

List of Accepted Abstracts for the Fifth International Conference on Frontiers in Nanoscience and Technology

COCHIN NANO – 2026

Oral Presentations (OP):

ID	Name	Affiliation	Title of the Abstract
Day 2: 27th September, 2026			
OP-1	Dr. Suchandra Mukherjee	Indian Institute of Technology Mandi (IIT-Mandi)	Harnessing the magnetic ordering and transport properties in Fe-doped Sb ₂ Te ₃
OP-2	Dr. Jayanta Sarmah Boruah	IIT Hyderabad	Gold nanoparticle decorated graphene derivative for non-enzymatic sensing of diabetic biomarker
OP-3	Pramod Kumar	Indian Institute of Technology (BHU), Varanasi, India	Probing Oxygen Vacancy Mediated Charge Storage Kinetics in Sr _{1.85} FeCoO _{6-δ} through Electrolyte and Temperature
OP-4	Dr. Subasa C. Sahoo	Central University of Kerala	Soft to hard ferrite transition by cobalt substitution in nanocrystalline spinel Ni-ferrite
OP-5	Dr. Shruti Suriyakumar	Rice University	Anti-freezing water-based electrolytes for zinc-ion batteries at -30 °C
OP-6	Dr. Sankaran Ramesh	Indian Institute of Technology Kharagpur	Structural chirality directs local optical modes and ultrafast energy flow in hybrid light-matter nanostructures
OP-7	Dr. Sinu Mathew	Department of Physics, St. Berchmans College, Mahatma Gandhi University, Kerala 686101, India	Tailoring of the luminescence of hexagonal boron nitride (h-BN) using focused Helium ion beams
OP-8	Arun Raj R S	BISHOP MOORE COLLEGE, MAVELIKARA	Origin of Pseudocapacitive Properties in the Magnetic CoFe _{2-x} Nd _x O ₄ System
Day 3: 28th September, 2026			
OP-9	Amily B	Department of Instrumentation, CUSAT	Engineering Two-Dimensional MoS ₂ Nanosheets via Hydrothermal–Exfoliation Route for High-Performance Hydrogen Sensors
OP-10	Joe Sunny	University of Augsburg, Germany	A Composite Soliton of Mixed Topology: Stability and Magnetic Field-Driven Motion
OP-11	REMYA V R	Department of Applied Chemistry, University of Johannesburg, Doornfontein Campus, South Africa	Supertough Nanostructured Self assembled Thermosets - Aerospace and Automobile Applications
OP-12	Dr. Gajjala Sumana	CSIR- NPL, New Delhi	Liquid Crystal based Biosensors for the bacterial infectious diseases
OP-13	Dr. Swagata Patra	Indian Institute of Technology Bombay	Liposome-Based Delivery of DNA Aptamers to Inhibit Erythromycin Methyltransferase-Mediated Antibiotic Resistance
OP-14	CHANDRA LEKHA PUTTA	INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD	Engineering Chondroitin Sulfate-Coated ICG-Loaded DSPC/DPPE Liposomes for NIR-Triggered Antimicrobial Photothermal Therapy

Poster Presentations (PP):

ID	Name	Affiliation	Title of the Abstract
Day 1: 26th September, 2026			
PP-1	GOPIKA U	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY KATTANKULATHUR	Tuning the Interlayer spacing of MXene with Functionalised Nanocarbon for Zinc ion Hybrid Supercapacitor Electrode
PP-2	Amogh K Ravi	Tata Institute of Fundamental Research Hyderabad	Aqueous Electrosynthesis of Stable Cs ₂ PdX ₆ (X = Cl, Br, I) Perovskite Films for Efficient Photoelectrochemical Hydrogen Evolution
PP-3	Sradhanjali Rout	Indira Gandhi Center for Atomic Research	Green-Synthesized Magnetite Nanoparticles for Magnetic Fluid Hyperthermia
PP-4	Atul Jhalani	Indian Institute of Technology, Mandi	Modeling Thermoelectric Figure of Merit for Quantum Materials Using the Polylogarithmic Function and Lambert W Function
PP-5	Prithwija Mandal	Indian Institute of Technology Mandi	Spectroscopic Signature of Quantum Interactions of Charge Density Wave Formation in Ta ₂ NiSe ₇
PP-6	Memansa Thapa	IIT Mandi	Moiré-Driven Excitonic States in Twisted WSe ₂ Bilayers
PP-7	SREE PARVATHI V.	Cochin University of Science and Technology	Metal-Doped Bio-Derived Porous Carbon Threads for Energy Storage Applications
PP-8	Nathania Sara Bittu	St. Pius X College Rajapuram(PO)/Kannur University	Bridging Nano and Farm: Computational Precision Agriculture under One Health
PP-9	Gadha Menon K	St. Thomas College (Autonomous), Thrissur	Sulfurization and Selenization Effects on Cu-Sn-S Thin-Film Absorbers: Experimental, Simulation and Solar Performance Comparative Study
PP-10	Asna A P	National institute of technology Calicut	Corrosion Behaviour of Nanoencapsulated Phase Change Material based Dielectric Nanofluids for Battery Thermal Management
PP-11	FATHIMA SHADIN P	NIT Calicut	Synergistic Corrosion Protection by Waste-Derived Aluminium Oxide–Chitosan Reinforced Cashew Nut Shell Liquid Coatings
PP-12	Pratiksha Meena	Indian Institute of Technology Hyderabad	Hf-based half-Heusler alloys for Spintronic and Thermoelectric applications: A Computational approach
PP-13	Pravitha Velayudhan	St. Teresa's College Ernakulam	Size-Controlled TiO ₂ Nanoparticles for Tunable Refractive Index Polymer Nanocomposites
PP-14	Thomas Ilfy	National Institute of Technology Calicut	Development of Zinc – Based Materials for Temporary Implant Applications
PP-15	Zainab Aamina	Purnea University	Nanotechnology : A Proponent for Perovskite Solar Cells
PP-16	Abhimanyu V A	Indian Institute of Space Science and Technology Thiruvananthapuram	Electrospray-mediated reactions with efficient synthesis of complexes and clusters in microdroplets
PP-17	Sayyida Fathima	Central University of Gujarat	3D porous kondagogu gum/MXene composite Sponge for oil-water separation
PP-18	Aayush Mittal	IIT (BHU) Varanasi	Binder-Free SrCoO _{3-δ} Electrodes Fabricated by Electrophoretic Deposition for High-Performance Supercapacitors
PP-19	Advaya G.R	IIST	Fabrication of a Bimetallic Plasmonic Substrate Through Galvanic Displacement for

			Surface-Enhanced Raman Spectroscopic Detection of Diazinon
PP-20	Divya Joy P	Department of Physics, St Thomas College (Autonomous) Thrissur, University of Calicut, Kerala, India	A Compact Partitioned SRR-loaded Monopole Patch Antenna for Multiband Wireless Applications
PP-21	Reshma Babu	St. Thomas College (Autonomous), Thrissur, University of Calicut, Kerala, India.	DIELECTRIC-PERTURBED MONOPOLE PATCH ANTENNA LOADED WITH BROADSIDE-COUPLED SPLIT-RING RESONATORS FOR MICROWAVE SENSING AND TUNING APPLICATIONS
PP-22	Dr. Sagar Sardana	Indian Institute of Technology Kanpur	Electrospun $\text{Ti}_3\text{C}_2\text{T}_x$ MXene nanofiber separator for lithium metal batteries
PP-23	BHARATH CHANDRAN	PONDICHERRY UNIVERSITY	Interfacial Engineering of ZnMn_2O_4 via N-Doped rGO Wrapping for Improved Electrochemical Kinetics and Stable Lithium Storage
PP-24	Binil K. Varghese	IISER Thiruvananthapuram	Enhancement of Light Utilization Efficiency of High Performance Semi-transparent Organic Solar Cells enabled by a Wide-bandgap Carbazole based Guest Donor through Reduction of Localized Trap States and Accelerated Charge Transport
PP-25	Dr. Sreekanth Perumbilavil	Manipal Institute of Applied Physics, MAHE, Manipal	Spatial coherence characteristics of optically pumped dye-doped nematic liquid crystals random laser
PP-26	Asit Prakash	National Centre For Flexible Electronics, IIT Kanpur	Flexible Composite Electrodes for Lithium-Ion Batteries
PP-27	Aparna Vijayakumar	Indian Institute of Space Science and Technology, Thiruvananthapuram	Plastic-derived Activated carbon/ TiO_2 (pl-AC- TiO_2) Nanocomposites for Efficient Photocatalytic Degradation of Phthalic Acid
PP-28	Aravind V Raj	Indian Institute of Technology Mandi	Structural, Transport, and Magnetic Phenomena in the Skyrmion-Hosting Lacunar Spinel GaV_4Se_8
PP-29	Jewel Thomas	CSIR NIIST	High Current Dye-sensitised Solar Cells using Low Redox Potential Cu(bpye) Electrolytes for Maximising Ambient Light Harvesting
PP-30	Annu Annie George	CSIR NIIST	Visible-Light-Harvesting Unsymmetrical Blue Squaraine Dye for Indoor Dye-Sensitized Solar Cells
PP-31	Chhavi Pathania	Defence Institute of Advanced Technology, Pune	Colloidal Synthesis and Characterization of Fluorescent L-Cysteine Capped CdTe Quantum Dots for Ratio Metric Analysis
PP-32	Sejal Mishra	Indian Institute of Information Technology Allahabad (IIITA)	Schiff Base Self-Healing Hydrophobized Hydrogel based on Gelatin and Hyaluronic Acid for Wound Healing Application
PP-33	Akshay V V	Kannur University	Liquid-Phase Exfoliation of Non-van der Waals CuFeS_2 and Extended Facet Specific Thermodynamic Stability Pathways
PP-34	LIJA K JOY	BISHOP MOORE COLLEGE, MAVELIKARA	Stuffed Tridymite Structures: Multiferroic and Magnetoelectric Properties of $\text{BaFe}_{2-x}\text{Gd}_x\text{O}_4$ Systems
PP-35	Delina Samson Lawrence	Cochin University of Science and Technology	Temperature-Dependent Stability of Skyrmions in FeGe Nanodisk
PP-36	Chaithanya R	Cochin University of Science and Technology	Stabilization of Zero Field Magnetic Skyrmions in Multilayered Nanocaps

PP-37	Lakshmi K K	Cochin University of Science and Technology	Analyzing Theoretical Calculations for MXene-MoS ₂ Heterostructures for Hydrogen Evolution Reaction using DFT
PP-38	Hemanth B	Cochin University of Science and Technology	Concentration dependent upconversion studies in rhombohedral Ca ₃ (PO ₄) ₂ : Er ³⁺ phosphors
PP-39	Jesmitha H	Cochin University of Science and Technology	Comparative Evaluation of Pristine MIL-101(Cr) and MIL-101(Cr)/MWCNT Composite for Room-Temperature H ₂ S Sensing
PP-40	Petakamsetty Sumanth Sai Siddarth	National Institute of Technology Calicut	Computational Investigation on the Effect of Confined Water on Carbon Nano Tubes (CNTs)
Day 2: 27th September, 2026			
PP-41	Sonu Sunny	BITS Pilani	Molarity-Driven Hydration Shell Reorganization in 3gNDI-T2: Insights from Molecular Dynamics
PP-42	NIKITHA UNNI	Cochin University of Science and Technology	Engineering Domain Wall Motion in One-Dimensional Magnonic Crystals Through Periodic Saturation Magnetization Modulation
PP-43	Dr. Saranya Babu	Assistant Professor, TKMM College, Nangiarkulangara	Thin-Film Transistors Employing Zn-Based Metallogel Channel Semiconductors and High-k Dielectric Materials
PP-44	SWATI YADAV	YENEPOYA (DEEMED TO BE UNIVERSITY)	Disposable Laser-Induced g-C ₃ N ₄ Paper Electrodes for Rapid and Sensitive On-Site Electrochemical Detection of Diazepam
PP-45	K.S. Gouri	Yenepoya (Deemed to be University), Mangalore	Development of a Disposable Modified-Paper-Based Electrochemical Sensor for Rapid and On-Site Detection of Bisphenol A
PP-46	Debolina Saha	Indian institute of technology Hyderabad	Orthogonally self-sorted hydrogels with pathway-dependent morphology guide bimetallic nanozyme formation
PP-47	Deepa Suresh	University of Calicut	Drude-Type Negative Permittivity in Flexible Conductive Polymer Composites for Efficient Microwave Absorption and Electromagnetic Interference Shielding
PP-48	Neethumol S V	University of Calicut	Tailoring the Dielectric Response of PET Films Using Nickel Nanowires: Towards Negative Permittivity
PP-49	Nishanth Dominic	University of Calicut	Hierarchical Cobalt-Based/g-C ₃ N ₄ Nanostructures for High-Performance Supercapacitor Applications
PP-50	Manonmani Manoj	Sahrdaya College of Engineering and Technology (Autonomous), Trissur	Nature's Own Nanovesicles: Plant-Derived Exosomes- A green solution to global crisis of drug affordability in Targeted Anti-inflammatory Therapy
PP-51	Sreeram Punathil Raman	Inha University, Incheon, South Korea	Enhanced Non-Invasive Radiofrequency Heating Using 2D Pyrite (Pyritene): A Biomolecule-Interaction Framework for Localized Thermal Ablation
PP-52	Inchara R	yenepoya deemed to be university	Disposable Graphene Quantum Dots-Based Electrochemical Paper Immunosensor for Sensitive Detection of Vitamin D ₃
PP-53	Aswathi T	Indian Institute of Science Education and Research (IISER) Thiruvananthapuram	High entropy alloying anodes for fast charging sodium ion batteries
PP-54	Anjana K V	IISER Thiruvananthapuram	Interface engineering for stable quasi-solid-state anode-free zinc metal batteries

PP-55	Dharsini Nandhakumar	Yenepoya(Deemed to be Univeristy)	Development of electrochemical sensor for Breast cancer biomarker detection
PP-56	Adarsh Raj K P	NIT Calicut	SnS ₂ /WS ₂ Van der Waals Heterostructure for Photodetector Applications
PP-57	ANEESH A	University of Hyderabad	Size-Dependent Random Lasing in Amorphous SiO ₂ Nanoparticle– Rhodamine-6G Suspensions: Influence of Solvent and Scattering Strength
PP-58	VARSHA VIJAYAN	Cochin University of Science and Technology	Enhanced Zinc-Ion Battery Performance of MoS ₂ via Synergistic Interaction with Ti ₃ C ₂ T _x MXene
PP-59	LOLLY MARIA JOSE	UNIVERSITY OF KERALA	ZnO/g-C ₃ N ₄ Nanocomposites: A Multifunctional Platform for Photocatalysis and Supercapacitor Applications
PP-60	Veda P	Cochin University of Science and Technology	Micromagnetic study of skyrmions in chiral nanotube systems
PP-61	Ramla Kunnuparambil Kadarkutty	Cochin University of Science and Technology	Synthesis of hard magnetic BaFe ₁₂ O ₁₉ platelets using a salt assisted solid state method
PP-62	Aruna Joseph	Bishop Moore College	Revealing the Role of Rare Earth Ions in Tailoring Charge Storage Dynamics of MnFe ₂ O ₄
PP-63	VINEETH R	Cochin University of Science and Technology	Effect of precursor ratio on the structural and electrochemical performance of MoS ₂ anodes for sodium-ion batteries
PP-64	Anjala Jayaraj	Cochin University of Science and Technology	Wavelength-Selective Synaptic Plasticity and All-Optical Logic in ZnO _x /ITO _x Bilayer Memristors for Neuromorphic Vision
PP-65	WAFA K K	Cochin University of Science and Technology	Luminescence Properties of Eu ³⁺ -Doped CaTiO ₃ Phosphor for Lighting Applications
PP-66	Asha Paul	Cochin University of Science and Technology	MICROWAVE ASSISTED SYNTHESIS OF CARBON NANODOTS AND ITS APPICATION IN ANTIBACTERIAL STUDIES
PP-67	Vivek S	Mahatma Gandhi University	Magnetic frustration in epitaxially grown Gd doped Fe ₃ Sn ₂
PP-68	Aboobacker A. J	Cochin University of Science and Technology	Fatigue Properties of Graphene-Reinforced Devulcanized Rubber Composites: A Rational Approach for Sustainable Material Design
PP-69	Reshma S Babu	Pondicherry University	Hierarchical Nickel Ferrite/Graphene Oxide Nanocomposites for High-Performance Lithium-Ion Battery Anodes