



PROGRAM

Tuesday (29th September)

TUTORIAL SESSION: *Vilnius University Life Sciences Centre, R402 (Saulėtekio ave. 7)*

Frontiers of Photonics & Semiconductor Technology

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| 9:00 – 9:30 | TUTORIAL WELCOME WORDS |
| 9:30 – 11:00 | Viktor Krozer Ferdinand-Braun-Institut, Leibniz Institut für Höchstfrequenztechnik, Germany
<i>Photonic-electronic heterogeneous integration technologies</i> |
| 11:00 – 11:15 | Coffee break |
| 11:15 – 12:45 | Alvydas Lisauskas Vilnius University & FTMC, Lithuania
<i>Terahertz Generation and Detection in CMOS: State-of-the-Art, Physical Limits, and Emerging Applications</i> |
| 12:45 – 14:00 | Lunch break |
| 14:00 – 15:30 | Vladimir A. Zenin University of Southern Denmark, Denmark
<i>Seeing light up close: Near-field Optical Microscopy</i> |
| 15:30 – 15:45 | Coffee break |
| 15:45 – 17:15 | Armandas Balčytis RMIT University & COMBS, Australia
<i>Integrated Photonic Circuits: Enabling a New Era of Photonics</i> |
| 18:00 – 20:00 | WELCOME RECEPTION <i>FTMC, Lobby (Saulėtekio ave. 3)</i> |

Wednesday (30th September)

FTMC, A101 (Saulėtekio ave. 3)

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| 8:40 – 9:00 | CONFERENCE OPENING CEREMONY |
| | ULTRAFAST PROCESSES AND THz PHENOMENA (Chairperson Irmantas Kašalynas) |
| 9:00 – 9:40 | Xi-Cheng Zhang (Plenary) University of Rochester, NY, U.S.A.
<i>THz liquid photonics</i> |
| 9:40 – 10:05 | Gintaras Valušis (Invited) Vilnius University, Lithuania
<i>Modern trends in compact terahertz systems and semiconductor chips</i> |
| 10:05 – 10:20 | Thomas B. Gill University of Leeds, U.K.
<i>Chiral-Phonon Driven Ultrafast Spin Currents in a Non-Magnetic Ferroelectric</i> |
| 10:20 – 10:35 | Wataru Kimura The University of Tokyo, Japan
<i>Three-dimensional analysis of femtosecond laser ablation in fused silica using dual-view interferometric imaging</i> |
| 10:35 – 10:50 | Simonas Driukas FTMC, Lithuania
<i>Optical properties and time resolved THz spectroscopy of ion-implanted GeSn films</i> |
| 10:50 – 11:15 | Coffee break |
| | NOVEL MATERIALS 1: SEMICONDUCTORS (Chairperson Koichiro Tanaka) |
| 11:15 – 11:40 | Taiichi Otsuji (Invited) ENSEMBLE3 Center of Excellence Ltd., Poland
<i>Dirac plasmons in graphene/topological insulator heterostructures for THz lasers and amplifiers</i> |
| 11:40 – 12:05 | Wojciech Knap (Invited) Institute of High Pressure Physics & Warsaw University of Technology, Poland
<i>Magnetoplasmonic Crystals</i> |
| 12:05 – 12:20 | Iryna B. Mikhailikova University of Cassino and Southern Lazio, Italy
<i>Graphene-strip-loaded cylindrical Luneburg lens: effects of plasmon resonances on lens performance</i> |





APROPOS 20

Advanced Properties And Processes In
Optoelectronic Materials And Systems



30 SEPTEMBER –
2 OCTOBER
2026



VILNIUS
LITHUANIA

- 12:20 – 12:35 **Evelina Dudutienė** | FTMC, Lithuania
Rapid thermal annealing of GaAsBi/(Al,Ga)As multiple-quantum-well structures
- 12:35 – 12:50 **Justinas Jorudas** | FTMC, Lithuania
Modification of β -Ga₂O₃ epilayer properties by direct laser micro-machining
- 12:50 – 14:00 **Lunch break**
- ORGANICS FOR OPTOELECTRONICS** (Chairperson Shang-Hua Yang)
- 14:00 – 14:25 **Polina Kuzhir** (Invited) | University of Eastern Finland, Finland
Multimodal Sensing with Single-Crystal Diamond Needles
- 14:25 – 14:50 **Karolis Kazlauskas** (Invited) | Vilnius University, Lithuania
Advanced strategies for efficient solid-state photon upconversion
- 14:50 – 15:05 **Titas Klepeckas** | FTMC, Lithuania
DIO-Induced Interface Intermixing Limits in Pseudo-Bilayer PM6:Y6 Organic Solar Cell Blends
- 15:05 – 15:20 **Faustino Wahaia** | Pontifical Catholic University of Chile, Chile
Analysis of Metal-Organic Framework Single Crystals for Possible THz Waves Emission and Sensing
- 15:20 – 15:35 **Shyantana Dasgupta** | FTMC, Lithuania
Bulk and interfacial ion dynamics in quasi-2D and 3D perovskite LEDs
- 15:35 – 16:00 **Coffee break**
- SPECIAL SESSION: LUBLIN READINGS** (Co-support by Embassy of Poland in Lithuania) (Chairperson Gintaras Valušis)
- 16:00 – 16:05 **Intro-word** | Polish Embassy
- 16:05 – 16:30 **Darius Staliūnas** | Vilnius University, Lithuania
Vilnius in 19th century: Memory Politics, Symbolic Geography, and Competitive Claims to the 19th-Century City
- 16:30 – 16:55 **Agnieszka Siemion** (Invited) | Warsaw University of Technology, Poland
Terahertz Beam Shaping with Diffractive Optics for medical applications with examination of scattering effects
- 16:55 – 17:20 **Rusnė Ivaškevičiūtė-Povilauskienė** (Invited) | FTMC, Lithuania
Digital Terahertz Holography Approach to Size-Dependent Scattering in Granular Materials
- 17:20 – 17:45 **Marcin Białek** (Invited) | Institute of High Pressure Physics, Poland
Deep Strong Light-Matter Coupling in Landau-Polaritons
- 17:45 – 20:00 **POSTER SESSION**

Thursday (1st October)

FTMC, A101 (Saulėtekio ave. 3)

- NOVEL MATERIALS 2: METAMATERIALS** (Chairperson Antonio Maffucci)
- 9:00 – 9:40 **Willie J. Padilla** (Plenary) | Duke University, NC, U.S.A.
Automated Deep Learning Inverse Design of Artificial Electromagnetic Materials
- 9:40 – 10:05 **Shang-Hua Yang** (Invited) | National Tsing Hua University, Taiwan
Terahertz Optical-Digital Neural Network Imaging
- 10:05 – 10:20 **Linas Minkevičius** (Invited) | FTMC, Lithuania
Recent Advances in Metasurface-based Optics for THz Imaging Systems
- 10:20 – 10:35 **Shotaro Kawano** | The University of Tokyo, Japan
Laser micromachining with a large-aperture metalens for a 1064-nm nanosecond laser

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- 10:35 – 10:50 **Aleksandr Saushin** | University of Eastern Finland, Finland
Control of polarization ellipticity of THz radiation with ultrathin metamaterial
- 10:50 – 11:15 **Coffee break & GROUP PHOTO**
QUANTUM MATERIALS AND TECHNOLOGIES (Chairperson Polina Kuzhir)
- 11:15 – 11:40 **Miriam Serena Vitiello** (Invited) | NEST, National Research Council CNR-NANO & Scuola Normale Superiore, Italy
Ultrafast, low-noise, THz graphene photodetectors and applications in quantum science
- 11:40 – 12:05 **Ronald Ulbricht** (Invited) | Max Planck Institute for Polymer Research, Germany
Characterizing the electronic structure of quantum defects in semiconductors using time-resolved spectroscopy
- 12:05 – 12:20 **Ifra Bibi** | FTMC, Lithuania
Laser-Induced Room-Temperature Single-Photon Emission from Defect Centers in Hexagonal Boron Nitride
- 12:20 – 12:35 **Paulius Rindzevičius** | FTMC, Lithuania
Temperature-dependent fluorescence of color centers in diamond structures
- 12:35 – 12:50 **Rokas Silkinis** | FTMC, Lithuania
Ab initio emission lineshape modeling of color centers in semiconductors
- 12:50 – 14:00 **Lunch break**
NOVEL OPTOELECTRONIC SYSTEMS (Chairperson Agnieszka Siemion)
- 14:00 – 14:25 **Erik Hagen Waller** (Invited) | Fraunhofer Institute for Industrial Mathematics ITWM, Germany
Terahertz systems and components in industry
- 14:25 – 14:50 **Kuniaki Konishi** (Invited) | The University of Tokyo, Japan
Fabrication of anti-reflective moth-eye structures using ultrashort-pulse laser processing and their application to radio astronomy observations
- 14:50 – 15:05 **Kazimieras Nomeika** | Light Conversion, Lithuania
Charge Carrier and Spin Diffusion in a Polycrystalline and Single Crystal Lead Halide Perovskite Semiconductor
- 15:05 – 15:20 **Regimantas Januškevičius** | Ekspla, Lithuania
Narrowband picosecond laser light sources for wide infrared spectral range based on nonlinear light conversion
- 15:20 – 15:35 **Adrian Cernescu** | Attocube Systems GmbH, Germany
Imaging and Spectroscopy at 10nm Spatial Resolution using s-SNOM
- 15:35 – 16:00 **Coffee break**
SPECTROSCOPY AND APPLICATIONS (Chairperson Georgy Fedorov)
- 16:00 – 16:25 **Heinz-Wilhelm Hübers** (Invited) | DLR Institute of Space Research & Humboldt University Berlin, Germany
High-resolution THz spectroscopy of the mesosphere and lower thermosphere of the Earth
- 16:25 – 16:50 **Koichiro Tanaka** (Invited) | RIKEN Centre for Advanced Photonics & Kyoto University, Japan
Saturation Spectroscopy of Rotational Transitions Toward the Molecular Clock Application
- 16:50 – 17:05 **Chia-Ming Mai** | National Tsing Hua University, Taiwan
Dual-mode Terahertz Time-Domain Spectroscopy for Versatile Characterization of Semiconductors





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LITHUANIA

- 17:05 – 17:20 **Patricija Ivanauskaitė** | FTMC, Lithuania
Development of a portable optoelectronic system for terahertz gas spectroscopy
- 17:20 – 17:35 **Surya Revanth Ayyagari** | Vilnius University, Lithuania
Meta-Atom Photonic Sensor for THz Detection of Organic Molecules
- 18:30 – 21:00 **CONFERENCE DINNER**

Friday (2nd October)

FTMC, A101 (Saulėtekio ave. 3)

WIRELESS COMMUNICATION SYSTEMS (Co-organizer HERMES)

(Chairperson Heinz-Wilhelm Hübers)

- 9:00 – 9:40 **Tadao Nagatsuma** (Plenary) | The University of Tokyo, Japan
Terahertz Technologies for Wireless Communications: Achievements and Future Directions
- 9:40 – 10:05 **Antonio Maffucci** (Invited) | University of Cassino and Southern Lazio, Italy
Towards the integration of THz antennas in novel communication links: the Hermes project
- 10:05 – 10:20 **Paweł Komorowski** | Military University of Technology, Poland
High-speed terahertz communication in the W and J bands
- 10:20 – 10:35 **Justina Žemgulytė** | FTMC, Lithuania
Dielectric resonator array rectenna for radio frequency energy harvesting
- 10:35 – 10:50 **Gedminas Elertas** | Astrolight, Lithuania
Laser Communications in Action: Real-World Deployments from the Arctic to the Baltic Sea

10:50 – 11:15 **Coffee break**

INTEGRATED PHOTONICS (Co-organizers ChipsC2-LT & HERMES)

(Chairperson Willie J. Padilla)

- 11:15 – 11:40 **Timo Aalto** (Invited) | Silicon photonics, VTT, Finland
Photonic Integrated Circuits: from Pilot Line Access to Product
- 11:40 – 12:05 **Georgy Fedorov** (Invited) | University of Eastern Finland, Finland
Terahertz range electrodynamics and possible optoelectronic applications of carbon nanotube films
- 12:05 – 12:20 **Ubaid ur Rehman** | FTMC, Lithuania
Femtosecond Laser-Written Photonic Integrated Circuits for Quantum Applications
- 12:20 – 12:35 **Vytautas Janonis** | FTMC, Lithuania
Near-field investigation of GaN surface relief grating coupled plasmon phonon polaritons
- 12:35 – 12:50 **Armandas Balčytis** | RMIT University & COMBS, Australia
Engineering Thin-Film Lithium Niobate Cavities for On-Chip Frequency-Space Lattices
- 12:50 – 13:00 **BEST STUDENT AWARDS & CONFERENCE CLOSING REMARKS**
- 13:00 – 14:00 **Lunch break**
- 14:30 – 17:00 **EXCURSION** to old town and historical Astronomical Observatory of Vilnius University

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