

## Program Schedule - ICFSQP 2025

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**April 11<sup>th</sup> (Friday), 2025**

**Breakfast 7:45 AM, Venue: Convention Hall**

**Registration starts at 8:15 AM**

**Venue: Convention Hall**

**Inaugural session (08:45 – 10:00)**

08:45 - 08:50	Welcome address by Bishnu Pal, General Chair
08.50 - 08.55	About the conference: Somnath Ghosh, Convener
08:55 - 09:00	Presidential address: Yajulu Medury, VC, Mahindra University
09:00 - 09:05	Message from Prof. Gilles Fleury, General Delegate of Groupe des Écoles Centrale
09:05 - 09:55	Keynote address Prem Kumar, Northwestern University, USA <i>Quantum internet: what is it, why do we need it, and how do we engineer it?</i>
09:55 – 10:00	Vote of thanks – Kamna Pande, Convener

**Tea Break 10:00-10:30**

**Venue: Dining Hall, Convention Center**

**Session – I (10:30 – 13:00)**

**Venue: Convention Hall**

**Chairs: Anderson Gomes & Anurag Sharma**

10:30 - 11:10	Plenary I – Philip Russell, RCALS, Shanghai, China <i>Novel physics with twisted light in chiral photonic crystal fibers</i>
11:10 - 11:50	Plenary II – Ken Grattan, City, St Georges University of London <i>Optical fiber sensor systems: a solution for measurement problems for Industry 5.0</i>
11:50-12:30	Plenary III – Michalis Zervas, ORC University of Southampton <i>High power fiber lasers: current challenges and future prospects</i>
12:30-13:00	Invited Talk: Arvind Mishra, Sterlite Technologies Ltd., Aurangabad <i>Advances in Multi-core fiber connectivity solution for real-world Optical Networks</i>

## Lunch Break 13:00-14:15

**Venue: Dining Hall, Convention Center**

**April 11<sup>th</sup> (Friday), 2025**

## Session – II (14:15 – 16:15)

Parallel sessions	Venue: Convention Center Central Hall Chairs: Prem Kumar & Enakshi Sharma  Photonics and Quantum Photonics	Venue: Convention Center Side Hall Chair: Ken Grattan  Specialty Optical Fibers & Integrated Optics
14:15-14:45	Invited Talk: Venu Gopal Achanta, National Physical Laboratory New Delhi <i>Nano-photonics for metrology</i>	Invited Talk – Bijoy Das, IIT Madras <i>CMOS Technology for Chip-Scale Quantum Photonics: Prospects &amp; Challenges</i>
14:45-15:15	Invited talk: Sushil Muzumdar, TIFR Mumbai <i>Rapid wave front correction of position-momentum of entangled photon beams</i>	Invited talk: Anurag Sharma, IIT Delhi <i>Waveguide Modelling of Specialty Fibers</i>
15:15-15:45	<b>Venue: Convention Center Central Hall</b>  Invited talk: Daniel Leykam, Singapore University of Technology and Design Photonic Flatband Resonances in Multiple Light Scattering	
15:45-16:00	<b>Presentation by CADFEM</b> <b>Akankshya Panigrahi, Application Engineer</b> <i>Accelerating Photonic Innovation: The Power of Simulation-Driven Optical Design</i>	

## Tea Break (16:00 – 16:45)

**Venue: Convention Center Dining Hall**

## Session – III (17:00 – 18:00)

**Venue: Convention Center Central Hall**

**Chair: Philip Russell**

**17:00-18:00**

**Special evening talk of general interest: Ajoy Ghatak, IIT Delhi**

*Polarization of Light, Entanglement & Bell's Inequality*

## Cultural program (18.15 - 19.00)

**Venue: Convention Center Central Hall**

**VC hosted conference dinner (19:30 onwards)**

**Venue: Main Guest House**

**Breakfast 8:15 AM, Venue: Convention Hall**

**April 12<sup>th</sup> (Saturday), 2025**

**Venue: Convention Center Central Hall**

**Session IV**

**Chairs: Sukhdev Roy & Michalis Zervas**

**9.00-9.40: Plenary IV: Anderson S L Gomes, Federal University of Pernambuco, Brazil**

*Random Lasers and Random Fiber Lasers: Unlocking New Frontiers in Photonics, Biophotonics, and Quantum Applications*

**9.40-10.20: Plenary V: Prof M. Krishnamurthy, TIFR Hyderabad**

*Nonlinear plasma resonances drive electron acceleration*

**10.20-11.00: Plenary VI: Nirmalya Ghosh, IISER-Kolkatta**

*Spin Orbit Interaction of Light in Nano-photonic Systems*

**Tea Break 11:00-11:30**

**Venue: Dining Hall, Convention Center**

**Session – V (11:00 – 13:00)**

Parallel sessions	<b>Venue: Convention Center Central Hall</b> <b>Chairs: Sushil Mujumdar &amp; Daniel Leykam</b> <b>Photonics &amp; Quantum Photonics</b>	<b>Venue: Convention Center Side Hall</b> <b>Chairs: Abhijit Biswas &amp; Pankaj Choudhury</b> <b>Specialty Optical Fibers</b>
11.00 – 11.30	<b>Invited Talk: Bhaskar Kanseri, IIT Delhi</b> <i>Entangled qubit sources for quantum communication and imaging</i>	<b>Invited Talk: Deepa Venkitesh, IIT Madras</b> <i>Multicore fibers: Multitude of possibilities</i>

<b>11.30 – 12.00</b>	<b>Invited Talk: Anirban Pathak, IIIT Noida India</b>  <i>Can photons be used to beat cybercrimes by hiding secrets?</i>	<b>Invited Talk: Sanket Goel, BITS-Pilani, Hyderabad</b>  <i>Cyber Physical System (CPS) Enabled Portable Optofluidic Sensors</i>
<b>12.00 – 12.30</b>	<b>Invited Talk: Sukhdev Roy, Dayalbagh Educational Institute, Agra, India</b>  <i>“Controlling the Brain and Heart with Light and Sound”</i>	<b>Invited Talk: Mukul C. Paul, CSIR-CGCRI, Kolkata</b>  <i>Multi-elements doped nano-engineered silica glass based novel specialty optical fibers for Photonics Applications</i>
<b>12.30 – 13.00</b>	<b>Somnath Ghosh, Mahindra University</b> <i>Glimpses of our recent research in Photonics</i>	<b>Flash Talks (Session – A)</b>  <b>Paper ID 01-06</b> <b>Paper ID- 01</b> Himanshu Kushwah, Jagneet Kaur Anand An SPR Based pH-Sensor with Exceptionally Large Signal-to-Noise-Ratio <b>Paper ID- 02</b> Sachin Srivastava, Shiv Bhushan Singh, Jyoti Anand , Jagneet Kaur Anand Constructing Wave Theory for Dielectric-Metal-Dielectric Optical Fibers <b>Paper ID- 03</b> Krishnaprasad K R , Indu Sebastian, Jinesh Mathew , Sijo K Joseph Design and Experimental Evaluation of a Multi-Fork Grating and PVB Detection Performance Comparison with Conventional Grating Design <b>Paper ID- 04</b> Shiv Bhushan Singh, Saurav Yadav, Sujit Kumar Ray, Jagneet Kaur Anand, Jyoti Bansal, Anupama Sachdeva A Vector Mode Approach for Absorbing Optical Fibers <b>Paper ID- 05</b> Abhay Singh Dulta, Nishant Kumar Pathak , and Bhaskar Kanseri Impact of Optical Losses on Entanglement Visibility in Fiber-Based Quantum Communication <b>Paper ID- 06</b> Priyanka Yadav and Surendra Prasad Design and optimization of 2D-hexagonal photonic crystals for heavy metal Cu <sup>2+</sup> ion sensing in water: computational study

**April 12<sup>th</sup> (Saturday), 2025**

**Lunch Break 13:00-14:15**

**Venue: Convention Center**

## Session – VI (14:15 – 16:15)

Parallel sessions	<b>Venue: Convention Center Central Hall</b> <b>Chair: Anirban Pathak &amp; Jagneet Kaur</b> <b>Nano Photonics &amp; Lasers</b>	<b>Venue: Convention Center Side Hall</b> <b>Chair: Bijoy Das &amp; Seababrata Mukherjee</b> <b>Light-matter interactions and Sensors</b>
14.15 – 14.45	<b>Invited Talk: Jagannath Nayak, DRDO-CHES, Hyderabad</b> <i>Frontiers in High-Power Laser Technology: Innovations and Emerging Applications</i>	<b>Invited Talk: Pankaj K Choudhury, Jhejiang University China</b> <i>Multifunctional and Reconfigurable Metasurfaces – Overview and Applications</i>
14.45 – 15.15	<b>Invited Talk: Vipul Rastogi, IIT Roorkee, India</b> <i>Passive and Active Optical Fibers for High-Capacity Optical Communication System</i>	<b>Invited Talk: Tapajyoti Dasgupta, IISC Bengaluru</b> <i>Exploring capillary interaction for liquid metal based plasmonic nanostructures: large area processing and application in tunable displays</i>
15.15 – 15.45	<b>Invited Talk: Jayasri D, Mahindra University</b> <i>Glimpses of our recent research in Photonics</i>	<b>Invited Talk: Arup Lal Chakraborty, IIT Gandhinagar</b> <i>Effective monitoring of urban greenhouse gas emissions levels in India</i>
15.45 – 16.15	<b>Invited Talk: Sudipta Maiti, BITS Pilani Hyderabad</b> <i>Label-free Fluorescence Imaging and Sensing with Multiphoton spectroscopy</i>	<b>Invited Talk: Venugopal Rao Soma, University of Hyderabad</b> <i>SERS-based Sensing of Hazardous Materials: Lab to Field</i>

## Tea Break (16:15 – 16:45)

**Venue: Convention Center Dining Hall**

## Session – VII (16:45 – 17:45)

**Venue: Convention Center**

**Central Hall**

**Chair: Deepa Venkitesh**

16.45 – 17.45	<p style="text-align: center;"><b>Contributory papers Flash Talk (Session – B)</b></p> <p style="text-align: center;"><b>(Paper ID 07 to 18)</b></p> <p><b>Paper ID- 22</b> Sreeraj Rajan Warriar and Jayasri Dontabhaktuni, MU Hybrid Quantum-Classical Inverse Design of Metasurfaces for Tailored Absorption and Unidirectionality</p> <p><b>Paper ID- 08</b> Chandan Singh Yadav, Manish Kumar, Uday Khankhoje and Deepa Venkitesh Noise figure analysis of an optimised C+L band Raman amplifier</p>
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<b>Paper ID- 09</b>	Pushpanjali Pal and Jinesh Mathew Detection of Adulteration of Ethanol with Water Using NIR Spectroscopy based Fiber Optic Reflection Probe
<b>Paper ID- 10</b>	Sibnath Dey, Harish N S Krishnamoorthy, Bishnu P. Pal and Somnath Ghosh, TIFR H Hosting of multiple non-interacting conjugate Exceptional points in complementary 1D photonic bandgap waveguides
<b>Paper ID- 11</b>	Josin Stephen and Jinesh Mathew Simulation of Fiber Bragg Grating in COMSOL Multiphysics
<b>Paper ID- 12</b>	Sai Sidhartha H, K.Srinivasan, and G.Raghavan Single-Step Phase Correction for Entanglement Distribution Using polarization correction
<b>Paper ID- 13</b>	Subrata Manna and Nithyanandan Kanagaraj Multiwavelength NPR-Based Mode-Locked Tunable and Switchable Fiber Laser: Design, Optimization, and Performance Analysis
<b>Paper ID- 14</b>	Lalkrishna S, Sijo K. Joseph, Jinesh Mathew Numerical analysis of air core ring fiber supporting multiple orbital angular momentum modes
<b>Paper ID- 15</b>	Alluru Sreevani, Valluri Siva Prasad Gold-coated SPR based Photonic Crystal Fiber Sensor for Breast Cancer Detection
<b>Paper ID- 16</b>	Sayan Bhattacharjee, Sandip Mondal, Sushil Mujumdar Machine Learning Guided Estimation of Atmospheric Refractive-Index Structure Constant
<b>Paper ID- 17</b>	Shankar Pidishety All-fiber Device for Switchable Vector-Mode Generation
<b>Paper ID- 18</b>	Deependra Singh Gaura and Akhilesh Kumar Mishra Tailoring Signal Soliton Pulse Dynamics in the Regime of Optical Event Horizon

**Tea Break (17:45 – 18:45)**  
**Poster Session & High Tea**  
**18 posters (Paper ID 01 to 18)**

**Dinner (19:00 onwards)**  
**Venue: Convention Center Dining Hall**

**April 13<sup>th</sup> (Sunday), 2025**  
**Breakfast 8:15 AM, Venue: Convention Hall**

**Venue: Convention Center Central Hall**

**Session – VIII**

**Session Chair: Murtaza Bohra**

09.00 – 10.15	<p style="text-align: center;"><b>Contributory papers (15) Flash Talk (Session – C)</b></p> <p style="text-align: center;"><b>Paper ID 19 to 33</b></p> <p><b>Paper ID- 19</b> Shamba Ghosh, Arpan Roy, Bishnu P. Pal and Somnath Ghosh Hosting Second Order Exceptional Point in an All-lossy Dual-Core Photonic Crystal Fiber</p> <p><b>Paper ID- 20</b> Aditya Chourasia Integrative Analysis of Protein Folding Equilibrium Dynamics and Optical Properties Using Gaussian Network Model</p> <p><b>Paper ID- 21</b> Pawan Singh, Manish Kala, Akhilesh Kumar Mishra Deformations of energy bands of a square lattice: variations in hopping parameters</p> <p><b>Paper ID- 23</b> P. Das, S. Sadhukhan, B. P. Pal and S. Ghosh Emergence of localized states of light in disordered photonic time crystals</p> <p><b>Paper ID- 24</b> Basabdatta Pati and Somnath Ghosh Phase Behaviour in a Chiral Photonic Structure Hosting Exceptional Points</p> <p><b>Paper ID- 25</b> A. Mishra, S. Sadhukhan and S. Ghosh Tunable Light Amplification in Photonic Time Crystals</p> <p><b>Paper ID- 26</b> Arnab Laha, Arpan Roy, Adam Miranowicz and Somnath Ghosh Simultaneous Control of Lasing and Absorbing States Based on Conjugate Exceptional Points</p> <p><b>Paper ID- 27</b> Anshul Bhardwaj, Maidul Islam, Anuraj Panwar, Gagan Kumar Exploring exceptional point in a terahertz toroidal non Hermitian metasurface</p> <p><b>Paper ID- 28</b> Rohith K. M., Akash Kumar, Satish Singh, Nandan Kumar, Suraj P. Khanna and Gagan Kumar PET-Metal Fiber-Based Electroconductive textile for Tunable Terahertz Photonic Applications</p> <p><b>Paper ID- 29</b> Snehita Ghosh, Snehashis Sadhukhan, and Somnath Ghosh Branched Flow of Light in Quasi-periodic Photonic Lattices</p> <p><b>Paper ID- 30</b> S. Sadhukhan, B. P. Pal and S. Ghosh Disorder immune amplified pulse generation at the topological temporal edges in photonic time crystals</p> <p><b>Paper ID- 31</b> Arpan Roy, Shamba Ghosh, Arnab Laha, Abhijit Biswas, Bishnu P. Pal and Somnath Ghosh Spectral Response of Gain-Loss-Assisted Fiber Hosting Exceptional Point</p> <p><b>Paper ID- 32</b> Arpita Pradhan, Bishnu P. Pal, Somnath Ghosh and Kamna Pande A multi-core anti-resonant optical fiber for Mid-IR Transmission</p> <p><b>Paper ID- 33</b> Anu Koviloor Manian and Jayasri Dontabhaktuni Tailoring Quasi-BIC States in Liquid Crystal-Integrated WS<sub>2</sub> Nanostructured Metasurfaces for Tunable High Q-factor Opto-Electronic Devices</p>
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**Tea Break (10:15 – 11:15)**

**Poster Session**

15 posters **Paper ID 19 to 33**

**Session – IX (11.15-12.45)**

**Venue: Convention Center Central Hall**

**New Directions in Photonics**

**Chairs: Kamna Pande & Anil Annadi**

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| <b>11:15 – 11: 45</b> | <b>Invited Talk: S Dutta Gupta, TIFR Hyderabad</b><br><i>Vector beam through stratified medium</i>   |
| <b>11.45 - 12.15:</b> | <b>Invited Talk: Nithyanandan Kanagaraj, Indian Institute of Technology – Hyderabad</b><br><i>Ultrafast Fiber Lasers—An Avenue for Photonic Intelligence</i> |
| <b>12.15-12.45:</b>   | <b>Invited Talk: Seababrata Mukherjee, Indian Institute of Science Bengaluru</b><br><i>Femtosecond Laser-Written Topological Waveguide Lattices</i>          |
| <b>12:45 – 13.15:</b> | <b>Closing - Vote of thanks, Felicitations, Awards etc.</b><br><b>Venue: Convention Center, Central Hall</b>   |

**Lunch Break 13:15**

**Venue: Convention Center**



