



International Society on  
Optics Within Life Sciences



## Day 2. 19<sup>th</sup> November (Tuesday) ATOS Day

Time	Room A (LH 21)	Room B (LH 22)	Room C (LH 32)	Room D (LH 33)
Session 2.1 09:00 - 10:30	<p><b>Chair:</b> Jyotishman Dasgupta, <i>TIFR Mumbai</i></p> <p><b>Plenary Talk 2:</b> Vahid Sandoghdar, <i>Max Planck Institute for the Science of Light, Erlangen, Germany</i> iSCAT Microscopy: Label-free 3D Imaging of Live Cells, Viruses and Proteins</p> <p><b>Mihir Chowdhury Student Fellowship Talk 1:</b> Pritam Saha, <i>IISER Mohali</i> <i>Inverse Adaptation to Force Modalities in Multidomain Proteins: The role of Interdomain Linkers</i></p> <p><b>Invited Short Talk:</b> Gabriel Moya, <i>Technische Universität, Dortmund, Germany</i> Single-molecule Spectroscopy &amp; Super-resolution Microscopy at the Biochemistry Lab Bench</p> <p><b>Technical Talk 1.</b> Folusho Helen, <i>ATOS: Advances in Detectors in Fluorescence Spectroscopy</i> <i>Prof. B. Nag Auditorium</i></p>			
	10:30 - 11:00 Tea Break, <a href="#">Ground Floor Cafeteria</a>			
	<b>Chair:</b> Devang Khakhar <i>IIT Bombay</i>	<b>Chair:</b> Kasturi Saha <i>IIT Bombay</i>	<b>Chair:</b> A. Q. Contractor <i>IIT Bombay</i>	<b>Chair:</b> Sabyasachi Rakshit <i>IISER Mohali</i>
Session 2.2 11:00 -13:00	<p><b>Jayant B. Udgaonkar</b> <i>IISER Pune</i> Induction of Structure in the Intrinsically Disordered Region of the Mammalian Prion Protein in Prion Protein Condensates</p>	<p><b>Christoph J. Fahrni</b> <i>Georgia Institute of Technology, Atlanta, GA, USA</i> Zn II-Responsive Ratiometric Fluorescent Probes for Two-Photon Excitation Microscopy</p>	<p><b>Martina Havenith-Newen</b> <i>Ruhr University Bochum, Germany</i> Probing Free Energy in Reactions by THz spectroscopy – Ask the Water!</p>	<p><b>Julie Biteen</b> <i>University of Michigan</i> Measuring Interactions and Biomolecular Condensates in Microbes</p>
	<p><b>Sudipta Maiti</b> <i>BITS-Pilani, Hyderabad</i> Reducing Membrane Cholesterol inhibits Neuronal Exocytosis</p>	<p><b>David Margulies</b> <i>Weizmann Institute of Science</i> Fluorescence Labeling of Cancer Cells with Chemically Modified Bacteria</p>	<p><b>Rajib Kumar Mitra</b> <i>S.N. Bose National Centre for Basic Sciences</i> Impact of Ion Solvation on Biomolecular Condensation: The Hofmeister Series and Beyond</p>	<p><b>Juergen Czarске</b> <i>TUD Dresden University of Technology, Germany</i> Human induced Pluripotent Stem Cell-derived Neurons and Cardiomyocytes Investigated by Holographic Closed-loop Optogenetics</p>
	<p><b>Samir Maji</b> <i>IIT Bombay</i> Amyloid Nucleation through Protein Phase Separation</p>	<p><b>Sarit S. Agasti</b> <i>JNCASR, Bengaluru</i> Expanding Imaging Capabilities Beyond Traditional Microscopy through Dynamic Host-Guest Molecular Interactions</p>	<p><b>Amartya Sengupta</b> <i>IIT Delhi</i> THz Sensing for Biochemical and Environmental Applications</p>	<p><b>Thorsten Wohland</b> <i>National University of Singapore</i> The Cortical Actin Cytoskeleton Regulates Membrane Protein Organization and Dynamics</p>
	<p><b>Samrat Mukhopadhyay</b> <i>IISER Mohali</i> Prying into Biological Condensates Using Single-Molecule and HomoFRET</p>	<p><b>Sebastian Kruss</b> <i>Ruhr University Bochum</i> Near Infrared Fluorescence Imaging for Biomedical Applications</p>	<p><b>Anindya Datta</b> <i>IIT Bombay</i> Fluorogenic Probes for Biomolecular Interactions</p>	<p><b>Bidyut Sarkar</b> <i>Shiv Nadar Institution of Eminence</i> Pulsed-interleaved-excitation Two-Dimensional Fluorescence Lifetime Correlation Spectroscopy (PIE 2D FLCS): Development and Applications to Study Biomolecular Structural Dynamics</p>
13:00 - 14:00	Lunch, <a href="#">Second Floor Foyer &amp; Canopy Area</a>			
	Fluorescence Methods (FM)	Probes in Biology (PB)	Ultrafast Spectroscopy (UFS)	Single Molecule Spectroscopy (SMS)
	Super Resolution Methods (SR)	Bio-imaging in Cells (BiC)	SERS & Raman (S&R)	Theory & Modelling (T&M)



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	<b>Chair:</b> Debjani Paul <i>IIT Bombay</i>	<b>Chair:</b> A. S. R. Koti <i>TIFR Mumbai</i>	<b>Chair:</b> Sachin Dev Verma <i>IISER Bhopal</i>	<b>Chair:</b> G. Naresh Patwari <i>IIT Bombay</i>
<b>Session 2.3</b> 14:00-16:00	<b>Elvis Pandzic</b> <i>UNSW Sydney</i> Biophysical Tools for Characterizing Ciliary Dynamics in Primary Cells: Towards Personalized Respiratory Disease Diagnostics and Treatment	<b>Mily Bhattacharya</b> <i>Thapar University</i> Regulation of Protein Aggregation and Disaggregation Using Salts	<b>Shinsuke Shigeto</b> <i>Kwansei Gakuin University</i> Nondestructive Single-Cell Identification of Microbial Species and Domains Using Raman Microspectroscopy and Machine Learning	<b>Hugo Sanabria</b> <i>Clemson University</i> Refining Single-Molecule FRET Analysis: New Models for Biomolecular Dynamics
	<b>Pramit K Chowdhury</b> <i>IIT Delhi</i> Ultrafast Energy Flow of Heme Proteins In Crowded Milieu	<b>Tamal Das</b> <i>TIFR Hyderabad</i> Imaging Cellular Organelles during Collective Cell Migration	<b>Yoosaf Karuvath</b> <i>Cochin University of Science and Technology, Kochi</i> Raman Spectroscopy for Quantitative Estimation of Food Adulterations and Disease Biomarkers	<b>Jatish Kumar</b> <i>IISER Tirupati</i> Circularly Polarized Light Emission in Chiral Nanomaterials
	<b>Chayan Kanti Nandi</b> <i>IIT Mandi</i> Fluorescent Nano Probes for in Vivo Long-Term Tracking and Super-Resolution Imaging of Lysosomal Dynamics	<b>Sabyasachi Rakshit</b> <i>IISER Mohali</i> Replicating Active Transport of Microorganisms in Synthetic Systems	<b>Soumik Siddhanta</b> <i>IIT Delhi</i> Machine Learning-driven High-resolution Raman Spectral Generation for Accurate Molecular Feature Recognition	<b>Trevor Smith</b> <i>University of Melbourne, Australia</i> Time-resolved, Polarised Fluorescence Microscopy – Influence of Alignment
	<b>Sivaprasad Mitra</b> <i>North-Eastern Hill University, Shillong</i> Therapeutic Advantages of Drug-Composites: Development and Repurposing of Acetylcholinesterase Inhibitors	<b>Bibhu Ranjan Sarangi</b> <i>IIT Palakkad</i> Stiffness Gradient Substrate for Cellular Mechano-sensing	<b>Santhosh Chidangil</b> <i>Manipal Academy of Higher Education</i> Human Platelet Activation Dynamics Probed by Optical Techniques	<b>Hema Chandra Kotamarthi</b> <i>IIT Madras</i> Fate of Knotted Proteins during Direction Degradation and Constrained Folding Conditions
16:00 - 18:00	Poster Session-1 FCS + OWLS with Tea/Coffee, <b>Ground Floor</b>			
<b>Session 2.4</b> 18:00 - 19:15	<b>Chair:</b> Anindya Datta, <i>IIT Bombay</i> <b>Plenary Talk 3:</b> Tahei Tahara, <i>RIKEN Japan</i> Perpendicular Phantom State in cis-trans Photoisomerization Captured by Ultraviolet Femtosecond Time-resolved Raman Spectroscopy <b>Kankan Bhattacharyya Student Fellowship Talk:</b> Arup Kundu, <i>MIT, USA</i> Singlet Fission Induced TT Pair Generation in Chiral Diketopyrrolopyrrole Aggregates <b>Technical Talk 2:</b> Aum Shethia, <i>ATOS</i> : Introduction to New Scientific Instruments <b>Prof. B. Nag Auditorium</b>			
19:30 - 23:00	Banquet Dinner at Athena, <b>Supreme Business Park (Hosted by ATOS)</b>			
	Fluorescence Methods (FM)	Probes in Biology (PB)	Ultrafast Spectroscopy (UFS)	Single Molecule Spectroscopy (SMS)
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