

Day 1 (10-Dec-2024)			
Venue	Time	Speaker	Title of Talk
LH7	8: 15 am - 8:45 am	Arrival to LHC and Spot Registration	
	8:45 am - 9:00 am	Welcome Session	
Session I			
LH7	9:00 am - 9:45 am	PL 1: Ken Ghiggino <i>University of Melbourne</i>	Ultrafast Spectroscopy of Organic Semiconducting Materials
	9:45 am - 10:30 am	PL 2: Trevor Smith <i>University of Melbourne</i>	Photophysical Pathways to Exciton Logic
	10:30 am - 11:15 am	PL 3: Amitava Patra <i>INST Mohali</i>	insights of Ultrafast Carrier Dynamics of Light-harvesting Nanomaterials
LHC Foyer	11:15 am - 11:45 am	Tea Break	
Session II (parallel)			
LH7	11:45 am - 12:15 pm	IL 1: Chayan Nandi <i>IIT Mandi</i>	CdTe _{0.25} Se _{0.75} Quantum Dots as Efficient Room Temperature Single Photon Source for Quantum Technology
	12:15 pm - 12:45 am	IL 2: Manabendra Chandra <i>IIT Kanpur</i>	Role of AcrAB-TolC and Its Components in Influx–Efflux Dynamics of QAC Drugs in <i>Escherichia coli</i> Revealed using Nonlinear Spectroscopy
	12:45 pm- 1:00 pm	SIL 1: Jhuma Datta <i>IISER Mohali</i>	Cavity-induced Energy Transfer in Phototransistor Devices
LH3	11:45 am - 12:15 pm	IL 3: Sachin Srivastava <i>IIT Roorkee</i>	Enhancing Reliability of Biosensors Based on Surface Enhanced Raman Spectroscopy
	12:15 pm - 12:45 am	IL 4: Asoka Biswas <i>IIT Ropar</i>	Measurement-based Quantum Thermal Machines
	12:45 pm - 1:00 pm	SIL 2: Aman Sharma <i>IIT Kanpur</i>	Advancements in Ultrafast Thermal Lens Spectroscopy: Convection Optimization for Improved Performance
LH4	11:45 am - 12:15 pm	IL 5: Rajarshi Chakrabarti <i>IIT Bombay</i>	Phase Separation in Active Systems: Insights from Computer Simulations
	12:15 pm - 12:45 am	IL 6: Malay Kumar Rana <i>IISER Berhampur</i>	Discovery of Druggable Allosteric Sites in SARS-CoV-2 Protein Targets: Insights from Molecular Dynamics Simulations
	12:45 pm - 1:00 pm	SIL 3: Subho Mitra <i>IISER Mohali</i>	Wave Packet Interferometry using Phase-locked Pulse-Pair: <i>Population vs Coherence</i> and its Application to a Double-well Potential
LHC Foyer	1:00 pm - 2:00 pm	Lunch	
LHC Foyer	2:00 pm - 4:00 pm	Poster session I (PI - P27) & Tea (3:30 pm to 4:00 pm)	
Session III			
LH7	4:00 pm - 4:45 pm	PL 4: N. Sathyamurthy <i>IISER Mohali</i>	Intriguing Features of Passionflower (<i>Passiflora Incarnata</i>): A spectrochemical Study
	4:45 pm - 5:30 pm	PL 5: Satrajit Adhikari <i>IACS Kolkata</i>	Role of Electron-Nuclear Coupling: Spectroscopy, Scattering and Phase Transition
Session IV			
LH7	5:30 pm - 6:15 pm	PL 6: Ritesh Agarwal <i>University of Pennsylvania</i>	3D Opto-twistronic Hall Effect - A New Paradigm of Light-matter Interaction in a Twisted Coordinate Frame
	6:15 pm - 6:30 pm	SIL 4: Sakshi Chawla <i>IISER Mohali</i>	Bidirectional Pathway of Energy Transfer between Chlorophyll-a and Astaxanthin in Solution following Soret Band Excitation
	6:30 pm - 6:45 pm	CL 1: Atos	Industry Portfolio Presentation
	6:45 pm - 6:55 pm	CL 2: Anatech	Industry Portfolio Presentation
LHC Foyer	6:55 pm - 8:30 pm	Dinner	
LH7	8:30 pm - 9:15 pm	PL7 (Online): Donna Strickland <i>University of Waterloo</i>	Investigation of Multi-frequency Raman Generated Spectra
	9:15 pm - 10:00 pm	PL8 (Online): Graham Fleming <i>University of California Berkeley</i>	How to Design an Antenna for a Really Dangerous Photochemical Reaction: The Photosystem II Supercomplex

Day 2 (11-Dec-2024)			
Venue	Time	Speaker	Title of Talk
Session I			
LH7	8: 15 am - 9:00 am	PL 9 (Online): Warren Warren <i>Duke University</i>	Understanding Applications of Nonlinear Optics to melanoma Diagnosis and Cultural Heritage Applications
	9:00 am - 9:45 am	PL 10 (Online): Marcos Dantus <i>Michigan State University</i>	Visualizing The Ultrafast Fragmentation of Polyatomic Molecules After Electron-Impact Ionization
	9:45 am - 10:30 am	PL 11 (Online): Martin Gruebele <i>University of Illinois</i>	Simple Dynamics of Complex Systems: from Quantum Scrambling to Carbon Dots to Proteins in Cells
	10:30 am - 11:00 am	IL 7 (Online): Zubin Jacob <i>Purdue University</i>	Microscopic Effects in Quantum Optical Materials
	11:00 am - 11:10 am	CL 3 (Online): Laser Science	Industry Portfolio Presentation
LHC Foyer	11:10 am - 11:45 pm	Tea Break	
Session II (Parallel)			
LH7	11:45 am - 12:15 pm	IL 8: Ayan Banerjee <i>IISER Kolkata</i>	Rotation, Revolution, and Random Oscillation: Intriguing Dynamics of Trapped Single Asymmetric Clusters of Carbon in a Photophoretic Trap in Air
	12:15 pm - 12:45 am	IL9: Basudev Roy <i>IIT Madras</i>	Study of Out-of-plane Rotations in Optical Tweezers Applied to Intracellular Transport
	12:45 pm - 1:00 pm	SIL 5: Dipankar Mondal <i>BKC College, Kolkata</i>	Modulation of Membrane Rigidity to Control Interfacial Water Structure and Dynamics
LH3	11:45 am - 12:15 pm	IL 10: Aloke Das <i>IISER Pune</i>	Sequence of Protein Alphabets Dictates the Secondary Structures of Peptides
	12:15 pm - 12:45 am	IL 11: Sayan Bagchi <i>NCL Pune</i>	Water-enhanced DES Electrolytes: A Path to Stable Zinc-ion Batteries
	12:45 pm - 1:00 pm	SIL 6: Partha Roy <i>IIT Gandhinagar</i>	Study Ultrafast Energy and Charge Transport by Two-dimensional Electronic-vibrational Spectroscopy
LH4	11:45 am - 12:15 pm	IL 12: Sibasish Ghosh <i>IMSC Chennai</i>	Towards Universal Detection of Entanglement in Two-mode Gaussian States
	12:15 pm - 12:45 am	IL 13: Rajesh Kushawaha <i>PRL Ahmedabad</i>	Two-color Laser Field Induced Ionization of Atoms and Molecules: Tunnel Electron-induced Processes
	12:45 pm - 1:00 pm	SIL 7: Noufal Kandoth <i>SRM Chennai</i>	Multimodal Biofilm Inactivation using Photocatalytic Metal Halide Perovskite-based Ternary Heterojunctions and their Operando Spectroscopic/Microscopic Studies
LHC Foyer	1:00 pm - 2:00 pm	Lunch	
LHC Foyer	2:00 pm - 4:00 pm	Poster session II (P28 - P54) & Tea (3:30 pm to 4:00 pm)	
Session III			
LH7	4:00 pm - 4:45 pm	PL 12: Howe-Siang Tan NTU Singapore	Ultrafast Excitation Energy Transfer Processes in Photosynthetic Light Harvesting Complexes and Photosystems
	4:45 pm - 5:30 pm	PL 13: Eric Borguet <i>Temple University, Philadelphia</i>	Nuclear Quantum Effects on Vibrational Relaxation at Aqueous Oxide Interfaces
Session IV			
LH7	5:30 pm - 6:15 pm	PL 14 (hybrid mode): Debabrata Goswami <i>IIT Kanpur</i>	Ultrafast Laser Induced Novel Linear and Nonlinear Spectroscopy
LH7	6:15 pm – 7:00 pm	Special session (hybrid mode): Felicitation to Debabrata Goswami	
Visitor Hostel	7:00 pm onwards	Gala Dinner	

Day 3 (12-Dec-2024)			
Venue	Time	Speaker	Title of Talk
Session I			
LH7	8: 15 am - 8:45 am	PL15 (Online): Dwayne Miller <i>University of toronto</i>	Mapping Atomic Motions with Ultrabright Electrons: Fundamental Space-time Limits to Imaging Chemistry and Biology
	8:45 am - 9:00 am	SIL 8 (Online): Anita Devi Pasqal, Canada	Theory and Experiment on Optical Trapping With Ultrashort Laser Pulses: Dielectrics, Metals and Beyond
	9:00 am - 9:45 am	PL 16 (Online): Qing-Hua Xu <i>National University of Singapore</i>	Two-photon Photoluminescence of Noble Metal Nanoparticles
	9:45 am - 10:30 am	PL 17 (Online): Takashi Nakajima <i>Kyoto University</i>	Laser and Optics Based Techniques Applied To Energy Science
	10:30 am - 11:00 am	IL 14: Suman K. Pal <i>IIT Mandi</i>	Exciton and Valley Dynamics in Layered Transition Metal Dichalcogenides
	11:00 am - 11:15 am	SIL 9: Akriti Mishra <i>Aarhus University</i>	Probing Alpha Synuclein Structure and Orientation on Nanoplastics Using Ultrafast Nonlinear Optical Spectroscopy
LHC Foyer	11:15 am - 11:45 pm	Tea Break	
Session II (Parallel)			
LH7	11:45 am - 12:15 pm	IL 15: Sugumar V <i>IISER Mohali</i>	Azoheteroarene Photoswitches for Light Modulation of Properties and Functions
	12:15 pm - 12:30 pm	SIL 10: Moritz Sallermann <i>University of Iceland</i>	Lifetimes of Magnetic Hopfions in Frustrated Exchange Magnets
	12:30 pm - 12:45pm	SIL 11: Amrita Goswami <i>University of Iceland</i>	Revisiting The Solvation Shell Structure of Aqueous Fe ³⁺
	12:45 pm - 1:00 pm	SIL 12: Rohit Goswami <i>University of Iceland</i>	Photochemical Process Elucidation Accelerated with Statistical Learning
LH3	11:45 am - 12:15 pm	IL 16: Sanchita Sengupta <i>IISER Mohali</i>	Unravelling The Excited State Dynamics of Multichromophoric Light Harvesting Dyads, Regioisomers and Triad Systems
	12:15 pm - 12:30 pm	SIL 13: Narayan Sinha <i>IIT Mandi</i>	Ultrafast Spectroscopic Characterization of Charge Transfer Excited States in 3d Metal Complexes
	12:30 pm - 12:45pm	SIL 14: Brij Mohan <i>IISER Mohali</i>	Coherent Heat Transfer Leads to Genuine Quantum Enhancement in Performances of Continuous Engines
	12:45 pm - 1:00 pm	SIL 15: Kaushal Vairagi <i>CSIO, CSIR, Chandigarh</i>	Optical Fiber Nanojet Probe for Spectroscopic Applications
LH4	11:45 am - 12:15 pm	IL 17: Biman Bandopadhyay <i>MNIT Jaipur</i>	Exploration of Shallow, Multi-minimum PESs by Freezing Fast Interconversions: H-bonded Complexes of H ₂ S in Cold and Solid Inert Matrix
	12:15 pm - 12:30 pm	SIL 16: Sudhanshu Naithani <i>UPES Dehradun</i>	Luminescent Ruthenium(ii) Complex Probe for Highly Selective and Sensitive Cyanide Detection in Aqueous Solutions
	12:30 pm - 12:45pm	SIL 17: Ronak Lazarus <i>BITS Pilani, Hyderabad</i>	Biocompatible Fluorescent Nanothermometers for Accurate Temperature Sensing in Cellular Environments
	12:45 pm - 1:00 pm	SIL 18: Parkhi Bhardwaj <i>IIT Ropar</i>	Generation of Vortices in Microwave Regime
LH7	1:00 pm - 1:30 pm	Valedictory Session	
LHC Foyer	1:30 pm - 3:00 pm	Lunch	
3:00 pm onwards		Lab Visits	
PL: Plenary Lecture IL: Invited Lecture		SIL: Short Invited Lecture CL: Company Lecture	

Organizers

Prof. Anil K. Tripathi, Director, IISER Mohali (Patron)
Prof. Debabrata Goswami, IIT Kanpur (Advisor)

Prof. Arijit K. De, IISER Mohali (Convener)

Prof. Amit Nag, BITS Pilani (Co-Convener)
Prof. Tapas Goswami, UPES Dehradun (Co-Convener)
Prof. Jino George, IISER Mohali
Dr. Manabendra N. Bera, IISER Mohali
Prof. Samir K. Mondal, CSIR-CSIO Chandigarh
Prof. Shubhrangshu Dasgupta, IIT Ropar

Volunteers

Abdul Alim
Amit Kumar
Anjali Bansal
Aritrika Paul
Gaurav Jhaa
Godwin Maliyekkal
indira Sarkar
Kiranpreet
Kuljeet Kaur
Meghna Bera
Mithu Kumari
Monu
Mukul Nawani

Nitin Yadav
Pallavi Garg
Rajani
Ram Diwakar
Ramandeep Kaur
Sagar Gawande
Sakshi
Sakshi Chawla
Sasthi Paul
Subho Mitra
Sushila Kumari
Sneha Samanta
Vipanchi



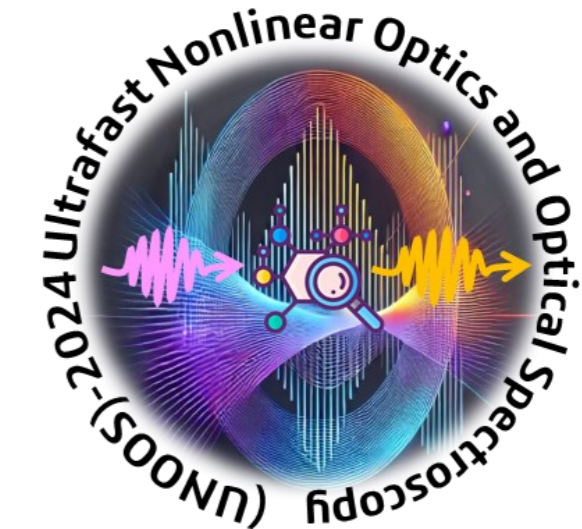
Abstract Book

Our Sponsors



International Conference on Ultrafast Nonlinear Optics and Optical Spectroscopy (UNOOS)

10th-12th December 2024



Program Schedule

Indian Institute of Science Education and Research Mohali
Punjab, India



UNOOS 2024

UNOOS 2024

UNOOS 2024