
















International Conference on Light and Light-based Technologies ICLLT-2025 Program

Thursday, May 15, 2025

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| 08:30 – 09:00 | Registration – Mimar Kemaleddin Hall, Rectorate Building of Gazi University | |
| Opening Ceremony | | |
| 09:00 – 09:10 |  | Prof. Süleyman Özçelik <i>Conference Chair</i> <i>Director of the Photonics Application and Research Center, Gazi University, Ankara, Türkiye</i> <i>Photonics Department Chair, Gazi University, Ankara, Türkiye</i> |
| 09:10 – 09:20 |  | Prof. M. Öcal Oğuz <i>President of the Turkish National Commission for UNESCO</i> |
| 09:20 – 09:30 |  | Prof. Uğur Ünal <i>Rector of Gazi University, Ankara, Türkiye</i> |
| Session I | | |
| Chair: Prof. Yashar Azizian-Kalandaragh <i>Department of Photonics, Faculty of Applied Sciences, Gazi University, Ankara, Türkiye</i> | | |
| 09:30 – 10:10 |  | Plenary Speaker / Prof. Ekmel Özbay <i>Departments of Electrical and Electronics Engineering and Physics, Bilkent University, Ankara, Türkiye</i> <i>Director of the Nanotechnology Research Center (NANOTAM)</i> Title of talk: Centimeter scale nanostructures: Lithography-free metamaterials for photoconversion, photodetection, light emission, sensing, and filtering |
| 10:10 – 10:30 | Coffee Break | |
| 10:30 – 11:10 |  | Plenary Speaker / Prof. Marc Sorel <i>Department of Electronic & Nanoscale Engineering, University of Glasgow, Scotland</i> Title of talk: Photonic Integration for visible light and nonlinear optics applications |

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| 11:10 – 11:40 |  | Invited Speaker / Dr. Bereneice Sephton <i>The University of Naples Federico II, Italy</i> Title of talk: A structured eraser: sculpting correlations with quantum interference |
| 11:40 – 12:10 |  | Invited Speaker / Prof. Stefano Bellucci <i>UNISRIITA – INFN LNF, Italy</i> Title of talk: Tuning the Optical and Semiconducting Properties of Graphene Oxide Derivatives through Eco-Friendly Reduction Strategies |
| 12:10 – 12:40 |  | Invited Speaker / Dr. Berna Morova <i>Department of Physics Engineering, Istanbul Technical University, Türkiye</i> Title of talk: Advances in fiber bundle fluorescence microscopy for enhanced resolution and contrast |
| 12:40 – 13:40 | Lunch Break | |
| Session II – Gazi University Faculty of Technology Conference Hall Chair: Prof. Hamidreza Kholesifard | | |
| 13:40 – 14:20 |  | Plenary Speaker / Prof. Raşit Turan <i>Department of Physics, Middle East Technical University (METU), Ankara, Türkiye</i> <i>Director of the Center for Solar Energy Research and Applications (ODTÜ – GÜNAM)</i> Title of talk: Towards the theoretical efficiency limit in solar cell technologies: TOPCon solar cells and beyond |
| 14:20 – 14:25 | Short Break | |
| | Hall A Chair: Prof. Hamidreza Kholesifard | Hall B Chair: Prof. Stefano Bellucci |
| 14:25 – 14:55 |  Invited Speaker / Asst. Prof. Nasire Uluç <i>Middle East Technical University, Northern Cyprus Campus, Physics Group, Kalkanlı, Türkiye</i> Title of talk: Emerging Frontiers in Optoacoustic Imaging: From Foundational Principles to Mid-IR Spectroscopic Advances |  Invited Speaker / Dr. Sinan Genç <i>Department of Electrical and Electronic Engineering, Abdullah Gül University, Türkiye</i> Title of talk: Disorder-Driven Hybrid Plasmonic Nanocavities for Broadband Enhancement of Quantum Emission in hBN |
| 14:55 – 15:25 |  Invited Speaker / Dr. Lala Rasim Gahramanli <i>Nano Research Laboratory, Excellent Center, Baku State University; Department of Chemical Physics of Nanomaterials, Physics faculty, Baku State University, Azerbaijan</i> Title of talk: Enhanced adsorption and degradation kinetics of methylene blue by Ag–Ag ₂ S–CdS hybrid nanowires |  Invited Speaker / Dr. Michael Barbier <i>Photonics Department, Izmir Institute of Technology, Türkiye</i> Title of talk: Laser-steered colloidal aggregation and pattern formation |

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| 15:25 – 15:55 |  <p>Invited Speaker / Prof. Bülent Çakmak <i>Department of Electrical and Electronic Engineering, Erzurum Technical University (ETU), Türkiye</i> Title of talk: Fabrication and comparative experimental investigation of multi-section diode lasers with different configurations</p> | <p>Speaker / Bilgehan Barış Öner <i>Gazi University, Türkiye</i> Title of talk: Resonance and slow-light techniques for energy confinement in Fabry-Perot cavity designs</p> <p>Speaker / Mehdi Fooladi-Vanda <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Fabrication of Low-Cost Liquid Crystal-Based Adjustable Wave-Plates</p> |
| 15:55 – 16:20 | Coffee Break | |
| | <p>Hall A Chair: Dr. Sinan GENÇ</p> | <p>Hall B Chair: Dr. Berna Morova</p> |
| 16:20 – 16:50 |  <p>Invited Speaker / Dr. Eugenio Di Gaetano <i>Department of Photonics, Electronic & Nanoscale Engineering, University of Glasgow, Scotland</i> Title of talk: High power and narrow linewidth output optimisation in semiconductor lasers for quantum system applications</p> |  <p>Invited Speaker / Dr. Mostafa Aakhte <i>Multiscale Biology, Department of Biology and Psychology, University of Göttingen, Germany.</i> Title of talk: Tailored Light Sheet Microscopy for Live and Cleared Tissue Imaging</p> |
| 16:50 – 17:20 |  <p>Invited Speaker / Assoc. Prof. Hasan Hüseyin Güllü <i>ASELSAN, Türkiye</i> Title of talk: Advances in Optical Coatings: Material and Thin Film Solutions at ASELSAN</p> |  <p>Invited Speaker / Dr. Ghazanfar Ali Khan <i>Department of Physics, METU, Türkiye</i> Title of talk: Flexible and Cost-Effective Substrates for Efficient Surface-Enhanced Raman Spectroscopy-Based Trace Detection</p> |
| 17:20 – 17:35 | <p>Speaker / Halil Can Nalbant <i>TOBB University of Economics and Technology / Aselsan, Türkiye</i> Title of talk: Analytic Design of Dual-Wavelength Diffractive Optical Elements for Mid-Wave Infrared</p> | <p>Speaker / Cansu AKYOL KARPUCU <i>Izmir Institute of Technology, Türkiye</i> Title of talk: Development of CIAIPc-Loaded BSA Nanoparticles for Dual Action Against Cancer via Photodynamic and Sonodynamic Mechanisms</p> |
| 17:35 – 17:50 | <p>Speaker / Sara Aminian <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Neural Network-Based Calibration of Plasmonic Structures: A Simulation Study</p> | <p>Speaker / Seyedeh Roghayyeh Seyedzadeh <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Real-Time Surface Roughness Measurement Using Dual-Illumination Interferometric Microscopy</p> |
| 17:50 – 18:05 | <p>Speaker / Salar Alizadeh <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Identification of Salt-Dust Plumes Over the Urmia Lake Using a Scanning Polarization Lidar</p> | <p>Speaker / Negin Mohammadzadeh <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: The interplay between a bacterial ratchet motor and optical speckle fields</p> |
| 18:05 – 18:20 | <p>Speaker / Maryam Nazari <i>Malayer University, Iran</i> Title of talk: Energies and wave-functions of an anharmonic quantum oscillator bound in an infinite-wall quantum well found by finite difference algorithm for use in nonlinear optics</p> | <p>Speaker / Saman Yarabi <i>Malayer University, Iran</i> Title of talk: Simulation of a rainbow spectrometer for measuring the optical dispersion of fluids</p> |












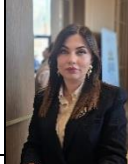
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| 18:20 – 18:35 | <p>Speaker / Narmin Ahmedova <i>Baku State University, Azerbaijan</i> Title of talk: Structural changing of CdS nanoparticle by the effect of cation-anion ratio</p> | <p>Speaker / Shafiga Alakbarova <i>Baku State University, Azerbaijan</i> Title of talk: YIG-Based Photonic Crystals and Their Role in Quantum and Optical Device Engineering</p> |
| 18:35 – 18:50 | <p>Speaker / Mahkame Abolfathi <i>Institute for Advanced Studies in Basic Sciences (IASBS), Iran</i> Title of talk: Optical Analysis of Methylene Blue in Water Sources Using Surface Plasmon Resonance Sensors</p> | <p>Speaker / Sevinc Hamidova <i>Baku State University, Azerbaijan</i> Title of talk: Fluorescence Properties of CdS Thin Films and Powders under 330 nm excitation</p> |
| 18:50 – 19:05 | <p>Speaker / Amin Mirmammadov <i>Nano Research Laboratory, Baku State University, Azerbaijan</i> Title of talk: Optical analysis of asymmetric AgNWs/PVA/Ag₂S nanocomposites</p> | |
| 19:05 – 19:15 | <p>First Day Closing Remarks</p> | |

Friday, May 16, 2025

Session I – Gazi University Faculty of Technology Conference Hall

Chair: Prof. Mehmet Çakmak

| Session I – Gazi University Faculty of Technology Conference Hall | | |
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| Chair: Prof. Mehmet Çakmak | | |
| 09:00 – 09:40 |  | Plenary Speaker / Prof. Luis L. Sanchez-Soto <i>Faculty of Physics, Complutense University of Madrid, Spain</i> Title of talk: Measuring impossible parameters with indefinite causal order |
| 09:40 – 10:20 |  | Plenary Speaker / Prof. Hamid Reza Khalesifard <i>Department of Physics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Optical remote sensing and identification of new dust sources inside the Iran Plateau |
| 10:20 – 10:40 | Coffee Break | |
| | Hall A Chair: Dr. Bereneice Sephton | Hall B Chair: Asst. Prof. Nasire Uluç |
| 10:40 – 11:10 |  Invited Speaker / Prof. Tarık Asar <i>Department of Physics, Gazi University, Türkiye</i> Title of talk: MSM Photodetectors with Different Materials |  Invited Speaker / Assoc. Prof. Ramazan Şahin <i>Department Of Physics, Akdeniz University, Türkiye</i> Title of talk: Active Plasmonics in the Visible: Towards Programmable Nano-Optics |
| 11:10 – 11:40 |  Invited Speaker / Prof. Özlem Duyar Coşkun <i>Department of Physics Engineering, Hacettepe University, Türkiye</i> Title of talk: New Trends in Electrochromic Devices |  Invited Speaker / Dr. Fadıl İyikanat <i>ICFO- Institute of Photonics Sciences, Spain</i> Title of talk: Polariton-Enhanced Nonlinear Optical Response in 2D Materials |
| 11:40 – 11:55 | Speaker / Assoc. Prof. Meltem Babayiğit Cinali <i>Department of Physics Engineering, Hacettepe University, Türkiye</i> Title of talk: Sputtered Silver-Based Low-Emissivity Coatings | Speaker / Asst. Prof. Yakup Emül <i>Sivas Cumhuriyet University, Türkiye</i> Title of talk: Mueller Matrix method for adjusting optical properties in a two-stage liquid crystal retarder system using Monte Carlo simulations |
| 11:55 – 12:10 | Speaker / Veli Yuksektepe <i>University of Glasgow, Scotland</i> Title of talk: Heterogeneous Integration of Photonic Crystal Surface Emitting Lasers on Silicon-On-Insulator | Speaker / Assoc. Prof. Aziz Kolkiran <i>İzmir Katip Çelebi University, Türkiye</i> Title of talk: Harnessing Quantum Correlations for Subwavelength Imaging |
| 12:10 – 12:25 | Speaker / Dr. Hira Asif <i>Akdeniz University, Türkiye</i> Title of talk: Coherent Control of Plexcitonic States via Optical Stark Effect | Speaker / Dr. Özlem Bayal <i>Gazi University, Türkiye</i> Title of talk: Analysis of Dislocation Density for Algan Based Hemts in Screw Mod |

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| 12:25 – 12:40 | Speaker / Mina Mollayi <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Design and build of tunable micro-lens to increase microscopic resolution | Speaker / Alireza Ale Kasir <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: Calibrating Nanometer Displacement with Fresnel Diffraction from Phase Step |
| 12:40 – 13:50 | Lunch Break | |
| Session II – Gazi University Faculty of Technology Conference Hall Chair: Prof. Luis L. Sanchez-Soto | | |
| 13:50 – 14:30 |  Plenary Speaker / Prof. Gerd Leuchs <i>Max Planck Institute, Germany</i> Title of talk: Quantum Technology, Quantum Computing, and the Role of Measurement | |
| 14:30 – 15:10 |  Plenary Speaker / Prof. Vahid Karimipour <i>Department of Physics, Sharif University of Technology, Iran</i> Title of talk: Concepts and methods of quantum information, an introduction | |
| 15:10 – 15:15 | Short Break | |
| | Hall A Chair: Prof. Tarık Asar | Hall B Chair: Prof. Şemsettin Altındal |
| 15:15 – 15:45 |  Invited Speaker / Dr. Utku Er <i>Şişecam, Türkiye</i> Title of talk: Highly Selective Multilayer Low-E Coatings on Flat Glass |  Invited Speaker / Berkay Uğurlu <i>Transvaro, Türkiye</i> Title of talk: Critical Processes in Cooled IR Detector Packaging: Flip Chip Bonding and Underfill |
| 15:45 – 16:00 | Speaker / Assoc. Prof. Ali Bayat <i>Zanjan University, Iran</i> Title of talk: Investigation of aerosol types in Zanjan city using sun-photometer |  Invited Speaker / Dr. Rana Faik Khankishiyeva <i>Nano Research Laboratory, Excellent Center, Baku State University; Department of Chemical Physics of Nanomaterials, Physics faculty, Baku State University, Azerbaijan</i> Title of talk: UV-induced degradation and mechanical behavior of LDPE composites reinforced with nanochitosan: toward eco-friendly polymeric materials |
| 16:00 – 16:15 | Speaker / Hafsa Moazzamia <i>Middle East Technical University (METU), Türkiye</i> Title of talk: Mie-Scattering Based Detection of Microplastics in Beverages | |
| 16:15 – 16:30 | Speaker / Gülçin Çorbacı <i>Gazi University, Türkiye</i> Title of talk: Photovoltaic Performance Analysis of Perovskite CsSiF3 Compound | Speaker / Zeynab R. Addayeva <i>Baku State University, Azerbaijan</i> Title of talk: Study of the Modification of Optical Characteristics of Silver Nanowires During Sulphidation |



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| 16:30 – 16:45 | Speaker / Fateme Gheibi <i>Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran</i> Title of talk: White-Light Spectroscopy of SPR Sensors Based on Wavelength Scanning | Speaker / Tutku Kübranur Ugip <i>Gazi University, Türkiye</i> Title of talk: Electric and Electro-Optic Responses of a Schottky Diode with Si-(Gd ₂ O ₃)/Polymer Structure |
| 16:45 – 17:00 | Speaker / Furkan Akkaya <i>Istanbul Technical University / Şişecam Science, Technology and Design Center (ArTeGe), Türkiye</i> Title of talk: Fabrication of SnS Solar Cells in Core–Shell Architecture Based on ZnO Nanorod | Speaker / Dr. Sabreen A. Hameed <i>Gazi University, Türkiye, University of Diyala, Iraq</i> Title of talk: On the current-voltage characteristics of the Ag/(NiO:rGO)/n-Si (MIS) Schottky barrier diodes (SBDs) in dark and 100mW/cm ² conditions. |
| 17:00 – 18:00 | Poster Presentations and Coffee Break | |
| 18:00 – 19:00 | International Year of Quantum Science and Technology Panel Chair: Prof. Gerd Leuchs | |
| 19:10 – 19.20 | Second Day Closing Remarks | |



Saturday, May 17, 2025

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| 10:00 – 12:00 |  | Tour of ANITKABİR |
| 12:00 – 14:00 | Lunch Break | |
| 14:00 – 16:30 |  | Tour of the Photonics Application and Research Center at Gazi University |
| 16:30 – 17:00 | Break | |
| 17:00 – 18:30 | Closing Ceremony and Best Presentation Awards at the Gazi University Faculty of Technology Conference Hall A | |