

COCHIN NANO – 2026

TECHNICAL SCHEDULE

Fifth International Conference on Frontiers in Nanoscience and Technology

September 26 – 28, 2026

Venue: Seminar Complex, Cochin University of Science and Technology, Cochin

Time (IST)	Day 1: 26 th September, 2026
9:00 – 9:30	Inaugural session
Session I	
Session Chair: Prof. M R Anantharaman	
9:30 – 10:00	IL-1: Prof. Pulickel M Ajayan, <i>Rice University, Texas, USA</i> ‘Nano-Engineered Materials: From Monolayers to Heterostructures’
10:00 – 10:30	IL-2: Dr. Ajit K Roy, <i>Air Force Research Laboratory, USA</i> ‘Nano Materials for Enhanced Functionality for Aerospace Systems’
10:30 – 11:00	IL-3: Dr. Nilanthy Balakrishnan, <i>Keele University, UK</i> ‘Twistronics and Beyond: Tunable Electronic States in Graphene and Emerging 2D Materials’
11:00 – 11:15	Tea Break
11:15 – 11:45	IL-4: Prof. Rahul R Nair, <i>University of Manchester, UK</i> ‘Advanced 2D Materials: Engineering Molecular Transport for Water, Energy and Resource Sustainability’
11:45 – 12:15	IL-5: Prof. Arkady Krasheninnikov, <i>Helmholtz-Zentrum Dresden-Rossendorf, Germany</i> ‘Point and Line Defects in Free-standing and Intercalated 2D Materials’
12:15 – 12:45	IL-6: Prof. Jayan Thomas, <i>University of Central Florida, Orlando, USA</i> ‘The Body Becomes the Battery: Transforming Electric Transportation Through Structural Energy Storage’
12:45 – 13:45	Lunch Break
Session II	
Session Chair: Prof. M K Jayaraj	
13:45 – 14:15	IL-7: Prof. Kaushik Ghosh, <i>Institute of Nano Science & Technology, Mohali, India</i> ‘Tailoring the Properties of the Sn-Based Electrocatalyst for Green Hydrogen Production’
14:15 – 14:45	IL-8: Dr. Anil Kumar P R, <i>Sree Chitra Thirunal Institute for Medical Sciences and Technology, Kerala, India</i> ‘Nanomaterials in Tissue Engineering: Design and Application of Electrospun Scaffolds’
14:45 – 15:15	IL-9: Dr. Murukeshan Vadakke Matham, <i>Nanyang Technological University, Singapore</i> ‘Diagnostic Biomedical Optics - Recent Advances in diagnostic multi-modality multi-scale bioimaging R&D’
15:15 – 15:45	IL-10: Mr. Rhys Walters <i>Perpetuus Advanced Material Pvt Ltd, UK</i>
15:45 – 16:00	Tea Break
Session III	
Session Chair: Prof. John Philip	
16:00 – 16:30	IL-11: Prof. Manfred Albrecht, <i>Institute of Physics, University of Augsburg, Germany</i> ‘Dipolar-Stabilized Skyrmions and Antiskyrmions in Magnetic Multilayers’
16:30 – 17:00	IL-12: Prof. K. G. Suresh, <i>Indian Institute of Technology, Bombay, India</i> ‘Magnetic and related properties of certain intermetallic compounds’
17:00 – 17:30	IL-13: Prof. Sunil Nair, <i>Indian Institute of Science Education and Research (IISER), Pune, India</i> ‘Thermally Driven Spin and Charge Currents in Quantum Materials’
17:30 – 18:30	Poster Session (PP 1 – PP 40)

Day 2: 27 th September, 2026	
Session IV	
Session Chair: Prof. Beer Pal Singh	
9:30 – 10:00	IL-14: Dr. Harikrishna Varma P R, <i>Sree Chitra Thirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, India</i> ‘Nanobiomaterials - Challenges in Translation’
10:00 – 10:30	IL-15: Prof. Deepthy Menon, <i>Amrita Center for Nanosciences and Molecular Medicine, Kochi, India</i> ‘Smart Nanofibrous Implantable Systems for Localized Cancer Therapy’
10:30 – 11:00	IL-16: Prof. Seena V, <i>Indian Institute of Space Science and Technology, Thiruvananthapuram, India</i> ‘Towards Indigenous Gas Sensor Technology: Silicon and Polymer MEMS Platforms’
11:00 – 11:15	Tea Break
Session V	
Session Chair: Prof. T N Narayanan	
11:15 – 11:45	IL-17: Dr. Kingsuk Mukhopadhyay, <i>DMSRDE (DRDO), Kanpur, India</i>
11:45 – 12:15	IL-18: Dr. Radhapiyari Laishram, <i>SSPL (DRDO), Delhi, India</i> ‘Fabrication of Graphene based THz Devices’
12:15 – 12:45	IL-19: Prof. V Sajith, <i>National Institute of Technology (NIT), Calicut, India</i> ‘Encapsulated phase change material-based cooling for batteries/electronics’
12:45 – 13:45	Lunch Break
Session VI	
Session Chair: Prof. M M Shaijumon	
13:45 – 14:15	IL-20: Prof. Oomman K Varghese, <i>University of Houston, Texas</i> ‘Nanoscale Functional Materials: Bridging Energy Sustainability and Human Health’
14:15 – 14:45	IL-21: Dr. Suraj Soman, <i>CSIR-NIIST, Thiruvananthapuram, Kerala, India</i> ‘Energy from the Lampshade: Light That Works Overtime’
14:45 – 15:15	IL-22: Dr. Mudit Dixit, <i>CSIR-CLRI, Chennai, India</i> ‘Engineering Anionic Redox: From First Principles to Artificial Intelligence’
15:15 – 15:45	IL-23: Prof. Anchal Srivastava, <i>Institute of Science, Banaras Hindu University</i> ‘A walk through the realm of atomically thin materials: From Graphene to beyond’
15:45 – 16:00	Tea Break
Session VII	
Session Chair: Dr. Riju C Isaac	
16:00 – 16:10	OP-1: Dr. Suchandra Mukherjee <i>Indian Institute of Technology Mandi, India</i> ‘Harnessing the magnetic ordering and transport properties in Fe-doped Sb₂Te₃’
16:10 – 16:20	OP-2: Dr. Jayanta Sarmah Boruah <i>Indian Institute of Technology, Hyderabad, India</i> ‘Gold nanoparticle decorated graphene derivative for non-enzymatic sensing of diabetic biomarker’
16:20 – 16:30	OP-3: Pramod Kumar <i>Indian Institute of Technology (BHU), Varanasi, India</i> ‘Probing Oxygen Vacancy Mediated Charge Storage Kinetics in Sr_{1.85}FeCoO_{6-δ} through Electrolyte and Temperature’
16:30 – 16:40	OP-4: Dr. Subasa C. Sahoo <i>Central University of Kerala, Kasargod, Kerala, India</i> ‘Soft to hard ferrite transition by cobalt substitution in nanocrystalline spinel Ni-ferrite’
16:40 – 16:50	OP-5: Dr. Shruti Suriyakumar <i>Rice University, Texas, USA</i> ‘Anti-freezing water-based electrolytes for zinc-ion batteries at -30 °C’
16:50 – 17:00	OP-6: Dr. Sankaran Ramesh <i>Indian Institute of Technology, Kharagpur, India</i> ‘Structural chirality directs local optical modes and ultrafast energy flow in hybrid light-matter nanostructures’
17:00 – 17:10	OP-7: Dr. Sinu Mathew <i>St. Berchmans College, Mahatma Gandhi University, Kerala, India</i>

	'Tailoring of the luminescence of hexagonal boron nitride (h-BN) using focused Helium ion beams'
17:10 – 17:20	OP-8: Arun Raj R S <i>Bishop Moore College, Mavelikara, Kerala, India</i> 'Origin of Pseudocapacitive Properties in the Magnetic CoFe_{2-x}Nd_xO₄ System'
17:20 – 18:20	Poster Session (PP 41 – PP 69)
19:00 -	Conference Dinner

Day 3: 28th September, 2026	
Session VIII	
Session Chair: Prof. Sindhu Swaminathan	
9:00 – 9:30	IL-24: Prof. Ajay Soni, <i>Indian Institute of Technology, Mandi, India</i> 'Phonon Engineering and Multibody Interactions in Nanostructured Materials for Energy Harvesting'
9:30 – 10:00	IL-25: Prof. Saikat Talapatra, <i>Southern Illinois University, Carbondale, IL</i> 'A Perspective on Nanoporous and Layered Materials & their Related Applications'
10:00 – 10:30	IL-26: Dr. Aravind Kumar Rengan, <i>Indian Institute of Technology, Hyderabad, India</i> 'Smart Hybrid Nanosystems for Cancer Theranostics'
10:30 – 10:40	OP-9: Amily B <i>Department of Instrumentation, CUSAT, India</i> 'Engineering Two-Dimensional MoS₂ Nanosheets via Hydrothermal-Exfoliation Route for High-Performance Hydrogen Sensors'
10:40 – 10:50	OP-10: Joe Sunny <i>University of Augsburg, Germany</i> 'A Composite Soliton of Mixed Topology: Stability and Magnetic Field-Driven Motion'
10:50 -11:00	OP-11: Remya V R <i>University of Johannesburg, Doornfontein Campus, South Africa</i> 'Supertough Nanostructured Self assembled Thermosets - Aerospace and Automobile Applications'
11:00 – 11:15	<i>Tea Break</i>
Session IX	
Session Chair: Prof. Chandra Sekar Tiwary	
11:15 – 11:45	IL-27: Prof. Renu John, <i>Indian Institute of Technology, Hyderabad, India</i> 'Intelligent Nanoscopy Applications'
11:45 – 12:15	IL-28: Dr. Matthias Hagner, <i>University of Konstanz, Germany</i> 'Tailoring nonlinear optical crystals for electro-optical sampling (EOS) by nanopatterning GaSe with a focused ion beam'
12:15 – 12:25	OP-12: Dr. Gajjala Sumana <i>CSIR-National Physical Laboratory, New Delhi, India</i> 'Liquid Crystal based Biosensors for the bacterial infectious diseases'
12:25 – 12:35	OP-13: Dr. Swagata Patra <i>Indian Institute of Technology Bombay, India</i> 'Liposome-Based Delivery of DNA Aptamers to Inhibit Erythromycin Methyltransferase-Mediated Antibiotic Resistance'
12:35 – 12:45	OP-14: Chandra Lekha Putta <i>Indian Institute of Technology, Hyderabad, India</i> 'Engineering Chondroitin Sulfate-Coated ICG-Loaded DSPC/DPPE Liposomes for NIR-Triggered Antimicrobial Photothermal Therapy'
12:45 – 13:45	<i>Lunch Break</i>
Session X	
Session Chair: Prof. Asha A S	
13:45 – 14:15	IL-29: Dr. Chandan Bera, <i>Institute of Nano Science and Technology, Mohali, India</i> 'Theoretical Modelling of Thermoelectric Transport in Two-Dimensional Materials'
14:15 – 14:45	IL-30: Dr. Rakhi R B, <i>CSIR-NIIST, Thiruvananthapuram, Kerala, India</i> 'Ti-Based MXene Hybrids for Advanced Supercapacitors'
14:45 – 15:15	Valedictory Function