

Schedule – 32nd National Conference on Liquid Crystals (NCLC 2025)

Organized by: Department of Physics, BITS Pilani, Pilani Campus, India

PL: Plenary Lecture, **IL:** Invited Lecture, **OP:** Oral Presentation, **FT:** Flash Talk, **OS:** Online Session

Day – 1, Thursday, 20 th November, 2025		
08:00 – 09:00	BREAKFAST & REGISTRATION, VENUE: BITS PILANI CAMPUS	
09:00 – 09:50	WELCOME/INAUGURATION FUNCTION, VENUE: NAB AUDITORIUM	
09:50 – 10:20	HIGH TEA	
	SESSION CHAIR: Prof. Ravindra Dhar	Venue: NAB Auditorium
10:20 – 11:00	PL-1: Steroidal Core-Based Dimers: Pathways to Fascinating Chiral Liquid Crystals Prof. C.V. Yelamaggad, <i>CeNS, Bengaluru (ILCS Lifetime Achievement Award Lecture)</i>	
11:00 – 11:30	IL-1: Passive Vibration Sensor using Ferroelectric Liquid Crystals Dr. Abhishek Srivastava, <i>HKUST, Hong Kong</i>	
11:30 – 12:00	IL-2: Heteroannulated Triphenylene Discotic Liquid Crystals Prof. Sandeep Kumar, <i>Sharda University, Greater Noida</i>	
12:00 – 12:20	TEA	
	SESSION CHAIR: Prof. C.V. Yelamaggad	Venue: NAB Auditorium
12:20 – 13:00	PL-2: Ferroelectric Nematic Phase in rod-type molecules Prof. Jagdish K. Vij, <i>Trinity College Dublin, Ireland</i>	
13:00 – 13:30	IL-3: Patterned photoalignment with linearly polarized light to achieve 3D liquid crystal structures Prof. Kristiaan Neyts, <i>HKUST, Hong Kong</i>	
13:30 – 14:30	GROUP PHOTO & LUNCH	
	SESSION CHAIR: Prof. Susanta Sinha Roy SESSION THEME: <u>Interfacial Phenomena</u>	SESSION CHAIR: Prof. Sandeep Kumar SESSION THEME: <u>Theoretical and phase transition studies</u>
14:30 – 15:00	IL-4: Nature of the phases and the surface pKa estimation of some acid derivatives of cholesterol at interfaces Dr. P. Viswanath, <i>CeNS, Bengaluru</i>	IL-5: Optical and Calorimetric and Synchrotron X-ray Investigation of Transitions from Hexatic Phase to SmA and SmC Phases Prof. Malay Kumar Das, <i>NBU, West Bengal</i>

15:00 – 15:30	IL-6: From Self-Assembled Films to Brain-Inspired Neuromorphic Devices: The Promise of Discotic Liquid Crystals Dr. Alpana Nayak, <i>IIT Patna</i>	IL-7: Lyotropic Liquid Crystals from Chemical and Natural Surfactants: Structure, Properties, and Applications Dr. Ravi Kumar Shukla, <i>DIT University</i>
15:30 – 16:00	IL-8: Interfacial behavior of biological molecules: From cholesterol derivatives to drug-lipid interactions Prof. Raj Kumar Gupta, <i>BITS Pilani</i>	OP-1: Programming Soliton Dynamics in Liquid Crystals - Towards Bio-inspired Soft Matter Dr. Soumik Das, <i>IIT Kanpur</i>
16:00 – 16:20	OP-2: To study Solanum viarum fruit extract as a potential surfactant source and banana bark ash as a fabric whitener Dr. Amitabha Bhattacharyya, <i>Sikkim University</i>	OP-3: Field-induced isotropic-nematic transition in a two-dimensional liquid crystalline system of Gay-Berne ellipses Prof. Pankaj Mishra, <i>IIT Dhanbad</i>
16:20 – 16:40	OP-4: Exploring Halogen Bonding Supramolecular Liquid Crystalline Systems for Photo-responsive Property Dr. Susanta K. Nayak, <i>VNIT Nagpur</i>	OP-5: Electro-optical characterization of dielectric response of a twist-bend nematic in equilibrium and driven state Dr. Pramoda Kumar, <i>Ashoka University</i>
16:40 – 17:00	TEA BREAK	
17:00 – 17:40	Bureau of Indian Standards (BIS) Sponsored Lecture	
17:40 – 18:20	ILCS AWARD CEREMONY	
18:20 – 19:00	ANNUAL GENERAL BODY MEETING (AGM)	
20:00	DINNER	

Day – 2, Friday, 21 st November, 2025		
08:00 – 09:00	Breakfast, Venue: BITS Pilani Campus	
	SESSION CHAIR: Prof. Raj Kumar Gupta	Venue: NAB Auditorium
09:00 – 09:40	OS-1: Knotty Links Between Chiral Liquid Crystals, Particle Physics and Cosmology Prof. Ivan I. Smalyukh, <i>University of Colorado, Boulder, USA (Global Expert Online Session – 1)</i>	
09:40 – 10:20	OS-2: Polarization patterns of ferroelectric nematic liquid crystals Prof. Oleg D. Laurentovich, <i>Kent State University, USA (Global Expert Online Session – 2)</i>	
10:20 – 11:00	PL-3: Collective precession of mesogenic molecules at air-water interface: Precursor to synthetic molecular motors Prof. K.A Suresh, <i>RRI, Bengaluru</i>	
11:00 – 11:20	SPONSORS TALK	
11:20 – 11:40	TEA	
	SESSION CHAIR: Prof. Malay Kumar Das	Venue: NAB Auditorium
11:40 – 12:10	IL-9: Tailored Alignment Transitions in Liquid Crystals Enabled by Carbon Dots for Sensing and Photonic Applications Dr. Gautam Singh, <i>Amity University, Noida (ILCS Silver Medal Award Lecture – 1)</i>	
12:10 – 12:40	IL-10: Core/Shell nanocrystals dispersed ferroelectric liquid crystal nanocomposites Dr. Prasun Ganguly, <i>National Defence Academy, Pune (ILCS Bronze Medal Award Lecture – 1)</i>	
	SESSION CHAIR: Dr. Dharmendra P. Singh FLASH TALK SESSION – 1 Venue: NAB Audi.	SESSION CHAIR: Prof. A.S. Achalkumar FLASH TALK SESSION – 2 Venue: 6106
12:40 – 12:50	FT-1: Studies on Electrical Property of an Organosilane Self-Assembled Monolayer (SAM) Dr. Arup Sarkar, <i>Central University of Karnataka</i>	FT-2: Liquid crystal-aqueous interface renders selective detection of distinct mycobacterial cell envelope responses Dr. Tarang Gupta, <i>PMN College, Rajpura</i>
12:50 – 13:00	FT-3: Programming Soliton Dynamics in Liquid Crystals using Surface Anchoring – Towards bioinspired soft matter Dr. Praveen Kumar Singh, <i>IIT Kanpur</i>	FT-4: Imine bond flipping effects on 4-ringed thermo-chameleons with asymmetrically bent structure and terminal halogen substitution: Design, Synthesis and Characterization Dr. Varsha Jain, <i>Ashoka University</i>

13:00 – 13:10	FT-5: Conductivity behavior of nanoparticle dispersed nematic liquid crystal Dr. Shweta Mishra, <i>Tampere University, Finland</i>	FT-6: Cholesteryl Azo-Biphenyl Carbonates: Mesomorphic, Photophysical and DFT studies Dr. Sagar K. Bairwa, <i>Parul Institute of Applied Sciences, Vadodara</i>
13:10 – 13:20	FT-7: In situ Optical Detection and Removal of Ciprofloxacin residues from Hospital Waste Water: A Sustainable approach towards mitigating Antibiotic Micropollutants Dr. Sayani Das, <i>Shiv Nadar Institution of Eminence</i>	FT-8: Cholesteryl Azo-Biphenyl Carbonates: Mesomorphic, Impact of core modification on mesogenic, photophysical and optoelectronic properties in naphthophenanthridine and chromenonaphthophenanthridine derivatives Dr. Vanishree Bhat S., <i>Université du Littoral Côte d'Opale, France</i>
13:20 – 13:30	FT-9: Self-Assembly of Plant-Derived Lyotropic Liquid Crystals for Antimicrobial and Sustainable Material Applications Dr. Yogita, <i>DIT University, Dehradun</i>	FT-10: <i>To be announced</i>
13:30 – 14:30	LUNCH	
	SESSION CHAIR: Prof. Manjuladevi V. Venue: NAB Audi. SESSION THEME: <u>Doped LC systems & molecular ordering</u>	SESSION CHAIR: Prof. Santanu Kr. Pal Venue: 6106 SESSION THEME: <u>Doped LC systems & molecular ordering</u>
14:30 – 15:00	IL-11: Influence of dispersion of Dy³⁺-Doped Phosphor Nanoparticles in Liquid Crystals: Tailoring Material Properties for Tunable Microwave Devices Prof. M.R.K.N Rao, <i>Government College, Rajahmundry</i>	IL-12: Nematic Liquid Crystals and Carbon Nanostructures Composites Prof. Manoj B. Pandey, <i>VSSD College, Kanpur</i>
15:00 – 15:20	OP-6: Electric field induced self-assembly of multiferroic CoFe₂O₄ /ZnO core-shell nanocrystals in liquid crystal medium Dr. Ajay Kumar, <i>Dharma Samaj College, Aligarh</i>	OP-7: Investigations on the Dielectric Relaxation Modes in Liquid Crystalline Mixtures exhibiting Ferroelectric and Antiferroelectric Phases Dr. Banani Das, <i>Siliguri Institute of Technology</i>
15:20 – 17:00	POSTER PRESENTATION & TEA	
18:00 – 20:00	CULTURAL PROGRAMME	
20:00	GALA DINNER	

Day – 3, Saturday, 22 nd November, 2025		
08:00 – 09:00	Breakfast, Venue: BITS Pilani Campus	
	SESSION CHAIR: Prof. K.A. Suresh	Venue: NAB Auditorium
09:00 – 09:40	PL-4: Intricacies of the Impedance/Dielectric Spectroscopy Prof. Ravindra Dhar, <i>University of Allahabad</i> (<i>ILCS S.Chandrasekhar Memorial Award Lecture</i>)	
09:40 – 10:20	OS-3: Development of liquid crystal elastomers for biomimetic actuators and soft robotics Dr. Hari Krishna Bisoyi, <i>Kent State University, USA</i> (<i>Global Expert Online Session – 3</i>)	
10:20 – 10:50	IL-13: Advanced Columnar Materials and their Optoelectronic Applications Dr. Dharmendra P. Singh, <i>ULCO, France</i> (<i>ILCS Silver Medal Award Lecture – 2</i>)	
10:50 – 11:10	SPONSORS TALK	
11:10 – 11:30	TEA	
	SESSION CHAIR: Dr. P. Viswanath Venue: NAB Audi. SESSION THEME: <u>LC based devices</u>	SESSION CHAIR: Prof. Malay Kumar Das Venue: 6106 SESSION THEME: <u>Novel LC designs & molecular interactions</u>
11:30 – 12:00	IL-14: Functionalization of Triboelectric Nanogenerators Using UV-Curable Liquid Crystal Polymers for Energy Harvesting and Smart Window Integration Prof. Susanta Sinha Roy, <i>Shiv Nadar Institution of Eminence</i>	IL-15: Unusual polar ordering and room-temperature blue phase stabilization in tetrafluorinated bent-shaped mesogens Prof. Santanu Kumar Pal, <i>IISER Mohali</i>
12:00 – 12:30	IL-16: Functional organic dopants in liquid crystals for aggregation induced emission, blue phase stabilization and photonic applications Prof. Aloka Sinha, <i>IIT Delhi</i>	IL-17: Influence of the lateral substituents of proton donor/proton acceptors on mesomorphism in Hydrogen Bonded Liquid Crystals Dr. M. Srinivasulu, <i>MIT, Manipal</i>
12:30 – 13:00	IL-18: Display Technologies and Visual Optimization Algorithms for Immersive Mobile Compute and XR Applications Dr. Panikumar Kallamballe, <i>Qualcomm India Pvt. Ltd.</i>	IL-19: Indolo-[2,3-b]quinoxaline: A Core for the Stabilization of Room Temperature Liquid Crystalline Self-Assembly, Aggregation-Induced Emission, and Bioimaging Applications Prof. A.S Achalkumar, <i>IIT Guwahati</i>

13:00 – 13:20	OP-8: Polymer Dispersed Liquid Crystal Composites for Integrated Smart Window and Environmental Sensing Technologies Dr. Praveen Malik, <i>NIT Jalandhar</i>	OP-9: Liquid Crystals as Platforms for Designing Efficient Solar Thermal Fuels Dr. Monika Gupta, <i>IIT Jodhpur</i>
13:20 – 14:00	LUNCH	
	SESSION CHAIR: Prof. Aloka Sinha	Venue: NAB Auditorium
14:00 – 14:30	IL-20: Engineering Soft Matter Electronics: Transforming Energy, Healthcare and Sustainability Dr. Achu Chandran, <i>CSIR-NIIST, Thiruvananthapuram (ILCS Bronze Medal Award Lecture – 2)</i>	
14:30 – 14:50	DST TEC Lecture	
	SESSION CHAIR: Prof. JK. Vij SESSION THEME: <u>Doped LC systems & molecular ordering</u>	SESSION CHAIR: Prof. A.S. Achalkumar SESSION THEME: <u>Novel LC designs & molecular interactions</u>
14:50 – 15:20	IL-21: Liquid Crystalline Soft Nanocomposites for Smart Windows and Display Devices Prof. Pankaj Kumar, <i>Chitkara University</i>	IL-22: Fabrication and characterization of soft nanocomposites via strategically designed molecular self-assembly Prof. C.R. Bhattacharjee, <i>Assam University</i>
15:20 – 15:50	IL-23: Impact of Two-Dimensional Nanomaterials on Nematic Ordering and Electro-Optic Response in Nematic Liquid Crystals Prof. Manjuladevi V., <i>BITS Pilani</i>	OP-10: Investigation of Mono-Annulated Indigo Derivatives for Next-Generation Solar Energy Harvesting Materials Dr. Nitika Grover, <i>BITS Pilani</i>
15:50 – 16:10	OP-11: Probing Collective Polar Order in the Ferroelectric Nematic Phase via Dielectric and Raman Spectroscopy Dr. Pankaj Kumar Tripathi, <i>Sharda University</i>	OP-12: Kinetics of interaction of BSA protein with Gamma – Oryzanol Langmuir monolayer Dr. Bharat Kumar, <i>Central University of Karnataka</i>
16:10 – 17:00	VALEDICTORY FUNCTION	
17:00	TEA	

Guidelines for the talks		
<i>Type</i>	<i>Details</i>	
Invited Lectures (IL)	Presentation Time: 25 min	Q&A session: 5-10 min
Oral Presentation/ Short invited talk (OP)	Presentation Time: 15 min	Q&A session: 5-10 min
Flash Talk (FT)	Presentation Time: 8 min	Q&A session: 2 min