

2nd INTERNATIONAL CONFERENCE ON ADVANCED FUNCTIONAL MATERIALS AND DEVICES (AFMD 2026)

March 19 - 24, 2026

PROGRAM BOOKLET

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Kattankulathur - 603 203, Chennai, Tamil Nadu, India

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Prof. M. Navaneethan



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THEMES

AC - Advanced Characterizations

QD - Quantum Materials & Devices

EN - Energy and Sustainable Materials

EH - Environmental & Health Monitoring

EL - Electronics, Optics & Photonics

CM - Computational Materials Science & Materials Informatics

BM - Biomaterials & Soft Materials

AFM - Advanced Functional Materials

TF - Thin Films & Surfaces

IA - Industry–Academia Partnership



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Nanotechnology Research Centre (NRC), SRMIST*

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PROGRAM SCHEDULE

Day – 1

(March 19, 2026 - Thursday)

Dr. T. P. Ganesan Auditorium (TPGA)	12.00 - 14.00	Registration	
	14.00 - 14.40	Distinguished Plenary Lecture	
		Prof. Ganapathy Vaitheeswaran University of Hyderabad <i>Title: Evidence for multifold phonon degeneracies in cubic Nb₃Bi</i>	
	14.40 - 15.00	Tea Break	
<i>Parallel Session - I</i>			
TP - LH 711	15.00 - 15.35	KN 01	Prof. A. M. Kannan Arizona State University, USA <i>Title: Vanadium redox flow battery for large scale Energy storage for load management</i>
	15.35 - 16.05	IT 01	Dr. Aravind Kumar Chandiran Indian Institute of Technology Madras, Chennai <i>Title: Polarized halide perovskite materials for photoelectrochemical water splitting</i>
	16.05 - 16.35	IT 07	Dr. Vikum Premalal University of Sri Jayewardenepura, Sri Lanka <i>Title: Facile Synthesis of High-Performance CuS-Coated CuI Cathode for Seawater-Activated Magnesium Batteries</i>

TP - LH 604	15.00 - 15.35	KN 02	Prof. Vijayamohanan Pillai Indian Institute of Science Education and Research, Tirupati <i>Title: Van der Waals Gap Engineering of Two Dimensional (2D) Materials: Applications for Energy Storage</i>
	15.35 - 16.05	IT 02	Prof. N. Kamaraju Indian Institute of Science Education and Research, Kolkata <i>Title: Probing Magnetic Order and Spin-Charge-Lattice Coupling in van der Waals Magnets Using Femtosecond Time-Resolved Reflectivity</i>
	16.05 - 16.35	IT 08	Dr. Pavels Onufrijevs Riga Technical University <i>Title: Laser-Structured Stainless Steel for Low-Temperature Friction Reduction</i>
TP - LH 605	15.00 - 15.35	KN 03	Prof. Srinivasan Natarajan Indian Institute of Science, Bangalore <i>Title: Minerals as Future Solid-State Materials</i>
	15.35 - 16.05	IT 03	Dr. Naonori Sakamoto Shizuoka University, Japan <i>Title: Excess water vapor absorption and structure deformation of cage-structured crystal $12Ca_{0.7}Al_2O_3$</i>
	16.05 - 16.35	IT 09	Prof. Shikha Varma Institute of Physics (IOP), Bhubaneswar <i>Title: Bioconjugation on Nanopatterned Surfaces for Biosensing: Experimental Insights and First-Principles DFT</i>
TP - LH 613	15.00 - 15.35	KN 04	Prof. Ivo B. Rietveld University of Rouen Normandy, France <i>Title: Vibrational Circular Dichroism and Second Harmonic Generation: Tools for Detecting Chirality and Symmetry Breaking</i>
	15.35 - 16.05	IT 04	Dr. Mihai Irimia-Vladu Johannes Kepler Univ. Linz, Austria <i>Title: Stability of Hydrogen-bonded Semiconductors for Organic Electronic Devices</i>
	16.05 - 16.35	IT 10	Dr. Mangal Roy Indian Institute of Technology, Kharagpur <i>Title: Degradation Customization of Degradable Metallic Biomaterials</i>

TP - LH 712	15.00 - 15.35	KN 05	Prof. Birabar Ranjit Kumar Nanda Indian Institute of Technology Madras, Chennai <i>Title: Generation of tunable Quantum Transport in SOC active 2D materials</i>
	15.35 - 16.05	IT 05	Prof. Anil Kumar Singh National Institute of Technology, Rourkela <i>Title: Tuning Multiferroic Properties in Y-Type Hexaferrite through Doping</i>
	16.05 - 16.35	IT 11	Prof. De-Hao Tsai National Tsing Hua University, Taiwan <i>Title: Gas-phase Electrophoresis-based Characterization for Real-time Quantifying Synthesis of Advanced Nanomaterials</i>
TP - LH 614	15.00 - 15.35	KN 06	Prof.V. Kanchana Indian Institute of Technology, Hyderabad <i>Title: Computational Pathways in Topological Quantum Materials and Their Device Applications: Insights from DFT</i>
	15.35 - 16.05	IT 06	Prof. Yu-Jane Sheng National Taiwan University, Taiwan <i>Title: High-strength Poly(vinyl alcohol) Physical Eutectogels: Effects of polymer molecular weight, DES composition, and heat treatment</i>
	16.05 - 16.35	IT 12	Dr. Kei Shigematsu Institute of Science Tokyo, Japan <i>Title: Domain Structure and Magnetic Reversal by Electric Field in Cobalt-substituted Bismuth Ferrite Thin Films and Nanodots</i>
17.00 – 19.00		Cultural Program @ TPGA	
19.00 - 21.00		Conference Dinner	



Day - 2

(March 20, 2026 - Friday)

TPGA	09.00 - 09.40	Plenary Lecture	
		Prof. Satishchandra B Ogale Research Institute for Sustainable Energy, Kolkata <i>Title: Materials and Processing Innovations for Performance Enhancements in Emergent Battery Systems</i>	
<i>Parallel Session - II</i>			
TP - LH 711	09.55 - 10.30	KN 07	Prof. Dominic Bresser Helmholtz Institute Ulm (HIU) & Karlsruhe Institute of Technology (KIT), Germany <i>Title: Towards an Enhanced Understanding of the Reactivity and Morphological Evolution of Lithium-Metal Electrodes</i>
	10.30 - 11.05	KN 13	Prof. Aninda Jiban Bhattacharyya ICER and SSCU, Indian Institute of Science, Bengaluru <i>Title: Aqueous Batteries: Prospects and Challenges</i>
TP - LH 604	09.55 - 10.30	KN 08	Prof. Tanmoy Maiti Indian Institute of Technology, Kanpur <i>Title: High Performance Thermoelectric Nanocomposites with 2D Graphene and MXene</i>
	10.30 - 11.05	KN 14	Prof. Mohamed Jouini Univerite Paris Cite, France <i>Title: Electroactive and electrochromic smart organic coatings functionalized with polymer brushes</i>
TP - LH 605	09.55 - 10.30	KN 09	Dr. Mukesh Kumar Sinha ASL- DRDO <i>Title: Innovative Functional Fibrous Materials for Technical Textiles</i>
	10.30 - 11.05	KN 15	Prof. Jun Kondoh Shizuoka University, Japan <i>Title: Study of Wicking Materials for Surface Acoustic Wave Atomizer Toward Chemical Spraying Applications</i>

TP - LH 613	09.55 - 10.30	KN 10	Prof. Pau-Loke Show UCSI University, Malaysia <i>Title: Emerging Materials and Intelligent Processes in Microalgae Biorefinery Technology</i>
	10.30 - 11.05	KN 16	Prof. Ying-Chih Liao National Taiwan University, Taiwan <i>Title: Green Fabrication of Conductive Patterns on Eco-Friendly Substrates</i>
TP - LH 712	09.55 - 10.30	KN 11	Dr. Jayakumar Balakrishnan Indian Institute of Technology, Palakkad <i>Title: Thermal transport in 2D materials</i>
	10.30 - 11.05	KN 17	Prof. Naratip Vittayakorn Advanced Materials Research Unit (AMR), KMITL, Thailand <i>Title: Advanced Hybridized Nanogenerators for Multifunctional Self-Powered Systems: Synergistic Materials Design, Principles, and Sustainable Applications</i>
TP - LH 614	09.55 - 10.30	KN 12	Prof. Amin Bahrami Leibniz Institut für Festkörper und Werkstofforschung, Germany
	10.30 - 11.05	KN 18	Prof. Tomoya Ohno Kitami Institute of Technology, Japan <i>Title: How to Improve the coating homogeneity on primary particles using chemical reaction and physical deposition</i>
TP - LH 615	09.55 –11.05	Oral Presentation (OP 001 – OP 007)	
TP - CLS 19	09.55 –11.05	Young Researcher's Talk	
11.05 - 11.20		Tea break	

Parallel Session – III

TP - LH 711	11.20 - 11.50	IT 13	<p>Prof. Ho-Hsiu Chou National Tsing Hua University, Taiwan <i>Title: Molecularly Engineered Semiconducting Polymers for Solar-Driven Hydrogen Evolution and Circular Waste Upcycling via Photoreforming</i></p>
	11.50 –12.20	IT 19	<p>Dr. Partha Saha National Institute of Technology, Rourkela <i>Title: Cobalt-Free, High-Energy Ni-Rich Cathodes Enabled by Structural and Interface Engineering</i></p>
	12.20 –12.50	IT 25	<p>Dr. Shigeto Hirai Kitami Institute of Technology, Japan <i>Title: Surface structure engineering of highly active and durable oxygen evolution catalysts</i></p>
TP - LH 604	11.20 - 11.50	IT 14	<p>Dr. Vibha Saxena Bhabha Atomic Research Centre(BARC), Mumbai <i>Title: Beyond the Monolayer: Translating Langmuir-Blodgett WO₃ Assembly into Solar Cell Metrics</i></p>
	11.50 - 12.20	IT 20	<p>Prof. Hiroshi Masumoto Tohoku University, Japan <i>Title: Magneto-Functional Effects in Magnetic Metal–Ceramic Nano-Granular Thin Films</i></p>
	12.20 –12.50	IT 26	<p>Dr. Koteswara Rao Peta University of Delhi, New Delhi <i>Title: Metal Oxide Semiconductor Nanostructures for Energy Conversion and Energy storage Applications</i></p>
TP - LH 605	11.20 - 11.50	IT 15	<p>Prof. Slawomir Boncel Silesian University of Technology, Poland <i>Title: From functionalization to functionality: physicochemical design principles of sp²-carbon nanoallotropes across dimensions</i></p>
	11.50 –12.20	IT 21	<p>Prof. Naoki Wakiya Shizuoka University, Japan <i>Title: Phase separation and metal-insulator transition in TiO₂-VO₂ thin films using dynamic aurora PLD</i></p>
	12.20 –12.50	IT 27	<p>Prof. Yuichi Sakumura Nara Institute of Science and Technology (NAIST), Japan <i>Title: Toward Explainable Breath Analysis Using Semiconductor Sensor Arrays</i></p>

TP - LH 613	11.20 - 11.50	IT 16	Prof. Senthil Murugan Ganapathy University of Southampton, United Kingdom <i>Title: Integrated Photonic Devices and AI-Driven On-Chip Spectroscopy for Rapid Biomedical Diagnostics</i>
	11.50 –12.20	IT 22	Dr. Ekaterina Brodovskaya National Research Ogarev Mordovia State University, Russia <i>Title: In vitro formation of 3D cell structures using magnetic nanomaterials</i>
	12.20 –12.50	IT 28	Dr. Chia Wen Yi Nanyang Environment & Water Research Institute (NEWRI), NTU, Singapore <i>Title: Resource Recovery from Seawater Reverse Osmosis (SWRO) Desalination Brine</i>
TP - LH 712	11.20 - 11.50	IT 17	Prof. C. Venkateswaran University of Madras, Chennai <i>Title: Magnetic Properties of GdMnO₃ Films on Epitaxial and Non-Epitaxial Substrates</i>
	11.50 –12.20	IT 23	Dr. Rabindra Nath Mahato Jawaharlal Nehru University, New Delhi <i>Title: X-ray Photoelectron Spectroscopy and Critical Exponent Study of Nanocrystalline Pr_{0.7-x}Y_xBa_{0.3}MnO₃ (x = 0, 0.05 and 0.1)</i>
	12.20 –12.50	IT 29	Prof. M. M. Shaijumon Indian Institute of Science Education and Research, Trivandrum <i>Title: Engineering Metal Anodes for High-rate Solid-state Batteries</i>
TP - LH 614	11.20 - 11.50	IT 18	Prof. Yuki Maruno Kansai University, Japan <i>Title: Deep Learning-Based Screening for Sarcopenic Dysphagia to Support Clinical Decision Making</i>
	11.50 - 12.20	IT 24	Prof. Paul Joseph National Institute of Technology, Warangal <i>Title: Thin Film Electrodes for Photo-degradation of pollutants and Power Generation in Microbial Fuel Cells – Doping and Coating Strategies</i>
	12.20 –12.50	IT 30	Prof. Daniel Moraru Shizuoka University, Japan <i>Title: Probing Dopant-Induced Quantum Structures by Tunneling Spectroscopy in Silicon Nanodevices</i>

TP - LH 615	11.20 –12.50	Oral Presentation (OP 008 – OP 016)	
TP - CLS 19	11.20 –12.50	Young Researcher's Talk	
12.50 – 14.00		Lunch Break	
INAUGURATION CEREMONY (VENUE: TPGA)			
14.00 – 14.45		Inauguration and Award Ceremony	
TPGA	14.45– 15.25	Distinguished Plenary Lecture	
		Prof. Kanishka Biswas Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru <i>Title: Phonon-Glass Electron-Crystal like High Performance Thermoelectrics</i>	
15.25 – 15.45		Tea Break	
Parallel Session - IV			
TP - LH 711	15.45 –16.20	KN 19	Prof. Ravichandar Babarao RMIT, Australia <i>Title: Accelerating Materials Discovery for Clean Energy and Environmental Application: Integrating Simulations and Experiments</i>
	16.20 - 16.50	IT 31	Dr. M. Saravanan CSIR-National Physical Laboratory, New Delhi <i>Title: Cost-effective reference materials development using spark plasma sintering for thermoelectric applications</i>
TP - LH 604	15.45 –16.20	KN 20	Prof. Rougier Aline Institut de Chimie de la Matière Condensée de Bordeaux, France <i>Title: Towards Thin Films Advanced Deposition for Improved Electrochromic Properties</i>
	16.20 - 16.50	IT 32	Dr. S Ganesamoorthy Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam <i>Title: Detector Grade CdZnTe Single Crystals for Room Temperature Gamma-ray Detector Applications</i>
TP - LH 605	15.45 –16.20	KN 21	Prof. Mei- Jywan Syu National Cheng Kung University, Taiwan <i>Title: Proposing an Imprinted Poly(2-vinyl-4-nitroaniline) Modified Electrode for Differential Pulse Voltammetry Detection of Urinary Uric Acid</i>
	16.20 - 16.50	IT 33	Prof. Masanori Koshimizu Shizuoka University, Japan <i>Title: Development of Plastic Scintillators Having Fast Response Using Perovskite Quantum Dots</i>

TP - LH 613	15.45 –16.20	KN 22	Prof. Awadhesh Mani Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam <i>Title: Comparative studies on some novel quantum systems at extreme pressures and magnetic fields</i>
	16.20 - 16.50	IT 34	Dr. Jevgenijs Kaupužs Riga Technical University, Latvia <i>Title: Finite-Difference Steepest Descent (FDSD) Method for Modeling Light Propagation in Structures with Metal Nanoparticles</i>
TP - LH 712	15.45 –16.20	KN 23	Prof. S. Balakumar University of Madras, Chennai <i>Title: A Dual Bioceramic Strategy for Integrated Bone and Wound Regeneration Using Hydroxyapatite and Bioactive Glass Systems</i>
	16.20 - 16.50	IT 35	Prof. Tetsu Yonezawa Hokkaido University, Japan <i>Title: Low-Temperature Sintering Copper Particle Technology - Figure Joining and Conductive Materials for Semiconductor Industry</i>
TP - LH 614	15.45 –16.20	KN 24	Prof. Kazushi Ikeda Nara Institute of Science and Technology (NAIST), Japan <i>Title: Topological Data Analysis for Materials Informatics</i>
	16.20 - 16.50	IT 36	Dr. A. Mercy Latha CSIR-Central Electronics Engineering Research Institute, Chennai <i>Title: Terahertz Spectroscopic and Imaging of Composite Materials</i>
TP - LH 615	15.45 –16.50	Oral Presentation (OP 017 – OP 022)	
TP - CLS 19	15.45 –16.50	Young Researcher's Talk	
17.00 - 19.00		Cultural Program	
19.00 - 21.00		Conference Dinner	



Day – 3

(March 21, 2026 - Saturday)

TPGA Mini Hall 01	09.00 – 09.40	Plenary Lecture	
		Prof. R. Murugavel Indian Institute of Technology Bombay, Mumbai <i>Title: Role of Metal Phosphates in Energy Transition</i>	
TPGA Mini Hall 02		Prof. Tapas Kumar Maji Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru <i>Title: Developing Photocatalyst by Post-Synthetic Modification Metal-Organic Frameworks</i>	
<i>Parallel Session – V</i>			
TP - LH 711	09.50 – 10.25	KN 25	Dr. Sudakar Chandran Indian Institute of Technology Madras, Chennai <i>Title: Engineering Halide Perovskites for Photonic and Optoelectronic Applications</i>
	10.25 – 10.55	IT 37	Prof. Maheswaran Shanmugam Indian Institute of Technology Bombay, Mumbai <i>Title: Molecular based Magnetolectric Materials for Sustainable Energy Harvesting</i>
TP - LH 604	09.50 – 10.25	KN 26	Prof. Judy Wu University of Kansas, USA <i>Title: Designing advanced quantum dots/graphene broadband photodetectors</i>
	10.25 – 10.55	IT 38	Prof. Vincent K.S. Hsiao National Chi Nan University, Taiwan <i>Title: Fluorescence Anisotropy and Chiroptical Luminescence: From Anisotropic Photoluminescence Probing to Cholesteric Liquid Crystal Control</i>
TP - LH 605	09.50 – 10.25	KN 27	Prof. Govind Gupta CSIR-National Physical Laboratory, New Delhi <i>Title: Two-Dimensional Metal Chalcogenides: Exploring Exciting Opportunities for Neuromorphic Computing</i>
	10.25 – 10.55	IT 39	Dr. Srabanti Ghosh CSIR - Central Glass and Ceramic Research Institute, Kolkata <i>Title: Structure–Function Modulation in Semiconductor Heterostructures for Efficient Solar Fuel Production</i>

TP - LH 613	09.50 –10.25	KN 28	Prof. Chien-Hsiang Chang National Cheng Kung University, Taiwan <i>Title: Modulating Physical Properties and Enhancing stability of Catanionic Vesicles Using Fatty Acid Additives</i>
	10.25 – 10.55	IT 40	Prof. Ratno Nuryadi BRIN, Indonesia <i>Title: MEMS Microcantilever Sensors Functionalized with ZnO Nanorods for High-Sensitivity Gas Detection</i>
TP - LH 712	09.50 –10.25	KN 29	Prof. Anjan Barman S. N. Bose National Centre for Basic Sciences, Kolkata <i>Title: Hybrid interface for Magnonics: A quantum technology platform</i>
	10.25 – 10.55	IT 41	Dr. Binoy Krishna Hazra Indian Institute of Technology, Guwahati <i>Title: Non-collinear antiferromagnets for spintronic applications</i>
TP - LH 614	09.50 –10.25	KN 30	Dr. Suresh Sundaram Georgia Tech, France <i>Title: Layered boron nitride and its III-nitride heterostructures</i>
	10.25 – 10.55	IT 42	Prof. Keun Heo Jeonbuk National University, South Korea <i>Title: Van der Waals and Ferroelectric polymer based Artificial Neural Devices for Neuromorphic Applications</i>
TP - LH 615	09.50 –10.25	KN 31	Dr. Vanchiappan Aravindan Indian Institute of Science Education and Research, Tirupati <i>Title: Na-ion Batteries via Solvent-co-Intercalation</i>
	10.25 – 10.55	IT 43	Dr. Amarnath R Allu CSIR - Central Glass and Ceramic Research Institute, Kolkata <i>Title: Reactive Glass Metal Interaction under Ambient Conditions Enables Surface Modification of Gold Nano-island</i>

TP - LH 606	09.50 – 10.55	Oral Presentation (OP 023 - OP 028)	
TP - CLS 19	09.50 – 10.55	Oral Presentation (OP 029 - OP 034)	
10.55 – 11.15		Tea Break	
<i>Parallel Session – VI</i>			
TP - LH 711	11.15 - 11.45	IT 44	Prof. Chandra S Sharma Indian Institute of Technology, Hyderabad <i>Title: From Earth to Mars: Pioneering Metal-Carbon Dioxide (Metal-CO₂) Battery Solutions for a Greener Tomorrow</i>
	11.45 - 12.15	IT 51	Prof. Atsushi Nakamura Shizuoka University, Japan <i>Title: Development of an electron beam-pumped, localized surface plasmon-enhanced nanoscale light source for electron-beam-assisted optical microscopy</i>
	12.15 - 12.45	IT 58	Dr. Chinmoy Ranjan Indian Institute of Science, Bengaluru <i>Title: Solid oxide electrolysis of CO₂ : Power to X</i>
TP - LH 604	11.15 – 11.45	IT 45	Dr. Bruce (Jun-Yu) Ou University of Southampton, United Kingdom <i>Title: Nanomechanical metamaterials and multifunctional metalenses</i>
	11.45 - 12.15	IT 52	Prof. Svitlana Bugaychuk University of Lille, France <i>Title: Surface-induced photorefractive effect (SIPRE) in liquid crystal nanocomposites for applications in fast switchable devices</i>
	12.15 - 12.45	IT 59	Dr. Tomoki Maeda Ibaraki University, Japan <i>Title: Quantum Beam Approaches to Advanced Functional Polymer Composites</i>
TP - LH 605	11.15 – 11.45	IT 46	Dr. Shintaro Yasui Institute of Science Tokyo, Japan <i>Title: Water-based Solid Battery using 3D-Slime Interface quasi-Solid Electrolyte (3D-SLISE)</i>
	11.45 - 12.15	IT 53	Prof. Tadachika Nakayama Nagaoka University of Technology, Japan <i>Title: Application of Pulsed Electric Fields in Inorganic Materials Science</i>
	12.15 - 12.45	IT 60	Dr. Arup Dasgupta Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam <i>Title: Application of Probe Aberration Corrected STEM techniques in understanding some fascinating features of melt-cast (Fe,Cr)₂B</i>

TP - LH 613	11.15 – 11.45	IT 47	Prof. Bing -Hung Chen National Cheng Kung University, Taiwan <i>Title: Utilizing CO₂ for Synthesis of Organic Carbonates via Direct Carbonylation of Glycerol</i>
	11.45 - 12.15	IT 54	Dr. Jitendra Bahadur Bhabha Atomic Research Centre(BARC), Mumbai <i>Title: Complex interactions driven assembly in the multi-component colloids: Insights from synchrotron SAXS</i>
	12.15 - 12.45	IT 61	Dr. Kazuo Shimizu Shizuoka University, Japan <i>Title: From Reactive-Species Composition to Function: A Design Framework for Non-Ablative, Reversible Biointerface Modulation</i>
TP - LH 712	11.15 – 11.45	IT 48	Prof. Heng-Kwong Tsao National Central University, Taiwan <i>Title: Microstructural dynamics of stretching nanofilm of hydrogels: effects of film thickness on mechanical properties</i>
	11.45 - 12.15	IT 55	Prof. Pranaba Kishor Muduli Indian Institute of Technology, Delhi <i>Title: Spintronics using 2D materials</i>
	12.15 - 12.45	IT 62	Prof. Md. Ehesan Ali Institute of Nano Science and Technology, Mohali <i>Title: Quantum spin sensors for open-shell molecules</i>
TP - LH 614	11.15 – 11.45	IT 49	Prof. Chi-Cheng Chiu National Cheng Kung University, Taiwan <i>Title: Modulation of the Interfacial Lithium-Ion Transport within Lithium Ion Batteries: Insights from Multi-Scale Simulations</i>
	11.45 - 12.15	IT 56	Dr. Swarup Deb Saha Institute of Nuclear Physics, Kolkata <i>Title: Excitonic Signature of 2D Sliding/Interfacial/Moiré Ferroelectrics</i>
	12.15 - 12.45	IT 63	Dr. Sakura Takeda Nara Institute of Science and Technology (NAIST), Japan <i>Title: Deriving Interface Physics from Correlations Between Electrical Properties and XPS in PECVD-SiO₂/Si</i>

TP - LH 615	11.15 – 11.45	IT 50	Dr. Kaushalya Jhuria Indian Institute of Technology, Delhi <i>Title: Telecom band silicon based optical defects for quantum technologies</i>
	11.45 - 12.15	IT 57	Prof. Chang Hee Hong Jeonbuk National University, South Korea <i>Title: InGaN LED Technology Trends for Agriculture and Bio-industry Applications: From Spectral Engineering to Van der Waals Epitaxy</i>
	12.15 - 12.45	IT 64	Dr. Hiroki Kase Shizuoka University, Japan <i>Title: Representation of 3D X-ray CT Using Mixed Reality with Force Feedback for Density Information</i>
TP - LH 606	11.15 – 12.45	Oral Presentation (OP 035 - OP 043)	
TP - CLS 19	11.15 – 11.45	Special Talk	Prof. Mitsuhiro Fukuta Shizuoka University, Japan
	11.45 - 12.15		Prof. Dmitrijs Stepanovs Riga Technical University, Latvia
	12.15 - 12.45		Industrial Talk
12.45 - 14.00		Lunch Break	
<i>Parallel Session - VII</i>			
TP - LH 711	14.00 – 14.35	KN 32	Prof. Tharamani C. Nagaiah Indian Institute of Technology, Ropar <i>Title: Designing greener energy conversion system for a sustainable future</i>
	14.35 – 15.05	IT 65	Prof. Tomoaki Yamada Nagoya University, Japan <i>Title: Domain Engineering of Ferroelectric Nanostructures and Their piezoelectric properties</i>
TP - LH 604	14.00 – 14.35	KN 33	Prof. Toru Aoki Shizuoka University, Japan <i>Title: Impact of Carbon Doping and Device Structure on the X-ray Response of GaN Detectors</i>
	14.35 – 15.05	IT 66	Prof. Hiromasa Shimizu Tokyo University of Agriculture & Technology, Japan <i>Title: Sensing experiments based on collaborative research activities in Tokyo University of Agriculture and Technology</i>

TP - LH 605	14.00 – 14.35	KN 34	Prof. Harri Lipsanen Aalto University, Finland <i>Title: Broadband miniaturized spectrometers with van der Waals junctions</i>
	14.35 – 15.05	IT 67	Dr. Madhurya Chandel Warsaw University of Technology, Poland <i>Title: Exploring MBene: 2D Materials Pathways in Synthesis and Characterization for Optoelectronics devices</i>
TP - LH 613	14.00 – 14.35	KN 35	Prof. Yoshimasa Kawata Shizuoka University, Japan <i>Title: Live Cell Imaging and Cell Stimulations with Direct Electron-Beam Excitation Assisted Microscopy</i>
	14.35 – 15.05	IT 68	Prof. Ionut Topala Alexandru Ioan Cuza University Iasi, Romania <i>Title: Measurement of hydrogen to carbon ratio in amorphous hydrogenated carbon products and the effect ion irradiation</i>
TP - LH 712	14.00 – 14.35	KN 36	Prof. Yogendra Kumar Mishra Mads Clausen Institute, University of Southern Denmark, Denmark <i>Title: Tetrapods based Advanced Materials for Advanced Technologies</i>
	14.35 – 15.05	IT 69	Prof. Felicia Iacomi Alexandru Ioan Cuza University, Romania <i>Title: Studies on the structure and functional properties of some nanocomposite layers based on graphene and graphene oxide</i>
TP - LH 614	14.00 – 14.35	KN 37	Prof. Benoît Piro Université Paris Cité, France <i>Title: An Innovative Printed Device for Sensing of Exhaled Gas</i>
	14.35 – 15.05	IT 70	Prof. K.G. Suresh Indian Institute of Technology, Bombay <i>Title: Heusler alloys as spintronic and spin-caloritronic applications</i>
TP - LH 615	14.00 – 14.35	KN 38	Dr. Tetsuo Kodera Tokyo Institute of Technology, Tokyo <i>Title: Progress and prospects in research of semiconductor spin qubit devices toward quantum computers</i>
	14.35 – 15.05	IT 71	Dr. Arnab Bose Indian Institute of Technology, Kanpur <i>Title: Generation and detection of orbital currents</i>

TP - LH 606	14.00 – 15.05	Oral Presentation (OP 044 - OP 049)
TP - CLS 19	14.00 – 15.05	Oral Presentation (OP 050 - OP 055)
<i>Parallel Session – VIII</i>		
TP - LH 711	15.05 – 16.15	Oral Presentation (OP 056 - OP 062)
TP - LH 604		Oral Presentation (OP 063 - OP 069)
TP - LH 605		Oral Presentation (OP 070 - OP 076)
TP - LH 613		Oral Presentation (OP 077- OP 083)
TP - LH 712		Oral Presentation (OP 084 - OP 090)
TP - LH 614		Oral Presentation (OP 091 - OP 097)
TP – LH 615		Oral Presentation (OP 098 - OP 104)
TP - LH 606		Oral Presentation (OP 105 - OP 111)
TP - CLS 19		Oral Presentation (OP 112 - OP 118)
16.15 – 16.30		Tea Break
TPGA	16.30 – 18.00	POSTER SESSION
18.30 – 21.30		Banquet Dinner



Day - 4

(March 23, 2026 - Monday)

TPGA	8.30 – 10.00	POSTER SESSION	
<i>Parallel Session - IX</i>			
TP - LH 711	10.00 – 11.10	Oral Presentation (OP 119 - OP 125)	
TP - LH 604		Oral Presentation (OP 126 - OP 132)	
TP - LH 605		Oral Presentation (OP 133 - OP 139)	
TP - LH 613		Oral Presentation (OP 140 - OP 146)	
TP - LH 712		Oral Presentation (OP 147 - OP 153)	
TP - LH 614		Oral Presentation (OP 154 - OP 160)	
TP - LH 615		Oral Presentation (OP 161 - OP 167)	
TP - LH 606		Oral Presentation (OP 168 - OP 174)	
TP - CLS 19		Oral Presentation (OP 175 - OP 180)	
11.10 – 11.30		Tea Break	
<i>Parallel Session - X</i>			
TP - LH 711	11.30 – 12.05	KN 39	Prof. Ramesh Chandra Mallik Indian Institute of Science, Bangalore <i>Title: Improved Thermoelectric Figure of Merit in Cu₂Se Material</i>
	12.05 – 12.35	IT 72	Dr. Vivek Kumar Indian Institute of Information Technology Design & Manufacturing, Kancheepuram <i>Title: 2D Materials for High performance Hybrid supercapacitors</i>

TP - LH 604	11.30 – 12.05	KN 40	Prof. Somabrata Acharya Indian Association for the Cultivation of Science (IACS), Kolkata <i>Title: Dimension Controlled Ferroelectricity and Bulk Photovoltaic Effect in CsPbBr₃ Perovskite Nanocrystals</i>
	12.05 – 12.35	IT 73	Dr. Arup Samanta Indian Institute of Technology, Roorkee <i>Title: High Temperature Quantum Transport using deep dopant in Silicon</i>
TP - LH 605	11.30 – 12.05	KN 41	Dr. M. Sathish Central Electrochemical Research Institute, Karaikudi <i>Title: Functionalized Carbon-based Materials for Rechargeable Zinc-Air Batteries</i>
	12.05 – 12.35	IT 74	Dr. Rana Saha Indian Institute of Science Education and Research, Tirupati <i>Title: Topological spin textures in van der Waals magnets</i>
TP - LH 613	11.30 – 12.05	KN 42	Prof. Suhrit Ghosh Indian Association for the Cultivation of Science (IACS), Kolkata <i>Title: Supramolecular Assembly of Donor-Acceptor (Macro)molecular Systems for Low-Power Energy Harvesting</i>
	12.05 – 12.35	IT 75	Dr. Goutam Ghosh Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru <i>Title: Peptide-Based Nanomaterials for Organic Electronics: Tailoring Piezoelectric Properties through Nanostructural and Chiroptical Modulation</i>
TP - LH 712	11.30 – 12.05	KN 43	Prof. Shaikh M Mobin Indian Institute of Technology, Indore <i>Title: Crystal Engineered MOFs and Interfacial Chemistry for Next Generation Ammonium Ion Sustainable Energy Storage Devices</i>
	12.05 – 12.35	IT 76	Dr. Ashutosh Kumar Singh Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru <i>Title: Efforts Toward Developing High-Performance Aqueous Rechargeable Zn-Ion Batteries</i>

TP - LH 614	11.30 – 12.05	KN 44	Prof. Rajesh Kumar Indian Institute of Technology, Indore <i>Title: Electrochromic materials and device: smart windows for multifunctional applications</i>
	12.05 – 12.35	IT 77	Dr. Pritam Sadhukhan Indian Association for the Cultivation of Science (IACS), Kolkata <i>Title: Stimuli-Responsive Molecular Systems for Nanoscale Energy Harvesting Prospects</i>
TP – LH 615	11.30 – 12.05	KN 45	Prof. Dipak Kumar Goswami Indian Institute of Technology, Kharagpur <i>Title: An academic journey from lab to market: paving the way for affordable healthcare innovation using flexible organic electronic devices</i>
	12.05 – 12.35	IT 78	Dr. Srinivasan Anandan International Advanced Research centre for Powder Metallurgy & New Materials (ARCI), Hyderabad <i>Title: Development of Indigenous Electrode Materials for Li- and Na-Ion Batteries: From Lab-Scale Innovation to Technology Demonstration</i>
TP - LH 606	11.30 – 12.35	Oral Presentation (OP 181 - OP 187)	
TP - CLS 19	11.30 – 12.35	Young Researcher's Talk	
12.35 – 14.00		Lunch Break	
Parallel Session - XI			
TP - LH 711	14.00 – 14.35	KN 46	Prof. C Subramaniam Indian Institute of Technology, Bombay <i>Title: Nanostructured carbons for bottling and utilizing sunlight for sustainable energy and environmental applications</i>
	14.35 – 15.05	IT 79	Prof. Masato Nakaya Nagoya University, Japan <i>Title: Thermoelectric Properties of Nanocluster Composites consisting of Fullerene Molecules and Metal Oxide Nanoclusters</i>
	15.05 – 15.35	IT 87	Dr. Manas K Panda Jadavpur University, Kolkata <i>Title: Stimuli-Responsive Soft Molecular Materials</i>

TP - LH 604	14.00 – 14.35	KN 47	Prof. Riabochkina Polina National Research Mordovia State University, Russia <i>Title: Optical laser ceramics for solid-state lasers in the two-micron spectral range</i>
	14.35 – 15.05	IT 80	Dr. Chao-Wei Huang National Cheng Kung University, Taiwan <i>Title: MOFs-derived and Chitosan-based Photocatalysts for Scalable VOCs Degradation in Photocatalytic Fluidized Beds</i>
	15.05 – 15.35	IT 88	Prof. Sergei Gushchin National Research Mordovia State University, Russia <i>Title: Upconversion luminescence of SrF₂-ErF₃ solid solutions</i>
TP - LH 605	14.00 – 14.35	KN 48	Dr. Takeshi Maeda Osaka Metropolitan University, Japan <i>Title: Impact of Intermediate Diradical Character on Optical and Magnetic Properties in Croconaine Dyes</i>
	14.35 – 15.05	IT 81	Prof. Makiko Kobayashi Kumamoto University, Japan <i>Title: Design of Sol-Gel Composite Materials for High-Temperature Ultrasonic/Piezoelectric Devices</i>
	15.05 – 15.35	IT 89	Prof. Kitani Tomoya Shizuoka University, Japan <i>Title: A Proposal for Infrastructure Management Using Motorcycle Dynamics Data and Rider Vital Signals</i>
TP - LH 613	14.00 – 14.35	KN 49	Prof. Mathieu Etienne LCPME-CNRS-UNIVERSITE DE LORRAINE, France <i>Title: Materials Development and Characterization for Redox Flow Technologies</i>
	14.35 – 15.05	IT 82	Dr. Mani Ulaganathan Amrita Vishwa Vidyapeetam, Coimbatore <i>Title: Redox Flow Batteries for Large Scale Energy Storage Application</i>
	15.05 – 15.35	IT 90	Dr. Bharati Debnath Research Institute for Sustainable Energy (RISE), TCG CREST, Kolkata <i>Title: Design of Electrodeposition-Driven Phosphide Catalysts for Green Hydrogen and Ammonia Synthesis</i>

TP - LH 712	14.00 – 14.35	KN 50	Prof. Indranil Sarkar Institute of Nano Science and Technology, Mohali <i>Title: Unraveling interface physics of ferromagnet/nonmagnet heterostructures for development of efficient spin orbit torque applications</i>
	14.35 – 15.05	IT 83	Prof. Hiroya Ikeda Shizuoka University, Japan <i>Title: Seebeck-Coefficient Evaluation of Si Microribbon by Kelvin-Probe Force Microscopy</i>
	15.05 – 15.35	IT 91	Dr. Miki Mochizuki Shizuoka University, Japan <i>Title: Toward a Resilient Society: Dialogue between Engineering and the Social Sciences in Disaster Contexts</i>
TP - LH 614	14.00 – 14.35	KN 51	Prof. Anatoly Lysyakov National Research Mordovia State University, Russia <i>Title: Interaction between Universities and Industry: The Case of National Research Mordovia State University</i>
	14.35 – 15.05	IT 84	Prof. Yueh-Heng Li National Cheng Kung University, Taiwan <i>Title: A Traceable Digital Thread for UAV Propulsion: MBSE Architecture Linked with Performance Simulation</i>
	15.05 – 15.35	IT 92	Dr. Yasuhide Mochizuki Institute of Science Tokyo, Japan <i>Title: Theoretical Study of Phonon-Induced Negative Thermal Expansion Materials</i>
TP - LH 615	14.00 – 14.35	KN 52	Prof. Abdelmajid Taki University of Lille, France <i>Title: Characterization of complex dynamics in a chain of plasmonic nanoparticles</i>
	14.35 – 15.05	IT 85	Prof. Tamihito Gotoh Gunma University, Japan <i>Title: Bandgap widening of evaporated In-Se films by room temperature annealing</i>
	15.05 – 15.35	IT 93	Dr. Tetsushi Ohki Shizuoka University, Japan <i>Title: The Expanding Attack Surface of AI-Enabled Biometric Infrastructures</i>

TP - LH 606	14.00 – 14.35	KN 53	Prof. Sebastian Lourduoss KTH-Royal Institute of Technology, Sweden <i>Title: Heteroepitaxial structures and high growth rate of semi-insulating InP for buried heterostructure quantum cascade lasers by hydride vapour phase epitaxy</i>
	14.35 – 15.05	IT 86	Prof. Rodrigo Ferrao Paiva Martins NOVA University Lisbon and CEMOP/UNINOVA, Portugal <i>Title: Transforming Electronics: The Future of Transparent and Paper Electronics</i>
	15.05 – 15.35	IT 94	Prof. A. M. Jastrzębska Warsaw University of Technology, Poland <i>Title: Effect of tandem-type stabilization of two-dimensional (2D) Nb₂CTx MXene on their colloidal and cytotoxic properties</i>
TP - CLS 19	14.00 – 15.35	Young Researcher's Talk	
TPGA	15.35 – 16.30	Award Distribution and Valedictory Ceremony	
16.30 – 16.45		Tea Break	

Day – 5

(March 24, 2026 - Tuesday)

09.00 – 17.00	Collaborative Discussion Meeting and Research Facility Visit
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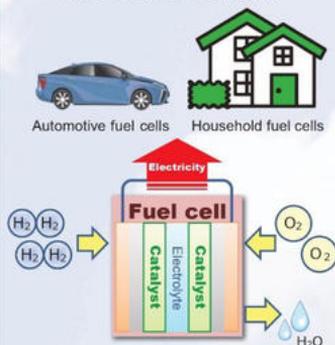
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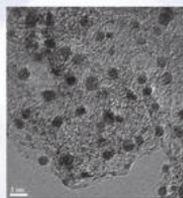
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Exploration of catalytic nanoparticles

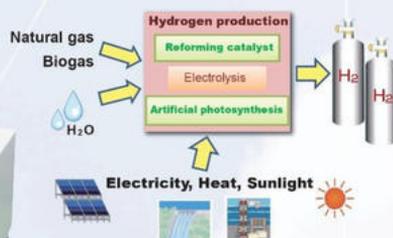


TEM image of Pt nanoparticles supported on carbon powder

Uniformly vapor-deposited onto rough carbon surface.

Hydrogen-producing catalysts

Formation of hydrogen-producing catalyst from nanoparticles



Catalyst for use with organic hydrides

Size-controlled nanoparticles using ionic liquid

Photocatalysts

Improve the performance of photo catalyst which manufactures hydrogen



Molded lens molds Industrial cutting tools

Hard thin film
Ultrananocrystalline diamond (UNCD)

Creation of materials having new properties

Creation of substances having new functions by simultaneously vapor-depositing different metals from multiple sources

Arc-plasma source APS-1



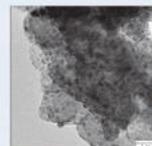
Exhaust gas catalysts

High catalytic activity of nanoparticles reduces usage of expensive noble metals

Control of greenhouse gas emissions



Support of Pt nanoparticles on alumina powder



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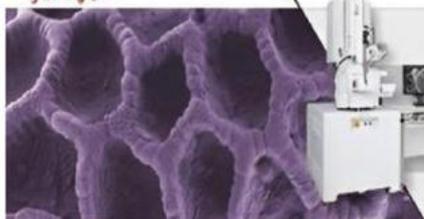
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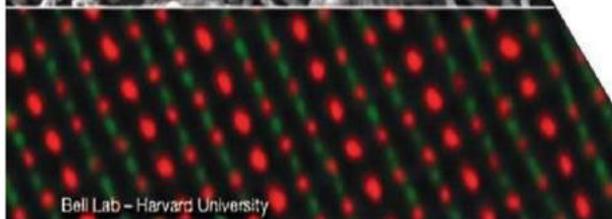
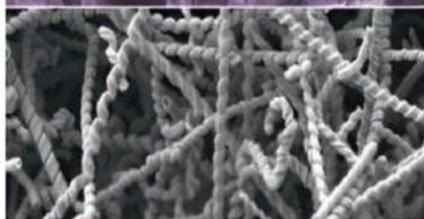


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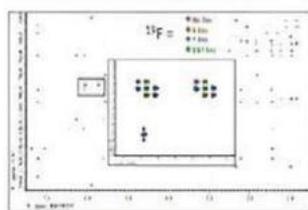


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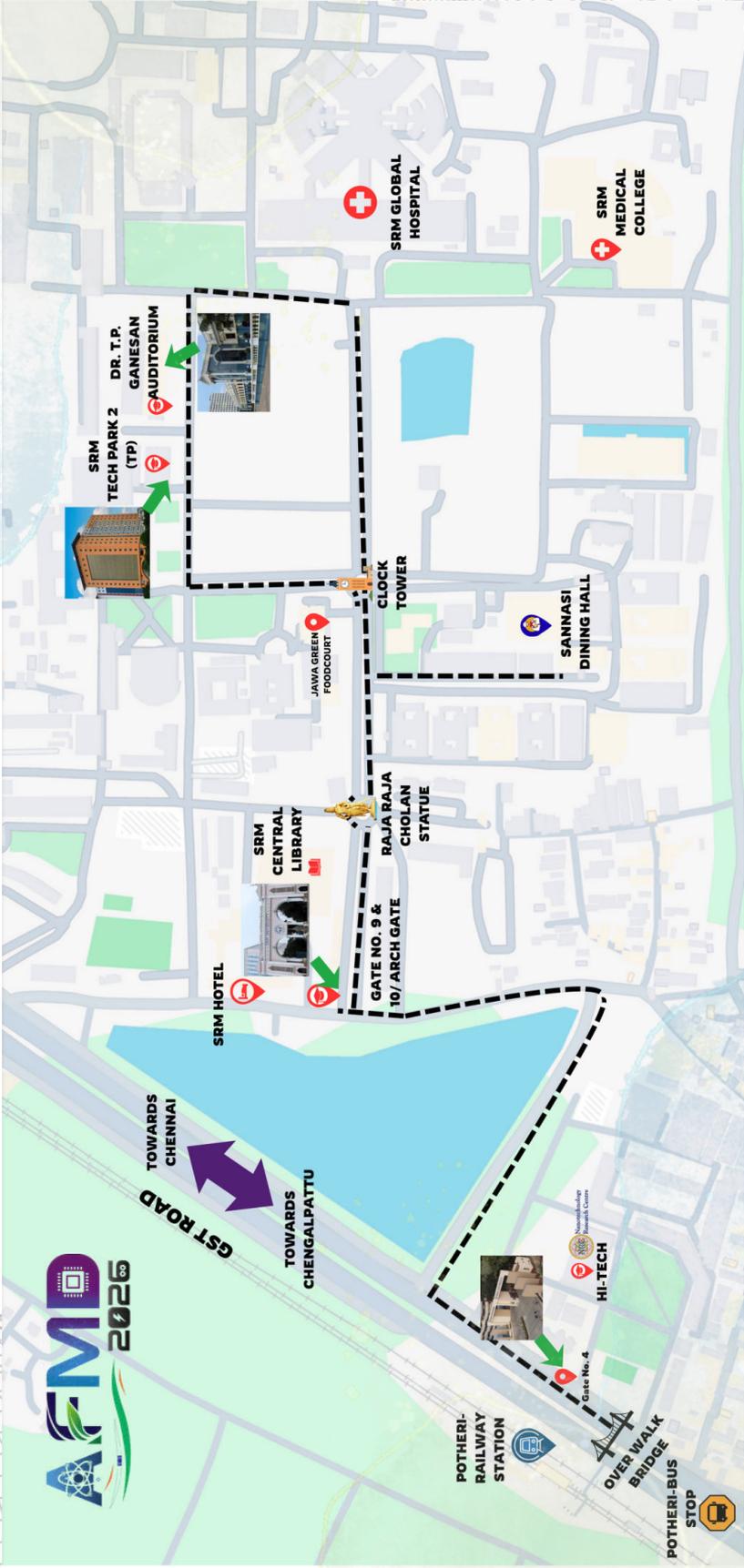


Range of Laboratory & Healthcare equipment's.

ORGANIZING TEAM



ROUTE MAP TO AFMD 2026 VENUES





SRM

INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

SRM Institute of Science and Technology

(Deemed to be University u/s 3 of UGC Act 1956)

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AFMD - 2026

2nd International Conference on Advanced Functional Materials and Devices (AFMD) is a platform dedicated to exploring recent advances in functional materials and their applications in next-generation technologies. The conference brings together researchers, scientists, and industry experts working in areas such as nanomaterials, energy materials, semiconductor devices, quantum materials, and advanced characterization techniques. AFMD promotes interdisciplinary collaboration among physics, chemistry, materials science, and engineering to accelerate innovation and translate fundamental discoveries into practical technologies.

AFMD - 2026 aligns with the United Nations Sustainable Development Goals (SDGs) by supporting research that contributes to **Affordable and Clean Energy (SDG 7)**, **Industry, Innovation and Infrastructure (SDG 9)**, **Responsible Consumption and Production (SDG 12)**, and **Climate Action (SDG 13)**. The conference also promotes **Gender Equality (SDG 5)** and **Reduced Inequalities (SDG 10)** by encouraging inclusive participation, equal opportunities, and global collaboration among researchers from diverse backgrounds.



NAAC A++	UGC Category I with 12B Status	NIRF (2025) Ranked 11 th University	QS (2026) World Ranking one among 54 Indian Universities	THE WORLD UNIVERSITY RANKINGS (2025) World Ranking one among 91 Indian Universities	SHANGHAI RANKING (2025) World Ranking Ranked 8-9 in Indian Universities	nature INDEX (2025) World Ranking one among 18 Indian Universities	Green Metric (2024) World Ranking one among 3 Indian Universities
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