Conference Program

AFMD:GM2026

— The 3rd International Conference on Advanced Functional Materials and Devices—

Venue: Shizuoka University, Japan

Date: October 15–17, 2026.

Program of DAY 1, Room A

Date: Thursday, October 15th / Place: Room A (Conference room)

9:30-10:00	**Opening Ceremony**
1A-I-01 10:00-10:30	**Design and Development of Advanced Functional Materials for Energy and Environmental Remediation** B. Neppolian SRM Institute of Science and Technology, India
1A-I-02 10:30-11:00	**Blue bioeconomy to functional materials: Unlocking bioactive metabolites, antioxidant peptides and essential minerals from marine Seagrasses of the Gulf of Mannar, Tamil Nadu, India** Raman Pachaiappan SRM Institute of Science and Technology, India
1A-I-03 11:00-11:30	**BEYOND THE SURFACE: ECOTOXICOLOGICAL IMPACTS OF PRISTINE AND ENVIRONMENTALLY WEATHERED MICROPLASTICS IN DROSOPHILA** Sheik Mohideen Sahabudeen SRM Institute of Science and Technology, India
1A-04 11:30-11:50	**Thermoelectric Fabrics using Ionic Liquid and Cotton Fiber** Hiromu Hamasaki Shizuoka University, Japan
1A-05 11:50-12:10	**Engineering Carbonized Bimetallic CuZn MOF Derived Nanostructures for High-Performance Electrochemical Detection of Ascorbic Acid** Govind A. SRM Institute of Science and Technology, India
12:10-14:00	**Lunch**
1A-I-06 14:00-14:30	**Substrate-Free Single-Composition Pearlescent Pigments: A New Paradigm Using Layered Vanadium Phosphate Plate-like Crystals** Shu YIN Tohoku University, Japan
1A-I-07 14:30-15:00	**On the Destruction Rates of Aliphatic C–H Bonds in Plasma-Deposited Analogues of Interstellar Carbonaceous Dust** Ionut Topala Alexandru Ioan Cuza University of Iasi, Romania
1A-08 15:00-15:20	**Electrochemical Conditioning-Induced Surface Reconstruction and Active-Site Evolution of Ni/Co Hydroxides during Alkaline Oxygen Evolution Recation** Gowdhaman Arumugama SRM Institute of Science and Technology, India
1A-09 15:20-15:40	**Molybdenum-Doped NiFe Layered Double Hydroxide for Enhanced Oxygen Evolution Reaction: Electronic Structure Modulation and Charge Transfer Kinetics** Nithyapriya M S SRM Institute of Science and Technology, India
15:40-16:00	**Coffee Break**
1A-I-10 16:00-16:30	**Deterministic Exciton–Trion Conversion through In Situ Vacancy Engineering in MOCVD-Grown Monolayer MoS_2** Senthil Kumar Eswaran SRM Institute of Science and Technology, India
1A-I-11 16:30-17:00	**Materials Design to Device Integration: Scalable NO2 Sensors Based on Layered Materials for Environmental Monitoring** S. Harish SRM Institute of Science and Technology, India

1A-12 17:00-17:20	**Bifunctional carbon-wrapped CoZn electrocatalyst for superior water splitting and DSSC applications** V. Saranya SRM Institute of Science and Technology, India
1A-13 17:20-17:40	**Ultrafast Scalable Interfacial Fabrication of Binder-Free Mixed-Valence NiFe Oxyhydroxide on Nickel Foam for Industrial-scale Alkaline and Seawater Oxygen Evolution** Elumalai Dhandapania SRM Institute of Science and Technology, India

Program of DAY 1, Room B

Date: Thursday, October 15th / Place: Room B (Hall)

9:30-10:00	**Opening Ceremony (at Room A)**
1B-I-01 10:00-10:30	**Metal Hydride-Based Solid State Hydrogen Storage: Insights, Strategies, and Emerging Perspectives** Karthikeyan A SRM Institute of Science and Technology, India
1B-I-02 10:30-11:00	**Controlled Fabraication of Metal Oxide/Oxyhydroxide Films via Chemical Bath Deposition with a Rotating Flow Reactor** Hajime Wagata Meiji University, Japan
1B-I-03 11:00-11:30	**Effect of annealing temperature on electrostrictive properties of Zr Ceria Films** Pinki Yadav Nagoya University, Japan
1B-04 11:30-11:50	**From Surface Modification to Reversible Cell-State Engineering: Atmospheric Microplasma for Living Biointerfaces** Kazuo Shimizu Shizuoka University, Japan
1B-05 11:50-12:10	**Investigation of the Temperature-Dependent Structural and Nanostructural Evolution of Pulsed-Laser-Deposited V_2O_5 Thin Films on FTO for Electrochromic Applications** D. Simon Patrick SRM Institute of Science and Technology, India
12:10-14:00	**Lunch**
1B-I-06 14:00-14:30	**PL, XRL spectra of Halide based Perovskite by Solution route** Soumya Mukherjee Kazi Nazrul University, India
1B-I-07 14:30-15:00	**Synthesis of Photonic Crystal Film based on Magnetic Garnet prepared by Metal Organic Decomposition Technique** Nobuyasu Adachi Nagoya Institute of Technology, Japan
1B-08 15:00-15:20	**Epitaxial growth of cobalt–copper oxide thin films on MgO (001) substrate by dynamic aurora pulsed laser deposition for gas sensing applications** K. Gunasekaran Shizuoka University, Japan
1B-09 15:20-15:40	**First principles investigation of CoRuCrZ (Z = P, As, Sb) alloys for spintronics applications** Kanagaraj C SRM Institute of Science and Technology, India
15:40-16:00	**Coffee Break**
1B-I-10 16:00-16:30	**Development of a Wide-Acceptance-Angle Electron Energy Analyzer for Tender X-ray Photoelectron Holography** Yusuke Hashimoto Nara Institute of Science and Technology, Japan
1B-I-11 16:30-17:00	**Growth of strained Si/SiGe heterostructure on Si(110) substrate using MBE** Keisuke Arimoto University of Yamanashi, Japan

1B-12 17:00-17:20	**CVD grown p-Si@$MoSe_2$ Heterojunction for Self-Powered Photodetector Application** K. Lakshmanamoorthy SRM Institute of Science and Technology, India
1B-13 17:20-17:40	**First-Principles Insights into Gas Adsorption and Electronic Response of Mono- and Bimetallic TM4-(TM= Cu, Pt and Au) Decorated SnS2 Nanosheet** S. Kamalakannan SRM Institute of Science and Technology, India

Program of Online Presentation (DAY 1)

Date: Thursday, October 15th / 13:30-16:00:JST (10:00-12:30:IST)

Invited talk / 13:30-14:00

1O-I-01 13:30-14:00	**From Nanoparticle Inks to Printed Thermoelectric Generators for Sustainable Energy Harvesting** M.S. Toprak KTH Royal Institute of Technology, Sweden

Students' presentation / 14:00-16:00/ 5min. each including discussion.

Note: All students must be logged in by the session start time. Strictly adhere to the five-minute presentation time limit.

S.NO	NAME	TITLE
1	Vaishnavi S	Synergistic Interstitial-Substitutional Co-doping Strategy in $Mg_3Sb_{1.5}Bi_{0.5}$ for mid-temperature thermoelectric performance
2	A. Jasmine Christilla	LiOH-Mediated Layered Engineering of $Ti_3C_2T_x$ MXene for Room-Temperature NO_2 Sensing
3	Elakkiya C	Investigation of Rapid Thermal Explosion Synthesis of $CuFeS_2$ for Enhanced Thermoelectric Performance
4	Godlim P M	Chemical confinement of Sb lone pair electron enables short range ordering in Zn doped $AgSbSe_2$
5	S. Karunakaran	Synergistic Carrier Transport Modulation and Energy Filtering in Mn–Ag Co-doped Cu_2SnSe_3 Thermoelectric
6	S. Kowsalya	Structural Transformation and Thermoelectric Transport Optimization in Bi-Alloyed SnSe
7	R. Vengadesh	Interfacial Polysulfide-Rich Nickel Iron Vanadium-LDH/Cobalt Oxysulfide Heterostructures for Durable and Efficient Overall Water Electrolysis
8	Dr. K. Bharathi	WO_3/N-Vacancy g-C_3N_4 Heterostructures for Efficient Visible-Light Driven

		Photocatalytic Dye Degradation and Photoelectrochemical water splitting
9	G. Jose Agnel	Synergistic Ni-MOF/MoS_2-based heterostructures for efficient bifunctional hydrogen electrocatalysis
10	Naskath Sithara H	Tensile - Strain engineered electron-phonon coupling for high-performance *n*-MoS_2/*p*-Si photodetector
11	K. Nisha	Application of Lead-Free $Cs_3Bi_2Br_9$ Halide Perovskite for Solar-Driven Photoelectrochemical Water Splitting
12	Murugadass T	Titanium induced modulation of phonon and charge transport enables enhanced thermoelectric performance in WS_2
13	Rasikapriya P V	Defect Engineering of Bi_2Se_3 by aliovalent Mg substitution; Coupled Modulation in Electrical and Thermal Properties of Enhanced Thermoelectric Performance
14	Deepalakshmi S	The influence of Bi_2S_3 nanorod network for highly sensitive and selective NO_2 sensor at room temperature
15	K. Chellamuthu	Tuning the carrier concentration of $AgInSe_2$ through Sn^{4+} doping for enhanced thermoelectric performance
16	Kesavan K	Flexible Ag_2Se Composite Films using PVA and Na-alginate Polymers for Wearable Thermoelectric Applications
17	Raghul Ramachandran	g-C_3N_5 Nanodot-Based Dual-Functional Platform for Trace-Level Ciprofloxacin Sensing and Photocatalytic Degradation in a Laboratory-Scale Reactor
18	Pavithra Rajaethirajlu	Interfacial Polypyrrole Engineering Unlocks Efficient NIR-Responsive Hydrogen Evolution in Copper Bismuth Selenide Photocathodes
19	Dr. P. Bharathi	Mechanistic Insights into Physisorption-

		Mediated Dynamic NO_2 Sensing Kinetics on Gd- MoS_2 Under Ambient Conditions
20	Dr. D. Kanchan Kumar	Synergistic Role of Oxygen Vacancies and Surface Area in Tailoring Gas-Sensing Properties of WO_3

Program of DAY 2, Room A

Date: Friday, October 16th / Place: Room A (Conference room)

9:30-11:30	**Poster Presentation (at room B)**
11:30-13:00	**Lunch**
2A-01 13:00-13:20	**Fine-Bubble-Enabled Reaction-Field Engineering for the Sustainable Synthesis of Fairy Chemicals** Nobuyuki MASE Shizuoka University, Japan
2A-I-02 13:20-13:50	**Opto-electronic memristors based on ferroelectric tunnel junction** Tomoaki YAMADA Nagoya University, Japan
2A-I-03 13:50-14:20	**Thermoelectric Energy Harvester for Low-Grade Waste Heat Recovery from Water Bodies** Faiz Salleh Universiti Malaya, Malaysia
2A-04 14:20-14:40	**Lone Pairs at the Crossroads of Heat and Charge Transport in 0D Halide Perovskites** Kaja Mohideen Peer Mohamed Mohamed Jibri SRM Institute of Science and Technology, India
2A-05 14:40-15:00	**Decoupling trade-off charge and phonon dynamics in layered compounds for thermoelectric energy conversion** Vaiyapuri Vijay SRM Institute of Science and Technology, India
15:00-15:20	**Coffee Break**
2A-I-06 15:20-15:50	**High-Density Formation and Room-Temperature Photoluminescence Characterization of Fe-Silicide Nanolayer-Embedded Si Quantum Dots** Katsunori Makihara Nagoya University, Japan
2A-07 15:50-16:10	**Carrier concentration governs thermoelectric transport beyond spin entropy in (Ni, Co) co-substituted Cu_2SnS_3** Parvathi Krishna SRM Institute of Science and Technology, India
2A-08 16:10-16:30	**Tuning the phonon dynamics via Sn-resonant impurities assists strong anharmonicity in *p*-type Zintl Mg_3Sb_2** Shanmugasundram Priyadharshini SRM Institute of Science and Technology, India
16:30-16:40	Closing Ceremony

Program of DAY 2, Room B

Date: Friday, October 16th / Place: Room B (Hall)

9:30-11:30	**Poster Presentation**
11:30-13:00	**Lunch**
2B-I-01 13:00-13:30	**Novel Bottom-Up Fabrication of Multifilamentary YBa2Cu3Oy Superconducting Films through Crystal Growth Control Using Surface-Patterned Substrates** R. Teranishi Kyushu University, Japan
2B-I-02 13:30-14:00	**TaC-based thin-film coatings for tribological applications under dry sliding conditions** Tadashi Shiota Okayama University, Japan
2B-03 14:00-14:20	**Energy separation of composite materials using multi-energy X-ray CT images** Toru Aoki Shizuoka University, Japan
2B-04 14:20-14:40	**HU Value-Based Haptic Feedback Rendering for X-ray 3D CT Data in Mixed Reality Environments** Hiroki Kase Shizuoka University, Japan
2B-05 14:40-15:00	**Strained low dimentional Bi_2S_3 chemiresistors for detection of automobile exhaust at ambient environment** Vinoth Elangovan SRM Institute of Science and Technology, India
15:00-15:20	**Coffee Break**
2B-I-06 15:20-15:50	**Laser Structuring of Functional Surfaces: From LIPSS to Tailored Properties** Pavels Onufrijevs Riga Technical University, Latvia
2B-07 15:50-16:10	**Defect-engineered 2D materials for real-time NO_2 detection** Raheem Aysha Parveen SRM Institute of Science and Technology, India
2B-08 16:10-16:30	**Entropy-Driven Reduction of Lattice Thermal Conductivity in Ag-Alloyed CoCrFeNi High-Entropy Alloys** Kumar Arun SRM Institute of Science and Technology, India
16:30-16:40	Closing Ceremony (at room A)

Program of Poster (DAY 2, Room B)

Date: Friday, October 16th / Place: Room B (Hall) 9:30-11:30

2P-01	**Effects of time-dependent viscosity changes in MOD precursor solutions on GdBCO thin film properties** Yuichiro Taira Shizuoka University
2P-02	**Quantitative Mapping of Internal Structure and Charge Distribution Using Volumetric SICM** Seima Yamamoto Shizuoka University
2P-03	**Study of Single-Electron Tunneling Transport in Systems of Several Interacting Quantum Dots in Codoped-Silicon Nanoscale Transistors** TITIKSHA DIXIT Shizuoka University
2P-04	**Charge Control and Structural Evolution in K-Doped 12CaO·7Al2O3 Cage Crystals** Jagadeeswaran Kondayampalayam Senthilkumar Shizuoka University
2P-05	**Preliminary Evaluation of an SH-SAW Biosensing Platform for Monitoring Alpha-2-Macroglobulin-Induced Phase Responses Using Random ssDNA** ISLAM MD MONMIRUL MD ISLAM Shizuoka University
2P-06	**Enhancing Thermoelectric Performance of AgBiSe2 via Cobalt Doping for Wearable Energy Harvesting Applications** Dhivya Mahalakshmi Chavali Naresh Shizuoka University
2P-07	**Enhancing thermoelectric properties of Ag2Se nanoparticles on carbon fabric via ZnO composite for wearable thermoelectric generators** ANJALI KRISHNA A A APPANAKUZHI ANIYAN Shizuoka University
2P-08	**Phonon-Drag Seebeck Coefficient in Surface-Roughness-Controlled Ultrathin Si-on-Insulator Layers** Jagan Koteeswaran Shizuoka University
2P-09	**Investigation of Model Resolution Enhancement and Network Architecture for Machining Shape Prediction Using a Generative Adversarial Network** Kai Takahashi Shizuoka University
2P-10	**Identification of Thermal Analysis Parameters Based on Temperature History Measurements in Additive Manufacturing** Kohei Komori Shizuoka University
2P-11	**Numerical Simulation of Carbon Diffusion in Steel Gear during Vacuum Carburizing: Effect of the Mass Transfer Coefficient on Changes in Carbon Content** Kresna Azhar Trihapsoro Shizuoka University
2P-12	**Study on Resolving Fine Features of Band-to-Band Tunneling in Heavily-Doped SOI *pn* Diodes by Tunneling Transport Spectroscopy** Md Masud Miah Shizuoka University

2P-13	**Development of Dwell-Time-Controlled Microfabrication of Silicon Structures Using Micrometre-Scale Atmospheric Pressure Plasma Jet Etching** Pathum Mathes Hewage Shizuoka University
2P-14	**Investigation of spontaneous superlattice formation of A-site excess NdFeO3 thin films grown by dynamic aurora pulsed laser deposition** PRAVEENKUMAR PALANI Shizuoka University
2P-15	**Effect of Electret on Seebeck Coefficient in Thin Si Layer** Ryoya Arai Shizuoka University
2P-16	**Design Considerations for High-Temperature MKID Resonators** Taketo Nishida Shizuoka University
2P-17	**Atmosphere-Controlled MILD Synthesis of Ti3C2T*x* MXene for Spray-Coated Thermoelectric Textiles** Tulasi Venkata sai varma Samunuru Shizuoka University
2P-18	**Effect of Strain Rate on Ductile Fracture in Finite Element Analysis of Steel Bar Shearing Process** Kosumo Ishikawa Shizuoka University
2P-19	**Flexible AgSbSe2/PVA Hybrid Thermoelectric Architecture for Self Powered Wearable Temperature Sensor** Logaprabha G SRMIST
2P-20	**Band degeneracy driven high power factor in higher manganese silicide for thermoelectric application** Justin Karuna SRMIST
2P-21	**Defect Chemistry Couples Valence Band Energetics with Superionic Ag^+ Dynamics in Ca doped Ag9GaTe6** Ramesh Hariharan SRMIST
2P-22	**Interfacial Carrier Transport Across a Multiscale Energy Landscape in Cr-Incorporated Ag_2Se/PVDF Composites for Wearable Thermoelectric Sensor** Sakeena Vazhayil SRMIST
2P-23	**Measurement of Underwater Acoustic Fields Using a Fiber Optic SPR Sensor** Kohei Yamada Shizuoka University
2P-24	**Single-Electron Tunneling as a Probe of the Potential Landscape in Nanoscale Channels of Silicon-on-Insulator Transistors** Robert Ştefan Străteanu Shizuoka University