SRM UNIVERSITY AP
Andhra Pradesh

1st International Conference on

Emerging Trends in Optical Technologies

(ETOT-I)

Day 1 (02/01/2025 Thursday)

Inauguration (09:00-09:30) (Theatre, SR Block)			
Plenary Talk (09:30 - 10:15)	Metamaterials for quantum technologies		
	Prof. A. Venu Gopal, National Physical Laboratory, New Delhi, India		
Tea/Coffee break (10:15 - 10:30)			
Session (10:30 - 12:30)	**Session 1 (Hall-I)**	**Session 2 (Hall – II)**	**Session 3 (Hall – III)**
Keynote Talk (10:30 - 11:05)	Taming the randomness of light for coherence shaping and imaging	Holographic Heat Flow Visualization: Application in anomaly detection	Femto-second laser applications
	Prof. Rakesh Kumar Singh	Prof. Arun Anand	Prof. Saulius Juodkazis (Online)
Keynote Talk (11:05 - 11:40)	Towards 100 kW and Beyond Through Coherent Beam Combining	Learned Solutions for Imaging-Based Biomedical Diagnostics	Vein Imaging and Calibration Using Stereo Vision and AI
	Prof. Balaji Srinivasan	Dr. Ganesh	Prof. Vandana Sharma
Invited Talk (11:40 - 12:05)	Single Pixel Detection of Structured Light	Computational Imaging with Diffractive- and Meta- Optical Elements	Efficient Mid-infrared Femto-second Pulse Generation in a Gas Filled Anti-resonant Hollow-core Fiber
	Dr. Vijay Kumar	Prof. Karen Egiazarian (online)	Dr. GT Vikram
Contributory Talk (12:05 - 12:20)	Suppressing noise for recovering limited support images from blurred images using iterative deconvolution algorithms	Holographic concentrator designing using multiplexed recording method for tracking a wide angular range of illumination	Tungsten Disulfide (WS2) Assisted LRSPR Sensor: A Path to Deeper penetration and higher Figure of Merit
	Sai Deepika Sure	Rahul Mandal	Akila Chithravel
Contributory Talk (12:20 - 12:35)	Fresnel Incoherent Correlation Holography with Enhanced Temporal and Axial Resolutions	Tuning of binding energy of a delocalized trion in monolayer WS2 via dielectric nanoparticle stressors	Observation of higher order optical nonlinearities in functionalized hBN QDs via laser induced transient grating technique
	Francis Gracy Arockiaraj	Yunus Waheed	Sugandh Sirohi
Lunch (12:30 - 13:30)			
Plenary Talk (13:30 - 14:15)	Holotomography and artificial intelligence: label-free 3D imaging, classification, and inference of live cells, tissues, and organoids		

(Theatre SR Block)	Prof. Y. K. Park, Korea Advanced Institute of Science & Technology (KAIST), South Korea (Online)		
Sponsored talk (14:15 - 14:30)	University of Tartu, Estonia		
	Prof. Indrek Jogi (Online)		
Session (14:35 - 16:15)	**Session 4 (Hall-I)**	**Session 5 (Hall-II)**	**Session 6 (Hall – III)**
Keynote talk (14:35-15:10)	Diffuse Optical Tomography Chip for Continuous Brain Activity Monitoring	Phase-Contrast Marker-Free Flow Cytometry: A Groundbreaking Method for Advanced Cell Analysis	Daily-use light holography
	Prof. Shlomi Arnon (Online)	Prof. Ferraro (online)	Prof. Tatsuki Tahara
Invited Talk (15:10 - 15:35)	LASER RADAR : The Sensor for Environmental monitoring, Security, Surveillance and Autonomous transport.	A Cryptosystem Based on Devil's Vortex Fresnel Array Phase Key and Fractional Hartley Transform	Recent advances and future challenges in ophthalmic Shack-Hartmann wavefront sensing
	Dr. Malladi Satyanarayana	Prof. Hukum Singh	Dr. Vyas Akondi
Invited Talk (15:34 - 16:00)	Supercontinuum Generation in Chalcogenide Optical Waveguide	From Data to Light: AI and Machine Learning in Applied Optics	Analysis of Double Aperture Speckle Interferometer Consisting of Hololens Imaging Configuration
	Dr. Nandam Ashok	Prof. Deepak Mishra	Dr. Abhijit Ghosh
Contributory Talk (16:00 - 16:15)	Wavefront errors from continuous reflectivity variations in layered samples using Shack-Hartmann wavefront sensors	Decoupling Axial and Spectral Aberrations in Interferenceless Coded Aperture Correlation Holography	Non-Linear Lucy-Richardson Algorithm for Interferenceless Coded Aperture Correlation Holography
	Paresh Kumar Sahoo	Eulàlia Puig Vilardell	Agnes Pristy Ignatius Xavier
Tea and networking (16:15 - 16:30)			
Session (16:30 - 17:35)	**Session 7 (Hall – I)**	**Session 8 (Hall – II)**	**Session 9 (Hall – III)**
Invited Talk (16:30 - 16:55)	Mid-infrared Sources and Detectors	Advanced Optical Techniques for Healthcare Applications	Mathematical Transforms in Computational Imaging: Tools and Applications
	Dr. S Chaitanya Kumar	Dr. Anand Shrivastava	Prof. Phool Singh
Invited Talk (16:55 - 17:20)	Nanomaterials achieved via laser ablation in liquids for SERS and NLO applications.	Micro-PIV Analysis of Displacement Vectors in Active Actomyosin Gels: Pathways of Contraction and Shape Selection	Spaced Graphene Based Terahertz Absorbers
	Dr. G Krishna Podagatlapali	Dr. Sakshi	Dr. Chitranjan Nayak
Contributory Talk (17:20 - 17:35)	Non-linear optical response of Germanium nanoparticles under ultrafast femtosecond high-intensity excitation	Twin Photonic Hooks from Engineered Low-Index Spherical Shells	Secure Asymmetric Image Encryption Scheme Using Elliptic Curves in Fourier Domain
	Dr. Priyadarshini M	Abdul Jaleel	Shalu

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Day 2 (03/01/2025 Friday)

Plenary Talk (09:00 - 09:45) (Theatre SR Block)	Quantum communication: A case for quantum key distribution Prof. R. P. Singh, Physical Research Laboratory, Ahmedabad, India		
Tea/Coffee break (09:45-10:00)			
Session (10:00 - 12:30)	**Session 10 (Hall – I)**	**Session 11 (Hall – II)**	**Session 12 (Hall – III)**
Keynote Talk (10:00 - 10:35)	Multi-pronged approach to improving Imaging: better algorithms, complex light, and nano-photonics	Use of structured light beams in image encryption	Quantum sensing using Hong-Ou-Mandel interferometry
	Prof. Shanti Bhattacharya	Prof. Naveen Kumar Nischal	Prof. G. K. Samanta
Invited Talk (10:35 - 11:00)	Dynamic Light scattering by ferrofluids under magnetic field	Holographic waveguide based near eye augmented reality displays	The Two Sides of Photon Arrival-time-based QRNGs
	Prof. Ashok Vudayagiri	Dr. Rajkumar	Dr. Gautam Paul
Invited Talk (11:00 - 11:25)	Optical computing with a laser simulator	Plasmonic and Plexcitonic Systems: Resonant Mode Coupling and its Applications	Rare Earth doped glasses for Photonic devices: A comprehensive overview for futuristic societal applications.
	Dr. Vishwa Pal	Prof. Rajan Jha	Prof. C K Jaya Sankar
Contributory Talk (11:25 - 11:40)	Mitigating Tailing Effects in Digitally Scanned Bessel Beams for Light Sheet Imaging	Security Algorithm for Color Images Based on Biological Mutation Operation and Unequal Modulus Decomposition in Chirp Z Domain	Design and printing of holographic screen for display applications
	Jerin Geogy George	Dr. Sachin	Sheenam Saxena
Contributory Talk (11:40 - 11:55)	Precision Inkjet Printing: Tuning Solvent Properties with Laser Shockwaves	Dynamic Light scattering by ferrofluids under magnetic field	Interferenceless Coded Aperture Correlation Holography for Spatio-Spectral-Polarization Imaging
	Rakshith Kamath	Mahender Nandikonda	Narmada Joshi
Plenary Talk (12:00 - 12:45) (Theatre SR Block)	Three-dimensional aspects of light's polarization Prof. Nirmal K Viswanathan		
	Advanced Photonics		

Sponsored talk (12:45 - 13:00)	Avinash Thakur, Arpit Joshi		
Lunch (13:00 - 14:00)			
Session (14:00 - 15:40)	**Session 13 (Hall – I)**	**Session 14 (Hall – II)**	**Session 15 (Hall – III)**
Keynote talk (14:00-14:35)	Entangled Qubit Sources for Quantum Communication and Imaging	Optical parametric processes for developing single photon sources for quantum imaging with undetected photons	Lensless Digital Holographic Microscopy for numerically enhanced biomedical imaging
	Prof. Bhaskar Kanseri	Prof. Prem Bisht	Prof. Maciej Trusiak (Online)
Invited Talk (14:35 - 15:00)	Effect of Birefringence and Brewster's Effect on the Classical Non-Separability of Vector Vortex Beams	Sensing biomolecules for disease diagnosis through a novel optical device	Smart and Intelligent Microscopy for Digital Cytology Applications
	Prof. Maruthi Manoj	Prof. Umakanta Tripathy	Prof. Renu John
Invited Talk (15:00 - 15:25)	Manipulating of quantum emitters using fiber-based platforms for quantum technologies	Interfacial Molecular Structure at Air/Aqueous Interface: An Insight into Specific Ion Effects Using Nonlinear Optical Vibrational Spectroscopy	Holographic Tomography: Quantitative Label-Free 3D Imaging and analysis of Live Cells and Organoids
	Dr. Yalla Ramachandra Rao	Dr. Kailash Jena	Dr. Vinoth
Invited Talk (15:25 - 15:50)	Novel Resonators and Interferometers using Self-Imaging Waveguides	Working through and with scatterers	
	Prof. Jagannath Banerji	Prof. Yoko Miyamoto (Online)	Dr. A N Reddy
Contributory Talk (15:50 - 16:05)	Unidirectional channelling of spontaneous emission using a one-sided cavity on a nanocapillary fibre	Fabrication of whispering gallery mode cavity on an optical nano-fiber	Strain tuning of optical bandgaps in bilayer WSe2 for bright light emission using nanoparticle stressors
	Srinu Gadde	Bashaiah E	Indrajeet Dhananjay Prasad
Contributory Talk (16:05 - 16:20)	Integrating Multiple QKD links: Road to country-wide QKD Network.	Third-order optical Nonlinearities of A Novel Schiff Base System With Thermal And Electronic Responses For Photonic Applications	Coupling of fluorescence photons into guided modes of an optical nanofiber tip
	Jayanth R	Mohd Mehkoom	Reshmi M
Tea and networking along with Poster Session (16:00 - 18:00) **Gala Dinner at Aavasa Resorts, Haailand, Mangalagiri (19:00-22:00 pm)**			

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Day 3 (04/01/2025 Saturday)			
Plenary Talk (09:00 - 09:45) (Theatre SR Block)	Deep Learning-enabled Computational Microscopy and Diffractive Imaging Prof. A. Ozcan, University of California, Los Angeles, USA (Online)		
Sponsored talk (09:45 - 10:00)	ATOS Instruments Marketing Services Niloy Roy		
Tea/Coffee break (10:00-10:15)			
Session (10:15 - 11:45)	**Session 16 (Hall – I)**	**Session 17 (Hall – II)**	**Session 18 (Hall – III)**
Keynote Talk (10:15 - 10:50)	Our Studies on Total Absorption Over Wide Spectral Range, SERS and Other Applications Prof. D. Narayana Rao	Speckle pattern design and its application in compressive imaging Prof. Hasan Yilmaz (Online)	The Quantum Technologies in Macroscopic Regime Dr. Ashok Kumar
Invited Talk (10:50 - 11:15)	Luminescent Solar Concentrator and its optoelectronic device for light response measurement Dr. Mayank Gupta	Wave Flex Biosensors for Healthcare Applications Dr. Santosh Kumar	Interferenceless coded aperture correlation holography: Current and future perspectives Dr. Vipin Tiwari
Contributory Talk (11:15 - 11:30)	Generation of Array of Optical Merons Rakesh Mohan Das	Performance comparative analysis of SPR sensor using gold, silver and copper for detection SARS-CoV virus Dr. Vasimalla Yesudasu	Atmospheric turbulence effect on OAM beams for QKD application Rachita Nandan
Contributory Talk (11:30 - 11:45)	Quantum-based Secured Satellite Image Transmission via FSO Bandhana Mallick	Design and Development of Laser Optics for Night Vision Imaging up to 2 km Dr. Gollapudi Ramesh Chandra	A Novel True Random Number Generator Using Optical Physical Unclonable Functions M Shiva Sankar
Tea/Coffee break (11:45-12:00)			
Session (12:00-13:20)	**Session 19 (Hall – I)**	**Session 20 (Hall – II)**	**Session 21 (Hall – III)**
Invited Talk (12:00 - 12:25)	Engineering Axial Resolution in Spatially Incoherent Imaging Systems Mr. S. Gopinath	Shaping of optical fields for information science applications Dr. Praveen Kumar	Complex frequency excitations leads to better sensors Dr. Awanish Pandey

Invited Talk (12:25 - 12:50)	Optical Access to Quantum States and Correlated Phase in Atomically Thin Materials	Sponsored Talk (Springer Nature)	Formation of Optical Polarization Möbius strips by tightly focused C-points
	Dr. Shivangi Shree	Sonal Choudhary (Online)	Dr. Shushanta Pal
Contributory Talk (12:50 - 13:05)	Light fields with tunable skyrmionic textures	Deep Learning Assisted Design Discovery of PCM Based DBRs for Tunable Spectral Filtering	Wave Theory-Based Analysis of a High Sensitivity Fiber Optic Biosensor Using RPG Beam for Early Dengue Detection
	Laxminarayan Sahu	S S Panda	Dr. Bijaya Saha
Contributory Talk (13:05 - 13:20)	Characterization of an Optical MEMS device employing Optical Phase Retrieval technique	Fluorescence and random lasing studies in CuZnFe2O4 dispersed Rhodamine- B solution	Design of Thermally Stable Laser-Driven Phosphor-Converted White Light Source for High Colour Rendering Index Illumination
	Bagath Chandraprasad	Aneesh A	Dheeraj Kumar
Lunch (13:30- 14:30)			
Theatre SR Block **Valedictory Session (14:30-15:00) City Tour**			