Parallel Poster Session – I Poster ID-006 to Poster ID-119			
Technical Session- I	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
(Parallel sessions)	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Physical and Chemical Sciences</u>
Session Chair	Dr. Neeraj Sharma Deputy Director General, Amity Foundation for Science, Technology & Innovation Alliances (AFSTIA) AUUP	Dr. A.K Singh, Senior Vice President, Amity Foundation for Science, Technology & Innovation Alliances (AFSTIA), AUUP	Prof. (Dr.) Sunil K. Khatri Additional Pro Vice Chancellor and Dean (Academics) at AUUP	Prof. (Dr) Seema R Pathak HOD, Chemistry, Professor, Faculty of Science Engineering and Technology Amity University Haryana,
01:45 PM - 02:10 PM (Keynote Speakers)	Prof. S. Annapoorni Senior Professor, Department of Physics and Astrophysics, University of Delhi	Dr. Suresh Lal Scientist ‘G’, Associate Director, CFEES, DRDO	Prof. Puneet Rana Director of WKU Centre of Applied Mathematical Modeling and Computation, Wenzhoukuan University, China	
	Magnetization dynamics in Exchange Coupled magnetic multilayers using Magnet Optic Kerr Effect	Latest trends in Fire Safety Materials & Devices	PINNs Variants for Complex Nonlinear Fluid Model	

02:10 PM - 02:35 PM (Invited Speakers)	Prof. Basker Sundararaju Department of Chemistry, IIT Kanpur	Dr. Asokan P Chief Scientist CSIR- AMPRI, Bhopal	Prof. Kailash Kumar Department of Statistics, LSRCW, University of Delhi	Oral Presentations Paper ID 05 Paper ID 07 Paper ID 10 Paper ID 12 Paper ID 13 Paper ID 15 Paper ID 19 Paper ID 37
	<i>Evolution of Co(III)- Catalysis in Asymmetric C- H Bond Functionalizations</i>	<i>Resources efficiency for manufacturing functional materials and composites for achieving sustainable economy from recycling technologies</i>	<i>Analytical Reliability Assessment of Substitute Cold Standby Systems under activation and Inspection Policies</i>	
02:35 PM - 3:00 PM (Invited Speakers)	Dr. N.K. Goel Scientific Officer, Bhabha Atomic Research Centre, (BARC), Mumbai, India	Prof. Manjeet Singh Goyat University of Petroleum and Energy Studies (UPES), Dehradun	Prof. Satya Deo Head, Department of Mathematics, University of Allahabad, Prayagraj (Online)	
	<i>Radiation-Driven Material Enhancement for Sustainable Environmental Protection</i>	<i>Multifunctional Nanomaterials for Energy Storage, Advanced Coatings, and Polymer Composites</i>	<i>Modelling of Membrane Filtration Processes Using Cell Models</i>	
03:00 PM - 03:15 PM	TEA & NETWORKING			
Technical Session- 2	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
(Parallel sessions)	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Mathematical Sciences and Statistics</u>
Session Chair	Dr. Asokan P Chief Scientist CSIR- AMPRI, Bhopal	Dr. Anima Johari, Scientist, ANRF, New Delhi	Prof. Puneet Rana Director of WKU Centre of Applied Mathematical Modeling and Computation, Wenzhoukean University, China	Dr Shivam Kumar Singh (Session Chair) Department of Mathematics, Netaji Subhas University of Technology, New Delhi

03:15 PM – 03:40 PM (Keynote Speakers)	Prof. Anchal Srivastava Department of Physics, Institute of Science, BHU, Varanasi, India	Prof. Sameer Sapra Department of Chemistry, IIT Delhi	Prof. Vijay Gupta Head, Department of Mathematics, Netaji Subhas University of Technology, New Delhi	Oral Presentations Paper ID 27 Paper ID 36 Paper ID 43 Paper ID 44 Paper ID 50 Paper ID 84 Paper ID 103 Paper ID 133
	<i>A walk through the realm of atomically thin materials: From Graphene to beyond</i>	<i>Exploring Methods to Control the Emission Properties of Double Perovskites</i>	<i>Some New Operators and Their Convergence</i>	
03:40 PM - 04:05 PM (Invited Speakers)	Dr. Amira Zaouak Professor, National Centre for Nuclear Science and Technology (CNSTN) Tunisia (Online)	Prof. Pravin P Ingole Department of Chemistry, IIT Delhi	Dr. Devendra Kumar Professor, Dept. of Statistics, University of Delhi	
	<i>From plastic waste to sustainable concrete: mitigating greenhouse gases with irradiation technology</i>	<i>Integrated approach for CO2 capture and electrochemical conversion: a step forward to net zero goal</i>	<i>An extension of Log-Logistic distribution: Properties and different methods of estimation with application</i>	
04:05 PM -04:30 PM (Invited Speaker)	Dr. Mukesh Pandey Scientist, Bhabha Atomic Research Center (BARC), Mumbai, India.	Prof. Tokeer Ahmad Department of Chemistry Jamia Millia Islamia, Jamia Nagar, New Delhi	Dr. Shivani Bali Professor, Business Analytics, Jaipuria Institute of Management, Noida	
	<i>Computational Exploration of Noncovalent Interactions: From Gas Detection with Porphyrins to Cooperative Bonding in LiH–NH₃ Clusters</i>	<i>Advanced Materials based Heterogeneous Catalysis for Sustainable H2 Energy Tokeer Ahmad</i>	<i>Decision-Making and Modelling Frameworks to Achieve Supply Chain Excellence</i>	
04:30 PM -04:55PM (Invited Speaker)	Dr. Lakshay Sardana Scientific Officer-E, Global Centre for Nuclear Energy Partnership, Bahadurgarh, Haryana	Dr. Aurangzeb Khurram Hafiz Professor, Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi	Dr. Kottakkaran Sooppy Nisar Professor, Prince Sattam bin Abdulaziz University, KSA (Online)	
	<i>Supervised ML using XGBoost-Driven Kinetic Modeling for Efficient Biomass Pyrolysis Optimization</i>	<i>Ultrafast Carrier Dynamics and Surface Passivation in Mercaptopropionic Acid- Functionalized VS₂, Quantum Dots</i>	<i>Bridging Theory and Application: Recent Trends in Mathematical Modeling and Intelligent Computing</i>	

Time	Friday, January 30, 2026 (Day 2)			
Technical Session- 3 (Parallel sessions)	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Physical and Chemical Sciences</u>
Session Chair	Prof. Rajeev Sakhuja Department of Chemistry, DU	Prof. Mohd. Shahid Khan Department of Physics, Jamia Millia Islamia (Central University), Jamia Nagar, New Delhi- 110025	Prof. Mushir Ahmad, Prof. and head Mathematics, JMI, New Delhi	Prof. Pankaj Khanna, ANDC College, DU
09:30-09:55 AM (Keynote Speaker)	Dr. Venkata Krishnan Professor, School of Chemical Sciences Indian Institute of Technology Mandi	Dr. Sandeep Kumar Professor, Raman Research Institute, Bangalore, India	Dr. Rashmi Bhardwaj Professor and Head, University School of Basic & Applied Sciences, GGSIPU, Delhi	Oral Presentations Paper ID 41 Paper ID 52 Paper ID 53 Paper ID 55 Paper ID 57 Paper ID 60 Paper ID 61
	<i>Green Chemistry and Heterogeneous Catalysis for Energy and Environmental Applications</i>	<i>Novel Hetero-annulated Triphenylene Discotic Liquid Crystals for Opto-electronic Applications</i>	<i>Fractal Neuronal Wavelet Conjunction Optimization of Complex systems</i>	
09:55 - 10:20 AM (Invited Speaker)	Prof. Del Atkinson, Department of Physics, Durham University, United Kingdom (Online)	Dr. Anupama Mittal, Professor, NIPER, Mohali, Punjab	Dr. Anshu Gupta School of Management, Director, Alumni Cell, Dr. B R Ambedkar University, Delhi	
	<i>Rare-Earth/Transition- Metal Ferrimagnetic Alloys for Spintronics: Structure and Magnetism</i>	<i>Engineering Long-Acting IL- 1Ra Nanocomplexes for β-Cell Preservation and Improved Glycaemic Outcomes in Diabetes</i>	<i>Circular Transition in FMCG Packaging: A Study of Interrelationships and Prioritization of Barriers</i>	

10:20 - 10:45 AM (Invited Speaker)	Dr. Paramjit Singh Senior Scientist, BARC	Prof. Zishan Husain Khan Department of Applied Sciences & Humanities, Jamia Millia Islamia, New Delhi.	Dr. Gajendra Pratap Singh School of Computational and Integrative Sciences, Department of Mathematics, JNU, New Delhi	
	<i>Recent advancements in spectroscopic research in the Vacuum Ultraviolet (VUV) and Soft X-ray regions, particularly in the context of synchrotron radiation beamlines</i>	<i>Emerging Perovskite Materials: Synthesis, Properties, and Applications</i>	<i>Integrating Graphs and Petri Nets in Device Modeling</i>	
10:45 AM -11:15 AM	TEA BREAK			
Technical Session- 4 (Parallel sessions)	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Mathematical Sciences and Statistics</u>
Session Chair	Prof. Sunita Bhagat Professor of Chemistry, ARSD College, University of Delhi	Dr. Kiran M Subedar, Principal Scientists NPL	Prof. P.K Kapoor, Director, Amity Center for Interdisciplinary Research, Amity University	Dr. Vandna Rani Verma. Associate Professor. College and Department. CSE Dept., Galgotias college of Engineering & Technology
11:15 AM - 11:40 AM (Keynote Speaker)	Dr. Om Prakash Thakur Scientist G, Technology Director, SSPL, DRDO, Delhi	Prof. Kedar Singh School of Physical Sciences, JNU, New Delhi	Prof. Deepa Sinha Chairperson Department of Mathematics, Dean (FMCS) South Asian University, New Delhi	
	<i>Silicon Carbide: From Bulk Crystal Growth to Wafer Fabrication and Applications</i>	<i>Recent Trend in Semiconducting Quantum Dots: Synthesis for Device Applications</i>	<i>Maximal Index of Some Cyclic Signed Graphs</i>	

11:40 AM - 12:05 PM (Invited Speaker)	Prof. Sukhendu Mandal Indian Institute of Science Education and Research Thiruvananthapuram	Prof. Praveen Malik BR Ambedkar National Institute of Technology, Jalandhar	Dr. Satyvir Singh Applied and Computational Mathematics RWTH Aachen University, Germany	Oral Presentations Paper ID 135 Paper ID 153 Paper ID 177 Paper ID 184 Paper ID 185 Paper ID 204 Paper ID 222 Paper ID 223
	<i>Atomically Precise Nanocluster Assemblies: Properties beyond their Cluster Unit</i>	<i>Development and characterization of polymer- dispersed liquid crystals for displays to gas-sensing applications</i>	<i>High-order Discontinuous Galerkin method for Complex Fluid Flows</i>	
12:05 PM – 12:30 PM (Invited Speaker)	Prof. S. Sagadevan Nanotechnology and Catalysis Research Centre, University of Malaya, Malaysia (Online)	Prof. P. K. Singh Sharda University, Greater Noida, UP	Dr. Adarsh Anand Department of Operational Research, University of Delhi.	
	<i>Carbon-Based Ternary Heterojunction Photocatalysts for Efficient Methylene Blue Degradation in Wastewater Treatment</i>	<i>Ionic Liquid Doped Solid Polymer Electrolytes (ILDPE) for Electrochemical Application</i>	<i>From Vulnerability Discovery to Software Patch Deployment: A Mathematical Modeling Perspective</i>	
12:30 PM – 12:55 PM (Invited Speaker)	Dr. Pankaj Thakur Special Centre for Nanoscience, JNU, New Delhi	Dr. Udit Choudhury Assistant Professor, IIT Roorkee	Dr. Vikas Garg Associate Professor Chandigarh University	
	<i>Simple Methods for Diverse Morphologies of Nanomaterials for Potential Applications</i>	<i>Scaling Up Micro-robotics: Large Swarms for Therapeutic and Materials applications</i>	<i>Performance Evaluation of a Parallel System with Asymmetric Units and Dynamic Repair Prioritization</i>	
12:55 PM - 01:40 PM	LUNCH			

01:30 - 03:00 PM	Parallel Poster Session – II Poster ID-120 to Poster ID 218			
Technical Session- 5 (Parallel sessions)	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Physical and Chemical Sciences</u>
Session Chair	Dr. Vandana Singh Scientist F Department: Climate, Energy and Sustainable Technology (CEST) Division, DST	Prof. Om Prakash Sinha Director. Amity Institute of Nano Technology	Dr. Mandeep Mittal HOD Mathematics, School of Computer Science Engineering and Technology, Bennett University	Dr. Jaya Maitra, University School of Vocational Studies and Applied Sciences, Department of Applied Chemistry, GBU
01:40 PM - 02:05 PM (Keynote Speakers)	Prof. Bhanu Pratap Singh Chief Scientist & Professor (AcSIR), CSIR-National Physical Laboratory, New Delhi	Prof. Prasana Kumar Sahoo Quantum Materials and Device Research Lab, Materials Science Centre, IIT Kharagpur Kharagpur, West Bengal	Dr. Bhaskar Roy Senior Vice President and Global Delivery Leader, Genpact	Oral Presentations Paper ID 64 Paper ID 65 Paper ID 67 Paper ID 68 Paper ID 79 Paper ID 95 Paper ID 143
	<i>From Nanotubes to Macrostructures: Flexible Thermoelectrics for Low- and Mid-Temperature Heat</i>	<i>Engineering Excitons in 2D Lateral Heterostructures for Reconfigurable Optoelectronics</i>	<i>Data Science: Applications and relevance in the present industry</i>	
02:05 PM - 02:30 PM (Invited Speakers)	Prof. Lebedev Konstantinov Petersburg Nuclear Physics Institute, Russia. (Online)	Prof. Lalita Ledwani Dean, Research, Manipal University	Dr Izhar Uddin Department of Mathematics Jamia Millia Islamia, Delhi	
	<i>Nanostructures and metamaterials</i>	<i>Ecofriendly Plasma–Natural Product Synergy for Functional Textiles Polymers</i>	<i>On Some Fixed-Point Theorems and Its Applications</i>	

02:30 PM - 02:55 PM (Invited Speakers)	Dr. Pawan Kumar Kulriya School of Physical Sciences, JNU, New Delhi	Prof. Pooja Devi Senior Principal Scientist, CSIR-CSIO, Chandigarh, India (Online)	Dr. Ramesh Kumar Vats Professor NIT Hamirpur	
	<i>Engineering MXene/Quasi-2D Heterostructures for Advanced Optoelectronic Devices</i>	<i>2D Materials Engineering for Efficient Catalyst Design for Water/Wastewater to Hydrogen Generation</i>	<i>Controllability of Fractional Differential Systems via Fixed Point Approaches</i>	
Technical Session- 6 (Parallel sessions)	F2 AUDITORIUM	F2 SEMINAR HALL	F3 SEMINAR HALL	F2-MDP
	<u>Physical and Chemical Sciences</u>	<u>Physical and Chemical Sciences</u>	<u>Mathematical Sciences and Statistics</u>	<u>Oral Presentations Physical and Chemical Sciences</u>
Session Chair	Dr. Fouran Singh, Scientist G, IUAC	Dr. Becky Thomas Director, Dr Bansi Dhar Institute, Gurugram	Dr. Deepak Kumar, Professor, AIIT, Amity University	Dr. Saumil Sidhant, IIT Delhi
03:00 PM – 03:20 PM (Invited Speakers)	Dr. Sachin Pathak Associate Professor, University of Petroleum and Energy Studies, Dehradun	Dr. Manas Panda Assistant Professor, Department of Chemistry, Jadavpur University, Kolkata	Prof. M S Kadyan Chairman, Department of Statistics, Kurukshetra University, Haryana	Oral Presentations Paper ID 170 Paper ID 186 Paper ID 188 Paper ID 199
	<i>Oxide, An Essential Matter for my Research</i>	<i>Light-Fueled Macroscopic Actuation by Soft Molecular Material</i>	<i>Hesitant Triangular Pendant Fuzzy Set Based Algorithm for Reliability Evaluation of Repairable Systems</i>	
03:20 PM – 03:40 PM (Invited Speakers)	Dr. Rohit Medwal Assistant Professor, Department of Physics, IIT Kanpur	Dr. Debabrata Mishra Associate Professor, Department of Physics and Astrophysics, DU.	Prof. Rajeev Kumar Department of Mathematics, M D University, Rohtak	
	<i>Spin current driven nonlinear magnetization dynamics</i>	<i>Chiral-Induced Spin Selectivity Effect: Its Applications in sensing</i>	<i>Dynamic cumulative residual entropy measures and their bayesian estimation</i>	

03:40 PM – 4:00 PM (Invited Speakers)	Dr. Gagan Sharma, Assistant Professor, University of Allahabad, Prayagraj	Dr. Kamala Kanta Nanda Assistant Professor, Pontificia Universidad Católica del Perú (Online)	Dr Deena Sunil Assistant Professor Indira Gandhi National Rehabilitation University, Amarkantak	Paper ID 202
	<i>Ferromagnetic films incorporated / interfaced with heavy metals: Modulation of structural and magnetic properties.</i>	<i>Decarbonizing Commodity Chemicals through Advanced Electrocatalyst Design</i>	<i>Data Science–Driven Efficiency Analysis: Integrating the CCR Model of Data Envelopment Analysis with Machine Learning</i>	
04:10 - 04:40 PM	Valedictory Session (F2 Seminar Hall)			
4:40 - 5:00 PM	HIGH TEA			

Special Session ICRTMD2026 [F3-MDP]

SNo.	Date	Speakers	Affiliation	Session Title	Internal Session Coordinators
1	29.01.2026 (1:30pm- 4:30 pm)	Dr. Jai Prakash Dr Supreet Kaur	Dept. of Physics, Aligarh Muslim University, Aligarh Amity University Haryana	Liquid Crystals for Sensing, Photonics, and Display Technologies (LC-SPDT)	Dr. Bibhuti Parida Onkar S. Nayal
2	30.01.2026 (10:00 am-1:00 pm)	Prof. Mandeep Mittal Dr. Shweta Upadhyaya	School of Computer Science Engineering and Technology, Bennett University	Intelligent Mathematical Modelling and Optimization for Engineering and Data- Driven Systems	Dr. Divya Agarwal Dr. Sudhir K Chauhan
3	30.01.2026 (1:10 pm- 4:00 pm)	Dr. Charu Gupta Dr. Palak Girdhar	Bhagwan Parshuram Institute of Technology, Rohini, Delhi	Reinventing Intelligence: The Emerging Paradigms Transforming AI and Its Applications	Dr. Rashmi Singh Dr. Vanita Garg Dr Priyanka Gupta Dr Kiran Bajaj