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SYMPOSIUM VENUE

The 2025 PhotonIcs & Electromagnetics Research Symposium, will be held in Chiba from 5 to 9 November 2025, at the Makuhari Messe.

Address: 2-1 Nakase, Mihama-ku, Chiba 261-8550 Japan.

REGISTRATION

The PIERS technical sessions will begin at 13:00 on Wednesday, November 5, 2025. You may come to register during 8:30–18:30 on Wednesday, November 5, 2025, at the registration desks at the Makuhari Messe. Registration is also available from 8:00–18:00 on November 6–9, 2025.

The on-site registration fee is USD 730, and the reduced registration fee for a student is USD 490 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration counter during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Wednesday evening, November 5, 2025, all conference participants are invited to a welcome reception. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by October 10, 2025.

Symposium Banquet

On Saturday evening, November 8, 2025, symposium banquet is planned for PIERS participants and their guests. A limited number of banquet tickets will be available. For all participants, the price is USD 80 per person. Please make reservation and pay in advance for the banquet by October 10, 2025.

PIERS ONLINE

Information on PIERS 2025 CHIBA and future PIERS is posted at www.piers.org.

GUIDELINE FOR PRESENTERS

Onsite Oral Presentations

- **LOAD and TEST Presentation Files in Advance:**
  All Oral Presenters must load presentation files to the designated link provided by PIERS OFFICE at least two days prior to the conference. If any changes are made after the initial upload, the updated file must be submitted to the upload link by Secretariat for PIERS 2025 Chiba no later than 12 hours before the scheduled talk. The upload link will be sent to all presenters via email around November 1, 2025. If you encounter any issues with the upload process, please contact the on-site PC Center located near the registration desk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session rooms.
- **Presentation Files Format:**
  PDF and PowerPoint formats are recommended for presentation files. If you upload your slides before the conference, you do not need to check your file at the on-site PC Center.

  However, if your presentation includes movies or animations (e.g., in MPEG, Windows Media, or other formats), please test your files at the on-site PC Center near the registration desk no later than half a day before your session.
- **USB Disk:**
  Presentation files in USB disk are acceptable by onsite PIERS Computer.
- **Report to Session Chair:**
  Onsite Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.
- **Talk Limit: 15 minutes (Onsite Oral Talk):**
  All oral presentations, including questions and answers, should be less than the given minutes.
- **DO NOT Change Presentation Sequence:**
  Session Chairs, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each paper and refrain from changing paper presentation sequence.
- **NO Picture Request:**
  When such a request is made by the presenter, the session chair and session helpers will do their best to ensure that no pictures will be taken at the presentation.

Onsite Poster Presentations

- Onsite poster presentation: A0 format (Width: 841 mm x Height: 1189 mm) is strongly suggested.
- All presenters are required to mount their papers one hour before the session and remove them at the end of their sessions. Each poster can be posted at 9:00-12:00 and 14:00-18:00, and all poster presenters are suggested to be present at least during 10:30-10:50 and 15:40-16:00.
- Presenters should post time slots of their presence on the panel and be present for interactive questions at the given time.

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- The Electromagnetics Academy

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- IEEE Photonics Society
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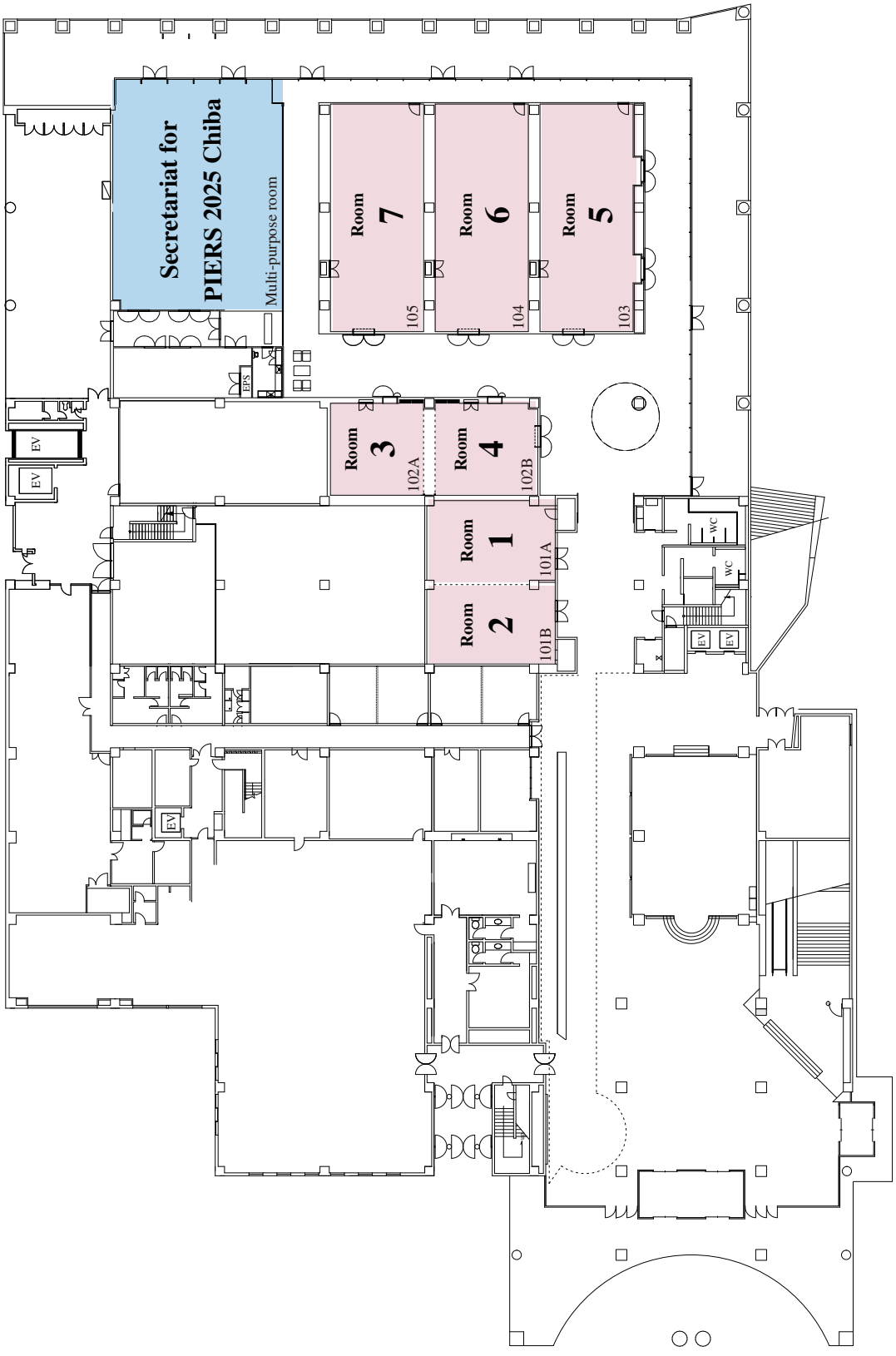

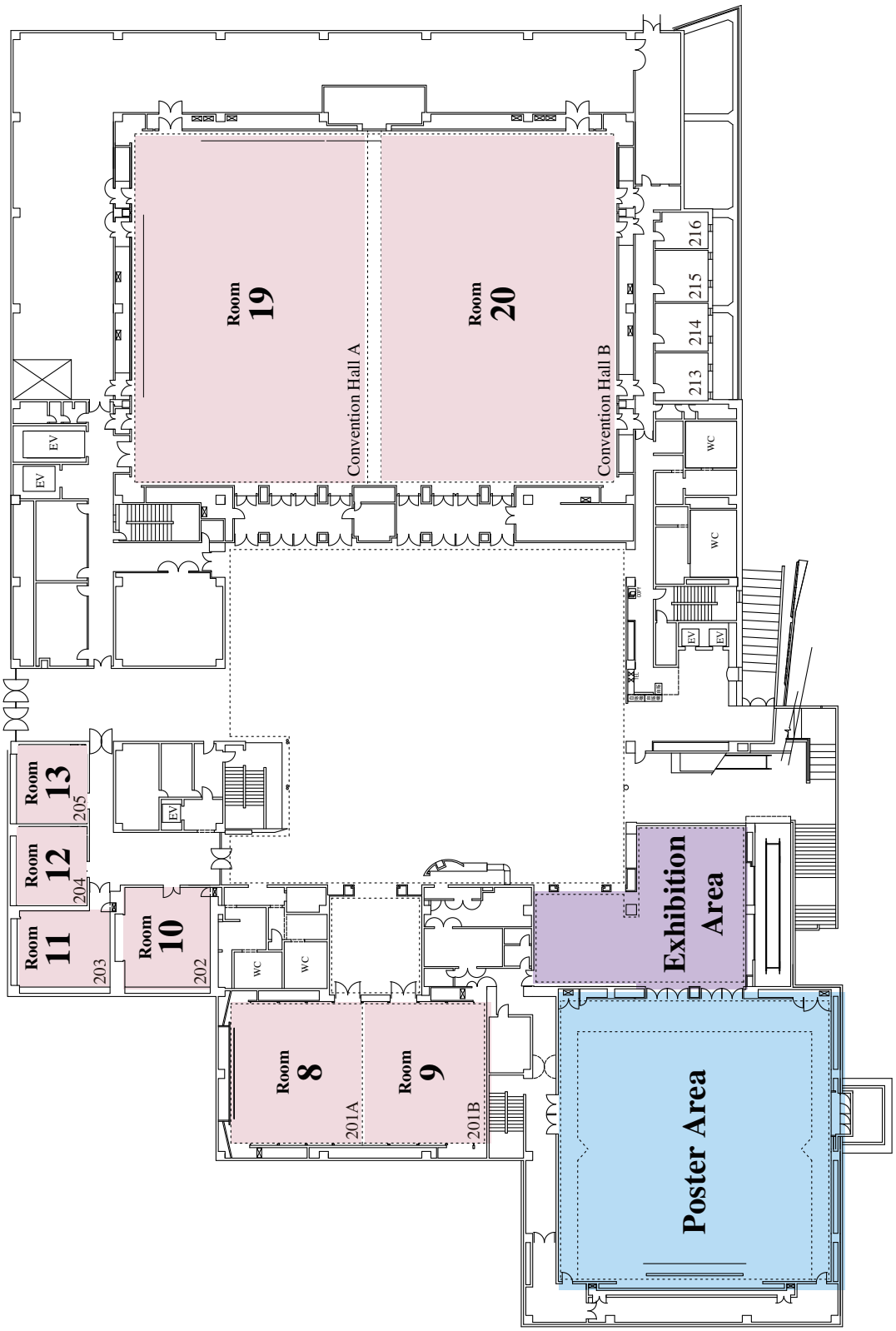

Makuhari Messe International Conferenc Hall – 2nd Floors

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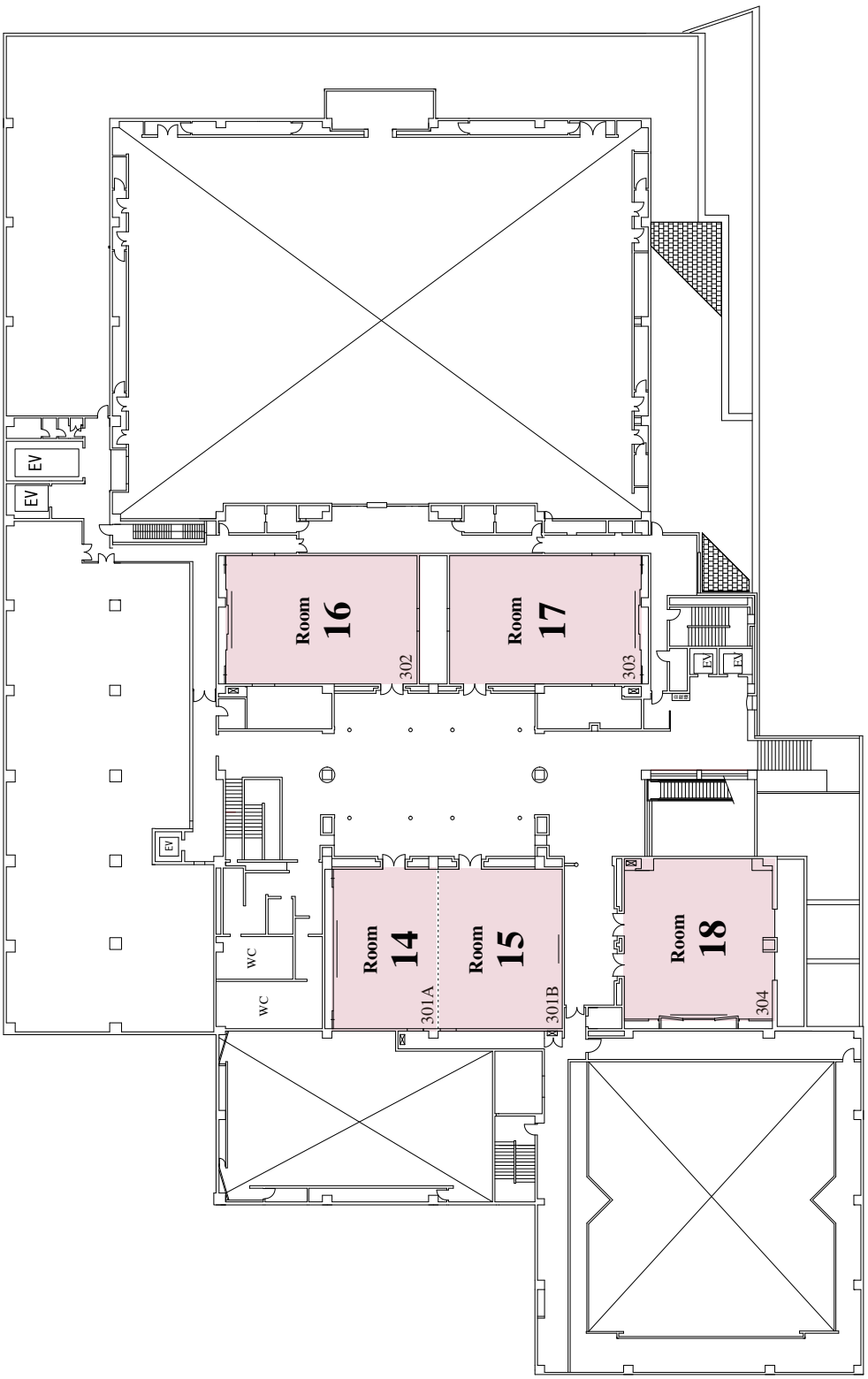

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English.

CURRENCY AND CREDIT CARDS

The local currency is the Japanese Yen (JPY) and the exchange rate is 1 USD for about 148 JPY (as of August 21, 2025). Credit cards and cash are acceptable for payments. International credit cards are acceptable in most shops, restaurants etc.

TAX AND TIP

Please do not tip a waiter/waitress or a taxi driver and other persons who provide regular service. All advertised merchandise prices normally include tax.

TAXI

Usually, a taxi is available along the roadsides (while you wave for it) or right in front of a hotel.

BUSINESS OPENING HOURS

- **Post Office**
  Opening hours: usually 08:30 – 17:00, from Monday to Friday.
- **Bank**
  Opening hours: usually 09:00 – 16:00, from Monday to Friday.
- **Store**
  Opening hours: usually 10:00 – 21:00, from Monday to Sunday. There are 24 h service shops also.
- **Public Transportation**
  Operating hours: generally 05:30 – 23:30

ELECTRICITY

In Chiba area in Japan, the standard outlets provide AC of 100 V/50 Hz.

PIERS 2025 CHIBA TECHNICAL PROGRAM

Session 0P0
Hot Topics in Photonics and Electromagnetics

Wednesday PM, November 5, 2025

Room 0 - Convention Hall A

Organized by Sailing He

Chaired by Sailing He

17:00 Hot Topic — Topological Dissipation in a Time-multiplexed Photonic Resonator Network and Topological Temporally Mode-locked Lasers
Franco Nori (*RIKEN and University of Michigan*);

17:10 Hot Topic — Silicon Carbide Optoelectronic and Photonic Device Integration
Min Qiu (*Westlake University*);

17:20 Hot Topic — Large-scale Quantum Optical Chips
Jianwei Wang (*Peking University*);

17:30 Hot Topic — Serendipity Engineering
Keisuke Goda (*University of Tokyo*);

17:40 Hot Topic — Magnetoelectric Dipole Antennas
Kwai Man Luk (*City University of Hong Kong*);

Session 0P1
Nanomaterials for Displays and Lighting

Wednesday PM, November 5, 2025

Room 1 - 101A

Organized by Abhishek Kumar Srivastava, Sedat Nizamoglu

Chaired by Abhishek Kumar Srivastava

13:00 Directional and Color-Pure Light Emission from RGB Nanostructured Organic Devices for Extended Reality Displays
A. Mohammed (*KOALA Tech. Inc.*); *A. Mikaeili* (*KOALA Tech. Inc.*); *R. Taniguchi* (*KOALA Tech. Inc.*); *H. Ishidai* (*KOALA Tech. Inc.*); *S. Terakawa* (*KOALA Tech. Inc.*); *T. Yoshizumi* (*KOALA Tech. Inc.*); *M. Auffray* (*KOALA Tech. Inc.*); *Fatima Bencheikh* (*KOALA Tech. Inc.*);

13:15 An Analytical Method of Charge Injection and Emission Behaviors in Tandem Organic Light Emitting Diodes
Masaru Inoue (*TOYO Tech LLC*); *Masanobu Mizusaki* (*Sharp Corporation*); *Hideyuki Murata* (*Japan Advanced Institute of Science and Technology*);

13:30 Chemiluminescent Nanoparticles for in vivo Afterglow Imaging
Safacan Kolemen (*Koç University*);

13:45 Keynote — Colloidal Optoelectronics
Hilmi Volkan Demir (*Nanyang Technological University*);

14:15 Efficient Quantum Rod Light Emitting Diodes for Displays
Abhishek Kumar Srivastava (*Hong Kong University of Science and Technology*);

14:30 Modifications to Perovskites and Ternary Metal Halide Nanocrystals for Displays and Lighting
Jonathan E. Halpert (*The Hong Kong University of Science and Technology (HKUST)*);

14:45 Keynote — In Situ Fabricated Perovskite Quantum Dots for Photonic Applications
Haizheng Zhong (*Beijing Institute of Technology*);

15:15 Perovskite Quantum Dots Photoresist for Direct Photolithography
Gaoling Yang (*Beijing Institute of Technology*);

15:30 Elastic Properties of Nanocrystalline Ni-Zn Ferrites: In the Context of Cationic Distribution
Somnath Biswas (*The LNM Institute of Information Technology*);

00:00 Metal Halide Perovskite Nanowire Arrays for High-performance and Flexible Light-emitting Diodes
Daquan Zhang (*The Chinese University of Hong Kong*);

15:45 Keynote — Nanocolloidal Chiral Liquid Crystals
Ivan I. Smalyukh (*University of Colorado & WPI-SKCM^2, Hiroshima University*);

Session 0P2
Mm Waves and THz Systems and Applications

Wednesday PM, November 5, 2025
Room 2 - 101B
Organized by Xian Qi Lin, Shangzhi Chen
Chaired by Shangzhi Chen

13:00 Metamaterial-inspired Slow Wave Structures for Miniaturized Sub-THz Vacuum Tube Power Amplifiers
Nikita Mikhailovich Ryskin (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*); *Alena A. Rostuntsova* (*Institute of Radio Engineering and Electronics RAS*); *Roman Antonovich Torgashov* (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*); *Dmitry A. Nozhkin* (*Institute of Radio Engineering and Electronics RAS*); *Dmitry A. Bessonov* (*Kotelnikov Institute of Radioengineering and Electronics RAS*); *Valeriy V. Emelyanov* (*Kotelnikov Institute of Radioengineering and Electronics RAS*); *Victor Vladimirovich Galushka* (*Saratov State University*); *Igor A. Navrotsky* (*Fundamental Research Laboratory, RPE "Almaz"*);

13:15 Low-complexity Continuous Learning for Digital Predistortion with Multi-state Activation Functions
Boyan Li (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Xiao Wei Meng* (*Beijing University of Posts and Telecommunications*); *Letian Zhang* (*Beijing University of Posts and Telecommunications*); *Suyang Zhang* (*Beijing University of Posts and Telecommunications*); *Haipeng Lu* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

13:30 Advanced-residual Modeling for Power Amplifiers in Millimeter-wave Systems
Suyang Zhang (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Boyan Li* (*Beijing University of Posts and Telecommunications*); *Xiao Wei Meng* (*Beijing University of Posts and Telecommunications*); *Haipeng Lu* (*Beijing University of Posts and Telecommunications*); *Letian Zhang* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

13:45 Sustainable Learning Multi-state Modeling of RF Power Amplifiers in Terahertz Communication Systems: Residual Deep Networks and Dynamic Calibration Optimization
Xiao Wei Meng (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Boyan Li* (*Beijing University of Posts and Telecommunications*); *Zongyu Chang* (*Beijing University of Posts and Telecommunications*); *Meng Zhou* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

14:00 Mitigating Cladding-induced Ripples in D-band Polymer Microwave Fibers for Enhanced 6G Performance
Maria Jozwicka (*HUBER+SUHNER AG*); *Gilles Callebaut* (*KU Leuven*); *Manuel Buehler* (*HUBER+SUHNER AG*); *Martin Wagner* (*HUBER+SUHNER AG*); *Ulf Huegel* (*HUBER+SUHNER AG*); *Liesbet Van der Perre* (*KU Leuven*);

14:15 Generation of a High-power MM-radiation with a Kiloampere Sheet Relativistic Electron Beam in a Planar Cherenkov Maser
Stanislav L. Sinitsky (*Budker Institute of Nuclear Physics Russian Academy of Sciences*); *Evgeny S. Sandalov* (*Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences (BINP SB RAS)*); *Andrey V. Arzhannikov* (*Budker Institute of Nuclear Physics RAS*); *Denis A. Samtsov* (*Budker Institute of Nuclear Physics RAS*); *S. A. Kuznetsov* (*Budker Institute of Nuclear Physics RAS*); *Petr V. Kalinin* (*Budker Institute of Nuclear Physics RAS*); *Vasily D. Stepanov* (*Budker Institute of Nuclear Physics RAS*); *Nikolai Yu. Peskov* (*Budker Institute of Nuclear Physics RAS*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*);

00:00 Research Progress of Planar Distributed Traveling-wave Tube at W-band
Wenbo Wang (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Zihan Liu* (*Beihang University*); *Yitao Hou* (*Beihang University*);

00:00 Model-guided Design of Millimeter-wave Multilayer Ab-
Invited sorbers with Enhanced Angular Flexibility
Zhi Chen (*University of Electronic Science and Technology of China*); *Xian Qi Lin* (*University of Electronic Science and Technology of China*); *Xinmi Yang* (*University of Electronic Science and Technology of China*);

00:00 Low-complexity Multi-state Neural Network Modeling for Time-varying Channels in Satellite Millimeter-wave Communications
Letian Zhang (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Boyan Li* (*Beijing University of Posts and Telecommunications*); *Xiao Wei Meng* (*Beijing University of Posts and Telecommunications*); *Haipeng Lu* (*Beijing University of Posts and Telecommunications*); *Suyang Zhang* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

00:00 Investigation on a Non-periodic Meander Slot-line Slow-wave Structure at Q-band
Jintao Xiao (*University of Electronic Science and Technology of China*); *Shaomeng Wang* (*University of Electronic Science and Technology of China*); *Qingying Yi* (*University of Electronic Science and Technology of China*); *Yubin Gong* (*University of Electronic Science and Technology of China*);

00:00 Activation Function Learnable Neural Networks for RF Power Amplifiers Behavior Modeling
Haipeng Lu (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Boyan Li* (*Beijing University of Posts and Telecommunications*); *Xiao Wei Meng* (*Beijing University of Posts and Telecommunications*); *Letian Zhang* (*Beijing University of Posts and Telecommunications*); *Suyang Zhang* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

00:00 Design and Analysis of a Dual 2π-mode W-band Extended Interaction Oscillator with High Efficiency and Enhanced Bandwidth
Tianyi Xu (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*);

Session 0P3
Electro-gravitational Interactions: Theory and Experiments

Wednesday PM, November 5, 2025

Room 3 - 102A

Organized by Innocenzo M. Pinto, Vladimir O. Gladyshev

Chaired by Innocenzo M. Pinto

13:00 Invited The Search for Axion Dark Matter and High Frequency Gravitational Waves with Acoustic and Microwave Cavities
Michael E. Tobar (*University of Western Australia*); *Aaron Quiskamp* (*University of Western Australia*); *W. M. Campbell* (*University of Western Australia*); *G. R. Flower* (*University of Western Australia*); *E. C. I. Patterson* (*University of Western Australia*); *R. Crew* (*University of Western Australia*); *S. Samuels* (*University of Western Australia*); *E. N. Ivanov* (*University of Western Australia*); *Ben T. McAllister* (*University of Wstern Australia*); *Jeremy F. Bourhill* (*The University of Western Australia*); *Maxim Goryachev* (*University of Western Australia*);

00:00 Invited The MAGO Cavity and Prospects for High-Frequency Gravitational Wave Searches
Bianca Giaccone (*Deutsches Elektronen-Synchrotron DESY*); *Krisztian Peters* (*Deutsches Elektronen-Synchrotron DESY*); *Marc Wenskat* (*Deutsches Elektronen-Synchrotron DESY*);

13:40 Invited GravNet — A Global Network for the Search for High-frequency Gravitational Waves
Claudio Gatti (*INFN-LNF, Frascati (Rm)*);

00:00 Invited Astrophysical and Cosmological Sources of Ultra-high-frequency Gravitational Waves: Opportunities and Challenges
G. Cella (*University of Pisa*);

14:20 Invited Perspectives for Single Microwave Photon Detection
Sergio Pagano (*University of Salerno*);

14:40 Invited Cumulative Effects of Laser-generated Gravitational Shock Waves
Riccardo Falcone (*University Sapienza*); *Claudio Conti* (*University Sapienza*);

15:00 Invited Macroscopic Quantum Systems and Gravitational Fields
Giovanni Alberto Ummarino (*Politecnico di Torino*); *Antonio Gallerati* (*Politecnico di Torino*);

15:20 Invited Tracing Gravity-induced Collapse through X-ray Emission Patterns
Kristian Piscicchia (*Centro Ricerche Enrico Fermi*);

15:40 **Coffee Break**

Session 0P4a
Ocean and Coastal Remote Sensing: The AI Approach

Wednesday PM, November 5, 2025

Room 4 - 102B

Organized by Xiaofeng Li, Xiaofeng Yang

Chaired by Xiaofeng Yang

13:00 Retrieval of Sea-level Pressure Fields from the MWTS-2 and MWHS-2 Onboard the FengYun-3D Satellite Using a Neural Network-based Algorithm
Zijin Zhang (*National Space Science Center, Chinese Academy of Sciences*); *Xiaolong Dong* (*National Space Science Center, Chinese Academy of Sciences*);

13:15 Scattering Simulation and Parameter Inversion of Emulsion Oil on Sea Surface
Tingyu Meng (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*); *Kun-Shan Chen* (*Nanjing University*); *Ferdinando Nunziata* (*Università degli Studi di Napoli Parthenope*); *Andrea Buono* (*Università degli Studi di Napoli Parthenope*);

13:30 Unsupervise Vegetation Type Mapping Using Remote Sensing Data in Costal Wetlands
Yi-Chen Chou (*National Taipei University of Technology*); *Tien-Hao Liao* (*National Taipei University of Technology*);

13:45 Kinetic Energetic Exchange between Near-inertial Waves and Mesoscale Eddy/Diurnal Tide during Typhoon Rai
Zhipeng Zhang (*Sun Yat-sen University*); *Chunhua Qiu* (*Sun Yat-sen University*); *Dongxiao Wang* (*Sun Yat-sen University*); *Zhiwu Chen* (*South China Sea Institute of Oceanology, Chinese Academy of Sciences*); *Toshiyuki Hibiya* (*Tokyo University of Marine Science and Technology*); *Xiaohui Xie* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Xiaolong Yu* (*Sun Yat-sen University*);

14:00 Analysis of the Spatiotemporal Variation Characteristics of Ocean Fronts in the Eastern Equatorial Pacific
Le Gao (*Institute of Oceanography, Chinese Academy of Sciences*); *Xiaofeng Li* (*Institute of Oceanology, Chinese Academy of Sciences*);

14:15 Retrieval and Analysis of Tropical Cyclone Vertical Tilt from SAR and Infrared Satellite Imagery
Shanshan Mu (*Institute of Oceanography, Chinese Academy of Sciences*); *Xiaofeng Li* (*Institute of Oceanography, Chinese Academy of Sciences*);

14:30 Ocean Perspective Detection Based on Multi-sensor Coordinated Aerial Remote Sensing
Xiaofeng Yang (*Nanjing University*);

00:00 Sea Surface Wind from Wave Scatterometer
Haoyu Jiang (*Shenzhen University*);

Session 0P4b
Scientific Computing and Machine Learning in Subsurface Geophysical Prospecting

Wednesday PM, November 5, 2025

Room 4 - 102B

Organized by Decheng Hong, Kun Li

Chaired by Decheng Hong, Kun Li

15:00 Land Cover Classification Using Machine Learning with Image Fusion
Agnes Zhi Yan Quah (*Universiti Tunku Abdul Rahman*); *Chia Ming Toh* (*Universiti Tunku Abdul Rahman*); *Hong Tat Ewe* (*Universiti Tunku Abdul Rahman*);

15:15 Geographic Digital Twins of Qinghai-Xizang Environment Construction Using Bionic Eagle Eye Based Embodied Intelligence
Xiaowei Nie (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*); *Xiaoduo Pan* (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*);

00:00 Development and Application of a New Deep Azimuthal Electromagnetic Wave Propagation Resistivity Logging-while-drilling Tool
Xizhou Yue (*Well-tech R&D Institute, China Oilfield Services Limited*); *Guoyu Li* (*Well-tech R&D Institute, China Oilfield Services Limited*); *Yiyi Wang* (*Well-tech R&D Institute, China Oilfield Services Limited*); *Tianlin Liu* (*Well-tech R&D Institute, China Oilfield Services Limited*); *Pengyun Zhang* (*Well-tech R&D Institute, China Oilfield Services Limited*);

15:45 Study on Vehicle Tracking by Using Fractal Image Analysis with Updating Reference Image
Yifan Wu (*Nihon University*); *Jinbo Xuan* (*Nihon University*); *Syota Yazawa* (*Nihon University*); *Akira Uchida* (*Nihon University*); *Takashi Kuroiwa* (*Nihon University*);

16:00 Analytical Method of Scattered Electromagnetic Field by a Buried Sphere
Kai Zhao (*Jilin University*); *Decheng Hong* (*Jilin University*);

16:30 **Coffee Break**

Session 0P5
FocusSession.SC1: Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 1

Wednesday PM, November 5, 2025

Room 5 - 103

Organized by Maha Ben Rhouma

Chaired by Maha Ben Rhouma

13:00 Invited Difficulty in Exciting a Thick Plasmonic MIM Waveguide Using a Simple Butt-coupled Structure
Jun Shibayama (*Hosei University*); *Masato Funakoshi* (*Hosei University*);

13:20 Invited Variational Optical Processors
Charles Roques-Carmes (*Massachusetts Institute of Technology*); *A. Karnieli* (*Stanford University*); *David A. B. Miller* (*Stanford University*); *Shanhui Fan* (*Stanford University*);

13:40 Invited End-to-End Metaoptic Multi-dimensional Imaging
Zin Lin (*Virginia Tech (National Capital Region)*);

14:00 A Gain Route to Reversed Cherenkov Radiation
Ruoxi Chen (*Zhejiang University*); *Xiao Lin* (*Zhejiang University*);

14:15 Exploiting Cooperative Scattering in Random Particu-
Invited late Materials to Generate Controlled Thermo-optical Properties
Cédric Blanchard (*CNRS*); *C. Gila-Vilchez* (*CNRS, CEMHTI UPR3079, Univ. Orléans*); *M. Sainz-Menchón* (*CNRS, CEMHTI UPR3079, Univ. Orléans*); *L. Del Campo* (*CNRS, CEMHTI UPR3079, Univ. Orléans*); *B. Diallo* (*CNRS, CEMHTI UPR3079, Univ. Orléans*); *Olivier Rozenbaum* (*CNRS*); *I. González de Arrieta* (*University of the Basque Country (UPV/EHU)*); *N. Pellerin* (*CNRS, CEMHTI UPR3079, Univ. Orléans*);

14:35 Silicon Meta-materials for Thermal Radiation
Invited
Elyes Nefzaoui (*University Gustave Eiffel*);

14:55 Multilevel Fast Multipole Algorithm for Electromagnetic
Invited Scattering by Large Metasurfaces Using Static Mode Representation
E. Corsaro (*University of Naples "Federico II"*); *Giovanni Miano* (*Universita degli Studi di Napoli Federico II*); *A. Tamburrino* (*University of Naples "Federico II"*); *S. Ventre* (*University of Naples "Federico II"*); *Carlo Forestiere* (*Universita degli Studi di Napoli Federico II*);

15:15 Angular-invariant Scattering in Metasurfaces
M. Yücel (*École Polytechnique Fédérale de Lausanne (EPFL)*); *Karim Achouri* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

15:30 Multipole Coupling in Dielectric Metasurfaces
Izzatjon Allayarov (*Leibniz University Hannover*); *Andrey B. Evlyukhin* (*Leibniz University Hannover*); *Antonio Calà Lesina* (*Leibniz University Hannover*);

15:45 Opto-mechanical Interactions in Vacuum Levitodynam-
Invited ics with Complex Wavefronts
Mathias Perrin (*Université de Bordeaux*);

00:00 Next Generation Integrated Photonics
Keynote
Tobias J. Kippenberg (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

16:35 Scalable Semiconductor Quantum Photonic Systems
Invited
Giovanni Scuri (*Stanford University*); *Jelena Vuckovic* (*Stanford University*);

Session 0P6
FocusSession.SC1: Fluctuational Electrodynamics and Light-matter Phenomena: Energy and Momentum Management at the Nano/Micro-scale 1

Wednesday PM, November 5, 2025

Room 6 - 104

Organized by Mauro Antezza

Chaired by Mauro Antezza

13:00 Casimir Force Computation for Material Permittivities
Invited Lacking High Frequency Responses
Hideo Iizuka (*Toyota Central R&D Labs., Inc.*); *Shanhui Fan* (*Stanford University*);

13:20 Challenges of Observation of the "True" Dynamical
Invited Casimir Effect in Cavities
Viktor V. Dodonov (*University of Brasilia*);

13:40 Photomolecular Effect Modeling via Generalizing
Invited Boundary Conditions for Maxwell Equations Using Feibelman Parameters
Gang Chen (*Massachusetts Institute of Technology*);

14:00 Experimental Race to Detect Heat Transfer Mediated
Invited by Surface Phonon Polaritons
Sunmi Shin (*National University of Singapore*);

14:20 Quantum Emitter Interacting with a Dispersive Dielec-
Invited tric Object: A Model Based on the Modified Langevin Noise Formalism
Giovanni Miano (*Universita degli Studi di Napoli Federico II*); *L. M. Cangemi* (*University of Naples "Federico II"*); *Carlo Forestiere* (*Universita degli Studi di Napoli Federico II*);

14:40 Skyrmion Generation through the Chirality Interplay of
Invited Light and Magnetism
Qifan Zhang (*Guangzhou University*); *Shirong Lin* (*Great Bay University*); *Wu Zhang* (*Guangzhou University*);

15:00 The Quantum Vacuum: From Theoretical Concept to
Invited Observation
Stefan Yoshi Buhmann (*Universität Kassel*);

15:20 A Microscopic Approach to Nonlinear Macroscopic
Invited Quantum Electrodynamics
Arman Kashef (*University of Rostock*); *Oscar Perearnau Herrero* (*University of Rostock*); *Stefan Scheel* (*University of Rostock*);

00:00 Near-field Radiative Heat Transfer between Finite-sized
Invited Objects
Chengrong Zeng (*Peking University*); *Xiaohu Wu* (*Shandong Institute of Advanced Technology*); *Ceji Fu* (*Peking University*); *Shuo Chen* (*Peking University*);

16:00 Radiative Heat Transfer Enhancement at the Metallic-
hyperbolic Interfaces
Ross Y. M. Wong (*National Institute for Materials Science*); *Satoshi Ishii* (*National Institute for Materials Science (NIMS)*);

00:00 Casimir-Lifshitz Interactions in Graphene Gratings:
Invited Nonadditivity and Lateral Effects
Youssef Jeyar (*University of Montpellier*); *Minggang Luo* (*CNRS-Université de Montpellier*); *Brahim Guizal* (*University of Montpellier — CNRS*); *Mauro Antezza* (*Université de Montpellier*);

Session 0P7
FocusSession.SC6: Towards Chiral and Magnetoelectric Quantum Electrodynamics 1

Wednesday PM, November 5, 2025

Room 7 - 105

Organized by Eugene O. Kamenetskii

Chaired by Eugene O. Kamenetskii

13:00 Invited — Macroscopic QED Theory of Discriminatory RET in Different Environments
Janine Christine Franz (*Universität Kassel*); *Stefan Yoshi Buhmann* (*Universität Kassel*); *Akbar Salam* (*Wake Forest University*);

13:20 Invited — Chiral Photon-mediated Dynamics
Stefan Yoshi Buhmann (*Universität Kassel*);

13:40 Invited — Quantum Magnonics
Yaroslav M. Blanter (*Delft University of Technology*);

14:00 Invited — Spin Injection, Dephasing, and Transport via Magnon Correlation in Canted Antiferromagnets
Tao Yu (*Huazhong University of Science and Technology*);

14:20 Invited — From Cavity — QED to Van der Waals — QED: Magnons instead of Photons
David García-Pons (*INMA (UNIZAR — CSIC)*); *Jorge Pérez-Bailón* (*INMA (UNIZAR — CSIC)*); *Xavier Del Arco-Fargas* (*INMA (UNIZAR — CSIC)*); *Carla Boix* (*INMA (UNIZAR — CSIC)*); *Iván Gómez-Muñoz* (*INMA (UNIZAR — CSIC)*); *Eugenio Coronado* (*INMA (UNIZAR — CSIC)*); *David Zueco* (*INMA (UNIZAR — CSIC)*); *María-José Martínez-Pérez* (*Universidad de Zaragoza*);

14:40 Invited — The Forgotten Pioneers of Polaritons
Can-Ming Hu (*University of Manitoba*);

15:00 Invited — Chiro-optical Microscopy and Chiral Near-field Interaction between Plasmon Resonances and Molecules
Hiromi Okamoto (*National Institutes of Natural Sciences*); *S. Hashiyada* (*Hokkaido University*); *H.-Y. Ahn* (*National Institutes of Natural Sciences*); *J. Yamanishi* (*The University of Osaka*);

15:20 Invited — Non-Hermitian Skin Effect in Chiral Waveguide Quantum Electrodynamics
Alexander Poddubny (*Weizmann Institute of Science*);

15:40 Invited — Chiral Light-matter Interaction: Optical Vortices, Quantum Hall Electrons and a Perspective
Mohammad Hafezi (*University of Maryland*);

16:00 Invited — Significant Single-photon Nonlinearity in Superconducting Circuits: Recent Developments
Amir Burshtein (*Tel-Aviv University*); *Moshe Goldstein* (*Tel Aviv University*);

16:20 Invited — Nonlinear Chiral Metaphotonics
Yuri S. Kivshar (*Australian National University*);

16:40 **Coffee Break**

Session 0P10a
Atom-waveguide Hybrid Platforms for Quantum Technologies 1

Wednesday PM, November 5, 2025

Room 10 - 202

Organized by Síle Nic Chormaic

Chaired by Síle Nic Chormaic

13:00 Invited — Nanofiber Cavity Quantum Electrodynamics Systems for Distributed Quantum Computing
Takao Aoki (*Waseda University*);

13:20 — Interfacing an Array of Single Atoms with a Nanofiber
Puthanveettil Bhavya (*University of Electro-Communications*); *Kei Iidawa* (*University of Electro-Communications*); *Kali Prasanna Nayak* (*University of Electro-Communications*);

13:35 Invited — Strong Dipole-dipole Interactions via Enhanced Light-matter Coupling in Composite Nanofiber Waveguides
Kritika Jain (*Okinawa Institute of Science and Technology Graduate University*); *Lewis Ruks* (*NTT Corporation*); *Fam Le Kien* (*University of Electro-Communications*); *Thomas Busch* (*Okinawa Institute of Science and Technology Graduate University*);

13:55 Invited — Atoms in Micromachined Waveguides: A Promising Platform for Compact Quantum Technologies
Nathan Cooper (*University of Nottingham*); *David Johnson* (*University of Nottingham*); *Matt Overton* (*University of Nottingham*); *Benjamin Hopton* (*University of Nottingham*); *Alexander Abbey* (*University of Nottingham*); *Ayelen Paez* (*University of Nottingham*); *Jesus Rubio* (*University of Surrey*); *Janet Anders* (*University of Exeter*); *Lucia Hackermuller* (*University of Nottingham*);

14:15 — Quantum Dots on Optical Nanofiber Tips: A Hybrid Platform for Quantum Photonics
Resmi Manoharan (*University of Hyderabad*); *Ramachandrarao Yalla* (*University of Hyderabad*);

14:30 Invited — Ferromagnetic Trapping and Optical Spin-wave Control at an Optical Nanofiber Interface
Saijun Wu (*Fudan University*);

Session 0P11
Perovskite Materials for Light-energy Conversion and Radiation Detection

Wednesday PM, November 5, 2025

Room 11 - 203

Organized by Hobeom Kim, Tae-Woo Lee

Chaired by Hobeom Kim, Eui Hyuk Jung

13:00 Synergistic Surface and Interface Engineering Toward Efficient and Stable Self-powered Perovskite Photodetectors (Invited)
Chih-Yu Chang (*National Taiwan University of Science and Technology*);

13:20 Tin Halide Perovskites for Transistors and Photodetectors (Invited)
Hui Joon Park (*Hanyang University*);

13:40 Quadruple-cation Lead-free Perovskite Photodiodes for Efficient Self-powered Photodetection (Invited)
Nutcha Khambunkoed (*National Yang Ming Chiao Tung University*); *Gajendra Suthar* (*National Yang Ming Chiao Tung University*); *Fang-Chung Chen* (*National Yang Ming Chiao Tung University*);

14:00 Perovskite Retinomorphic Image Sensor (Invited)
Hongxiao Duan (*Shanghai Jiao Tong University*); *Xiaoling Shi* (*Shanghai Jiao Tong University*); *Gang Liu* (*Shanghai Jiao Tong University*);

14:20 All-Perovskite Tandem Solar Cells for Various Applications (Invited)
Gill Sang Han (*Korea Research Institute of Chemical Technology (KRICT)*);

14:40 Recent Advances in Achieving High-performance, Large-area Perovskite Solar Modules (Invited)
Young Yun Kim (*Korea Research Institute of Chemical Technology (KRICT)*);

15:00 Reproducible Dry Vacuum Sublimated Perovskite Solar Cells Exceeding 25% Efficiency (Invited)
Beom-Soo Kim (*Korea Research Institute of Chemical Technology (KRICT)*);

15:20 Elucidating Improved Optoelectronic Properties in Mixed-perovskite Thin Films through Multiple Time-resolved Spectroscopy (Invited)
Bong Joo Kang (*Korea Research Institute of Chemical Technology*);

15:40 Perovskite Solar Devices: Interface Engineering Meets 2D Materials and Passivation
Sara Pescetelli (*University of Rome Tor Vergata*); *Antonio Agresti* (*University of Rome Tor Vergata*); *H. Pazniack* (*Université Grenoble Alpes, CNRS*); *F. Lopes De Araujo* (*University of Rome Tor Vergata*); *A. De Vito* (*University of Rome Tor Vergata*); *P. Mariani* (*Istituto di Struttura della Materia — Consiglio Nazionale delle Ricerche Roma (ISM-CNR)*); *A. F. Nogueira* (*Instituto de Química da Universidade Estadual de Campinas (UNICAMP)*); *Francesco Bonaccorso* (*BeDimensional Spa.*); *Emmanuel Kymakis* (*Hellenic Mediterranean University (HMU)*); *Aldo Di Carlo* (*University of Rome Tor Vergata*);

15:55 Interface Engineering Based on Low-dimensional Materials: How to Boost Perovskite Single Junction and Perovskite/Silicon Tandem Photovoltaic Devices for Outdoor and Indoor Applications
Antonio Agresti (*University of Rome Tor Vergata*); *Sara Pescetelli* (*University of Rome Tor Vergata*); *Aldo Di Carlo* (*University of Rome Tor Vergata*);

16:10 Study of Hole Transport Layer for Highly Efficient Sn-Pb Perovskite Solar Cells (Invited)
Dong Hoe Kim (*Korea university*);

16:30 Low Dose X-ray Detection via Sintered Perovskite Micro-crystals with Ligand-like Surface Passivation (Invited)
Jin-Wook Lee (*Sungkyunkwan University*);

Session 0P12
High-speed Outdoor Free Space Optical Communications and Its Related Technology

Wednesday PM, November 5, 2025

Room 12 - 204

Organized by Toshimasa Umezawa, Satoshi Shinada

Chaired by Toshimasa Umezawa, Satoshi Shinada

13:00 Effect of Self-heating in a 25-layer Stacked QD-OSA
Naoya Chiyo (*Aoyama Gakuin University*); *Atsushi Matsumoto* (*National Institute of Information and Communications Technology*); *Sinya Nakajima* (*National Institute of Information and Communication Technology (NICT)*); *Toshimasa Umezawa* (*National Institute of Information and Communications Technology*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*); *T. Maeda* (*Aoyama Gakuin University*); *Hideyuki Sotobayashi* (*Aoyama Gakuin University*);

13:15 Numerical Simulation of Thermo-optic Tuning in Narrow-linewidth Tunable External Cavity Laser Using Thin-film Lithium Niobate Platform
Kelin Chen (*Aoyama Gakuin University*); *Atsushi Matsumoto* (*National Institute of Information and Communications Technology*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*); *Naokatsu Yamamoto* (*National Institute of Information and Communications Technology*); *Tomohiro Maeda* (*Aoyama Gakuin University*); *Hideyuki Sotobayashi* (*Aoyama Gakuin University*);

13:30 Far Field Pattern Characterization of Quantum Dot Laser Diodes with Parallel Ridge Waveguide Structures
Haruki Maruyama (*Aoyama Gakuin University*); *S. Yanase* (*Aoyama Gakuin University*); *K. Akahane* (*NICT*); *A. Matsumoto* (*NICT*); *T. Maeda* (*Aoyama Gakuin University*); *H. Sotobayashi* (*Aoyama Gakuin University*);

13:45 70-GHz Photoreceiver Module Using Uni-travelling Carrier Photodiode with Integrated Micro-lens
Atsunobu Ohta (*Dexerials Photonics Solutions Corporation*); *Ken Usui* (*Dexerials Photonics Solutions Corporation*); *Katsuhiro Shindo* (*Dexerials Photonics Solutions Corporation*);

14:00 Development of Large Active Area Photodetector for Broadband Low-latency Backbone System in Space Communication
Toshimasa Umezawa (*National Institute of Information and Communications Technology*); *Atsushi Matsumoto* (*National Institute of Information and Communications Technology*); *Hideaki Kotake* (*National Institute of Information and Communications Technology (NICT)*); *Y. Hirota* (*National Institute of Information and Communications Technology (NICT)*); *Satoshi Shinada* (*National Institute of Information and Communications Technology (NICT)*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*);

14:15 High Performance of Long-wavelength Infrared Quantum Cascade Detector Based on Coupled Quantum Well Design
Kazuki Horita (*Hamamatsu Photonics K. K.*); *Tatsuo Dougakiuchi* (*amamatsu Photonics K. K.*); *Shohei Hayashi* (*Hamamatsu Photonics K. K.*); *Joel Pérez Urquizo* (*Hamamatsu Photonics K. K.*); *Kazuue Fujita* (*Hamamatsu Photonics K. K.*);

14:30 All-optical Relaying for Broadband and Low-latency Intersatellite Optical Network
Satoshi Shinada (*National Institute of Information and Communications Technology (NICT)*); *Hideaki Kotake* (*National Institute of Information and Communications Technology (NICT)*); *Toshimasa Umezawa* (*National Institute of Information and Communications Technology*); *Y. Hirota* (*National Institute of Information and Communications Technology (NICT)*); *Hideaki Furukawa* (*National Institute of Information and Communications Technology*);

14:45 Optimizing Optical Ground Station Transmitter Telescope for Free Space Optics Uplink
Giulio Cossu (*Scuola Super Sant'Anna*); *Ernesto Ciaramella* (*Scuola Super Sant'Anna*);

15:00 Hybrid Communication System Consisting of Cascaded Optical Wireless Link and Terahertz-band Wireless Link
Kosuke Nishimura (*KDDI Research, Inc.*); *Ken-Ichi Kashima* (*Kokusai Denki Electric Inc.*); *Michikazu Hattori* (*Toyo Electric Corporation*); *Atsunobu Ohta* (*Dexerials Photonics Solutions Corporation*); *Ryotaro Manabe* (*Kokusai Denki Electric Inc.*); *Yuichiro Hara* (*Toyo Electric Corporation*); *Yukihiko Suga* (*Toyo Electric Corporation*); *Hidenori Takahashi* (*KDDI Research, Inc.*); *Takehiro Tsuritani* (*KDDI Research, Inc.*); *Hiroshi Murata* (*Mie University*);

16:30 **Coffee Break**

Session 0P13
Advances on Biophotonics I

Wednesday PM, November 5, 2025

Room 13 - 205

Organized by Fan Wang, Xiaolan Zhong

Chaired by Fan Wang, Xiaolan Zhong

13:00 Intravascular Flow Sensing with Speckle-based Fibre-optic Probe
Tianrui Zhao (*King's College London*);

13:15 Optical Tweezers for Environmental and Space Applications
Invited
Alessandro Magazzù (*CNR-IPCF*); *Silvie Bernatova* (*CNR-IPCF*); *Melissa Infusino* (*CNR-IPCF*); *Alessandro Veltri* (*CNR-IPCF*); *Maria Grazia Donato* (*CNR-IPCF*); *Antonino Foti* (*CNR-IPCF*); *Maria Antonia Iatì* (*CNR-IPCF*); *Pietro G. Gucciardi* (*CNR IPCF, Istituto per i Processi Chimico-Fisici*); *Onofrio M. Marago* (*CNR-IPCF, Istituto per i Processi Chimico-Fisici*);

13:35 Compact Meta-microscopes for Bio-imaging
Invited
Tao Li (*Nanjing University*);

13:55 Computational Phase Imaging for Label-free 3D Microscopy: Noninterferometic Phase Retrieval and Intensity Diffraction Tomography
Invited
Chao Zuo (*Nanjing University of Science and Technology*);

14:15 Structured Light Sheet Microscopy: Enhanced Imaging for Biophotonics
Keynote
Kishan Dholakia (*University of St Andrews*);

14:45 Metaplasmonic Study of a Microfluidic Gut Brain Axis Model
Invited
Donghyun Kim (*Yonsei University*); *Hongki Lee* (*Yonsei University*); *Gwang Myeong Seo* (*Hongik University*); *Hajun Yoo* (*Yonsei University*); *Jong Hwan Sung* (*Hongik University*);

15:05 Photopatterned Liquid Crystal Superstructures for Soft-matter Photonics
Invited
Ling-Ling Ma (*Nanjing University*);

15:25 Interaction between Micro-Nano Cavity and Optoelectronic Materials
Invited
Xiaolan Zhong (*Beihang University*);

15:40 Single Particle Nanospectroscopy of the UCNPs and ANPs
Keynote
Yung Doug Suh (*UNIST/IBS*);

16:10 Stimulated Raman Scattering Microscopy for Biology and Materials Science
Invited
Yasuyuki Ozek (*The University of Tokyo*); *Kazuhiro Kuruma* (*The University of Tokyo*); *Shun Takahashi* (*The University of Tokyo*); *Y. Sano* (*The University of Tokyo*);

00:00 Multi-organelle Super-resolution Imaging and Dark-sectioning Fluorescence De-background Approach
Invited
Peng Xi (*Peking University*);

00:00 Micro-region Optically Induced Magnetic Field Generator for Single-cell Stimulation
Invited
Wen-Fei Dong (*Suzhou Institute of Biomedical Engineering and Technology, CAS*); *Ruoqian Gao* (*Suzhou Institute of Biomedical Engineering and Technology, CAS*);

Session 0P14
Light-emitting Devices Based on Perovskite, Organic and Low-dimensional Semiconductors 1

Wednesday PM, November 5, 2025

Room 14 - 301A

Organized by Dawei Di

Chaired by Dawei Di, Baodan Zhao

13:00 Engineering Nanocrystalline Perovskites with Molecular Modulation for Vivid Displays
Keynote
Tae-Woo Lee (*Seoul National University*);

13:30 Perovskite LEDs for Lighting and Displays
Invited
Jianpu Wang (*Nanjing Tech University*);

13:50 Advancing Perovskite Photonics: Material Design and Micro/Nanofabrication for High-performance and Stable Devices
Invited
Xuezhou Wang (*The Chinese University of Hong Kong*); *Ni Zhao* (*Chinese University of Hong Kong*);

14:10 Advanced Insights into Polariton Condensation in Lead Halide Perovskite Microcavities
Invited
Kenichi Yamashita (*Kyoto Institute of Technology*);

14:30 Bright and Stable Perovskite Light-emitting Diodes
Invited
Dawei Di (*Zhejiang University*);

14:50 Recent Development of Near Infrared Emitters for High-efficiency Organic Light-emitting Diodes and Organic Semiconductor Lasers
Invited
Jean-Charles Ribierre (*University of St Andrews*);

15:10 Spectroscopy of Polaritons in Organic Fabry-Perot Cavities
Sophie Fasquel (*University of Bordeaux*);

15:25 Deformable Organic Light-emitting Diodes Based on Structural Engineering
Da Yin (*Jilin University*);

15:40 The Role of the External Fluorescence to Optically Increase the Open Circuit Voltage in Organic Solar Cells
Francisco Bernal-Texca (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Chiara Cortese* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Mariia Kramarenko* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Jordi Martorell* (*ICFO-Institut de Ciencies Fotoniques*);

15:55 Anion Engineering in Sodium-based Additives Enhances Perovskite Light-emitting Diode Performance
Yucai Yuan (*Zhejiang University*); *Yuxiang Gao* (*Zhejiang University*); *Shiang Zhang* (*Zhejiang University*); *Zhixiang Ren* (*Zhejiang University*); *Baodan Zhao* (*Zhejiang University*); *Dawei Di* (*Zhejiang University*);

16:10 High-radiance Near-infrared Perovskite Light-emitting Diodes with Suppressed Efficiency Roll-off
Yangning Fan (*Zhejiang University*); *Yongchen Ji* (*Zhejiang University*); *Yinghao Dong* (*Zhejiang University*); *Yichen Yang* (*Zhejiang University*); *Kangshuo Hui* (*Zhejiang University*); *Yu Pan* (*Zhejiang University*); *Wenjing Qi* (*Zhejiang University*); *Zhe Liu* (*Zhejiang University*); *Chen Zou* (*Zhejiang University*); *Baodan Zhao* (*Zhejiang University*); *Dawei Di* (*Zhejiang University*);

16:25 Suppressing Auger Recombination in Quasi-2D Lead-bromide Perovskites for Low-threshold ASE
Yichen Yang (*Zhejiang University*); *Jiying Xu* (*Zhejiang University*); *Runchen Lai* (*Zhejiang University*); *Chen Zou* (*Zhejiang University*); *Baodan Zhao* (*Zhejiang University*); *Dawei Di* (*Zhejiang University*);

16:40 **Coffee Break**

Session 0P15
Flexible and Stretchable Optoelectronic Devices and Circuits

Wednesday PM, November 5, 2025

Room 15 - 301B

Organized by Yeongjun Lee, Tae-Woo Lee

Chaired by Yeongjun Lee, Tae-Woo Lee

13:00 Customized, Skin-integrated Electronics Based on Microdevices
Invited
Byeongmoon Lee (*Daegu Gyeongbuk Institute of Science and Technology (DGIST)*);

13:20 Flexible, Foldable, and Stretchable QLEDs
Invited
Dong Chan Kim (*Gachon University*);

13:40 Ultra-thin OLEDs-based Stretchable Displays with Tun-
Invited able 3D Deformation: Toward High Fill-factor and Resolution
Hanul Moon (*Dong-A University*);

14:00 Meta-Elastomer for Biaxially Stretchable Displays
Invited Without Image Distortion
Seungjun Chung (*Korea University*);

14:20 Skin-conformable Sensors and Displays by Soft Conduct-
Invited ing Polymers
Naoji Matsuhisa (*The University of Tokyo*);

14:40 Tissue-adhesive Neuroprosthetic Devices
Invited
Donghee Son (*Sungkyunkwan University*);

15:00 Skin-integrated Ultrasoft Electronics toward Next-
Invited generation Wearable Electronics
Sunghoon Lee (*RIKEN*);

15:20 Ambipolar Organic Semiconductors for Flexible Opto-
Invited electronics towards Implemented Biomedical Application
Hyeok Kim (*University of Seoul*);

15:40 Biosensors Based on Flexible Organic Electrochemical
Invited Transistors
Feng Yan (*The Hong Kong Polytechnic University*);

16:00 Mechanical Characterization of TPU/TG for Flexible Bipolar Plates via Injection Molding
Tui-Min Shih (*National Formosa University*); *Ai-Huei Chiou* (*National Formosa University*);

00:00 Unlocking Supramolecular Chemistry's Role in Stretch-
Invited able Electronic Materials Design
Jiheong Kang (*Seoul National University*);

16:35 Near-infrared Organic Photodiode for Skin-compatible
Invited Wireless Communication
Sungjun Park (*Ajou University*);

16:55 Stretchable Organic Optoelectronic Devices for Skin-like
Invited Wearable Devices
Yeongjun Lee (*Korea Advanced Institute of Science and Technology*);

Session 0P16
Quantum Photonics 1

Wednesday PM, November 5, 2025

Room 16 - 302

Organized by Christopher Paul Anderson

Chaired by Christopher Paul Anderson, Elizabeth A. Goldschmidt

13:00 Enhanced Electro-optic and Piezo-electric Nonlinearities
Invited in Strontium Titanate Near Quantum Criticality
Giovanni Scuri (*Stanford University*); *Christopher Paul Anderson* (*University of Illinois Urbana-Champaign*); *Aaron Chan* (*University of Michigan*); *Sungjun Eun* (*Stanford University*); *Alexander D. White* (*Stanford University*); *Geun Ho Ahn* (*Stanford University*); *Christine Jilly* (*Stanford University*); *Amir H. Safavi-Naeini* (*Stanford University*); *Kasper Van Gasse* (*Ghent University, IMEC*); *Lu Li* (*University of Michigan*); *Jelena Vuckovic* (*Stanford University*);

13:20 T Centers in Silicon: An Emerging Platform as a Spin-
Invited photon Interface
Xueyue (Sherry) Zhang (*Columbia University*);

13:40 Heterogeneous III-V-on-SiN Photonics for Nonlinear
Invited Frequency Conversion and Quantum Light Generation
Galan Moody (*University of California Santa Barbara*);

14:00 Expanding the Quantum Photonic Toolkit with Epitax-
Invited ial Nanophotonics
Leland Nordin (*University of Central Florida*); *Biridiana Rodriguez* (*University of Central Florida*); *Mark Martino* (*University of Central Florida*); *Francisco Hernandez* (*University of Central Florida*);

14:20 Nonclassical Light Generation on Thin-film Lithium
Invited Niobate
Di Zhu (*National University of Singapore*);

14:40 Thin-film Strontium Titanate for Electro-optical Quan-
Invited tum Devices
Christian Haffner (*IMEC*); *Anja Ulrich* (*IMEC*); *Kamal Brahim* (*IMEC*); *Andries Boelen* (*IMEC*); *Kristiaan De Greve* (*IMEC*); *Clement Merckling* (*IMEC*);

15:00 Integrated Near-visible Photonics with Solid-state Gain
Invited
Kiyoul Yang (*Harvard University*);

15:20 Integrated Visible to SWIR Lasers and Photonics for
Keynote Cold Neutral Atom and Trapped-ion Quantum Sciences
Daniel J. Blumenthal (*University of California Santa Barbara*);

15:50 Invited Building Blocks for Quantum Information Processing with Individual Silicon Color Centers

V. Saggio (*Massachusetts Institute of Technology*); *H. Larocque* (*Massachusetts Institute of Technology*); *M. Tao* (*Massachusetts Institute of Technology*); *M. Prabhu* (*Massachusetts Institute of Technology*); *A. Buzzi* (*Massachusetts Institute of Technology*); *Q. Gu* (*Massachusetts Institute of Technology*); *M. Pirro* (*Delft University of Technology*); *C. Papon* (*Massachusetts Institute of Technology*); *O. Hooybergs* (*Massachusetts Institute of Technology*); *L. De Santis* (*Massachusetts Institute of Technology*); *I. Christen* (*Massachusetts Institute of Technology*); *C. Chen* (*Massachusetts Institute of Technology*); *C. Gerlach* (*Massachusetts Institute of Technology*); *S. Gyger* (*Massachusetts Institute of Technology*); *C. Panuski* (*Massachusetts Institute of Technology*); *D. Ornelas-Huerta* (*Massachusetts Institute of Technology*); *H. Raniwala* (*Massachusetts Institute of Technology*); *M. Colangelo* (*Massachusetts Institute of Technology*); *O. Medeiros* (*Massachusetts Institute of Technology*); *Y. Yu* (*Raith America Inc.*); *S. Steinhauer* (*KTH Royal Institute of Technology*); *G. L. Leake* (*State University of New York Polytechnic Institute*); *D. J. Coleman* (*State University of New York Polytechnic Institute*); *M. L. Fanto* (*Air Force Research Laboratory, Information Directorate*); *Val Zwiller* (*Royal Institute of Technology (KTH)*); *Dirk Englund* (*Massachusetts Institute of Technology*); *Carlos Errando-Herranz* (*Delft University of Technology*);

16:10 Invited On-chip Slow Light for Quantum Photonics

Elizabeth A. Goldschmidt (*University of Illinois at Urbana-Champaign*);

Session 0P17
Short-Oral Presentations for Best Student Presentation Awards Competition - Part 1

Wednesday PM, November 5, 2025

Room 17 - 303

13:00 (1) Modeling of Photonic Crystal Fiber Structures via Numerical Mode Matching Method

Qian Song (*The Hong Kong Polytechnic University*); *Lixiao Wang* (*Eastern Institute of Technology*); *Wen Chen* (*The Hong Kong Polytechnic University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

13:03 (2) T-matrix-based Computational Framework for Acoustic Scattering

Nikita Ustimenko (*Karlsruhe Institute of Technology (KIT)*); *Carsten Rockstuhl* (*Karlsruhe Institute of Technology*);

13:06 (3) Electromagnetic Channel Effective Rank Characterization for MIMO Systems in Disordered Scattering Spaces Based on T-matrix

Jiahui Wang (*Zhejiang University*); *Da Li* (*Zhejiang University*); *Jinyan Ma* (*Zhejiang University*); *Ruifeng Li* (*Zhejiang University*); *Erping Li* (*Zhejiang University*);

13:09 (4) Fast Simulation of Large-scale Metalenses via a Scattering-matrix-based Fourier Model Method with Coupled Subdomains and Field Stitching

Yijia Cheng (*Zhejiang University*); *Chengnian Huang* (*Zhejiang University*); *Pengcheng Luo* (*Zhejiang University*); *Wei E. I. Sha* (*Zhejiang University*);

13:12 (5) Shape-based Forward Modeling via SIEs for Label-free Microscopy

Yi Huang (*UiT The Arctic University of Norway*); *Yingying Qin* (*UiT The Arctic University of Norway*); *Krishna Agarwal* (*UiT The Arctic University of Norway*);

13:15 (6) Terahertz Intrinsic Chirality Empowered by Accidental Bound States in the Continuum

Rui Zhang (*Shanghai Jiao Tong University*); *Hai-Biao Chen* (*Shanghai Jiaotong University*); *Lixiao Wang* (*Eastern Institute of Technology*); *Xiaochun Li* (*Shanghai Jiao Tong University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

13:18 (7) Efficient Free-electron-wave Interaction Leveraging Topological Evanescent State

Kai Wang (*Zhejiang University*); *Zijian Zhang* (*Zhejiang University*); *Yiwei Peng* (*Zhejiang University*); *Zhaozhen Dong* (*Zhejiang University*); *Yuan-Zhen Li* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*); *Fei Gao* (*Zhejiang University*);

13:21 (8) Amorphous Topological Photonic Alloy

Bolun Huang (*Southern University of Science and Technology*); *Ziyao Wang* (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

13:24 (9) Tunable Graphene-metal Hybrid Terahertz Sensor with Enhanced Q-factor via Complex-frequency Wave Technique

M. Mao (*Huazhong University of Science and Technology*); *X. Ma* (*Huazhong University of Science and Technology*); *Y. Zhang* (*Huazhong University of Science and Technology*); *Fanqi Meng* (*Johann Wolfgang Goethe-Universität*); *Lei Cao* (*Huazhong University of Science and Technology*);

13:27 (10) Amplifying Time-harmonic Thermal Signal in Spinning Lock-in Thermography

Yanxiang Wang (*Zhejiang University*); *Fei Gao* (*Zhejiang University*); *Ying Li* (*Zhejiang University*);

13:30 (11) Enhanced Field Confinement in Short-wave Infrared Surface Plasmon Resonance Sensors Using 2D $Ti_3C_2T_x$ MXene Films
Han-Na Kim (*Korea University*); *Da In Song* (*Korea University*); *Young-Ho Jin* (*Korea University*); *Aran Yu* (*Korea University*); *Hyerim Kim* (*Sungkyunkwan University*); *Chong Min Koo* (*Sungkyunkwan University*); *Myung-Ki Kim* (*Korea University*);

13:33 (12) Photonic Extreme Learning Machine Based on Coherent Optical Time Domain Reflectometry of Rayleigh Backscattering from a Long Optical Fiber
Daichi Hitotsumatsu (*Tokushima University*); *Kaoru Minoshima* (*The University of Electro-Communications*); *Naoya Kuse* (*Tokushima University*);

13:36 (13) Light-ELF: Harnessing Optical Topological Links and Knots as High-throughput Information Carriers
Zhe Weng (*Nanjing university*); *Jianping Ding* (*Nanjing University*);

13:39 (14) Revealing Primary Characteristics of Single-walled Carbon Nanotubes towards the Design of High Performance NO_2 Optical Fiber Sensor
Egor Zhermolenko (*Skolkovo Institute of Science and Technology*); *Khasan Akhmadiev* (*Skolkovo Institute of Science and Technology*); *Aram A. Mkrtchyan* (*Skolkovo Institute of Science and Technology*); *Fedor S. Fedorov* (*Skolkovo Institute of Science and Technology*); *Anastasiia S. Netrusova* (*Skolkovo Institute of Science and Technology*); *Dmitry V. Krasnikov* (*Skolkovo Institute of Science and Technology*); *Albert G. Nasibulin* (*Skolkovo Institute of Science and Technology*); *Yuriy G. Gladush* (*Skolkovo Institute of Science and Technology*);

13:42 (15) Dual-frequency Dielectric Properties in Binary Mixtures of Bent-core and Calamitic Liquid Crystals
Pei-Ching Wei (*National Yang Ming Chiao Tung University*); *Wei Lee* (*National Yang Ming Chiao Tung University*);

13:45 (16) Ultra-biomimetic Compound Eye CMOS Hybrid Stacked Chip for Wide-spectrum and Wide-angle Optical Detection
Jing He (*Zhejiang University*); *Liaoyong Wen* (*Westlake University*);

13:48 (17) Correlation between Ring Structures and Photoluminescence in InGaN Quantum Well Devices Analyzed by SNOM and AFM
Kotaro Oikawa (*Yokohama City University*); *Z. Zhang* (*Kyoto University*); *Y. Kawakami* (*Kyoto University*); *R. Micheletto* (*Yokohama City University*);

13:51 (18) Quantum Dynamics of Polaron Polariton in a Doped $MoSe_2$-based Microcavity
Yuanjun Guan (*East China Normal University*); *Mengyao Xu* (*East China Normal University*); *Zhen Cui* (*Westlake University*); *Zhe-Yu Shi* (*East China Normal University*); *Zheng Sun* (*East China Normal University*);

13:54 (19) A Novel Multimodal Sensing Method for Force Analysis of Human Joints Based on Mechanoluminescent Optical Fiber
Zhi Chong Wan (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

13:57 (20) Identification and Classificationof Mixed Bacteria via Dual-modal Hyperspectral Imaging and Deep Learning
He Zhu (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

14:00 (21) Deep Learning-based Denoising Network for High-order CPM Signals
Yang He (*Hohai University*); *Ning Cao* (*Hohai University*); *Can Hu* (*Hohai University*);

14:03 (22) Measurement of 28 GHz mmWave Band Antennas by Near-field Measurement System Composed Using SDR
Kazuha Ito (*Okayama University*); *Yuhi Akiyama* (*Okayama University*); *Takuma Akada* (*Okayama University*); *Kazuhiro Fujimori* (*Okayama University*); *Toshiyasu Tanaka* (*Microwave Factory Co., Ltd.*);

14:06 (23) Customizable Multi-port Reflectometer Design for Optimized Accuracy in Arbitrary Reflection Coefficient Regions
Penghao Feng (*Xi'an Jiaotong University*); *Bin-Ke Huang* (*Xi An Jiao Tong Univ*); *Yuanxi Cao* (*Xi'an Jiaotong University*); *Xinyue Song* (*Xi'an Jiaotong University*); *Sen Yan* (*Xi'an Jiaotong University*);

14:09 (24) A Microstrip Resonant Strain Sensor with Flexible Coding Reconfigurability for Structural Health Monitoring
Ya Ming Xie (*Tongji University*); *Zhi Chong Wan* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

14:12 (25) A Frequency Selective Surface Based on Concentric Ring and Cross Slot for Wideband Angular-stable Ka-band Rejection
Akhtar Khan (*Tongji University*); *Shakeel Ahmad* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

14:15 (26) SimVP-GAN for GK2A Infrared Forecasting: Resolving the Accuracy-Sharpness Trade-off in Weather Satellite Remote Sensing
Yeonjun Kim (*Sejong University*); *Sungwook Hong* (*Sejong University*);

14:21 (28) Semi-analytical Monte Carlo Modeling and Detection Performance Analysis of Brillouin Lidar Echo Signals
Xiaohong Jia (*Nanchang Hangkong University*); *Xingdao He* (*Nanchang Hangkong University*); *Jiulin Shi* (*Nanchang Hangkong University*);

14:24 (29) Spectro-polarimetric Imaging with Resolution-preserving Demosaicking
Yipeng Chen (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

14:27 (30) CubeSat-based Investigation of Ionospheric and Geomagnetic Effects on VHF APRS Signal Propagation
Randson Huang (*National Taipei University of Technology*); *Yang-Lang Chang* (*National Taipei University of Technology*);

14:30 (31) Chiral Casimir-Polder Forces in a Nonlinear Medium
Nicolas Schüler (*Universität Kassel*); *Omar Jesús Franca Santiago* (*Universität Kassel*); *Stefan Yoshi Buhmann* (*Universität Kassel*);

14:33 (32) Preparation of Low-loss MnZn Ferrite via a Novel Doping Method and Temperature Sintering Optimization
Mengrui Li (*Swinburne University of Technology*); *Shuyu Sun* (*Shandong University*); *Jiahui Li* (*Swinburne University of Technology*); *Guibing Shi* (*Swinburne University of Technology*); *Hongyi Miao* (*Shandong University*); *Akbar Rhamdhani* (*Swinburne University of Technology*); *Li Wang* (*Shandong University*); *Shanqing Xu* (*Swinburne University of Technology*);

14:36 (33) A Finite Element MOR-based Rational Transfer Function Extraction Technique for Parametric Modeling of a Cavity Waveguide Filter
Ke Liu (*Tianjin University*); *Feng Feng* (*Tianjin University*); *Wei Liu* (*Tianjin University*); *Kaixue Ma* (*Tianjin University*); *Qi-Jun Zhang* (*Carleton University*);

14:39 (34) Design of a High-transmittance Dual-beam Vortex Wave Metasurface Based on Glass Substrate-ITO Film
Yong Cai (*Anhui University*); *Zhaosheng Xia* (*Anhui University*); *Yuying Dai* (*Anhui University*); *Xingang Ren* (*Anhui University*); *Gang Wang* (*Anhui University*); *Yongchun Miao* (*Anhui University*);

14:42 (35) Metal-halide Perovskite Resonant Microcrystals with Improved Photostability and Lasing Properties
Elizaveta Sapozhnikova (*Skolkovo Institute of Science and Technology*); *Dmitriy A. Tatarinov* (*Skolkovo Institute of Science and Technology*); *Anatoly P. Pushkarev* (*Skolkovo Institute of Science and Technology*);

00:00 Directionally Freeze-dried GO/VO_2 Hybrid Composites Achieve Switchable Microwave-modulating Surfaces
Qichao Dong (*University of Electronic Science and Technology of China*); *Huying Yan* (*University of Electronic Science and Technology of China*); *Xingzhi Bai* (*University of Electronic Science and Technology of China*); *Haipeng Lu* (*University of Electronic Science and Technology of China*);

00:00 Electrically Tunable Transparent Transmissive Metasurface Based on Double-sided ITO Patterned Glass for Dynamic Beam Steering
Yikun Li (*Nanyang Technological University*); *Yufei Zhao* (*Nanyang Technological University*); *Xiong Qin* (*Nanyang Technological University*); *Yujing Hong* (*Nanyang Technological University*); *Chau Yuen* (*Nanyang Technological University*); *Yongliang Guan* (*Nanyang Technol University*);

00:00 Overview of Ray Tracing Tools Assessment in 5G Scenarios: A Numerical and Experimental Study
Francesca Lodato (*University of Naples Federico II*); *Andrea Garzia* (*Fondazione Ugo Bordoni*); *Simona Valbonesi* (*Fondazione Ugo Bordoni*); *Antonio Iodice* (*University of Naples "Federico II"*); *Giuseppe Ruello* (*Universita di Napoli "Federico II"*); *Marcello Folli* (*Fondazione Ugo Bordoni*); *Pierpaolo Salvo* (*Fondazione Ugo Bordoni*); *Riccardo Suman* (*Vodafone Servizi e Tecnologie, Mobile Access Engineering*); *Massimo Perobelli* (*Vodafone Servizi e Tecnologie, Mobile Access Engineering*); *Stefano D'Elia* (*Vodafone Servizi e Tecnologie, Mobile Access Engineering*); *Francesco Matera* (*Fondazione Ugo Bordoni*); *Rita Massa* (*Univ Naples Federico II*);

00:00 An Improved De-embedding Method for Flip-chip RF Components
Can Tang (*University of Electronic Science and Technology of China*); *Huanpeng Wang* (*University of Electronic Science and Technology of China*); *Changsi Wang* (*The 29th Research Institute of China Electronics Technology Group Corporation*); *Le Dong* (*The 29th Research Institute of China Electronics Technology Group Corporation*); *Yuehang Xu* (*University of Electronic Science and Technology of China*);

00:00 Causal-driven Antenna Design for Enhanced Microwave Stroke Imaging: A Pathway to Improved Diagnostic Accuracy
Hui Zhang (*University of Electronic Science and Technology of China*); *Yifan Chen* (*University of Electronic Science and Technology of China*); *Wen'an Wang* (*University of Electronic Science and Technology of China*); *Zheng Gong* (*University of Electronic Science and Technology of China*); *Yahui Ding* (*University of Electronic Science and Technology of China*); *Qiuzhen Wang* (*University of Electronic Science and Technology of China*);

Session 0P18
Advances in Metamaterials, Metasurfaces and Topological Photonics 1

Wednesday PM, November 5, 2025

Room 18 - 304

Organized by Jian-Wen Dong, Wenjie Chen

Chaired by Wenjie Chen

13:00 Keynote Active Integrated Photonics for Information Processing, Computing, and Quantum Networking
Liang Feng (*University of Pennsylvania*);

13:30 Invited Topological Temporal Boundary States in a Non-Hermitian Spatial Crystal
Ming-Wei Li (*Sun Yat-Sen University*); *Jian-Wei Liu* (*Sun Yat-Sen University*); *Xulong Wang* (*Hong Kong Baptist University*); *Wenjie Chen* (*Sun Yat-Sen University*); *Guancong Ma* (*Baptist University of Hongkong*); *Jian-Wen Dong* (*Sun Yat-sen University*);

13:50 Topological Wave Phenomena and Control of Charge Emission in Photonic Time Crystals
Invited
Xiang Ni (*City University of New York*);

14:10 Observation of Temporal Topological Boundary States of Light in a Momentum Bandgap
Yudong Ren (*Zhejiang University*); *Yihao Yang* (*Zhejiang University*);

14:25 Frequency-tunable Cavity Modes via Kekulé Modulation
Jiayu Fan (*The Hong Kong University of Science and Technology (Guangzhou)*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

00:00 Nanoimprinted Topological Laser with Multiple Corner States in the Visible
Qiang Zhang (*Shenzhen University*); *Rui Duan* (*University of Macau*); *Baile Zhang* (*Nanyang Technological University*); *Handong Sun* (*University of Macau*);

14:55 Complex Coupling: A Route to Sensitive Topological Edge States
Invited
Tao Li (*Nanjing University*);

15:15 Intrinsic Topological Hinge States Induced by Boundary Gauge Fields in Photonic Metamaterials
Invited
Shaojie Ma (*Fudan University*);

15:35 Synthetic Non-Abelian Gauge Fields for Photons
Invited
Yi Yang (*The University of Hong Kong*);

15:55 Chiral Valley Edge States
Jian-Wei Liu (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*); *Wenjie Chen* (*Sun Yat-Sen University*); *Jian-Wen Dong* (*Sun Yat-Sen University*);

16:10 Realization of Acoustic Hybrid Topological Insulators
Yu-Gui Peng (*Huazhong University of Science and Technology*); *Peng Wu* (*Huazhong University of Science and Technology*); *Xue-Feng Zhu* (*Huazhong University of Science and Technology*);

16:30 **Coffee Break**

Session 0P19
Poster Session for Best Student Presentation Awards Competition - Part 1

Wednesday PM, November 5, 2025

Poster Area

Session 1A14
Organics, Organic-inorganic Hybrids and Polymers for Optoelectronic and Biophotonic Applications

Thursday AM, November 6, 2025

Room 14 - 301A

Organized by Kwang-Sup Lee, Hitoshi Kasai

Chaired by Kwang-Sup Lee, Hitoshi Kasai

8:30 Directed Nanomaterials Assemby towards Post-AI Era
Keynote
Sangouk Kim (*KAIST*);

9:00 Optical Spin Hyperpolarization for Quantum Sensing
Invited
Nobuhiro Yanai (*Tokyo University*);

9:20 Electrochemical Synchronization of Emissive and Absorptive States for XR-compatible Optical Modulation
Invited
Hwandong Jang (*Yonsei University*); *Sinoh Park* (*Yonsei University*); *Won-Jae Joo* (*Yonsei University*); *Eunkyoung Kim* (*Yonsei University*);

9:40 Tactile Sensory Neuromorphic Displays Enabling Healthcare Monitoring
Invited
Cheolmin Park (*Yonsei University*);

10:00 Advanced Two-photon Excitation Laser Microscopy for Live Cell Imaging Using Advanced Optical Techniques and Materials
Invited
Tomomi Nemoto (*National Institute of Natural Sciences (NINS)*); *Hirokazu Ishii* (*National Institute of Natural Sciences (NINS)*); *Joe Sakamoto* (*National Institute of Natural Sciences (NINS)*); *Kohei Otomo* (*National Institute of Natural Sciences (NINS)*); *Taiga Takahashi* (*National Institute of Natural Sciences (NIPS)*);

10:20 Light Conversion by Organic-inorganic Hybrid Materials to Use in Photocatalysis and Thermally-assisted Photodynamic Therapy
Invited
Taek Seung Lee (*Chungnam National University*);

10:40 **Coffee Break**

10:50 Development of Organic Energy Materials
Invited
Kouki Oka (*Tohoku University*);

11:10 Newly Developed PEDOT: PSS Polymers for High Performance Supercapacitors
Invited
Tae-Dong Kim (*Hannam University*);

11:30 Organic Single-crystal Semiconductors for Light-emitting Applications
Invited
Jing Feng (*Jilin University*);

11:50 Recent Advances in Quantum Dots for Optoelectronic Applications
Invited
Prem Prabhakaran (*Hannam University*); *Kwang-Sup Lee* (*Hannam University*);

12:10 Chirality-Induced Spin Selectivity in Chiral Solids
Invited
Hiroshi M. Yamamoto (*Institute for Molecular Science*);

Session 1A15
Solution-processed and Flexible Optoelectronic Devices

Thursday AM, November 6, 2025

Room 15 - 301B

Organized by Tae-Hee Han, Tae-Woo Lee

Chaired by Tae-Hee Han, Tae-Woo Lee

8:30 Large-scale 2D Perovskite Nanocrystals Photodetector
Invited Array via Ultrasonic Spray Synthesis
Yoonho Lee (*Sungshin Women's University*);

8:50 Chiral Organic-inorganic Hybrid Materials and Photon
Invited Recycling Device Physics
Shaocong Hou (*Wuhan University*);

9:10 Quantum Dot Patterning via Disulfide Ring-opening
Invited Polymerization for Display and Optoelectronic Applications
Nuri Oh (*Hanyang University*);

9:30 Tailoring the Surface of Metal Halide Perovskite
Invited Nanocrystals for Light-emitting Diodes
Jong Hyun Park (*Chonnam National University*);

9:50 Recent Progress on Flexible Perovskite/CIGS Tandems
Invited
Rui Wang (*Westlake University*);

10:10 Facile Solvent Formulation of OLED and QD Materi-
Invited als for Uniform Inkjet Patterns and Efficient Solution-processed Devices
Byung Doo Chin (*Dankook University*);

10:30 **Coffee Break**

10:50 Regulating the Organic Moieties in Perovskite Solar
Invited Cells
Jingjing Xue (*Zhejiang University*);

11:10 Ultrathin Quantum Dot Based Optoelectronics for Skin-
Invited attachable Applications
Moon Kee Choi (*UNIST*);

11:30 Demonstration of Memory-in-pixel Applications: Mono-
Invited lithic Integration of QD-LED and Charge Trap TFT Arrays
Seong-Yong Cho (*Hanyang University*); *E. A. Kim* (*Hanyang University*); *S. Park* (*Hanyang University*); *Y. Kim* (*Hanyang University*);

11:50 Surface Engineering of Perovskite Luminescent Nanoma-
Invited terials for Light-emitting Diodes
Tae-Hee Han (*Hanyang University*);

Session 1A16
Photonic Quantum Technologies

Thursday AM, November 6, 2025

Room 16 - 302

Organized by Yoon-Ho Kim, Young-Sik Ra

Chaired by Shuntaro Takeda

8:30 Programmable Continuous-variable Quantum Comput-
Invited ing Platform for Optical Non-Gaussian Input States
Shuntaro Takeda (*The University of Tokyo*);

8:50 Qudit-based Photonic Variational Quantum Eigensolver
Invited Using Orbital Angular Momentum States
Byungjoo Kim (*Korea Institute of Science and Technology (KIST)*); *Kangmin Hu* (*Korea Institute of Science and Technology*); *Myung-Hyun Sohn* (*Korea Institute of Science and Technology (KIST)*); *Yosep Kim* (*Korea University*); *Yong-Su Kim* (*Korea Institute of Science and Technology (KIST)*); *Seung-Woo Lee* (*Korea Institute of Science and Technology (KIST)*); *Hyang-Tag Lim* (*KIST (Korea Institute of Science and Technology)*);

9:10 Multiple-phase Sensing with a Multi-mode N00N State
Invited
Seongjin Hong (*Yonsei University*);

9:30 Loss-tolerant Quantum Multiphase Estimation
Min Namkung (*Korea Institute of Science and Technology (KIST)*); *Changhyoup Lee* (*Korea Research Institute of Standards and Science (KRISS)*); *Hyang-Tag Lim* (*KIST (Korea Institute of Science and Technology)*);

9:45 Simultaneous Quadrature Measurement of 60 Modes of
Quantum Light with a Camera
Young-Do Yoon (*Korea Advanced Institute of Science and Technology (KAIST)*); *Chan Roh* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Geun-Hee Gwak* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Young-Sik Ra* (*Korea Advanced Institute of Science and Technology (KAIST)*);

10:00 Hyperentanglement-enabled Noise-resilient Quantum
Communication over a 40-km Intra-city Fiber Network
Heebong Seo (*Pohang University of Science and Technology (POSTECH)*); *Jin-Hun Kim* (*POSTECH*); *Hee Su Park* (*Korea Research Institute of Standards and Science*); *Sang Min Lee* (*Korea Research Institute of Standards and Science*); *U-Shin Kim* (*Pohang University of Science and Technology (POSTECH)*); *Seung-Yeun Yoo* (*Pohang University of Science and Technology (POSTECH)*); *Youn-Chang Jeong* (*ETRI*); *Yoon-Ho Kim* (*Pohang University of Science and Technology*);

10:15 Programming Multimode Entanglement by Engineering Pump Laser for Parametric Down-conversion
Ji-Hyeok Jung (*Korea Advanced Institute of Science and Technology (KAIST)*); *Chan Roh* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Young-Do Yoon* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Geun-Hee Gwak* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Young-Sik Ra* (*Korea Advanced Institute of Science and Technology (KAIST)*);

00:00 Frequency-domain NOON States
Invited
Heedeuk Shin (*Pohang University of Science and Technology (POSTECH)*);

11:10 Generalized Two-photon Interference with Controlled
Invited Spatial Symmetry
Fumihiro Kaneda (*Tohoku University*);

11:30 Verifying Energy-time Entanglement via Nonlocal Dispersion Cancellation
Jin-Woo Chae (*Pohang University of Science and Technology (POSTECH)*); *Heebong Seo* (*Pohang University of Science and Technology (POSTECH)*); *U-Shin Kim* (*Pohang University of Science and Technology (POSTECH)*); *Yoon-Ho Kim* (*Pohang University of Science and Technology*);

11:45 Robust and Bright Polarization-entanglement Generation Based on Type II Noncritical Phase Matching Technique
Ilhwan Kim (*Korea Institute of Science and Technology (KIST)*); *Yosep Kim* (*Korea University*); *Yong-Su Kim* (*Korea Institute of Science and Technology (KIST)*); *Kwang Jo Lee* (*Kyung Hee University*); *Hyang-Tag Lim* (*KIST (Korea Institute of Science and Technology)*);

12:00 Simultaneous Trapping of Two Optical Pulses in an Atomic Ensemble as Stationary Light Pulses
U-Shin Kim (*Pohang University of Science and Technology (POSTECH)*); *Yoon-Ho Kim* (*Pohang University of Science and Technology*);

12:15 Experimental Demonstration of Optimal Measurement for Unambiguous Asymmetric States Discrimination
Kangmin Hu (*Korea Institute of Science and Technology*); *Min Namkung* (*Korea Institute of Science and Technology (KIST)*); *Hyang-Tag Lim* (*KIST (Korea Institute of Science and Technology)*);

Session 1A17
Short-Oral Presentations for Best Student Presentation Awards Competition - Part 2

Thursday AM, November 6, 2025
Room 17 - 303

8:30 (1) Efficient Microwave Planner Circuit Design through LightGBM-accelerated Genetic Optimization
Takuma Akada (*Okayama University*); *Yuta Takayama* (*Okayama University*); *Kazuhiro Fujimori* (*Okayama University*);

8:33 (2) A Novel Overlapping Domain Decomposition Method for FDFD Using PML as Equivalent Sources
Zhanwen Wang (*Zhejiang university*); *Wei E. I. Sha* (*Zhejiang University*);

8:36 (3) Interference Effects of Multiple Scattered Fields in Dense Colloidal Suspensions Using Light Scattering Measurements
Sou Sasaki (*Hokkaido University*); *Hiroyuki Fujii* (*Hokkaido University*); *Kazumichi Kobayashi* (*Hokkaido University*); *Masao Watanabe* (*Hokkaido University*);

8:39 (4) Exceptional Points in Dielectric Mie-resonators
Fan Zhang (*ITMO University*); *Nikolay S. Solodovchenko* (*ITMO University*); *Hangkai Fan* (*Qingdao Harbin Engineering University*); *Mikhail F. Limonov* (*ITMO University*); *Mingzhao Song* (*ITMO University*); *Yuri S. Kivshar* (*Australian National University*); *Andrey A. Bogdanov* (*Harbin Engineering University*);

8:42 (5) Generation of Complex Amplitude Vectorial Optical Fields via On-chip Surface-wave Metasurface
Xiangyu Jin (*Fudan University*); *Shulin Sun* (*Fudan University*);

8:45 (6) Breaking Radiation Symmetry via Continuous Pancharatnam-Berry Prephase for High-gain and Compact 1-bit Reconfigurable Metasurfaces
Lu Song (*Air Force Engineering University*); *Xiaofeng Li* (*Anhui Medical University*); *Liqiao Jing* (*Zhejiang University*); *Dashuang Liao* (*Anhui Medical University*);

8:48 (7) Metasurface-enabled LWIR (8–12 μm) Miniaturized Computational Spectrometer
Lingfeng Zhang (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

8:51 (8) Robust and Highly Sensitive Microwave Sensor for Liquid Analyte Identification Based on Interdigitated Resonant Structure
X. Ma (*Huazhong University of Science and Technology*); *Y. Zhang* (*Huazhong University of Science and Technology*); *M. Mao* (*Huazhong University of Science and Technology*); *Fanqi Meng* (*Johann Wolfgang Goethe-Universität*); *Lei Cao* (*Huazhong University of Science and Technology*);

8:54 (9) Flexible Mode Add-drop Multiplexers Based on Mode Exchanger
Yaxin Yu (*Southeast University*); *Lei Zhang* (*Southeast University*); *Jiao Zhang* (*Purple Mountain Laboratories*); *Min Zhu* (*Purple Mountain Laboratories*); *Shengbao Wu* (*Hebei University*); *Jinbiao Xiao* (*Southeast University*);

8:57 (10) Current Efficiency Enhancement of Quantum Dot Light-emitting Diodes Utilizing Nickel Oxide Hole Injection Layers with Different Preparation Methods
Min-Han Lu (*National Yang Ming Chiao Tung University*); *Zheng-Wei Lu* (*National Yang Ming Chiao Tung University*); *Chih-En Chang* (*National Yang Ming Chiao Tung University*); *Hsin-Chieh Yu* (*National Yang Ming Chiao Tung University*);

9:00 (11) Orthogonal Dispersion Model of Double-stage VIPA in Brillouin Spectrometers
Nenghao Xia (*Beihang University*); *Jiulin Shi* (*Nanchang Hangkong University*);

9:03 (12) Optical Dispersion Properties of Cyanobiphenyl Liquid Crystals and Commercial Nematic Mixtures in the Visible and Near-infrared Spectrum
Bo-Jun Guo (*National Yang Ming Chiao Tung University*); *Wei Lee* (*National Yang Ming Chiao Tung University*);

9:06 (13) Compact Snapshot Spectral Imager via Gray-scale Photolithography and Spectral Attention Transformer Algorithms
Shuaibo Feng (*University of Chinese Academy of Sciences*); *Junren Wen* (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

9:09 (14) Anomalously Large Luminescence Modulation Induced by Trace Lanthanide Impurities in Alloyed Upconversion Nanocrystals
Huimin Tong (*Zhejiang University*); *Zhijie Ju* (*Zhejiang University*); *Renren Deng* (*Zhejiang University*);

9:12 (15) A Polaron-polariton Light-emitting Diode
Mengyao Xu (*East China Normal University*); *Yuanjun Guan* (*East China Normal University*); *Zhen Cui* (*Westlake University*); *Zhe-Yu Shi* (*East China Normal University*); *Zheng Sun* (*East China Normal University*);

9:15 (16) Ice-assisted van der Waals Contacts for Halide Perovskites
Yihan Lu (*Westlake University*); *Binbin Jin* (*Westlake University*); *Ding Zhao* (*Westlake University*); *Min Qiu* (*Westlake University*);

9:18 (17) Low-pressure IBBCEAS System for High-accuracy Measurement of NO_3 and N_2O_5 in Nocturnal Atmosphere
Xiangpeng Luo (*University of Shanghai for Science and Technology*); *Meng Wang* (*University of Shanghai for Science and Technology*); *Jun Chen* (*University of Shanghai for Science and Technology*);

9:21 (18) Graphene-based Terahertz Metamaterial Sensor for Material Characterization
Tamanna Islam (*SUNY Polytechnic Institute*); *S. Hossain* (*SUNY Polytechnic Institute*); *Abdullah Eroglu* (*SUNY Polytechnic Institute*);

9:24 (19) TJ0113-induced Mitophagy in Acute Liver Failure Detected by Raman Microspectroscopy
Jiaqi Liao (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

9:27 (20) Design of Wide Band Planar Antennas Around 2.45 GHz Suitable for Ambient Energy Harvesting
Ainhoa Castaño Martos (*Universitat Autònoma de Barcelona*); *Joan J. Garcia-Garcia* (*Universitat Autònoma de Barcelona*);

9:30 (21) A Millimeter-wave Integrated Antenna Design for Metal-frame Handset
Zihang Qiu (*Guangzhou University*); *Rui Huang* (*Guangzhou University*); *Xin Dai* (*Guangzhou University*);

9:33 (22) Circularly Polarized 1-Bit Transmissive Active Reconfigurable Intelligent Surface
Yujing Hong (*Nanyang Technological University*); *Yufei Zhao* (*Nanyang Technological University*); *Chau Yuen* (*Nanyang Technological University*); *Yongliang Guan* (*Nanyang Technol University*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*);

9:36 (23) Observation of Quasi-static Electric Field Associated with Continuing Current for Negative Cloud-to-ground Lightning in the Tropical Region
Muhammad Uwais Farihin Fauzi (*Kindai University*); *Muhammad Haziq Mohammad Sabri* (*Kindai University*); *Takeshi Morimoto* (*Kindai University*); *Mohd Riduan Bin Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Yuji Takayanagi* (*Kindai University*); *Farah Hani Nordin* (*Institute of Energy Infrastructure Universiti Tenaga Nasional*); *Mohd Zafri Baharuddin* (*Chiba University*);

9:39 (24) Multi-stage Reluctance Electromagnetic Accelerator Based on Traveling Magnetic Wave
Yiwen Li (*Soochow University*); *Yongda Zeng* (*Soochow University*); *Yuanhao Liu* (*Soochow University*); *Yunjing Zhang* (*Soochow University*); *Peng Li* (*Soochow University*);

9:42 (25) Implant Encapsulation in Exposure Limited Wireless Power Transfer Design
Hendrick Lim (*The University of Auckland*); *Robert Gallichan* (*The University of Auckland*); *David M. Budgett* (*University of Auckland*); *Daniel McCormick* (*University of Auckland*);

9:45 (26) Retrieval and Prediction of Sea Surface Salinity Using Conditional Generative Adversarial Networks with Soil Moisture Active Passive Satellite Observations
Kyung-Hoon Han (*Sejong University*); *Sungwook Hong* (*Sejong University*);

9:48 (27) Evaluation of Electron Density Variations and Shortwave Fadeout during X-class Solar Flares in May 2024 Using Ionosonde
Shinnosuke Kitajima (*National Defense Academy of Japan*); *Kyoko Watanabe* (*National Defense Academy of Japan*); *Hidekatsu Jin* (*National Institute of Information and Communications Technology*); *Chihiro Tao* (*National Institute of Information and Communications Technology*); *Satoshi Masuda* (*Nagoya University*); *Michi Nishioka* (*National Institute of Information and Communications Technology*); *Kiyoka Murase* (*Kitami Institute of Technology*);

9:51 (28) Doppler Radar-based Detection of Bicycle Wobbling While Using Smartphones
Akihiro Ishida (*Ritsumeikan University*); *Ryoya Hayashi* (*Ritsumeikan University*); *Kenshi Saho* (*Ritsumeikan University*); *Masao Masugi* (*Ritsumeikan University*);

9:54 (29) A Recurrent Neural Network Approach to Predicting Large Earthquakes
Shuya Hara (*Ritsumeikan University*); *Masao Masugi* (*Ritsumeikan University*);

9:57 (30) In-situ Classification of Martian Soil in Gale Crater for Agricultural Feasibility with CRISM-based Remote Validation
Joshua Hernández-Ramírez (*Instituto Politécnico Nacional*); *Yael Castrejon* (*Instituto Politécnico Nacional*); *Edgar Solano Castrejon* (*Instituto Politécnico Nacional*);

10:00 (31) Quantum Annealing-inspired Optimization for Low-area FIR Filter Design
Jia-Qi Hu (*Tsinghua University*); *Xiao-Peng Cui* (*Fudan University*); *Re-Bing Wu* (*Tsinghua University*); *Man-Hong Yung* (*Southern University of Science and Technology*);

10:03 (32) Incorporating Firing Thresholds into TMS-based Functional Mapping
Yuki Ueda (*Chiba University*); *Jose Gomez-Tames* (*Chiba University*);

10:06 (33) An EM Parametric Modeling Method Combining Phase De-embedding and Neuro-coupling Matrix Technique
Shaochang Liu (*Tianjin University*); *Feng Feng* (*Tianjin University*); *Wei Liu* (*National University of Singapore*); *Xiaolong Li* (*Tianjin University*); *Qi-Jun Zhang* (*Carleton University*);

10:09 (34) Theoretical Investigation on Possible Indices of Electromagnetic Multipoles' Singularities
Nikolai Andreevich Vlasov (*ITMO University*); *V. P. Panurchenko* (*ITMO University*); *R. Nazarov* (*ITMO University*); *S. S. Baturin* (*ITMO University*); *Ekaterina E. Maslova* (*ITMO University*); *Zarina F. Kondratenko (Sadrieva)* (*ITMO University*);

10:12 (35) Electromagnetic Spin Precession
Abanoub Maher Semry Mikhail (*ITMO University*); *Max Mazinov* (*ITMO University*); *Ilya Deiry* (*ITMO University*); *Andrey Bogdanov* (*ITMO University*);

10:15 (36) Bound States in the Continuum in Lithography-created Metasurface Based on $Ge_2Sb_2Te_5$
Nikolai Andreevich Vlasov (*ITMO University*); *Alexander I. Solomonov* (*ITMO University*); *Zarina F. Kondratenko (Sadrieva)* (*ITMO University*); *Mikhail V. Rybin* (*ITMO University*); *Ekaterina E. Maslova* (*ITMO University*);

00:00 Physics-informed Deep Learning with Bayesian Optimization for Multi-objective Design of Electromagnetic Parameters in Microwave Absorbers
Xingzhi Bai (*University of Electronic Science and Technology of China*); *Huying Yan* (*University of Electronic Science and Technology of China*); *Haipeng Lu* (*University of Electronic Science and Technology of China*);

00:00 Phase-encoded Intelligent Metasurfaces for Multi-pulse Staring Imaging Using ISTA
Liyuan Lyu (*University of Electronic Science and Technology of China*); *Yu Hai* (*University of Electronic Science and Technology of China*); *Junjie Wu* (*University of Electronic Science and Technology of China*); *Wei Pu* (*University of Electronic Science and Technology of China*); *Shaonan Chen* (*Southeast University*);

00:00 High-efficiency All-dielectric Reflective Metalens for Long-wave Infrared Applications
Sani Mukhtar (*Khalifa University of Science and Techno*); *Jaime Viegas* (*Khalifa University*);

00:00 Programmable Synthetic Frequency Dimension Platform for On-chip Topological Photonics
Xiaolong Su (*Huazhong University of Science and Technology*); *Weiwei Liu* (*Huazhong University of Science and Technology*); *Bing Wang* (*Huazhong University of Science and Technology*);

Session 1A18
Recent Advances in Optical Metasurfaces 1

Thursday AM, November 6, 2025

Room 18 - 304

Organized by Fei Ding, Cheng Zhang

Chaired by Fei Ding

8:30 Invited Structural Color Engineering via Nanoscale 3D Printing
Hao Wang (*Beihang University*); *Cheng-Feng Pan* (*Singapore University of Technology and Design*); *Xiaoyan Zhou* (*Singapore University of Technology and Design*); *Hongtao Wang* (*Singapore University of Technology and Design*);

8:50 Invited Multifunctional Nanophotonic Optoelectronic Devices
Zhaogang Dong (*Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)*);

9:10 Invited Aluminum 3D Lithography: Enabling High-dimensional Metasurfaces for Advanced Sensing
Liaoyong Wen (*Westlake University*);

9:30 The Enhancement of Third-order Optical Nonlinearity
Invited under Strong Light-matter Coupling
Kuidong Wang (*Xi'an Jiaotong University*);

9:50 Fast Hybrid Multiple Scattering Theory Method (FHMST) for Solution of 3D Maxwell Equations of Metasurfaces without and with Substrate
Jongwoo Jeong (*National University of Singapore*); *Zhenming Huang* (*University of Michigan*); *Leung Tsang* (*University of Michigan*);

10:05 Simulation and Inverse-design Tools for Customized
Keynote Metadevices
Douglas H. Werner (*The Pennsylvania State University*);

10:30 **Coffee Break**

10:50 Multi-eye Metalens for Optical Imaging, Sensing and
Invited Physical Information Acquisition
Mu Ku Chen (*City University of Hong Kong*);

11:10 High-Q Small-V Dielectric Metasurfaces for Purcell Enhancement of Erbium Emitters in Silicon
Nikolaj Balslev Hougs (*Technical University of Denmark*); *Sergei Lepeshov* (*Technical University of Denmark*); *Michael Juhl* (*Technical University of Denmark*); *Bingrui Lu* (*Technical University of Denmark*); *Yonder Berencén* (*Institute of Ion Beam Physics and Materials Research*); *Shengqiang Zhou* (*Institute of Ion Beam Physics and Materials Research*); *Soren Stobbe* (*Technical University of Denmark*);

11:25 Optical Encryption and Recognition Based on Metasur-
Invited face and Single Pixel Imaging
Hongchao Liu (*University of Macau*);

11:45 All-dielectric Metafibers for Optical Wireless Communi-
Invited cation
Mingke Jin (*Westlake University*); *Dayu Shi* (*Westlake University*); *William Shieh* (*Westlake University*); *Jingyi Tian* (*Westlake University*);

Session 1A19
Poster Session for Best Student Presentation Awards Competition - Part 2

Thursday AM, November 6, 2025

Poster Area

Session 1P0
Opening Ceremony 15:55-16:40

Thursday PM, November 6, 2025

Room 0 - Convention Hall A

Session 1P14a
Nonlocal Metasurfaces and Novel Applications 1

Thursday PM, November 6, 2025

Room 14 - 301A

Organized by Zhanghua Han, Shunsuke Murai

Chaired by Shunsuke Murai, Zhanghua Han

13:30 Cascading Emergence of Flat Bands in Breathing Super-
Invited lattices
Yongliang Zhang (*Institute of Semiconductors, Chinese Academy of Sciences*);

13:50 Nonlocally Coupled Bilayer Metasurfaces
Invited
Shunsuke Murai (*Osaka Metropolitan University*); *J. He* (*Kyoto University*); *T. Y. Lo* (*Kyoto University*); *Joshua T. Y. Tse* (*Kyoto University*); *Katsuhisa Tanaka* (*Kyoto University*);

14:10 Analytical Modelling of Purcell Enhancement on Reso-
Invited nant Metasurfaces
Joshua T. Y. Tse (*Kyoto University*); *Taisuke Enomoto* (*Kyoto University*); *Shunsuke Murai* (*Osaka Metropolitan University*); *Katsuhisa Tanaka* (*Kyoto University*);

00:00 Highly Efficient Ultraviolet Harmonic Generation Based
Invited on Coupled Guided Mode Resonances in Lithium Niobate Metasurfaces
Yuechen Jia (*Shandong University*); *Feng Chen* (*Shandong University*);

Session 1P14b
Ultrafast Lasers and Applications

Thursday PM, November 6, 2025

Room 14 - 301A

Organized by Changxi Yang, Xiaosheng Xiao

Chaired by Changxi Yang, Xiaosheng Xiao

14:50 Towards Bidirectional Optical Brain Interfaces
Invited
Lingjie Kong (*Tsinghua University*);

15:10 Spatiotemporal Mode-locking in Multimode Fiber Lasers
Chenxin Gao (*Tsinghua University*); *Chengjiu Wang* (*Tsinghua University*); *Zhenghao Jiao* (*Tsinghua University*); *Bo Cao* (*Tsinghua University*); *Chengying Bao* (*Tsinghua University*); *Changxi Yang* (*Tsinghua University*);

15:25 EMP-based Monitoring of High-power Laser Interaction Processes
Aurelian Marcu (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Mihai Stafe* (*National University for Science and Technology Politehnica Bucharest*); *Andreea Groza* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Mihai Serbanescu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Razvan Ungureanu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Gabriel Cojocaru* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Constantin Diplasu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Constantin Negutu* (*National University for Science and Technology Politehnica Bucharest*); *Georgiana Giubega* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Cecilia Oanca* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Ana Tiuleanu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Maria Balan* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Niculae Puscas* (*National University for Science and Technology Politehnica Bucharest*);

17:00 Real-time Observation of Spatiotemporal Nonlinear Dynamics in Multimode Fiber Lasers
Xiaosheng Xiao (*Beijing University of Posts and Telecommunications*);

17:15 C/S-interband All-optical Wavelength Conversion in PPLN Waveguides for Broadband Multichannel Signals
Shiming Gao (*Zhejiang University*);

17:30 Deep Ultraviolet Dual-comb from a Single-cavity Thin-
Invited disk Laser
Hongwen Xuan (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*);

17:50 Generation of Ultrafast Frequency Modulated Continuous Wave in Super High Frequency Band Based on Optical Injected Laser Diodes
Tianxin Yang (*Tianjin University*);

18:05 Bound States in a Spatiotemporal Mode-locked Fiber Laser
Guangyu Wang (*Beihang University*); *Bo Fu* (*Beihang University*);

18:20 Accuracy of Enhanced Holographic Mode Decomposition Methods for Analyzing a Beam Modal Content
Mikhail D. Gervaziev (*Institute of Automation and Electrometry SB RAS*); *A. A. Revyakin* (*Institute of Automation and Electrometry SB RAS*); *Denis S. Kharenko* (*Institute of Automation and Electrometry, SB, RAS*); *Sergey A. Babin* (*Institute of Automation and Electrometry SB RAS*);

18:35 Terahertz Semiconductor Quantum Devices and Their
Invited Applications in Imaging and Communication
Jun-Cheng Cao (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*);

00:00 Progress in the Study of High Power and High Energy Ultrafast Lasers
Jiajun Song (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Liya Shen* (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Junze Zhu* (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Guanguang Gao* (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Yinfei Liu* (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Tianze Xu* (*Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS)*); *Yujie Peng* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Yuxin Leng* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*);

Session 1P15
Integrated Photoelectric Information Processing Technology

Thursday PM, November 6, 2025
Room 15 - 301B
Organized by Huashun Wen
Chaired by Huashun Wen

13:30 Photonic Computing: Nonlinearity Is Important
Invited
Jianji Dong (*Huazhong University of Science and Technology*);

13:50 Integrated Sensing and Communication System Based
Invited on Microcomb Synchronization
Xiangpeng Zhang (*Peking University*); *Xuguang Zhang* (*Peking University*); *Yujun Chen* (*Peking University*); *John E. Bowers* (*University of California Santa Barbara*); *Wangzhe Li* (*Institute of Electronics Chinese Academy of Sciences*); *Lin Chang* (*Peking University*);

14:10 Microcavity Multimode Spectral Sensing and Intelligent
Invited Detection
Daquan Yang (*Beijing University of Posts and Telecommunications*);

14:30 High-precision Laser Ranging on Thin-film Lithium Nio-
Invited bate
Kan Wu (*Shanghai Jiao Tong University*);

14:50 InAs/GaAs Quantum Dot DFB Laser Arrays for Silicon-based Photonic Integrated Circuits
Xiao-Guang Yang (*Institute of Semiconductors, CAS*);

15:05 Invited Efficient and Transparent Nonlinear Signal Processing Enabled by Linear Decoupling
Hanghang Li (*Huazhong University of Science and Technology*); *Nuo Chen* (*Huazhong University of Science and Technology*); *Zhuang Fan* (*Huazhong University of Science and Technology*); *Xiaolong Fan* (*Huazhong University of Science and Technology*); *Wenju Li* (*Huazhong University of Science and Technology*); *Yukun Huang* (*Huazhong University of Science and Technology*); *Wenchan Dong* (*Huazhong University of Science and Technology*); *Jing Xu* (*Huazhong University of Science and Technology*);

17:00 Invited Microwave Photonic Radar Technology and Its Integrated
Sha Zhu (*Nankai University*);

17:20 Opto-electronic Collaborative Real-time Frequency Offset Compensation Scheme for Low-cost Coherent Optical Communication Systems
Hongxia Xing (*Sun Yat-Sen University*); *Zuyu Li* (*Sun Yat-Sen University*); *Yuheng Liu* (*Sun Yat-Sen University*); *Fan Li* (*Sun Yat-Sen University*);

17:35 Microwave Signal Generation in Directly Modulated Laser Based Optoelectronic Oscillator
Yali Zhang (*University of Electronic Science and Technology of China (UESTC)*); *Zhengjie Cheng* (*University of Electronic Science and Technology of China (UESTC)*); *Juncheng Li* (*University of Electronic Science and Technology of China (UESTC)*); *Chengzhen Meng* (*University of Electronic Science and Technology of China*); *Shangjian Zhang* (*University of Electronic Science and Technology of China (UESTC)*); *Yong Liu* (*University of Electronic Science and Technology of China (UESTC)*);

17:50 Experimental Demonstration of Phase-sensitive Amplification in Silicon-integrated Waveguide
Xuanming Cao (*Beijing University of Posts and Telecommunications*); *Jiabin Cui* (*Beijing University of Posts and Telecommunications*); *Xinyan Zhang* (*Institute of Semiconductors, Chinese Academy of Sciences*); *Yuefeng Ji* (*Beijing Univ Posts & Telecommun*); *Guo-Wei Lu* (*Tokai University*); *Kunpeng Zhai* (*Nankai University*); *Sha Zhu* (*Nankai University*); *Ninghua Zhu* (*Nankai University*); *Huashun Wen* (*Nankai University*);

18:05 Low-noise Microwave Generation Based on Compact Narrow-linewidth Dual-laser
Zexing Zhao (*Nanjing University*); *Kunpeng Jia* (*Nanjing University*); *Wei Liang* (*Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences*); *Shi-Ning Zhu* (*Nanjing University*); *Zhen-Da Xie* (*Nanjing University*);

18:20 On-chip Multi-stage Pumped Er:Ta_2O_5 Optical Amplifier
Harsh Vaid (*Indian Institute of Technology*); *Sharashti Saxena* (*Indian Institute of Technology*); *Jagriti Ahuja* (*Indian Institute of Technology*); *Amol Choudhary* (*Indian Institute of Technology*);

18:35 Multiwavelength Integrated SiPh Neural Networks
Hyuma Umeda (*Princeton University*); *Eli A. Doris* (*Princeton University*); *Yusuf O. Jimoh* (*Princeton University*); *Jiawei Zhang* (*Princeton University*); *Paul R. Prucnal* (*Princeton University*);

Session 1P16
Advances in Metamaterials, Metasurfaces and Topological Photonics 2

Thursday PM, November 6, 2025

Room 16 - 302

Organized by Jian-Wen Dong, Wenjie Chen

Chaired by Wenjie Chen, Jian-Wen Dong

00:00 Invited Twisting the Photons: From 2D Materials to Photonic Crystals
Jie Yao (*University of California*);

00:00 Invited Engineering Flatbands and Unidirectional Emission in Bilayer Photonic Crystal Slabs
Hai Son Nguyen (*Ecole Centrale de Lyon*);

14:10 Invited Topological Optical Textures from Metamaterials
Yijie Shen (*Nanyang Technological University*);

14:30 Invited Freely Tailoring Wavefront and Polarization of Radiation Far-fields by On-chip Surface-wave Metasurfaces
Zhuo Wang (*Fudan University*); *Xiangyu Jin* (*Fudan University*); *Weikang Pan* (*Fudan University*); *Liangwei Li* (*Fudan University*); *Qiong He* (*Fudan University*); *Lei Zhou* (*Fudan University*); *Shulin Sun* (*Fudan University*);

14:50 Invited Transparent Metasurfaces with Controllable Appearance
Hongchen Chu (*Nanjing Normal University*); *Qin Jin* (*Nanjing University*); *Tao Yang* (*Nanjing University*); *Xiaolong Wei* (*Nanjing University*); *Xiang Xiong* (*Nanjing University*); *Ruwen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*); *Yun Lai* (*Nanjing University*);

00:00 Emergence of Chirality in Non-chiral Structures around Bound States in the Continuum
Karen Caicedo (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Fabrizio Sgrignuoli* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Adam Schwartzberg* (*Molecular Foundry, Lawrence Berkeley National Laboratory*); *Silvia Romano* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Gianluigi Zito* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Ivo Rendina* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Vito Mocella* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*);

17:15 Janus Bound States in the Continuum in Dielectric Metasurfaces
Po-Yu Lin (*National Taiwan University*); *Ruey-Lin Chern* (*National Taiwan University*);

Session 1P17a
Metasurfaces and Metagratings beyond Conventional Optics 1

Thursday PM, November 6, 2025

Room 17 - 303

Organized by Hongchen Chu, Yun Lai

Chaired by Hongchen Chu, Yun Lai

13:30 Invited Multifunctional and Reconfigurable Metasurfaces for Far-field and Near-field Manipulations
Shulin Sun (*Fudan University*); *Guobang Jiang* (*Fudan University*); *Yingying Wang* (*Fudan University*); *Zhuo Wang* (*Fudan University*); *Shiqing Li* (*Zhejiang University of Technology*); *Yizhen Chen* (*Fudan University*); *Qiong He* (*Fudan University*); *Lei Zhou* (*Fudan University*);

13:50 Invited Metasurface-based Quantum Communication Protocol
Lin Li (*East China Normal University*);

14:10 Invited Zero-space Waveguide Array for Flexural Waves
Mohamed Farhat (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

14:30 Acoustic Geometric Phase Control Using Topological Complementary Pair for Multifunctional Focusing
Xiujie Qian (*Nanjing University of Aeronautics and Astronautics*); *Xiao Li* (*Nanjing University of Aeronautics and Astronautics*); *Yaoyao Shi* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*);

14:45 Invited The Design and Integration of Metasurface with Optoelectronics
Li Gao (*Nanjing University of Posts and Telecommunications*);

Session 1P17b
Advances on Biophotonics II 1

Thursday PM, November 6, 2025

Room 17 - 303

Organized by Hao He, Hongbao Xin, Qiu Qiang Zhan

17:00 Keynote Data is Everything: How High-quality Data Drives Biomedical Breakthroughs
Keisuke Goda (*University of Tokyo*);

17:30 Invited Multispectral Quantitative Optoacoustic Imaging of Tissue Optics
Jiao Li (*Tianjin University*); *Pengwei Han* (); *Kun Wang* (); *Bingxue Zhang* (); *Feng Gao* (*Tianjin University*);

00:00 Invited Emission Depletion Super-resolution Microscopy with Upconversion Nanoparticles
Rui Pu (*South China Normal University*); *Qiu Qiang Zhan* (*South China Normal University*);

18:10 Invited Fast Segmentation and Multiplexing Imaging of Organelles in Live Cells
Meiqi Li (*Peking University*);

Session 1P18a
Recent Advances in Optical Metasurfaces 2

Thursday PM, November 6, 2025

Room 18 - 304

Organized by Fei Ding, Cheng Zhang

Chaired by Fei Ding

13:30 Invited Quasi-resonances in Conductive Polypyrrole Nanoantennas
Shangzhi Chen (*University of Electronic Science and Technology of China*);

13:50 Invited Nanophotonic Control of Solid-state Quantum Emitters for Enhanced Luminescence Performance
Jianwei Tang (*Huazhong University of Science and Technology*);

14:10 Versatile Design Approach of Switchable On-chip Emitter-coupled Meta-optics Photon Source
Sören im Sande (*University of Southern Denmark*); *Torgom Yezekyan* (*Univ Southern Denmark*); *Shailesh Kumar* (*University of Southern Denmark*); *Nur Q. Adanan* (*Singapore University of Technology and Design*); *Golnoush Zamiri* (*Singapore University of Technology and Design*); *Joel K. W. Yang* (*Singapore University of Technology and Design*); *Sergey I. Bozhevolnyi* (*University of Southern Denmark*); *Fei Ding* (*Eastern Institute of Technology, Ningbo*);

14:25 Chip-integrated Metasurface for Multidimensional Light-field Imaging
Boyan Fu (*Nanjing University*); *Shu-Ming Wang* (*Nanjing University*); *Xun Cao* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

14:40 Invited Inverse Design of Frequency-selective Reflector Based on Convolutional Neural Network
Yuanhao Zhang (*Xidian University*); *Huanran Qiu* (*Xidian University*); *Ying Li* (*Zhejiang University*); *Long Li* (*Xidian University*); *Rui Xi* (*Xidian University*);

Session 1P18b
Artificial Intelligence Assisted Reconfigurable Metasurfaces and Application

Thursday PM, November 6, 2025

Room 18 - 304

Organized by Long Li, Rui Xi

Chaired by Rui Xi

17:00 Unified Machine-learning Framework for Automated Inverse Design of Metasurfaces
Zhao Zhou (*The Hong Kong Polytechnic University*); *Wei Lin* (*The Hong Kong Polytechnic University*);

17:15 Invited Self-powered Programmable Metasurfaces for Light-microwave Information Modulations
Han Wei Tian (*Southeast University*); *Xin Ge Zhang* (*Southeast University*); *Wei Xiang Jiang* (*Southeast University*);

17:35 A Self-adaptive Stable-reflection Metasurface for Indoor Wireless Applications
Alex M. H. Wong (*City University of Hong Kong*); *Bowen Ren* (*City University of Hong Kong*); *Chu Qi* (*City University of Hong Kong*); *Peixing Li* (*City University of Hong Kong*); *Xiaoluo He* (*City University of Hong Kong*);

17:50 Invited Artificial Intelligence Assisted Thermoelectric Metasurface for Reconfigurable Infrared Camouflage
Yanxiang Wang (*Zhejiang University*); *Hanqi Chen* (*Zhejiang University*); *Ying Li* (*Zhejiang University*);

18:10 Improvement of Microwave Chamber Heating Uniformity Based on Surface Vibration
Sijie Chen (*Zhejiang University*); *Xuesong Guo* (*Zhejiang University*); *Xiangquan Xiang* (*Zhejiang University*); *Chun Huang* (*Zhejiang University*); *Peiying Lin* (*Jiangsu University of Science and Technology*); *Jiangtao Huangfu* (*Zhejiang University*);

18:25 Invited Design of Dual-frequency Miniaturized Transmitting Antenna for Wireless Energy Transmission System
Xiaokui Kang (*Xidian University*); *Hongbin Ma* (*Zhejiang University*); *Zihui Liu* (*Xidian University*); *Jiangtao Huangfu* (*Zhejiang University*); *Ying Li* (*Zhejiang University*); *Rui Xi* (*Xidian University*);

18:45 Invited Inverse Design for Multiplexing Effects in Optical Metasurfaces
Bo Xiong (*Zhejiang University*);

Session 2A1
Exciton-polaritons: From Nonlinear Phenomena to Condensation and Topological Quantum Fluids 1

Friday AM, November 7, 2025

Room 1 - 101A

Organized by Pavlos G. Savvidis, Zheng Sun, Xiaoqing Zhou

Chaired by Pavlos G. Savvidis, Zheng Sun

8:30 Keynote Observation of a Supersolid Phase in a Spin-orbit Coupled Exciton-polariton Bose-Einstein Condensate at Room Temperature
M. Muszyński (*University of Warsaw*); *Pavel Kokhanchik* (*Université Clermont Auvergne*); *R. Mirek* (*IBM Research Europe — Zurich*); *D. Urbonas* (*IBM Research Europe — Zurich*); *P. Tassan* (*IBM Research Europe — Zurich*); *P. Kapuściński* (*University of Warsaw*); *P. Oliwa* (*University of Warsaw*); *I. Georgakilas* (*IBM Research Europe — Zurich*); *Thilo Stöferle* (*IBM Research Europe — Zurich*); *R. F. Mahrt* (*IBM Research Europe — Zurich*); *M. Forster* (*Bergische Universität*); *U. Scherf* (*Bergische Universität*); *Dmitriy Dovzhenko* (*University of Southampton*); *R. Mazur* (*Military University of Technology*); *P. Morawiak* (*Military University of Technology*); *W. Piecek* (*Military University of Technology*); *P. Kula* (*Military University of Technology*); *B. Pietka* (*University of Warsaw*); *Dmitry Solnyshkov* (*Universite Clermont-Auvergne, CNRS*); *Guillaume Malpuech* (*Universite Clermont-Auvergne, CNRS*); *Jacek Szczytko* (*University of Warsaw*);

9:00 Invited Emerging Supersolidity from a Polariton Condensate in a Photonic Crystal Waveguide
Dimitrios Trypogeorgos (*CNR Nanotec, Institute of Nanotechnology*); *A. Gianfrate* (*CNR Nanotec, Institute of Nanotechnology*); *M. Landini* (*Universität Innsbruck*); *D. Nigro* (*Unversità degli Studi di Pavia*); *Dario Gerace* (*Università di Pavia*); *Iacopo Carusotto* (*Universita di Trento*); *F. Riminucci* (*Lawrence Berkeley National Laboratory*); *K. W. Baldwin* (*Princeton University*); *Loren N. Pfeiffer* (*Princeton University*); *G. I. Martone* (*CNR Nanotec, Institute of Nanotechnology*); *M. De Giorgi* (*University of Salento*); *Dario Ballarini* (*Institute of Nanotechnology*); *Daniele Sanvitto* (*Institute of Nanotecnology-CNI*);

9:20 Invited Polariton Spin Hall Effect in Perovskite Microcavities
Rui Su (*Nanyang Technological University*);

9:40 Ultrafast Dynamics of Alterable Mode Switching of Polariton Condensates Revealed in a Tunable ZnO Microcavity
Invited
Min Zhang (*East China Normal University*); *Di Sun* (*East China Normal University*); *Fangying Peng* (*East China Normal University*); *Xuekai Ma* (*Universitat Paderborn*); *Changchang Huang* (*Huazhong University of Science and Technology*); *Peifen Lu* (*East China Normal University*); *Peng Li* (*Xi'an Jiaotong University*); *Weihang Zhou* (*Huazhong University of Science and Technology*); *Stefan Schumacher* (*Universität Paderborn*); *Hui Li* (*East China Normal University*); *Feng Li* (*Xi'an Jiaotong University*); *Zheng Sun* (*East China Normal University*); *Jian Wu* (*East China Normal University*);

10:00 Exciton-polarons in Doped Monolayer Semiconductors
Invited
Dmitry K. Efimkin (*Monash University*);

10:20 Organic Exciton-polaritonic Dynamics
Invited
Shaocong Hou (*Wuhan University*);

10:40 **Coffee Break**

10:50 Nonlinear Spectral and Polarisation Dynamics of a Trapped Exciton-polariton Laser
Invited
Eliezer Estrecho (*The Australian National University*); *B. R. Fabricante* (*The Australian National University*); *M. Król* (*The Australian National University*); *M. J. Wurdack* (*Stanford University*); *M. Pieczarka* (*Wrocław University of Science and Technology*); *M. Steger* (*University of Pittsburgh*); *D. W. Snoke* (*University of Pittsburgh*); *Kenneth W. West* (*Princeton University*); *Loren N. Pfeiffer* (*Princeton University*); *A. G. Truscott* (*The Australian National University*); *E. A. Ostrovskaya* (*The Australian National University*);

11:10 Ultrafast Dynamics in Room-temperature Polariton Condensates
Invited
Hui Li (*East China Normal University*);

11:30 Tailoring Topological States in Polaritons: 1D AAH Edge Modes & 2D SSH Vortex Corner Modes
Invited
Haochen Wang (*Xiamen University*); *Hang Zhou* (*Xiamen University*); *Long Zhang* (*Xiamen University*); *Zhanghai Chen* (*Xiamen University*);

11:50 Electricity-driven Polaron-polariton
Invited
Zheng Sun (*East China Normal University*);

12:10 Mott Insulator Polariton in MoSe2/WS2 Moiré Lattice
Invited
Jie Gu (*Fudan University*);

12:25 Computing with Quantum Fluids of Light
Invited
Pavlos G. Lagoudakis (*Skolkovo Institute of Science and Technology*);

Session 2A2a
Feeding Network and Power Weighting for Array Antenna

Friday AM, November 7, 2025

Room 2 - 101B

Organized by Mohammad Ridwan Effendi, Hartuti Mistialustina
Chaired by Hartuti Mistialustina

8:30 Broadband Low-profile Antenna with Wide-angle Scanning Based on CTS Array
Stanislav V. Polenga (*Siberian Federal University*); *Roman O. Ryazantsev* (*Siberian Federal University*); *Elena A. Strigova* (*Siberian Federal University*); *Andrei V. Stankovskiy* (*Siberian Federal University*); *Anastasiya D. Poligina* (*Siberian Federal University*);

8:45 Comparative Evaluation on Radiation Performance of Linear Array Antenna Based on Weighting Functions
Hartuti Mistialustina (*Universitas Sangga Buana*); *Kusmadi* (*Universitas Sangga Buana*); *Ketut Abimanyu Munastha* (*Universitas Sangga Buana*); *Mohd Aminudin Jamlos* (*Universiti Malaysia Perlis*); *Achmad Munir* (*Institut Teknologi Bandung*);

9:00 Sidelobe Level Reduction: Power Weighting Techniques in Antenna Feed Networks
Invited
Yohandri (*Universitas Negeri Padang*); *Fauzan Al Haqqi* (*Universitas Negeri Padang*); *Fivit Andriani* (*Universitas Negeri Padang*);

9:20 Feeding Technique Configuration for Enhancing Radiation Performance of Planar Microstrip Array Antenna
Mohammad Ridwan Effendi (*Institut Teknologi Bandung*); *Muhammad Farhan Maulana* (*Universitas Sangga Buana*); *Hartuti Mistialustina* (*Universitas Sangga Buana*); *Achmad Munir* (*Institut Teknologi Bandung*);

9:35 Radiation Performances of Linear Triangular Patch Array Antenna in Various Feeding Techniques and Weighting Functions
Invited
Achmad Munir (*Institut Teknologi Bandung*); *Rheyuniarto Sahlendar Asthan* (*Institut Teknologi Sumatera*); *Budi Syihabuddin* (*Telkom University*); *Novelita Rahayu* (*National Research and Innovation Agency (BRIN)*); *Sulistyaningsih* (*Institut Teknologi Bandung*);

9:55 Experimental Assessment on Circularly Polarized MIMO Antenna Performance in Signal Reception Quality
Chairunnisa (*Institut Teknologi Bandung*); *Trasma Yunita* (*Institut Teknologi Bandung*); *Aloysius Adya Pramudita* (*Telkom University*); *Achmad Munir* (*Institut Teknologi Bandung*);

10:30 **Coffee Break**

Session 2A2b
Solid State Quantum Methodology and Sensing

Friday AM, November 7, 2025

Room 2 - 101B

Organized by Takeshi Ohshima, Hideaki Takashima

Chaired by Takeshi Ohshima, Hideaki Takashima

10:50 Invited — Quantum Sensing with Diamond Spintronics: Advances in Coherence and Readout
Norikazu Mizuochi (*Kyoto University*);

11:10 Invited — Visualizing Condensed Matter Physics with Quantum Sensors
Kento Sasaki (*The University of Tokyo*);

11:30 Invited — Optimizing Electronic, Nuclear, and Optical Coherence in Silicon Carbide
Christopher Paul Anderson (*University of Illinois Urbana-Champaign*);

11:50 Invited — All-optical Nanoscale Temperature Sensing on Microelectronics Using Diamond Color Centers
Tran Toan Trong (*University of Technology Sydney*);

12:10 Evaluation of Sensitivity about Entanglement-enhanced Sensing under Ambient Conditions
Kosuke Kimura (*National Institute for Quantum Science Technology*); *Shunsuke Daimon* (*National Institute for Quantum Science Technology*); *W. Kada* (*Tohoku University*); *Tokuyuki Teraji* (*National Institute for Materials Science*); *Junichi Isoya* (*University of Tsukuba*); *T. Oguro* (*National Institute for Quantum Science Technology*); *T. Hasunuma* (*National Institute for Quantum Science Technology*); *I. Shingai* (*National Institute for Quantum Science Technology*); *Shinobu Onoda* (*National Institute for Quantum Science Technology*);

Session 2A3a
Computational Simulations and Techniques in Electromagnetics

Friday AM, November 7, 2025

Room 3 - 102A

Organized by Masahiro Tanaka, Shinichiro Ohnuki

Chaired by Masahiro Tanaka

8:30 A Study on Numerical Inverse Laplace Transform for Transient Response Analyses
Koki Watanabe (*Fukuoka Institute of Technology*);

8:45 Moving Object Analysis by the FDTD Method for Frequency Modulated Interrupted Continuous Wave (FM-CIW) Radar
Takuji Arima (*Tokyo University of Agriculture and Technology*);

9:00 Application of Vector Potential for Magnetic Field Distribution and Exposure Evaluation in Wireless Power Transfer
Misato Akiyama (*Tokyo Metropolitan Industrial Technology Research Institute*); *H. Arai* (*Tokyo Metropolitan Industrial Technology Research Institute*); *H. Sano* (*Tokyo Metropolitan Industrial Technology Research Institute*); *T. Obata* (*Tokyo Metropolitan Industrial Technology Research Institute*); *Y. Suzuki* (*Tokyo Metropolitan University*); *M. Taki* (*Tokyo Metropolitan University*);

9:15 Coupled Analysis of a Terahertz Photoconductive Antenna Using the Drift-diffusion and FDTD Methods
Yoichiro Akimoto (*Hosei University*); *Hayato Kobayashi* (*Hosei University*); *Jun Shibayama* (*Hosei University*);

9:30 Simulation of ULF Electromagnetic Emissions Associated with Earthquakes Using the 3D WLP-FDTD Method
Yoshiaki Ando (*The University of Electro-Communications*);

9:45 Radio Propagation Simulation for Manhole Communication
Takuichi Hirano (*Tokyo City University*);

10:00 Efficient Finite Element Analysis for Optical Devices Using POM and Padé Boundary Condition
Taiki Matsuzaki (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Keita Morimoto* (*University of Hyogo*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

10:15 Evaluation of Radio Wave Propagation Direction Using Wavenumber Space Analysis
Gakuki Toyoda (*Nihon University*); *Seiya Kishimoto* (*Nihon University*); *Shinichiro Ohnuki* (*Nihon University*);

10:30 **Coffee Break**

10:50 Basic Study of Acoustic Analysis by the Symplectic Integrator Method
Shion Osada (*Nihon University*); *S. Kishimoto* (*Nihon University*); *S. Ohnuki* (*Nihon University*);

Session 2A3b
Advanced Numerical Techniques in Computational Electromagnetics 1

Friday AM, November 7, 2025

Room 3 - 102A

Organized by Mei Song Tong, Li Zhang, Shinichiro Ohnuki, Kazuki Niino

Chaired by Mei Song Tong, Kazuki Niino

11:05 A Numerical Method Computing Sparse Basis Functions for the BEM for the Helmholtz Equation in 3D
Kazuki Niino (*Mitsubishi Electric Corporation*); *Asuka Ikegami* (*Kyoto University*);

11:20 A Simulation of Pulsed Eddy Current Testing for Detecting Local Thinning in Corrosion-resistant Coated Steel Plates
Daisuke Kitagawa (*National Institute of Technology, Suzuka College*); *Kenta Endo* (*National Institute of Technology, Suzuka College*); *Toshiya Itaya* (*National Institute of Technology, Suzuka College*);

11:35 Linearized Inverse Scattering Method for Non-line-of-sight Radar Imaging: Discussions on Its Applicability and Limitation
Hiroshi Suenobu (*Mitsubishi Electric Corporation*); *Shouhei Kidera* (*The University of Electro-Communications*); *T. Nakanishi* (*Mitsubishi Electric Corp. Info. Tech. R&D Center*); *R. Kobayashi* (*Mitsubishi Electric Engineering Company Limited*); *Y. Nishioka* (*Mitsubishi Electric Corporation*); *Y. Inasawa* (*Chuo University*);

11:50 Spectral-element Spectral-integral Method for Bloch Periodic Problem of Scatterers Embedded in Elastic Layered Media
Hongyan Deng (*Xiamen University*); *Mingwei Zhuang* (*Xiamen University*); *Jianyang Zhou* (*Xiamen University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

12:05 Neuro-TF Approach for Parametric Modeling of Dual-band Microwave Components: A Microstrip Square Open-loop Resonator Diplexer Case Study
Jingpei Zhang (*Tianjin University*); *Feng Feng* (*Tianjin University*); *Yang Yu* (*Tianjin University*); *Kaixue Ma* (*Tianjin University*); *Qi-Jun Zhang* (*Carleton University*);

Session 2A4a
Radio Remote Sensing of Terrestrial and Space Environments for Disaster Risk Reduction (DRR) 1

Friday AM, November 7, 2025

Room 4 - 102B

Organized by Yasuhide Hobara, Chieh-Hung Chen

Chaired by Yasuhide Hobara, Chieh-Hung Chen

8:30 Investigating Lithosphere-atmosphere-ionosphere Coupled Seismo-double Resonance Mechanisms via SABER (Sounding of the Atmosphere Using Broadband Emission Radiometry) Atmospheric Standing Wave Observations
Yinqian Li (*Chengdu University of Technology*); *Chieh-Hung Chen* (*Chengdu University of Technology*);

8:45 Doppler Sounder Observations of Ionospheric Disturbances Associated with the March 28, 2025 Myanmar Earthquake
Yanlin Liu (*Chengdu University of Technology*); *Chieh-Hung Chen* (*Chengdu University of Technology*);

9:00 Double Resonance in Seismo-lithosphere-atmosphere-ionosphere Coupling: Insights from Swarm Satellite
Liwei Zhou (*Chengdu University of Technology*); *Chieh-Hung Chen* (*Chengdu University of Technology*);

9:15 Spatiotemporal Characteristics of Atmospheric Parameters and Lightning Activity in Heavy Rainfall Events in Japan and Their Relationship
Keita Murata (*The University of Electro-Communications*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Hiroshi Kikuchi* (*The University of Electro-Communications*); *Hiroto Ouchi* (*The University of Electro-Communications*); *Jeff Lapierre* (*Earth Networks*);

9:30 Correlation between Atmospheric Electric Field and Weather Observed via All-sky Camera
Mio Hongo (*The University of Electro-Communications*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Takuo Tsuda* (*The University of Electro-Communications*); *Hiroshi Kikuchi* (*The University of Electro-Communications*);

9:45 Statistical Analysis of the Relationships between Heavy Rainfall and Lightning in Linear Rainbands in Japan
Hiroto Ouchi (*The University of Electro-Communications*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Hiroshi Kikuchi* (*The University of Electro-Communications*); *Debrupa Mondal* (*Nihon University*); *Jeff Lapierre* (*Earth Networks*);

10:00 Propagating Atmospheric Gravity Waves Analysis Using Dense VLF/LF Networks during 2022 Hunga Tonga — Hunga Ha'apai Eruption
Antrisha Daneraici Setiawan (*University of Electro-Communications*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Alexander Shvets* (*O. Ya. Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine*);

10:15 Total Lightning Based Nowcasting of Heavy Ground Rainfall Using Density Dependent Automatic Tracking
Debrupa Mondal (*Nihon University*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Hiroshi Kikuchi* (*The University of Electro-Communications*); *Jeff Lapierre* (*Earth Networks*);

10:30 **Coffee Break**

Session 2A4b
Remote Sensing of Water and Energy Cycles

Friday AM, November 7, 2025

Room 4 - 102B

Organized by Hui Lu, Jiancheng Shi

Chaired by Hui Lu

10:50 Near-global Monitoring of Surface Solar Radiation Using a Geostationary Satellite Network Observation System
Husi Letu (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Chong Shi* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Takashi Y. Nakajima* (*Tokai University*); *Teruyuki Nakajima* (*The University of Tokyo*);

11:05 Retrieval of Single-layer Cloud Geometric Thickness Using Deep Neural Networks Combined with Multi-angle O_2-A Band and Polarization Information
Huazhe Shang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Lesi Wei* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Tianyang Ji* (*Inner Mongolia University*); *Yutong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Husi Letu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

11:20 Distinct Structure, Radiative Effects, and Precipitation Characteristics of Deep Convection Systems in the Tibetan Plateau Compared to the Tropical Indian Ocean
Yuxin Zhao (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiming Li* (*Lanzhou University*); *Deyu Wen* (*Lanzhou University*); *Yarong Li* (*Lanzhou University*); *Yuan Wang* (*Lanzhou University*); *Jianping Huang* (*Lanzhou University*);

11:35 Development of Meter-resolution Soil Moisture Products Based on UAV Remote Sensing
Hui Lu (*Tsinghua University*);

11:50 L-band Microwave Diurnal Amplitude Variation (DAV) Signals for Monitoring Land-atmosphere-cryosphere Interactions
Yin Hu (*Fudan university*); *Shaoning Lv* (*Fudan University*); *Jun Wen* (*Chengdu University of Information Technology*);

12:05 Full Wave Simulations of Vegetated Surface at L-band Using Fast Hybrid Multiple Scattering Theory Method (FHMSTM)
Jongwoo Jeong (*National University of Singapore*); *Zhenming Huang* (*University of Michigan*); *Tien-Hao Liao* (*National Taipei University of Technology*); *Leung Tsang* (*University of Michigan*);

Session 2A5
FocusSession.SC1: Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 2

Friday AM, November 7, 2025

Room 5 - 103

Organized by Maha Ben Rhouma

Chaired by Maha Ben Rhouma

8:30 Invited Broadband Measurement of Feibelman's Quantum Surface Response Functions
Zeling Chen (*The University of Hong Kong*); *Shu Yang* (*The University of Hong Kong*); *Zetao Xie* (*The University of Hong Kong*); *Jinbing Hu* (*The University of Hong Kong*); *Xudong Zhang* (*The University of Hong Kong*); *Yipu Xia* (*The University of Hong Kong*); *Yonggen Shen* (*Genuine Optronics Limited*); *Huirong Su* (*Genuine Optronics Limited*); *Maohai Xie* (*The University of Hong Kong*); *Thomas Christensen* (*Technical University of Denmark (DTU)*); *Yi Yang* (*The University of Hong Kong*);

8:50 Invited Discovering New High-refractive-index Optical Materials
Søren Raza (*Technical University of Denmark*);

9:10 Invited Enhanced Terahertz Spectroscopy and Artificial Nonlinear Optical Interactions via Nanostructured Surfaces
Luca Razzari (*Institut National de la Recherche Scientifique, Centre Énergie Matériaux Télécommunications (INRS-EMT)*);

9:30 Invited Metasurfaces for Direct Spatial Frequency Manipulation of Optical Wavefields
Ann Roberts (*The University of Melbourne*);

9:50 Invited Multiscale Computational Modeling of Molecular Nanoplasmonics
Stefano Corni (*University of Padua*);

10:10 Nonlocal and Nonlinear Plasmonics in Atomically Thin Heterostructures
Eduardo J. C. Dias (*University of Southern Denmark*); *Line Jelver* (*University of Southern Denmark*); *Joel D. Cox* (*University of Southern Denmark*);

10:30 **Coffee Break**

10:50 Invited Infrared Phonon-polariton Microstructures: Reciprocal Metasurfaces, Non-locality and Inverse Design
Emmanuele Cannavo (*Università di Pisa*); *Davide Baiocco* (*Università di Pisa*); *O. K. Jackson* (*University of Southampton*); *E. Bozdogan* (*Istituto di Fotonica e Nanotecnologie — Consiglio Nazionale delle Ricerche (CNR)*); *Simone De Liberato* (*University of Southampton*); *Alessandro Tredicucci* (*Pisa University*);

11:10 Invited Method of Secondary Multipoles for Electromagnetic Resonances in Multicomponent Structures
Andrey B. Evlyukhin (*Leibniz University Hannover*); *Vladimir R. Tuz* (*Jilin University*);

11:30 Topological Electric Dark Spots in Nanophotonics
Tong Fu (*City University of Hong Kong*); *Qing Tong* (*City University of Hong Kong*); *Shiqi Jia* (*City University of Hong Kong*); *Shubo Wang* (*City University of Hong Kong*);

11:45 Invited Effect of Top Metallic Contacts on Energy Conversion Performances for Near-field Thermophotovoltaics
Mauro Antezza (*Université de Montpellier*);

00:00 Invited The Technology and Commercialization Strategy of Next-generation Computational Electrodynamics
Zongfu Yu (*Flexcompute Inc.*); *Shanhui Fan* (*Stanford University*); *Jianming Jin* (*University of Illinois*);

Session 2A6
FocusSession.SC1: Fluctuational Electrodynamics and Light-matter Phenomena: Energy and Momentum Management at the Nano/Micro-scale 2

Friday AM, November 7, 2025
Room 6 - 104
Organized by Mauro Antezza
Chaired by Mauro Antezza

8:30 Invited Casimir Puzzles: Nano-scale Diamagnetism and the Thermal Anomaly
Carsten Henkel (*University of Potsdam*);

8:50 Invited Strong Electronic Correlations in Transdimensional Materials
Igor V. Bondarev (*North Carolina Central University*);

9:10 Invited Quantum and Thermal Light Emission from Spacetime Metamaterials
Iñigo Liberal (*Universidad Pública de Navarra, Campus Arrosadía*);

9:30 Invited On Some Numerical Aspects of Computing the $\boldsymbol{S}$-matrix of Graphene Strips Gratings and Their Use in the Context of Casimir Force and Radiative Heat Transfer
Brahim Guizal (*University of Montpellier — CNRS*);

9:50 Invited A Quantum Thermodynamics Approach to Optimization in Complex Systems
Alberto Imparato (*Trieste University*);

10:10 Invited Spin Caloritronics with Magneto-optical Many-body Systems
Philippe Ben-Abdallah (*Universite Paris-Sud 11*);

10:50 Invited Perovskite-type Thermophotonic Power Generation for Low-grade Waste Heat Recovery
Atsushi Sakurai (*Niigata University*);

11:10 Invited Near-field Thermal Radiation Enhancement Driven by Spatial Modulation of Metamaterials
Cheng-Long Zhou (*Harbin Institute of Technology*);

11:30 Quantum Friction Near Chiral and Nonreciprocal Media
Omar Jesús Franca Santiago (*Universität Kassel*); *Stefan Yoshi Buhmann* (*Universität Kassel*);

00:00 Invited Theory of Thermal Transport via Photons Within Media
Matthias Krüger (*Universität Göttingen*);

00:00 Invited Microscopic View of Extreme Near Field Heat Transfer
F. Tabatabaei (*Université Lyon 1*); *Y. Guo* (*Université Lyon 1*); *A. Rajabpour* (*Université Lyon 1*); *Christophe Adessi* (*Universite de Lyon 1*); *Mauricio Gómez Viloria* (*Universite Paris-Saclay*); *Philippe Ben-Abdallah* (*Universite Paris-Saclay*); *R. Messina* (*Universite Paris-Saclay*); *T. Niehaus* (*Université Lyon 1*); *Samy Merabia* (*Universite de Lyon*);

Session 2A7
FocusSession.SC6: Towards Chiral and Magnetoelectric Quantum Electrodynamics 2

Friday AM, November 7, 2025
Room 7 - 105
Organized by Eugene O. Kamenetskii
Chaired by Eugene O. Kamenetskii

8:30 Invited Active and Integrated Nanophotonics with 2D Materials
F. Javier García de Abajo (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

8:50 Invited Microwave-to-Optical Quantum Transduction Mediated by Antiferromagnetic Magnons in Antiferromagnets
Akihiko Sekine (*Fujitsu Limited*); *Ryo Murakami* (*Fujitsu Limited*); *Yoshiyasu Doi* (*Fujitsu Limited*);

9:10 Invited Emergent Electromagnetism in Chiral Magnetic Structures
Naoto Nagaosa (*The University of Tokyo*);

9:30 Invited Vacuum States of Quantized Magnetoelectric Fields
Eugene O. Kamenetskii (*Ben-Gurion University of the Negev*);

9:50 Invited Disordered Chiral Spin Systems for Large Emergent Electro-magnetic Response
Aki Kitaori (*The University of Tokyo*);

10:10 Invited Polarization in Inhomogeneous Crystals and Its Relationship to Electric Quadrupole Moments
Shuichi Murakami (*University of Tokyo*); *N. Arai* (*Institute of Science Tokyo*); *Y. Gao* (*University of Science and Technology of China*); *D. Xiao* (*University of Washington*);

10:30 **Coffee Break**

10:50 Invited Ultrastrong Light-Matter Coupling in Chiral Cavities with Broken Time-Reversal Symmetry
Junichiro Kono (*Rice University*); *Andrey Baydin* (*Rice University*);

11:10 Invited Terahertz Magnetoelectric Optical Responses of Spin-spiral Multiferroics
Youtarou Takahashi (*The University of Tokyo*);

11:30 Universal Magneto-optical Kerr Effect in A-type Antiferromagnets
Invited
Veronika Sunko (*Institute of Science and Technology*);

11:50 Dressing of Quantum Atmospheres by Pseudoscalar $\boldsymbol{E} \cdot \boldsymbol{B}$ Fields
Invited
Hrvoje Petek (*University of Pittsburgh*);

12:10 Quantum Fluctuations and the Casimir Effect with Optical and Magnetic Materials
Jeremy N. Munday (*University of California, Davis*);

Session 2A8
Advanced Photonic Technologies for Spectroscopic Applications 1

Friday AM, November 7, 2025

Room 8 - 201A

Organized by Vincenzo Spagnolo, Ulrike Willer, Lei Dong, Wei Dong Chen

Chaired by Vincenzo Spagnolo

8:30 Fast, Sensitive, and Lower Cost Spectroscopic Sensors for Atmospheric Applications
Invited
Conor W. Dorney (*University College Cork*); *Meng Wang* (*University College Cork*); *Eibhlín F. Halpin* (*University College Cork*); *Rohit Vikas* (*University College Cork*); *Dean S. Venables* (*University College Cork*);

8:50 Time of Flight Detection of Anisotropic Phonon-Polariton Dispersions in Ferroelectric Bismuth Titanate
Seiji Kojima (*University of Tsukuba*); *Naoki Tsumura* (*Shinshu University*); *Hideaki Kitahara* (*University of Fukui*); *Mitsuo W. Takeda* (*Shinshu University*);

9:05 Exhaled Volatile Organic Compounds Analysis Using a Breath Sampler-coupled QEPAS Sensor
Marilena Giglio (*University and Politecnico of Bari*); *Nicoletta Ardito* (*University and Politecnico of Bari*); *Arianna Elefante* (*CNR, Istituto di Fotonica e Nanotecnologie*); *Angelo Sampaolo* (*University and Politecnico of Bari*); *Pietro Patimisco* (*Universita degli Studi di Bari and Politecnico di Bari*); *Vincenzo Spagnolo* (*Politecnico di Bari*);

9:20 Near-infrared Anti-stokes Emission from Nanocrystals: Characterization and Applications
Jose Marques-Hueso (*University of Valencia*); *Alvaro De Armas Viera* (*University of Valencia*); *Adilet Zhakeyev* (*Heriot-Watt University*);

9:35 Infrared Detection of Benzene's Broadband Absorption at 14.85 µm via Amplitude and Wavelength Modulation Using Quartz Tuning Forks as Optical Detector
Andrea Zifarelli (*University and Polytechnic of Bari*); *Lavinia Mongelli* (*University and Polytechnic of Bari*); *Kumar Kinjalk* (*University of Toulouse*); *Alexei N. Baranov* (*Université de Montpellier*); *Pietro Patimisco* (*University and Polytechnic of Bari*); *Vincenzo Spagnolo* (*University and Polytechnic of Bari*); *Angelo Sampaolo* (*University and Politecnico of Bari*);

9:50 Laser Heterodyne Radiometry: Applications from Solar Occultation to Wildfire Characterization
Invited
John Houston Miller (*George Washington University*); *Monica Flores* (*George Washington University*); *Erin McCaughey* (*George Washington University*); *David S. Bomse* (*1550 Pacheco Street*);

10:10 Miniature Integrating Sphere for Scatter-free UV-Vis Spectroscopy of Microdroplets
Alla V. Gisich (*Victoria University of Wellington*); *Claude Meffan* (*University of Canterbury*); *Eric Claude Le Ru* (*The MacDiarmid Institute for Advanced Materials and Nanotechnology*); *Baptiste Auguié* (*The MacDiarmid Institute for Advanced Materials and Nanotechnology*);

10:30 **Coffee Break**

10:50 Electro-optic Multiheterodyne (Dual Comb) Spectroscopy: From Source Development to Applications beyond Spectroscopy
Invited
Pablo Acedo Gallardo (*University of the Basque Country (UPV/EHU)*);

11:10 Enhanced and Selective VOC Detection Exploiting GC-QEPAS Combined Systems
Invited
Angelo Sampaolo (*University and Politechnic of Bari*); *Lavinia Mongelli* (*University and Polytechnic of Bari*); *Arianna Elefante* (*CNR, Istituto di Fotonica e Nanotecnologie*); *Marilena Giglio* (*University and Politecnico of Bari*); *Giansergio Menduni* (*Politecnico and University of Bari*); *Damien Fernandez* (*SRA Instruments Sas*); *Jimmy Zanotto* (*SRA Instruments Sas*); *Gianluca Stani* (*SRA Instruments Spa*); *William Whelan-Curtin* (*Munster University of Cork*); *Vincenzo Spagnolo* (*University and Polytechnic of Bari*);

00:00 Development of a Prism-based Broadband Optical Cavity (400–1600 nm) for High-sensitivity Cavity Enhanced Absorption Spectroscopy
Invited
Gaoxuan Wang (*Zhejiang University*); *Ruyue Cui* (*Université du Littoral Côte d'Opale*); *Azer P. Yalin* (*Colorado State University*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*);

00:00 On-chip Electrodeposition-based SERS-active Substrates for the Detection of Environmental Pollutants
Carlos Escobedo (*Queen's University*); *Aldo Gonzalez* (*Queen's University*); *Diego Abad* (*Queen's University*);

00:00 Development of an FDM-TDLAS Sensor for Long-term Online Monitoring of H_2S and CO to Predict Water Wall Corrosion Trends
Invited
Xuanbing Qiu (*Taiyuan University of Science and Technology*); *Xiaohe Xiong* (*Xi'an Jiaotong University*); *Houzhang Tan* (*Xi'an Jiaotong University*); *Christa Fittshen* (*Université de Lille*); *Béla Fiser* (*University of Miskolc*); *Milán Szöri* (*University of Miskolc*); *György Tarczay* (*ELTE Eötvös University*); *Chuanliang Li* (*Taiyuan University of Science and Technology*);

Session 2A9a
Optical Signal Processing in Beyond 5G and 6G

Friday AM, November 7, 2025
Room 9 - 201B
Organized by Tsuyoshi Konishi
Chaired by Tsuyoshi Konishi

8:30 Seismic Intelligence Redefined: Earthquake Early Warning via Distributed Fiber Optic Acoustic Sensing and Multi-sensor Sparse Vector Code Transmission
Sundaresan Sabapathy (*Amrita Vishwa Vidyapeetham*); *Deepika Sasi* (*National Institute of Technology Puducherry*); *Thomas Joseph* (*National Institute of Technology Puducherry*); *Surendar Maruthu* (*National Institute of Technology Puducherry*); *Dushantha Nalin K. Jayakody* (*Lusofona University*);

8:45 Nonlinear Compensation Based on Optical Phase Conjugation and Dispersion-flattened Fibers for PAM4 Transmission
Kota Kurome (*The University of Osaka*); *Kaito Osawa* (*The University of Osaka*); *Daisuke Hisano* (*The University of Osaka*); *Akihiro Maruta* (*The University of Osaka*); *Ken Mishina* (*The University of Osaka*);

9:00 Analysis of Signal Quality and Device Requirements for Interference Detection in Simultaneous Reception of Optical OFDM Signals
Kyogo Kisou (*Waseda University*); *Kazunori Hayashi* (*Kyoto University*); *Tsuyoshi Konishi* (*Waseda University*);

9:15 High-frequency Sampling Pulse Generation Using Frequency Translation Techniques
Koichiro Ohkushi (*Waseda University*); *T. Konishi* (*Waseda University*);

9:30 Experimental Demonstration of Eigenvalue Conversion by Using Delayed Superposition and Time Gating
Tatsuya Inomoto (*The University of Osaka*); *Koujirou Nakagawa* (*The University of Osaka*); *Takuya Morishige* (*The University of Osaka*); *Ken Mishina* (*The University of Osaka*); *Akihiro Maruta* (*The University of Osaka*);

9:45 Wireless Vector Signal Detection Using Optical Phase Modulator and Optical Fiber Dispersion Effect
Yamato Fujikata (*Mie University*); *Mitsuki Masamoto* (*Mie University*); *Naoki Ueda* (*Mie University*); *Yui Otagaki* (*Mie University*); *Hiroshi Murata* (*Mie University*);

10:00 DCO-OFDM-based High-speed Link for In-vehicle Fiber Optic Networks
Ryo Arichi (*Nagoya Institute of Technology*); *Yuki Yoshida* (*National Institute of Information and Communications Technology*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*); *Atsushi Kanno* (*Nagoya Institute of Technology*);

10:30 **Coffee Break**

Session 2A9b
Optical Communication Technologies under Harsh Environment for Automotive and Industrial Applications

Friday AM, November 7, 2025
Room 9 - 201B
Organized by Atsushi Kanno

10:50 A Comparative Study of Optical Camera Communication in Outdoor and Indoor Environments
Parita Tisonthi (*Chulalongkorn University*); *Natthakorn Kasamsumran* (*Chulalongkorn University*); *Panuwat Janpugdee* (*Chulalongkorn University*); *Tetsuya Kawanishi* (*Waseda University*); *Atsushi Kanno* (*Nagoya Institute of Technology*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*);

11:05 High-frequency Signal Monitoring for Beyond 5G Using Optical Measurement Techniques
Shuta Azu (*Waseda University*); *Tomoki Tsuji* (*Osaka University*); *Shizen Nakayama* (*Osaka University*); *Tsuyoshi Konishi* (*Waseda University*);

11:20 EAF and EF-based Performance Evaluation of In-vehicle Multimode Optical Fiber Links under Harsh Vibration Conditions
Ryotaro Yamashita (*Nagoya Institute of Technology*); *Atsushi Kanno* (*Nagoya Institute of Technology*);

11:35 980-nm Low-threshold Quantum Dot Laser for In-vehicle Networks
Kazuki Ota (*DENSO CORPORATION*); *Keisuke Nakamura* (*DENSO CORPORATION*); *Kouichi Akahane* (*National Institute of Information and Communications Technology*); *Atsushi Kanno* (*Nagoya Institute of Technology*);

Session 2A10
Laser and Ion Beam Fabrication of Quantum Technologies

Friday AM, November 7, 2025

Room 10 - 202

Organized by Shane Michael Eaton

8:30 Invited — Formation of NV Center Ensembles in Diamond by Femtosecond Laser Irradiation
Yasuhiko Shimotsuma (*Kyoto University*);

8:50 Invited — Laser Processing of 2D Materials for Integrated Single Photon Sources
Daiki Yamashita (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Masaki Yumoto* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Aiko Narazaki* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Makoto Okano* (*National Institute of Advanced Industrial Science and Technology (AIST)*);

9:10 Invited — Hybrid, Spin-based Quantum Photonics with SiV-center in Nanodiamonds
Alexander Kubanek (*Ulm University*);

9:30 Invited — Bessel Beam Fabrication of Tailored Graphitic Microelectrodes in Diamond for Quantum Sensing Applications
Akhil Kuriakose (*Università dell'Insubria*); *Francesco Paolo Mezzapesa* (*Istituto di Fotonica e Nanotecnologie-CNR*); *Caterina Gaudiuso* (*Istituto di Fotonica e Nanotecnologie-CNR*); *Federico Picollo* (*University of Torino*); *Emilie Bourgeois* (*University of Hasselt*); *Michael Petrov* (*University of Hasselt*); *Milos Nesladek* (*University of Hasselt*); *Ottavia Jedrkiewicz* (*CNR and CNISM UdR Com*);

9:50 Invited — In-situ Observation of Ultrashort Pulsed Laser Writing of Stress Induced Optical Waveguide in Diamond and Quartz
Reina Yoshizaki (*The University of Tokyo*); *Shogo Kitamura* (*The University of Tokyo*); *Yuta Teshima* (*The University of Tokyo*); *Tomohiro Fukui* (*The University of Tokyo*); *Yusuke Ito* (*The University of Tokyo*); *Naohiko Sugita* (*The University of Tokyo*);

10:30 **Coffee Break**

10:50 Invited — Activation of Silicon-based Telecom Luminescent Defects upon Ion Irradiation and Laser Annealing
Greta Andrini (*Istituto Nazionale di Fisica Nucleare (INFN)*); *Gabriele Zanelli* (*Università di Torino*); *Sviatoslav Ditalia Tchernij* (*Istituto Nazionale di Fisica Nucleare (INFN)*); *Emilio Corte* (*Università di Torino*); *Elena Nieto Hernandez* (*Università di Torino*); *Alessio Verna* (*Politecnico di Torino*); *Matteo Cocuzza* (*Politecnico di Torino*); *Ettore Bernardi* (*Istituto Nazionale di Ricerca Metrologica (INRiM)*); *Salvatore Virzì* (*Istituto Nazionale di Ricerca Metrologica (INRiM)*); *Paolo Traina* (*Istituto Nazionale di Ricerca Metrologica (INRiM)*); *Ivo Pietro Degiovanni* (*INRIM*); *Paolo Olivero* (*Istituto Nazionale di Fisica Nucleare (INFN)*); *Marco Genovese* (*Istituto Nazionale di Fisica Nucleare (INFN)*); *Ettore Vittone* (*Università di Torino*); *Jacopo Forneris* (*Istituto Nazionale di Fisica Nucleare (INFN)*);

11:10 Invited — Laser Written Colour Centre Defects in Wide Band Gap Crystals
Patrick Salter (*University of Oxford*);

11:30 — Laser Activation of Tin-vacancy Quantum Emitters in Quantum Grade Diamond
Xingrui Cheng (*University of Oxford*);

11:45 — Small-scale 1.3 μm Single-mode Ultralow-threshold Quantum-dot Laser Based on Bound-states in the Continuum
Danqi Lei (*University College London*); *Jitong Wang* (*University College London*); *Bogdan-Petrin Ratiu* (*Cardiff University*); *Huiwen Deng* (*University College London*); *Xuanchang Zhang* (*University College London*); *Zhao Yan* (*Cardiff University*); *Suguo Huo* (*London Centre for Nanotechnology*); *Siming Chen* (*University College London*); *Qiang Li* (*Cardiff University*); *Huiyun Liu* (*University College London*); *Nicolae-Coriolan Panoiu* (*University College London*); *Mingchu Tang* (*University College London*);

Session 2A11
FocusSession.SC3: Recent Trends in Integrated Photonics 1

Friday AM, November 7, 2025

Room 11 - 203

Organized by Pavel Cheben, Laurent Vivien

8:30 Invited High-performance Building Blocks Based on Subwavelength Nanotechnology for On-chip Sensing

Aitor V. Velasco (*Consejo Superior de Investigaciones Cientificas*); *I. Olivares* (*Instituto de Óptica — CSIC*); *I. Stolic* (*Instituto de Óptica — CSIC*); *R. Fernández De Cabo* (*ICFO*); *D. González-Andrade* (*University of Málaga*); *A. Sánchez-Sánchez* (*University of Málaga*); *Daniele Melati* (*Université Paris-Saclay, CNRS*); *Y. Yang* (*Université Paris-Saclay, CNRS*); *Paula Nuño Ruano* (*Université Paris-Saclay, CNRS*); *R. Prosopio-Galarza* (*Université Paris-Saclay, CNRS*); *Carlos Alonso-Ramos* (*Université Paris-Saclay, CNRS*);

8:50 Invited Electrically Tunable Ferroelectric $NbOBr_2$-integrated Nonlinear Photonics

Xiangxin Gong (*Nanyang Technological University*); *Ruihuan Duan* (*Nanyang Technological University*); *Yuhui Yang* (*Nanyang Technological University*); *Jinpeng Huo* (*Nanyang Technological University*); *Sung-Gyu Lee* (*Nanyang Technological University*); *Shi Guo* (*Nanyang Technological University*); *Xin Guo* (*Nanyang Technological University*); *Jeremy Leong* (*Nanyang Technological University*); *Lalit Singh* (*Nanyang Technological University*); *Wenduo Chen* (*Nanyang Technological University*); *Qi Jie Wang* (*Nanyang Technological University*); *Wonkeun Chang* (*Nanyang Technological University*); *Yue Gong* (*Nanyang Technological University*); *Beng Kang Tay* (*Nanyang Technological University*); *Huijun Liu* (*Peking University*); *Xiaoxu Zhao* (*Peking University*); *Qingyun Wu* (*Singapore University of Technology & Design*); *Lay Kee Ricky Ang* (*Singapore University of Technology and Design*); *Hong Wang* (*Nanyang Technological University*); *Jia Xu Brian Sia* (*Nanyang Technological University*); *Nanxi Li* (*Agency for Science, Technology and Research (A*STAR)*); *Cheng-Wei Qiu* (*National University of Singapore*); *Zheng Liu* (*Nanyang Technological University*); *Sang Hoon Chae* (*Nanyang Technological University*);

9:10 Invited Broadband Wavelength Conversion On-chip Based on Intermodal Four-wave Mixing

Valerio Vitali (*University of Southampton*); *Thalia Dominguez Bucio* (*University of Southampton*); *Hao Liu* (*University of Southampton*); *Anna Pennoni* (*University of Southampton*); *Kyle R. H. Bottrill* (*University of Southampton*); *José Manuel Luque González* (*University Malaga*); *Alejandro Ortega-Moñux* (*Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos*); *Glenn Churchill* (*University of Southampton*); *James C. Gates* (*University of Southampton*); *James Hillier* (*Nottingham Trent University*); *Nikolaos Kalfagiannis* (*Nottingham Trent University*); *Daniele Melati* (*Université Paris-Saclay, CNRS*); *Jens H. Schmid* (*National Research Council*); *Pavel Cheben* (*National Research Council of Canada*); *J. Gonzalo Wangüemert-Pérez* (*Universidad de Malaga*); *"'Iñigo Molina-Fernández* (*Malaga University*); *Frederic Y. Gardes* (*University of Southampton*); *Ilaria Cristiani* (*University of Pavia*); *Periklis Petropoulos* (*University of Southampton*); *Cosimo Lacava* (*University of Pavia*);

9:30 Invited Neuromorphic Recovery of Lossy Data in Chaotic Photonic Systems

Sendy Phang (*University of Nottingham*); *Shurui Wang* (*Information and Communication Technologies, National Research Council Canada*); *Martin Vachon* (*Information and Communication Technologies, National Research Council Canada*); *Peter Bienstman* (*Ghent University*); *Pavel Cheben* (*National Research Council of Canada*);

9:50 Invited Energetic Carriers on Surface Plasmon Waveguides Enhance Electrochemistry

Pierre Berini (*University of Ottawa*);

10:10 Invited Programmable Nanophotonic Devices with Chalcogenide Phase-Change Materials

Fouad Bentata (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*); *Capucine Laprais* (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*); *Stéphane Monfray* (*STMicroelectronics*); *Nicolas Baboux* (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*); *Xavier Letartre* (*Ecole Cent Lyon, LEOM, UMR 5512, CNRS, F-69134 Ecully, France*); *Guillaume Saint-Girons* (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*); *Patrice Genevet* (*Université Côte d'Azur*); *Lotfi Berguiga* (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*); *Sebastien Cueff* (*CNRS, Ecole Centrale de Lyon, INSA Lyon, Universite Claude Bernard Lyon 1*);

10:30 **Coffee Break**

10:50 Keynote A Revolution in High-Q Integrated Photonics

Kerry J. Vahala (*California Institute of Technology*);

11:20 Invited Towards Integration of Efficient Ultrahigh-speed Signal Processing Functionalities Based on Phase-only Lightwave Manipulations
Hao Sun (*Institut National de la Recherche Scientifique — Centre Énergie Matériaux Télécommunications*); *Saket Kaushal* (*Institut National de la Recherche Scientifique — Centre Énergie Matériaux Télécommunications*); *M. Tosi* (*Institut National de la Recherche Scientifique — Centre Énergie Matériaux Télécommunications*); *M. Bustillos* (*Institut National de la Recherche Scientifique — Centre Énergie Matériaux Télécommunications*); *Jose Azana* (*INRS-EMT*);

00:00 Invited Harnessing Kerr and Brillouin Nonlinearities in Silicon Nanophotonic Circuits
Paula Nuño Ruano (*Université Paris-Saclay, CNRS*); *J. Zhang* (*Université Paris-Saclay, CNRS*); *D. González-Andrade* (*Université Paris-Saclay, CNRS*); *H. E. B. Ferhart* (*Université Paris-Saclay, CNRS*); *S. Toxqui-Rodriguez* (*Université Paris-Saclay, CNRS*); *A. Jaramillo-Piñeres* (*Université Paris-Saclay, CNRS*); *T. T. D. Dinh* (*Université Paris-Saclay, CNRS*); *D. Medina-Quiroz* (*Université Paris-Saclay, CNRS*); *S. Edmond* (*Université Paris-Saclay, CNRS*); *Pavel Cheben* (*National Research Council of Canada*); *D. Marris-Morini* (*Université Paris-Saclay, CNRS*); *E. Cassan* (*Université Paris-Saclay, CNRS*); *Laurent Vivien* (*Université Paris-Saclay*); *Norberto Daniel Lanzillotti-Kimura* (*Université Paris Saclay*); *Carlos Alonso-Ramos* (*Universite Paris 11*);

12:00 Invited Ultrahigh Bandwidth Signal Processing and Neuromorphic Computing Based on Integrated Kerr Microcombs
David J. Moss (*Swinburne University of Technology*);

Session 2A13
Advances on Biophotonics II 2

Friday AM, November 7, 2025

Room 13 - 205

Organized by Hao He, Hongbao Xin, Qiu Qiang Zhan

8:50 Invited Methods for Improving Imaging Quality in Single-molecule Localization Microscopy
Donghan Ma (*Dalian University of Technology*);

9:10 Invited Manipulating Light Propagation with Acoustic Waves in Biological Samples
Keiichi Nakagawa (*The University of Tokyo*);

9:30 Invited Tumor Cell Analysis by Machine Learning of the White-light Scattering Spectrum
Yoichiroh Hosokawa (*Nara Institute of Science and Technology*); *Yuka Tsuri* (*Nara Institute of Science and Technology*); *Fuka Takeuchi* (*Kindai University*); *Ryohei Yasukuni* (*Nara Institute of Science and Technology*); *Tomoko Wakasa* (*Kindai University Nara Hospital*); *Mikiya Fujii* (*Nara Institute of Science and Technology*); *Akihiko Ito* (*Kindai University*);

9:50 Invited Advances in Computational Imaging Technologies for Medical Applications
Junfei Shen (*Sichuan University*);

10:10 Invited Ion Resonance Photonics Force Microscopy
Fan Wang (*Beihang University*);

10:30 **Coffee Break**

10:50 Invited Time-deterministic Cryo-optical Microscopy with On-stage Rapid Freezing
Katsumasa Fujita (*Osaka University*);

00:00 Invited Spinning and Rotating of Micropartocles without the Transfer of OAM
Yansheng Liang (*Xi'an Jiaotong University*); *Tianyu Zhao* (*Xi'an Jiaotong University*); *Shaowei Wang* (*Xi'an Jiaotong University*); *Ming Lei* (*Xi'an Jiaotong University*);

00:00 Invited Advanced of Air-coupled Ultrasound Based OCE System in Biological Tissue
Yirui Zhu (*Nanchang Hangkong University*); *He Huang* (*Jiangxi Province Center for Disease Control and Prevention*); *Jiulin Shi* (*Nanchang Hangkong University*); *Xingdao He* (*Nanchang Hangkong University*);

00:00 Invited Nanospectroscopic Monitoring of Enzyme Activity in Single Cells via Reversed Plasmonic Resonance Energy Transfer (rPRET)
Hongbao Xin (*Jinan University*);

00:00 Invited Three-dimensional Highly-nonlinear Super-resolution Microscopy
Binxiong Pan (*South China Normal University*); *Baoju Wang* (*South China Normal University*); *Qiu Qiang Zhan* (*South China Normal University*);

Session 2A14
III-nitride Materials and Relevant Devices Including UV LEDs and LDs 1

Friday AM, November 7, 2025

Room 14 - 301A

Organized by Muhammad Ajmal Khan, Muhammad Nawaz Sharif

Chaired by Muhammad Nawaz Sharif

8:30 Advanced Tri-layer Ni/Al/Au p-contact Scheme for 292 nm AlGaN UVB LEDs: Simultaneous Enhancement of Reflectivity and Conductivity
Hamida Zia (*RIKEN Cluster for Pioneering Research (CPR)*); *Amina Yasin* (*RIKEN Pioneering Research Institute (PRI)*); *Kohei Fujimoto* (*RIKEN*); *Muhammad Nawaz Sharif* (*RIKEN Pioneering Research Institute (PRI)*); *Hiroyuki Yaguchi* (*Saitama University*); *Muhammad Ajmal Khan* (*RIKEN*); *Hideki Hirayama* (*RIKEN Cluster for Pioneering Research (CPR)*);

8:45 Realizing 229 nm LED Growth on High-quality AlN/Sapphire Template via Novel Aluminiumization
Amina Yasin (*RIKEN Pioneering Research Institute (PRI)*); *Muhammad Nawaz Sharif* (*RIKEN Pioneering Research Institute (PRI)*); *Yuya Nagata* (*RIKEN*); *Muhammad Ajmal Khan* (*RIKEN*); *Hideki Hirayama* (*RIKEN Cluster for Pioneering Research (CPR)*);

9:00 Invited Annealing Behaviors of Vacancy-type Defects in GaN and AlN Studied by Positron Annihilation Spectroscopy
Akira Uedono (*University of Tsukuba*); *Kohei Shima* (*Tohoku University*); *Shigefusa F. Chichibu* (*Tohoku University*); *Shoji Ishibashi* (*University of Tsukuba*);

9:20 Invited Advanced Nanoscale Characterization of Carrier Capture into the Active Region of UVB/UVC LEDs
Frank Bertram (*Otto-von-Guericke-University Magdeburg*); *Gordon Schmidt* (*Otto-von-Guericke-University Magdeburg*); *Jürgen Christen* (*Otto-von-Guericke-University Magdeburg*);

9:40 Invited Toward High Injection Efficiency in AlGaN UV-B LDs: Insights from Band Engineering and STEM Analysis
Motoaki Iwaya (*Meijo University*); *Takumu Saito* (*Meijo University*); *Rintaro Miyake* (*Meijo University*); *Sho Iwayama* (*Meijo University*); *Tetsuya Takeuchi* (*Meijo University*); *Satoshi Kamiyama* (*Meijo University*); *Hideto Miyake* (*Mie University*);

10:00 Epitaxial Growth of AlGaN-based UV-B Laser Diodes
Takumu Saito (*Meijo University*); *Rintaro Miyake* (*Meijo University*); *Shundai Maruyama* (*Meijo University*); *Yusuke Sasaki* (*Meijo University*); *Shogo Karino* (*Meijo University*); *Seiya Kato* (*Meijo University*); *Naoki Kitta* (*Meijo University*); *Ryota Watanabe* (*Meijo University*); *Yuma Miyamoto* (*Meijo University*); *Shion Kamiya* (*Meijo University*); *Sho Iwayama* (*Meijo University*); *Hideto Miyake* (*Mie University*); *Satoshi Kamiyama* (*Meijo University*); *Tetsuya Takeuchi* (*Meijo University*); *Motoaki Iwaya* (*Meijo University*);

10:15 Development of Water-assisted Substrate Exfoliation Method and Vertical UV-B Laser Diodes
Eri Matsubara (*Meijo University*); *Yusuke Sasaki* (*Meijo University*); *Sho Iwayama* (*Meijo University*); *Motoaki Iwaya* (*Meijo University*); *Tetsuya Takeuchi* (*Meijo University*); *Satoshi Kamiyama* (*Meijo University*); *Hideto Miyake* (*Mie University*);

10:30 **Coffee Break**

10:50 Far-UVC LED Modules Driving Environmental Photonic Services for HAIs Reduction
Pablo Fredes (*Hydraluvx Spa*); *Muhammad Ajmal Khan* (*RIKEN*); *U. Raff* (*Hydraluvx Spa*); *E. Gramsch* (*Universidad de Santiago*); *Javier Gonzales* (*Universidad de Santiago*); *C. Rios* (*Hydraluvx Spa*); *C. Sosa* (*Universidad Nacional de Tucumán*); *E. Manzano* (*Universidad Nacional de Tucumán*); *Hideki Hirayama* (*RIKEN Cluster for Pioneering Research (CPR)*);

11:05 Simulation Models for Digital Twin (DT) Development Optimizing Thermal Management and Surface Irradiance in Far-UVC LED Modules
Pablo Fredes (*Hydraluvx Spa*); *Muhammad Ajmal Khan* (*RIKEN*); *U. Raff* (*Hydraluvx Spa*); *Javier Gonzales* (*Universidad de Santiago*); *A. Aedo* (*Universidad de Santiago*); *E. Gramsch* (*Universidad de Santiago*); *J. Pascal* (*Universidad de Santiago*); *Hideki Hirayama* (*RIKEN Cluster for Pioneering Research (CPR)*);

11:20 Invited Direct Observation of Nanoscopic Lattice Distortion and Composition Inhomogeneity in AlGaN Multiple-quantum Wells
Chia-Yen Huang (*National Yang Ming Chiao Tung University*); *Ying-Chun Chao* (*National Taiwan University*); *Hung-Wei Yen* (*National Taiwan University*);

11:40 Metalens Collimator Mosaic Partition on the Backside of Micro-light-emitting Diodes for Ultra-compact Display
Li-Sheng Hu (*National Yang Ming Chiao Tung University*); *Po-Young Chang* (*National Yang Ming Chiao Tung University*); *Yu-Chi Lee* (*National Yang Ming Chiao Tung University*); *Yu-Min Chang* (*National Yang Ming Chiao Tung University*); *Chia-Yen Huang* (*National Yang Ming Chiao Tung University*);

11:55 Invited Monolayer GaN Quantum Wells for Far-UVC Emitters
Mitsuru Funato (*Kyoto University*); *Yoichi Kawakami* (*Kyoto University*);

12:15 Toward Mercury-free UVB Light Sources: Advanced III-Nitride UVB LEDs with Enhanced Carrier Dynamics
Muhammad Nawaz Sharif (*RIKEN Pioneering Research Institute (PRI)*); *Hafeez Ur Rahaman* (*Zhengzhou University*); *Fang Wang* (*Zhengzhou University*); *Yuhuai Liu* (*Zhengzhou University*); *Muhammad Ajmal Khan* (*RIKEN*); *Hideki Hirayama* (*RIKEN Cluster for Pioneering Research (CPR)*);

Session 2A15
Advances in OLED Materials and Device Technologies

Friday AM, November 7, 2025

Room 15 - 301B

Organized by Yun-Hi Kim

Chaired by Yun-Hi Kim

8:30 Eco-friendly Technology for High-efficiency OLEDs and Optoelectronic Devices
Baeksang Sung (*Hanbat National University*); *Sora Han* (*Hanbat National University*); *Jooho Lee* (*Hanbat National University*); *Hyunjun Jang* (*Hanbat National University*); *Hyerin Kang* (*Hanbat National University*); *Seoyeon Kim* (*Hanbat National University*); *Sohee Jang* (*Hanbat National University*); *Jaehyun Lee* (*Hanbat National University*); *Yong Hyun Kim* (*Pukyong National University*); *Jonghee Lee* (*Hanbat National University*);

8:45 Transient Electroluminescent Behaviors in OLEDs
Jeong-Hwan Lee (*Inha University*);

9:00 Design Strategy for High Efficient and Color Pure Emitters
Yun-Hi Kim (*Gyeongsang National University*);

9:15 Highly Luminescent Aluminum Complexes with β-diketone Ligands Exhibiting TADF for High-performance Solution-processed OLEDs
Hisahiro Sasabe (*Yamagata University*); *Yudai Chiba* (*Yamagata University*); *Genki Yamada* (*Yamagata University*); *Keigo Hoshi* (*Yamagata University*); *Misaki Matsuya* (*Yamagata University*); *Kohei Nakao* (*Yamagata University*); *Junji Kido* (*Yamagata University*);

9:30 High-efficiency and Long-lifetime Blue OLEDs Enabled by MR-TADF Hosts with Heteroatoms and Accelerated Dexter Energy Transfer
Sangwook Park (*Kyung Hee University*); *Saeyoung Oh* (*Kyung Hee University*); *Youna Song* (*Kyung Hee University*); *Taekyung Kim* (*Kyung Hee University*); *Jongwook Park* (*Kyung Hee University*);

9:45 Key Factor of Sensitizer for Phosphor Sensitized Fluorescence Organic Light-emitting Diodes
Dong Jin Shin (*Sungkyunkwan University*); *Junseop Lim* (*Sungkyunkwan University*); *Jae-Min Kim* (*Chung-Ang University*); *Jun Yeob Lee* (*Sungkyunkwan University*);

10:30 **Coffee Break**

10:50 Inverted Singlet and Triplet Materials for Organic Light-emitting Diodes
Naoya Aizawa (*The University of Osaka*);

11:05 Recent Advances in Boron-based Multi-resonance Thermally Activated Delayed Fluorescence Materials
Takuji Hatakeyama (*Kyoto University*);

11:20 Spontaneous Orientation Polarization for Tuning Charge Injection at Organic Heterointerfaces in OLEDs
Masaki Tanaka (*Tokyo University of Agriculture and Technology*);

11:35 Spectroscopy of Polaritons in Organic Fabry-Perot Cavities
Sophie Fasquel (*University of Bordeaux*);

11:50 Advancements in Green Phosphor-sensitized Fluorescence OLED Technology
Odugu Pavan Kumar (*Kyung Hee University*); *Nisha Vergineya S* (*Kyung Hee University*); *Jang Hyuk Kwon* (*Kyung Hee University*);

Session 2A16
Nanophotonics with Quantum Emitters

Friday AM, November 7, 2025

Room 16 - 302

Organized by Jianwei Tang

Chaired by Jianwei Tang

8:30 Invited Squeezed Light and Coherent Bistability in Single-mode Quantum Dot Lasers
G. D'Alessandro (*University of Southampton*); *G. L. Lippi* (*Université Côte d'Azur*); *G. L. Oppo* (*University of Strathclyde*); *Francesco Papoff* (*University of Strathclyde*);

8:50 Invited Towards Quantum Matter Assembly with Neutral Atoms on Nanophotonic Structure
Xingsheng Luan (*Shanxi University*);

9:10 Invited Interfacing Single Quantum Emitters with Fiber-guided Photons
Kali Prasanna Nayak (*University of Electro-Communications*);

9:30 Invited Nanophotonic Interfaces for Integrated Quantum Technologies
Hamidreza Siampour (*Queen's University Belfast*);

9:50 Invited Methods for Polarization Control of Room Temperature Quantum Emitters
Mark Sadgrove (*Tokyo University of Science*);

10:10 Invited Quantum Metasurfaces for Advanced Photon Sources
Fei Ding (*Eastern Institute of Technology*);

10:30 **Coffee Break**

10:50 Invited Dynamical Control of Tip-induced Light-matter Interactions at the Nanoscale
Kyoung-Duck Park (*Pohang University of Science and Technology*);

11:10 Invited Photon Wavepacket Shaping through Passive Micro-nano Structures and Applications
Zhaohua Tian (*Peking University*); *Qi Liu* (*Peking University*); *Yu Tian* (*Peking University*); *Ying Gu* (*Peking University*);

11:30 Invited InGaN Platelets for Use as Sub-micron Sized Light-emitting-diodes Studied by Hyperspectral Cathodoluminescence Imaging
Anders Gustafsson (*Lund University*); *Hira Usman* (*Southern University of Science and Technology*); *Zhaoxia Bi* (*Hexagem AB, Ole Römers väg 1H*); *Lars Samuelson* (*Southern University of Science and Applications*);

11:50 Invited Tunable High-Q Photonic Crystal Cavities for Nanophotonic Integration of Quantum Emitters
T. Buskasper (*University of Münster*); *D. Lemli* (*University of Münster*); *M. B. Malik* (*University of Münster*); *Carsten Schuck* (*University of Münster*);

Session 2A17
Short-Oral Presentations for Best Student Presentation Awards Competition - Part 3

Friday AM, November 7, 2025

Room 17 - 303

8:30 (1) Compact TE_{01}-TE_{02} Mode Converter Based on Metasurface
Di Guo (*Southeast University*); *Quansheng Zhang* (*Southeast University*); *Changsheng Shen* (*Southeast University*); *Ningfeng Bai* (*Southeast University*);

8:33 (2) Anisotropic Effective Medium Model for Simulating Plasmon Coupling of Gold Nanorods and Dyes
Stefania Glukhova (*Victoria University of Wellington*); *Baptiste Auguié* (*The MacDiarmid Institute for Advanced Materials and Nanotechnology*); *Eric Claude Le Ru* (*The MacDiarmid Institute for Advanced Materials and Nanotechnology*);

8:36 (3) A Graph Neural Network Based Implicitly Restarted Arnoldi Method for Characteristic Mode Analysis of PEC Objects
Di Wu (*Beihang University*); *Tao Shan* (*Beihang University*); *Qi Wu* (*Beihang University*);

8:39 (4) Improvement of Convergence of Electromagnetic Analysis Codes for Higher Frequencies and Larger Problems Based on Direct Sparse Solver
Kento Ohnaka (*University of Miyazaki*); *Sota Goto* (*The University of Tokyo*); *Masao Ogino* (*Daido University*); *Amane Takei* (*University of Miyazaki*);

8:42 (5) Strong Coupling between Magnons and a Topological Defect Mode
Wenxin Wu (*Zhejiang University*); *Jie Qian* (*East China Normal University*); *Qi Hong* (*Zhejiang University*); *Yuan-Peng Peng* (*Zhejiang University*); *Jinwei Rao* (*Shandong University*); *Yi-Pu Wang* (*Zhejiang University*);

8:45 (6) Significant Non-reciprocal Transmission Achieved by Combining Nonlinear Near-zero Index Materials with Bound States in the Continuum
Dayu Bi (*Tongji University*); *Zhiwei Guo* (*Tongji University*); *Qiang Wang* (*Nanjing University*); *Qian Wei* (*Tongji University*); *Jiaju Wu* (*Tongji University*); *Yong Sun* (*Tongji University*); *Yuguang Chen* (*Tongji University*); *Yaping Yang* (*Tongji University*); *Haitao Jiang* (*Tongji University*); *Hong Chen* (*Tongji University*);

8:48 (7) Visible Light Metalens Using Liquid Crystal
Quansheng Zhang (*Southeast University*); *Di Guo* (*Southeast University*); *Changsheng Shen* (*Southeast University*); *Ningfeng Bai* (*Southeast University*);

8:51 (8) Long-wavelength Cutoff Characteristics in Deep Ultraviolet Region of AlGaN-based LED with Lossy/Transparent Bilayer Subwavelength Grating
Yua Okano (*Tokushima University*); *Yuusuke Takashima* (*Tokushima University*); *Masanobu Haraguchi* (*Tokushima University*); *Yoshiki Naoi* (*Tokushima University*);

8:54 (9) Two-step Optimization for the Design of an Ultrathin Metasurface Microwave Absorber
Hyeonjin Park (*Korea Advanced Institute of Science and Technology (KAIST)*); *Jonghwa Shin* (*Korea Advanced Institute of Science and Technology (KAIST)*);

8:57 (10) Quantized Decay Charges in Non-Hermitian Networks Characterized by Directed Graphs
Wenwen Liu (*The University of Hong Kong*); *Junyao Wu* (*Zhejiang University*); *Li Zhang* (*The University of Hong Kong*); *Oubo You* (*The University of Hong Kong*); *Ye Tian* (*The University of Hong Kong*); *Wenan Zang* (*The University of Hong Kong*); *Hongsheng Chen* (*Zhejiang University*); *Bumki Min* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Yihao Yang* (*Zhejiang University*); *Shuang Zhang* (*The University of Hong Kong*);

9:00 (11) Flexible On-chip Polarization and Mode Demultiplexing Based on Multimode Backward Mode Conversion Gratings
Lei Zhang (*Southeast University*); *Shengbao Wu* (*Hebei University*); *Jiao Zhang* (*Purple Mountain Laboratories*); *Min Zhu* (*Purple Mountain Laboratories*); *Jinbiao Xiao* (*Southeast University*);

9:03 (12) Simulation-based Optimization of Quantum Well Structures for Detecting Coherent Intersubband Polaron in Charge-sensitive Infrared Phototransistors
Shogo Kaneko (*Tokyo University of Agriculture and Technology*); *S. Nakai* (*Tokyo University of Agriculture and Technology*); *Susumu Komiyama* (*The University of Tokyo*); *Hiroaki Yasuda* (*National Institute of Information and Communications Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*); *Iwao Hosako* (*National Institute of Information and Communications Technology*); *Kenji Ikushima* (*Tokyo University of Agriculture and Technology*);

9:06 (13) Effect of Hydration Medium on Characterization of Biomechanical Properties of Isolated Corneas
Yidi Wang (*Beihang University*); *Xingdao He* (*Nanchang Hangkong University*);

9:09 (14) Comparative Study of Optical Properties Evaluation Using Machine Learning
Hiromichi Nozaki (*Hokkaido University*); *Hiroyuki Fujii* (*Hokkaido University*); *Kazumichi Kobayashi* (*Hokkaido University*); *Masao Watanabe* (*Hokkaido University*);

9:12 (15) Full-stokes Spectro-polarimetric Camera with Full Spatial Resolution
Xuehui Wang (*Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences*); *Junren Wen* (*Hangzhou Institute for Advanced Study, University of Chinese Academy of Scieences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

9:15 (16) Selective Excitation in Dual-photonic Crystal Microcavity
Li Liang (*Nanjing University*); *Chengpeng Liang* (*Nanjing University*); *Jie Liu* (*Nanjing University*); *Yin Poo* (*Nanjing University*);

9:18 (17) Proximity-field Nanopatterning for IR Structural Color Printing
Yun Hyeong (*Korea Advanced Institute of Science and Technology (KAIST)*); *Junhyung Park* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Hwanseok Chang* (*Korea University*); *Seokwoo Jeon* (*Korea University*); *Jonghwa Shin* (*Korea Advanced Institute of Science and Technology (KAIST)*);

9:21 (18) Helical-caging Enables Single-emitted Large Asymmetric Full-color Circularly Polarized Luminescence
Yajie Zhou (*University of Science and Technology of China*); *Taotao Zhuang* (*University of Science and Technology of China*);

9:24 (19) A High-speed Photodetector with an Ultra-wide Linear Dynamic Range for Machine Vision
Yiyun Zhang (*Zhejiang University*); *Bingtao Gao* (*Zhejiang University*); *Shilong Li* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*);

9:27 (20) A 640P Dual-mode Perovskite Retinomorphic Flat-panel Image Sensor
Hongxiao Duan (*Shanghai Jiao Tong University*); *Gang Liu* (*Shanghai Jiao Tong University*);

9:30 (21) Label-free Resonance Raman Imaging Reveals Magnesium Microsphere Therapy Attenuates Oxidative Damage in Knee Osteoarthritic Rats
Xiaer Zou (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

9:33 (22) LLM Agents with Conditional Variational Autoencoders and Equivalent Circuit Models for Automatic Inverse Design
Jiajun Shen (*ZheJiang University*); *Jian Fa Liu* (*ZheJiang University*); *Chang Hao Qu* (*ZheJiang University*); *Zhun Wei* (*Zhejiang University*);

9:36 (23) Scratch-resistant Color Filters for Near-infrared Laser Applications
Haidong He (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

9:39 (24) Human Proximity Detection and Power Control Based on Antenna Sensing for EMF Touch Compliance of Indoor Base Stations
Wenfu Fu (*KTH Royal Institute of Technology*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

9:42 (25) A Compact MIMO Antenna with Enhanced Isolation and Efficiency for Sub-6 GHz 5G Applications
Shakeel Ahmad (*Tongji University*); *Akhtar Khan* (*Tongji University*); *Sohail Khan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

9:45 (26) A Flat Dual Polarized Multibeam Lens Antenna with Planar Feed Surface for Vehicle Radar Applications
Chunling Qi (*City University of Hong Kong*); *Kwai Man Luk* (*City University of Hong Kong*);

9:48 (27) Feature-based Inversion Using Generative Priors of Electrical Measurements for Geophysical Surveys
Hongyu Zhou (*Tsinghua University*); *Rui Guo* (*Tsinghua University*); *Haoran Sun* (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*);

9:51 (28) Multi-band SAR and LiDAR-aided Forest Height Estimation with Regional Adaptability Validation
Yaxuan Xing (*Fudan University*); *Hong Yang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yue Sun* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Wen Jiang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Feng Wang* (*Fudan University*); *Feng Xu* (*Fudan University*);

9:54 (29) UNet-based End-to-end Anomaly Detection with Computational Hyperspectral Imaging
Weiming Shi (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

9:57 (30) Deep Learning-assisted 2D Microwave Confocal Imaging
Tianyi Xie (*Beihang University*); *Di Wu* (*Beihang University*); *Chong Wang* (*Beihang University*); *Tao Shan* (*Beihang University*); *Donglin Su* (*Beihang University*);

10:00 (31) Programmable Non-Gaussian Quantum Light Source with State and Temporal-waveform Tunability
Hiroko Tomoda (*The University of Tokyo*); *Y. Nishizawa* (*The University of Tokyo*); *A. Machinaga* (*The University of Tokyo*); *Takahiro Kashiwazaki* (*NTT Device Technology Labs*); *T. Umeki* (*NTT Device Technology Labs*); *Shigehito Miki* (*National Institute of Information and Communications Technology*); *Masahiro Yabuno* (*National Institute of Information and Communications Technology*); *Hirotaka Terai* (*National Institute of Information and Communications Technology*); *D. Okuno* (*The University of Tokyo*); *Shuntaro Takeda* (*The University of Tokyo*);

10:03 (32) High-Q Microcavity Laser Design: Hybrid Approach Couple FDTD Simulations with Neural Network Modeling
Ruichen Zhu (*Tongji University*); *Zisang Zhang* (*Tongji University*); *Jiahao Dong* (*Tongji University*); *Haoyun Jiang* (*Tongji University*); *Shiqi Wang* (*Tongji University*); *Zhan Xiao* (*Tongji University*); *Pengyan Wen* (*Tongji University*);

10:06 (33) An Electromagnetic Study of Grounded Isolation Trenches at Critical Positions in GaN-on-Si Technology for Integrated Power Electronics
Rui (Ray) Yao (*Xi'an Jiaotong-Liverpool University*); *Zijin Jiang* (*University of Bristol*); *Miao Cui* (*Xi'an Jiaotong-Liverpool University*); *Zhao Wang* (*Xi'an Jiaotong-Liverpool University*); *Sang Lam* (*Xi'an Jiaotong-Liverpool University*); *Stephen Taylor* (*The University of Liverpool*);

10:09 (34) Time-optimal Quantum State Transfer in Long Qubit Chains
Kseniia S. Chernova (*ITMO University*); *A. A. Stepanenko* (*ITMO University*); *M. A. Gorlach* (*ITMO University*);

10:12 (35) Revealing Dual Axion Responses in Metamaterials with Localized Sources
Eduardo Barredo-Alamilla (*ITMO University*); *Daniel A. Bobylev* (*ITMO University*); *Timur Z. Seidov* (*ITMO University*); *Maxim Mazanov* (*ITMO University*); *Leon Shaposhnikov* (*ITMO University*); *Maxim A. Gorlach* (*ITMO University*);

00:00 Demonstration of Returning Thouless Pump in a Berry Dipole System
Qingyang Mo (*University of Hong Kong*); *Shanjun Liang* (*Hong Kong Polytechnic University*); *Xiangke Lan* (*Hong Kong Polytechnic University*); *Jie Zhu* (*Hong Kong Polytechnic University*); *Shuang Zhang* (*The University of Hong Kong*);

00:00 Impedance Matching Refinement of Nitrogen-doped $Ti_3C_2T_x$ for Augmenting Microwave Absorption Efficiency
Huying Yan (*University of Electronic Science and Technology of China*); *Jiawei Qi* (*University of Electronic Science and Technology of China*); *Xingzhi Bai* (*University of Electronic Science and Technology of China*); *Haipeng Lu* (*University of Electronic Science and Technology of China*);

00:00 Arbitrary Free-Spectral-Range (FSR) Control of Optical Frequency Combs with Four-wave Mixing Time Lens
He Huang (*Huazhong University of Science and Technology*); *Chengzhi Qin* (*Huazhong University of Science and Technology*); *Bing Wang* (*Huazhong University of Science and Technology*);

00:00 Design of a FPGA-accelerated Wireless Transmission System for Voice Signals
Yongtu Hao (*Guangdong Technical Normal University*); *Shuohong Lin* (*Guangdong Technical Normal University*); *Jiaxin Liu* (*Guangdong Technical Normal University*); *Zixuan Liu* (*South China Normal University*); *Rihui Li* (*Guangdong Technical Normal University*); *Hui Liu* (*Guangdong Polytechnical Normal University*);

00:00 ML-driven Optimization for Quantum-classical Communication in Wireless Networks
Prerna Chaudhary (*Indian Institute of Technology (IIT) Delhi*); *Nikita Kumari* (*Indian Institute of Technology (IIT) Delhi*); *B. R. Manoj* (*Indian Institute of Technology (IIT) Guwahati*); *Manav R. Bhatnagar* (*Indian Institute of Technology (IIT) Delhi*);

Session 2A18
Metasurfaces and Metagratings beyond Conventional Optics 2

Friday AM, November 7, 2025

Room 18 - 304

Organized by Hongchen Chu, Yun Lai

Chaired by Hongchen Chu, Yun Lai

8:30 Invited On Janus Dipoles and Antennas
Alex M. H. Wong (*City University of Hong Kong*); *Bo Xue* (*City University of Hong Kong*); *Kayode Adedotun Oyesina* (*City University of Hong Kong*);

8:50 Invited Local Phase Modulation for Spin Light and Imaging Applications
Chen Chen (*Nanjing University*);

9:10 Invited Surface Wave-excited Metasurfaces for Efficient Vector Optical Field Manipulation
Zhuo Wang (*Fudan University*);

9:30 Critical Polarization Suppression in the Near-field Interference of Moving Huygens-like Dipoles
Xuhuinan Chen (*Zhejiang University*); *Xiao Lin* (*Zhejiang University*);

9:45 Generation of Acoustic Vortices in Arbitrary Space via Asymmetric Orbital-angular-momentum Transition
Xiao Li (*Nanjing University of Aeronautics and Astronautics*); *Youwen Liu* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*);

10:00 Invited Unveiling Spin-orbital Angular Momentum Locking in Photonic Dirac Vortex Cavities
Haitao Li (*The Hong Kong University of Science and Technology (Guangzhou)*); *Jian-Hua Jiang* (*Soochow University*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

10:30 **Coffee Break**

10:50 Invited Multifunctional Waveguide Tunnelling via Leaky Modes
Chuanjie Hu (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*); *Huanyang Chen* (*Xiamen University*);

11:10 Flexible Metasurface with Reconfigurable Intrinsic Chirality from Zero to Near-unity
Yiyi Yao (*The Hong Kong University of Science and Technology (Guangzhou)*); *Haitao Li* (*The Hong Kong University of Science and Technology (Guangzhou)*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

11:25 EFISH Enhancement by Band Folding Bound States in Continuum in Silicon Metagrating
Hangkai Fan (*Qingdao Harbin Engineering University*); *Qianhui Bi* (*Nanjing University*); *Shu-Ming Wang* (*Nanjing University*); *Mingzhao Song* (*Harbin Engineering University*); *Yuri S. Kivshar* (*Australian National University*); *Andrey A. Bogdanov* (*Harbin Engineering University*);

11:40 Generalized Parity-reversed Diffraction in Optical Phase Gradient Metasurfaces
Mengru Jiang (*Soochow University*); *Cong Wang* (*Soochow University*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*); *Yadong Xu* (*Soochow University*);

11:55 Inversely-designed 3D-printed Intelligent Panels for 6G Communications
Mohammad M. Asgari (*Aalto University*); *Peter B. Catrysse* (*Stanford University*); *Haiwen Wang* (*Stanford University*); *Shanhui Fan* (*Stanford University*); *Viktar S. Asadchy* (*Aalto University*);

12:10 Reconfigurable Multifunctional Acoustic Metagratings Enabled by Local Phase Harnessing
Yu Chen (*Soochow University*); *Yadong Xu* (*Soochow University*);

Session 2A19a
Poster Session for Best Student Presentation Awards Competition - Part 3

Friday AM, November 7, 2025

Poster Area

Session 2A19b
Poster Session 1

Friday AM, November 7, 2025

9:00 AM - 12:00 AM

Poster Area

41 A Radio-frequency CMOS Low-power LC-VCO Integrated with On-chip Low Dropout Regulator and Bandgap Reference without Utilizing External Capacitor
Yicong Li (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*);

42 Near Terahertz Closely-packed Channel Crosstalk Attenuation Enabled by Field Confined Microstrip Line for Silicon-based Data Link
Zeheng Wang (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Guangqiang Liu* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*);

43 Design and Implementation of a Multi-precision Processing Element
Jie Han (*Tongji University*); *Ling Chen Xu* (*Tongji University*); *Ya Ming Xie* (*Tongji University*);

44 An Array of Interstitial Applicators for Treating Deep-seated Tumours
Michaela Nečasová (*Czech Technical University in Prague*); *Jan Vrba* (*Czech Technical University in Prague*); *Filip Zajan* (*Czech Technical University in Prague*); *Kateřina Pavelková* (*Czech Technical University in Prague*); *Martin Nečas* (*Czech Technical University in Prague*);

45 Optical Pitch Transformer Chiplet: Enhancing Packaging Beachfront Density
How Yuan Hwang (*Tyndall National Institute*); *Xiuyun He* (*Tyndall National Institute*); *Peter O'Brien* (*Tyndall National Institute*);

46 Observation of Bragg solitons in Wafer-scale Silicon Grating Devices
Ju Won Choi (*Singapore University of Technology and Design*); *Kenny Y. K. Ong* (*Singapore University of Technology and Design*); *G. Y. N. Chee* (*Methodist Girls' School*); *Masaki Kato* (*Marvell Asia Pte. Ltd.*); *Radhakrishnan Nagarajan* (*Marvell Asia Pte. Ltd.*); *Dawn T. H. Tan* (*Singapore University of Technology and Design*);

47 Wafer-scale Silicon-on-insulator Devices for Integrated Temporal Pulse Compression
Kenny Y. K. Ong (*Singapore University of Technology and Design*); *Ju Won Choi* (*Singapore University of Technology and Design*); *N. Y. Y. Chee* (*Methodist Girls' School*); *Masaki Kato* (*Marvell Asia Pte. Ltd.*); *Radhakrishnan Nagarajan* (*Marvell Asia Pte. Ltd.*); *Dawn T. H. Tan* (*Singapore University of Technology and Design*);

48 Design of an Ultra-low Profile Dual-band Wide-beam Quadrifilar Helix Antenna for UAV GNSS Applications
Youjie Zeng (*Dalian Maritime University*); *Hongmei Liu* (*Dalian Maritime University*); *Junhao Ren* (*Dalian Maritime University*); *Josaphat Tetuko Sri Sumantyo* (*Chiba University*); *Yan Zhang* (*Dalian Maritime University*);

49 Valley-polarized Landau Polaritons in a 2D Semiconductor Microcavity
Xinyue Zhang (*Xiamen University*);

50 Van der Waals Exciton-polaritons at Near Infrared Wavelength
Liu Yan (*Xiamen University*);

00:00 Radiation of a Charged Particle Crossing a Cylindrical Resonator with a Multilayer Wall
Mikayel Ivanyan (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Bagrat Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Armen Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Lusine Aslyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Klaus Floettmann* (*Deutsches Elektronen-Synchrotron DESY*); *Francois Lemery* (*Deutsches Elektronen-Synchrotron DESY*); *Vardan Avagyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*);

00:00 Scalable Architecture for Dark Photon Searches: Superconducting-qubit Proof of Principle
Runqi Kang (*University of Science and Technology of China*); *Qingqin Hu* (*University of Science and Technology of China*); *Xiao Cai* (*Gusu Laboratory of Materials*); *Wenlong Yu* (*Gusu Laboratory of Materials*); *Jingwei Zhou* (*University of Science and Technology of China*); *Xing Rong* (*University of Science and Technology of China*); *Jiangfeng Du* (*University of Science and Technology of China*);

00:00 Research of the Piezomagnetic Coefficient in Layered Composite Magnetoelectric Materials
Viktor A. Kiselev (*Yaroslav-the-Wise Novgorod State University*); *Alena R. Petrova* (*Novgorod State University*); *Vasilii A. Misilin* (*Yaroslav-the-Wise Novgorod State University*); *Roman V. Petrov* (*Novgorod State University*);

00:00 Inherent Voltage Responses in Circuit Metamaterials
Haydar Sahin (*National University of Singapore*); *Zhuo Bin Siu* (*National University of Singapore*); *Ching Hua Lee* (*National University of Singapore*); *Mansoor B. A. Jalil* (*National University of Singapore*);

00:00 Engineering of Zeno Dynamics in Integrated Photonics
Quancheng Liu (*Shandong University*); *Weijie Liu* (*Shandong University*); *Klaus Ziegler* (*Universität Augsburg*); *Feng Chen* (*Shandong University*);

00:00 High-efficiency GaN-based μLEDs Enabled by Graphene-connected Nanorods and Ag/SiO_2 Nanoparticles
Aoqi Fang (*Beijing University of Technology*); *Weiling Guo* (*Beijing University of Technology*); *Rongjing Wang* (*Beijing University of Technology*); *Hao Xu* (*Beijing University of Technology*); *Penghao Tang* (*Beijing University of Technology*); *Baolu Guan* (*Beijing University of Technology*); *Jie Sun* (*Fuzhou University*);

00:00 Design and Performance Analysis of a Fiber-based Ring Resonator for Telecommunication Applications
Dilan Enrique Ortiz Blanco (*Riga Technical University*); *Janis Alnis* (*University of Latvia*); *Janis Braunfelds* (*Riga Technical University*); *Ints Murans* (*Riga Technical University*); *Ricards Kudojars* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*);

00:00 Delay Line Based Neuromorphic Computing
Nikita S. Maximov (*National Research University "Moscow Power Engineering Institute"*); *Ansar Rizaevich Safin* (*National Research University "Moscow Power Engineering Institute"*); *Dobroslav Pavlovich Egorov* (*Kotel'nikov Institute of Radio Engineering and Electronics of RAS*);

00:00 Circularly Polarized Antenna Design for 5G Millimeter-wave Applications
Hsuan-Han Huang (*Feng Chia University*); *Tsung-Han Chan* (*Feng Chia University*); *Bo-Hsun Huang* (*Feng Chia University*); *Ting-Yi Huang* (*Feng Chia University*);

00:00 Doppler Resilient Dual-function Radar Communication (DFRC) Waveform Design
Yaping He (*National University of Defense Technology*); *Longfei Shi* (*National University of Defense Technology*); *Fulai Wang* (*National University of Defense Technology*);

00:00 Real-time Defogging Algorithm Implementation for Camera Monitor System Based on ZYNQ
Ling Chen Xu (*Tongji University*); *Le Le Han* (*Shanghai Institute of Technology*); *Qi Lin Yang* (*Shanghai Institute of Technology*); *Guo Chun Wan* (*Tongji University*);

00:00 Meta-sensor Based on Plasmonic-induced Transparency and Its Enhanced Sensing Capabilities
Zemeng Lin (*University of Hong Kong*); *Ruixuan Zheng* (*University of Hong Kong*); *Xiong Wang* (*University of Hong Kong*); *Shuang Zhang* (*The University of Hong Kong*);

00:00 Stacking Order Dependence of Interlayer Excitons in $MoSe_2/WSe_2$ Heterobilayers
Jinyang Lou (*Xiamen University*); *Zheng Lv* (*Xiamen University*); *Haochen Wang* (*Xiamen University*); *Song Luo* (*Xiamen University*); *Liu Yan* (*Xiamen University*); *Xinyue Zhang* (*Xiamen University*); *Guoxing Lv* (*Xiamen University*); *Yuning Zhang* (*Xiamen University*); *Hang Zhou* (*Xiamen University*); *Long Zhang* (*Xiamen University*); *Zhanghai Chen* (*Xiamen University*);

Session 2P1
Topologically Structured Light 1

Friday PM, November 7, 2025

Room 1 - 101A

Organized by Yijie Shen, Jian Chen

Chaired by Yijie Shen, Jian Chen

13:30 Topology with Spatiotemporally Sculptured Light
Keynote
Qiwen Zhan (*University of Shanghai for Science and Technology*);

14:00 Towards Nanoscale Coherence and Polarization of Light
Invited and Their Applications
Lipeng Wan (*Nanchang University*); *Weimin Deng* (*Nanchang University*); *Daomu Zhao* (*Zhejiang University*); *Tianbao Yu* (*Nanchang University*);

14:20 Singular Focal Intensity and Topological Polarization
Invited Texture in Scaler Vortex Beams
Deepak K. Sharma (*Agency for Science, Technology and Research (A*STAR)*); *Nilo Mata-Cervera* (*Nanyang Technological University*); *Rasna Maruthiyodan Veetil* (*A*STAR (Agency for Science, Technology and Research)*); *Tobias W. W. Mass* (*A*STAR (Agency for Science, Technology and Research)*); *Yijie Shen* (*Nanyang Technological University*); *Miguel Angel Porras* (*Universidad Politecnica de Madrid*); *Ramon Paniagua-Dominguez* (*A*STAR (Agency for Science, Technology and Research)*);

14:40 A Reconfigurable Arbitrary Retarder Array as Complex
Invited Structured Matter
Chao He (*University of Oxford*);

15:00 Engineering Angular Momentum and Topology of
Invited Tightly Focused Optical Field
Jian Chen (*University of Shanghai for Science and Technology*);

15:20 Structured Wavefront Multiplexing for Next-generation Backhaul over Long-distance
Yufei Zhao (*Nanyang Technological University*); *Afkar Mohamed Ismail* (*Nanyang Technological University*); *Yirui Luo* (*Nanyang Technological University*); *Zekai Wang* (*Nanyang Technological University*); *Yongliang Guan* (*Nanyang Technol University*);

15:40 **Coffee Break**

16:00 Exploring Topological Properties in Meronic Beams under Complex Perturbations
Zimo Zhao (*University of Oxford*); *An Aloysius Wang* (*University of Oxford*); *Yunqi Zhang* (*University of Oxford*); *Yifei Ma* (*University of Oxford*); *Chao He* (*University of Oxford*);

16:15 Topological Skyrmions in Noisy Quantum Maps
Invited
Robert De Mello Koch (*University of the Witwatersrand*); *Bo-Qiang Lu* (*Huzhou University*); *Pedro Ornelas* (*University of the Witwatersrand*); *Isaac Nape* (*University of the Witwatersrand*); *Andrew Forbes* (*University of the Witwatersrand*);

16:35 Optical Sculpting and Storing of Topologically Struc-
Invited tured Light in Cold Atoms
Jinwen Wang (*Xi'an Jiaotong University*); *Xin Yang* (*Xi'an Jiaotong University*); *Yun Chen* (*Huzhou University*); *Zhujun Ye* (*Hiroshima University*); *Chengyuan Wang* (*Xi'an Jiaotong University*); *Sonja Franke-Arnold* (*University of Glasgow*); *Hong Gao* (*Xi'an Jiaotong University*);

16:55 Seeing through Chaos: Topological Light in Random Media
Tatjana Kleine (*University of the Witwatersrand*); *Cade Peters* (*University of the Witwatersrand*); *Kelsey Everts* (*University of the Witwatersrand*); *Pedro Ornelas* (*University of the Witwatersrand*); *Andrew Forbes* (*University of the Witwatersrand*);

17:10 Higher-order Space-time Wave Packets and Their Gouy-phase Dynamics
Wangke Yu (*Nanyang Technological University*); *Yijie Shen* (*Nanyang Technological University*);

17:25 Three-dimensional Topological Quasiparticles of Light
Haiwen Wang (*Stanford University*); *Shanhui Fan* (*Stanford University*);

17:40 Periodic Hopfion Topologies in Spatiotemporally Struc-
Invited tured Light Beams
Wenbo Lin (*Institute of Science Tokyo*); *Nilo Mata-Cervera* (*Nanyang Technological University*); *Yasutomo Ota* (*Keio University*); *Yijie Shen* (*Nanyang Technological University*); *Satoshi Iwamoto* (*The University of Tokyo*);

18:00 Topology of SU(N) Structured Light
Invited
Shin-Ichi Saito (*Hitachi, Ltd.*);

18:20 A Multiplexed Vector Beam Converter for Structured Polarization Manipulation
Runchen Zhang (*University of Oxford*); *Tade Marozsak* (*University of Oxford*); *An Aloysius Wang* (*University of Oxford*); *Tingxian Gao* (*The Chinese University of Hong Kong*); *Haochuan Geng* (*University of Oxford*); *Ben Dai* (*The Chinese University of Hong Kong*); *Chao He* (*University of Oxford*);

18:35 Advanced Near-field Optical Microscopy for the Discov-
Invited ery of Optical Spin Skyrmions and Beyond
Peng Shi (*Shenzhen University*);

18:55 Observing Topology in Surface Plasmon Polariton Fields
Invited
Timothy J. Davis (*University of Stuttgart*); *Harald W. Giessen* (*University of Stuttgart*); *Frank-J. Meyer zu Heringdorf* (*University of Duisburg-Essen*);

Session 2P2a
RF-THz Physical, Chemical and Biological Sensors and Measurement

Friday PM, November 7, 2025

Room 2 - 101B

Organized by Yunjing Zhang

Chaired by Yunjing Zhang

13:30 Dielectric Measurement for Liquids up to 16 GHz by the Cut-off Circular Waveguide Reflection Method
Kouji Shibata (*Hachinohe Institute of Technology*); *Masaki Kobayashi* (*Hachinohe Institute of Technology*); *Yuki Kawahara* (*Kawashima Manufacturing Co., Ltd.*);

13:45 Enhancing Health, Safety, and Independence with Wireless Sensor Technology
Giulia Sacco (*Univ Rennes, CNRS*); *Rossella Rizzo* (*Univ Rennes, CNRS*); *Pratik Vadher* (*Univ Rennes, CNRS*); *Rita Massa* (*Univ Naples Federico II*); *Giuseppe Ruello* (*Universita di Napoli "Federico II"*); *Maxim Zhadobov* (*Univ Rennes, CNRS*); *Denys Nikolayev* (*Univ Rennes, CNRS*); *Stefano Pisa* (*Sapienza University of Rome*);

14:00 Hybrid Anechoic-reverberation Chambers
Andrés Alayón Glazunov (*Linköping University*);

14:15 Antenna Reconstruction Technology Based on arc Discharge
Xuesong Guo (*Zhejiang University*); *Chun Huang* (*Zhejiang University*); *Xiangquan Xiang* (*Zhejiang University*); *Sijie Chen* (*Zhejiang University*); *Yaqing Huang* (*Zhejiang University*); *Shiyu Wang* (*Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*);

14:30 High-sensitivity Wireless Antenna-based Sensor for Liquid Sample Detection and Analysis
Zhichao Xu (*Soochow University*); *Lei Wang* (*Soochow University*); *Peng Li* (*Soochow University*); *Mei Song Tong* (*Tongji University*); *Yunjing Zhang* (*Soochow University*);

14:45 Capacitively-coupled Resonators Enable Ultra-sensitive Microwave Detection for Next-generation Sensors
Yiming Xu (*Soochow University*); *Zhichao Xu* (*Soochow University*); *Peng Li* (*Soochow University*); *Mei Song Tong* (*Tongji University*); *Yunjing Zhang* (*Soochow University*);

15:00 Integrated Microwave Heater and Sensor for Enhanced Sensitivity and Efficiency
Yan Zheng (*KU Leuven*); *Guy A. E. Vandenbosch* (*KU Leuven*); *Bart K. J. C. Nauwelaers* (*Katholieke Universiteit Leuven*); *Tomislav Markovic* (*KU Leuven*);

00:00 C-band One-port Ring Resonator Design for Ethanol and Methanol Sensing Applications
Atalay Kocakusak (*Akdeniz University*);

Session 2P2b
Fundamentals and Applications of Microwave and Millimeter-wave Programmable Metasurfaces

Friday PM, November 7, 2025

Room 2 - 101B

Organized by Xiaojian Fu, Xinxi Zeng

16:00 Fast Diagnostics of Programmable Metasurfaces Based on Spatio-temporally Modulated Coding Strategy
Yi Ning Zheng (*Southeast University*); *Xiao Qing Chen* (*Southeast University*); *Lei Zhang* (*Southeast University*);

16:15 Dynamic Switching Technology of Transparency and Invisibility Based on Full-space Programmable Metasurface
Hai Lin Wang (*Southeast University*);

16:30 A Novel Dual-band and Point-to-point Independently Controlled Transmission Programmable Metasurface
Liangwei Wu (*Hefei University of Technology*); *Jingcheng Liang* (*Southeast University*); *Jun Hu* (*Southeast University*);

16:45 Reconfigurable Intelligent Surface Based on Metalmesh
Jingcheng Liang (*Southeast University*);

17:00 Terahertz Beam Manipulation and Wireless Communication Applications Based on Liquid-crystal Programmable Metasurface
Yuan Fu (*Southeast University*); *Xiaojian Fu* (*Southeast University*);

17:15 A Reconfigurable Metasurface Based on 3D Buckling Assembly for Continuous Tuning of Electromagnetic Waves
Liuyang Zhang (*Xi'an Jiaotong University*); *Haoyang Pang* (*Xi'an Jiaotong University*); *Haoyuan Lu* (*Xi'an Jiaotong University*); *Donghai Han* (*University of Stuttgart*); *Shuming Wu* (*Xi'an Jiaotong University*); *Shujing Lin* (*Xi'an Jiaotong University*); *Feng Tian* (*Xi'an Jiaotong University*); *Lijiao Yang* (*Xi'an Jiaotong University*);

17:30 Design of Low-cost 2-bit Reconfigurable Reflectarray Antennas: Towards Dual-band and Dual-polarization Applications
Fan Wu (*Southeast University*); *Jiawang Li* (*Lund University*); *Yantao Ao* (*Southeast University*); *Wei Zheng* (*Southeast University*); *Jingxue Wang* (*Hohai University*);

17:45 A Metasurface-based Green-smart Window for Wide-angle Wireless Communication and Energy Conservation
Rui Zhe Jiang (*Southeast University*); *Qiang Cheng* (*Southeast University*);

18:00 Novel Designs and Applications of Transmission-type Amplitude-phase Programmable Metasurface
Rui Yuan Wu (*Hohai University*); *Hao Tian Shi* (*Southeast University*);

Session 2P3a
Computational Techniques in Electromagnetics and Applications

Friday PM, November 7, 2025

Room 3 - 102A

Organized by Ryosuke Ozaki, Tsuneki Yamasaki

Chaired by Ryosuke Ozaki, Tsuneki Yamasaki

13:30 Simulation of Microwave Propagation and SAR in Human Tissues Using a 2D FDTD Approach
Ming Chi Wang (*National Taiwan University*); *Jake W. Liu* (*National Taiwan University*); *Snow H. Tseng* (*National Taiwan University*);

13:45 Transient Response Analysis by an Air Layer between Two Dispersive Media of Soil and Concrete
Keito Matsuoka (*Nihon University*); *Ryosuke Ozaki* (*Nihon University*); *Tsuneki Yamasaki* (*Nihon University*);

14:00 Electromagnetic Scattering Analysis of Inhomogeneous Media with Frequency Dependence
Yuyi Wang (*Nihon University*); *Ryosuke Ozaki* (*Nihon University*); *Tsuneki Yamasaki* (*Nihon University*);

14:15 Scattering of Electromagnetic Waves in Inhomogeneous Dielectric Cylinders by Improved Fourier series Expansion Method-case of TM Waves
Tsuneki Yamasaki (*Nihon University*);

14:30 Physics-informed Neural Networks with Moving Window for Modeling Electromagnetic Pulse Propagation
Kazuhiro Fujita (*Saitama Institute Technology*);

14:45 Study on the Wearable Optical Measurement Device to Assist the Blind Persons
Takashi Kuroiwa (*Nihon University*); *Yifan Wu* (*Nihon University*); *Syota Yazawa* (*Nihon University*); *Akira Uchida* (*Nihon University*);

15:00 Band Diagram for Three-dimensional Topological Photonic Crystals Using Fast Hybrid Multiple Scattering Theory
Tien-Hao Liao (*National Taipei University of Technology*); *Zhenming Huang* (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Shurun Tan* (*Zhejiang University*);

15:40 **Coffee Break**

Session 2P3b
Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications

Friday PM, November 7, 2025

Room 3 - 102A

Organized by Mariana Nikolova Georgieva-Grosse, Georgi Nikolov Georgiev

Chaired by Mariana Nikolova Georgieva-Grosse

16:00 Invited Phononic Crystal Design for Highly Sensitive SAW Magnetic Field Sensors
Mohsen Samadi (*Kiel University*); *Jana Marie Meyer* (*Fraunhofer Institute for Silicon Technology ISIT*); *Fabian Lofink* (*Kiel University*); *Martina Gerken* (*Christian-Albrechts-Universitat zu Kiel*);

16:20 Invited Wave Scattering Calculation for Particles of Arbitrary Shape Based on Scale Separation in the Green's Function
Polina A. Pantyukhina (*ITMO University*); *Alexey A. Shcherbakov* (*ITMO University*); *A. A. Bogdanov* (*ITMO University*); *Ivan S. Terekhov* (*ITMO University*);

16:40 Electromagnetic Scattering of 3-D Multilayered Spheres by the Spectral Integral Method
Zhen Guan (*Great Bay University*); *Jiawen Li* (*Guangxi Normal University*); *Feng Han* (*Great Bay University*);

16:55 Is the Amaterasu Cosmic Ray a Magnetic Monopole?
Thomas W. Kephart (*Vanderbilt University*);

17:10 Ultra-wideband Radars for Snow Thickness and Snow Water Equivalent Measurements
Prasad Gogineni (*The University of Alabama*); *Shriniwas Kolpuke* (*EH Group, Inc.*); *Feras Abushakra* (*The University of Alabama*); *Omid Reyhanigalangashi* (*The University of Alabama*); *A. Rapadas* (*The University of Alabama*); *B. Fraysher* (*The University of Alabama*); *D. Taylor* (*The University of Alabama*); *M. Thapa* (*The University of Alabama*); *S. Rizvi* (*The University of Alabama*); *S. Neshani* (*The University of Alabama*); *J. D. Larson* (*The University of Alabama*); *C. Chung* (*KIOST*); *Joohan Lee* (*KIOST*);

17:25 Invited The Complex Modified Kummer Confluent Hypergeometric Function and Its Application to the Theory of Waveguides
Georgi Nikolov Georgiev (*Consulting and Researcher in Physics, Mathematics and Computer Sciences*); *Mariana Nikolova Georgieva-Grosse* (*Consulting and Researcher in Physics and Computer Sciences*);

00:00 Flux Variability Analysis Using Mathematical and Computational Modeling in the Presence of Thermodynamic Constraints
Shariful Islam (*Pundra University of Science & Technology*);

18:00 Plasmon-exciton Coupling in Coumarin C-151 Sensitized Nanorod Systems: A DFT, TDDFT, and Surface Plasmon Study
Alok Singh (*Dr. A.P.J. Abdul Kalam Technical University*); *Richa Verma* (*JSS University Noida*); *Pratima Rajput* (*JSS University, Noida*);

00:00 Enhanced Anodic Characteristics of Silicon Based Oxychloride for Lithium-Ion Rechargeable Batteries
Abdul Majid (*University of Gujrat*); *Sawaira Tasawar* (*University of Gujrat*); *Mohammad Alkhedher* (*Abu Dhabi University*);

Session 2P4a
Radio Remote Sensing of Terrestrial and Space Environments for Disaster Risk Reduction (DRR) 2

Friday PM, November 7, 2025

Room 4 - 102B

Organized by Yasuhide Hobara, Chieh-Hung Chen

Chaired by Yasuhide Hobara, Chieh-Hung Chen

13:30 Invited — Real-time Lightning 3D Imaging and Forecasting Project in Malaysia for Sustainable and Reliable Supply of Energy and Storm Disaster Early Warning
Takeshi Morimoto (*Kindai University*); *Mohd Riduan Bin Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Farah Hani Nordin* (*Institute of Energy Infrastructure Universiti Tenaga Nasional*); *Daohong Wang* (*Gifu University*); *Kazuo Yamamoto* (*Chubu University*); *Takeshi Kudo* (*Otowa Electric Co., Ltd.*); *Mohd Zafri Baharuddin* (*Chiba University*); *Manabu Akita* (*The University of Electro-Communications*); *Yuji Takayanagi* (*Kindai University*); *Tasuo Torii* (*University of Fukui*); *Muhammad Haziq Mohammad* (*Kindai University*);

13:50 Invited — Observations of Thunderstorms with X-band Multi Parameter Phased Array Weather Radar and LF/MF Band Lightning Location System
Hiroshi Kikuchi (*The University of Electro-Communications*); *Yasuhide Hobara* (*The University of Electro-Communications*); *Eiichi Yoshikawa* (*Japan Aerospace Exploration Agency*); *Yoshitaka Nakamura* (*Kobe City College of Technology*); *Takeshi Morimoto* (*Kindai University*); *Tomoo Ushio* (*Osaka University*);

14:10 Invited — Multi-parametric Investigation of Lithosphere-atmosphere-ionosphere Coupling Prior to the 2020 Samos and 2021 Crete Earthquakes Using Ground- and Space-based Observations
Sudipta Sasmal (*Institute of Astronomy Space and Earth Science*); *M. Hayakawa* (*Hayakawa Institute of Seismo Electromagnetics, Co., Ltd. (Hi-SEM)*); *Y. Hobara* (*University of Electro-Communications (UEC)*); *S. M. Potirakis* (*University of West Attica*);

14:30 Invited — Ionospheric Dynamics During the May 2024 G5 Storm: A Global VTEC Perspective from IGS and GIM
Sudipta Sasmal (*Institute of Astronomy Space and Earth Science*); *S. K. Pal* (*Institute of Astronomy Space and Earth Science*); *S. Sarkar* (*Institute of Astronomy Space and Earth Science*); *K. Nanda* (*Institute of Astronomy Space and Earth Science*); *Abhirup Datta* (*Indian Institute of Technology Indore*); *S. M. Potirakis* (*University of West Attica*); *Yasuhide Hobara* (*The University of Electro-Communications*);

14:50 Invited — Statistical Analysis of Bolt-from-the-Blue Lightning Discharges Observed in the Kanto Region, Japan
Namiko Sakurai (*National Research Institute for Earth Science and Disaster Resilience*); *Shingo Shimizu* (*National Research Institute for Earth Science and Disaster Resilience*); *Takeshi Maesaka* (*National Research Institute for Earth Science and Disaster Resilience*);

15:10 Invited — Statistical Analysis and Assessment of Ionospheric Electron Density (NmF2) Anomalies Preceding Earthquakes in Japan
Katsumi Hattori (*Chiba University*); *Chinatus Sasanuma* (*Chiba University*); *Chie Yoshino* (*Chiba University*); *Jann-Yenq Tiger Liu* (*National Central University*);

16:00 Invited — Drone-based Evaluation of Low-level Water Vapor Observations Using Digital Terrestrial Broadcasting Waves
Shingo Shimizu (*National Research Institute for Earth Science and Disaster Resilience*); *Hiroshi Hanado* (*NICT (National Institute of Information and Communications Technology)*); *Takuya Watanabe* (*Nippon Anntena*); *Nobunori Kitai* (*Nippon Anntena*); *Seiji Kawamura* (*NICT*); *Takeshi Maesaka* (*National Research Institute for Earth Science and Disaster Resilience*);

16:20 Integration of Electrostatic Field Observations with Meteorological Information Delivery Services
Kazuki Obayashi (*Shoden Corporation*); *Shunichi Yanagawa* (*Shoden Corporation*); *Yasuhide Hobara* (*The University of Electro-Communications*);

16:35 Volcanic Eruption Induced Gravity Waves in the Ionosphere: A Case Study of Eruption of Mount Lewotobi on June 17, 2025
Bhuvnesh Brawar (*Indian Institute of Technology Indore*); *A. Datta* (*Indian Institute of Technology Indore*);

16:50 A Potential Ionospheric Early Warning System for Landslides
Chieh-Hung Chen (*State Key Laboratory of Geohazard Prevention and Geoenvironment Protection (Chengdu University of Technology)*);

17:05 Geomagnetic Response to the 2024 Hualien Earthquake: Near to Far Fields
Zhiqiang Mao (*China University of Geosciences*); *Chieh-Hung Chen* (*Chengdu University of Technology*);

00:00 Quantum Radiometer Platform with shared Antenna Array for Multi-band Passive Sensing of Thermal and Non-thermal Phenomena
Naveen Francis Chittilapilly (*Augsenselab*); *Bijoy John Mathew* (*Augsenselab*); *Sandeep P* (*Augsenselab*); *Sumit Bushan* (*Augsenselab*);

Session 2P4b
Radio Propagation in Earth's Atmosphere and Ionosphere

Friday PM, November 7, 2025

Room 4 - 102B

Organized by Keigo Ishisaka, Hiroyo Ohya

Chaired by Keigo Ishisaka, Hiroyo Ohya

17:40 Equatorial Spread F Classified by CNN Model from Campina Grande in Brazil during 2024–2025
Zheng Wang (*State Key Laboratory of Solar Activity and Space Weather, NSSC/CAS*); *C. Qiu* (*Communication University of China*); *J. K. Shi* (*State Key Laboratory of Solar Activity and Space Weather, NSSC/CAS*); *W. D. Zhong* (*Communication University of China*); *Z. K. Liu* (*China-Brazil Joint Laboratory for Space Weather*); *G. J. Wang* (*State Key Laboratory of Solar Activity and Space Weather, NSSC/CAS*); *P. D. Gao* (*Communication University of China*); *Z. W. Cheng* (*NSSC/CAS*);

17:55 D-region Ionospheric Disturbances Caused by Fireballs and Satellite Reentries Detected by OCTAVE VLF/LF Transmitter Signals
Hiroyo Ohya (*Chiba University*); *R. Furuya* (*Chiba University*); *F. Tsuchiya* (*Tohoku University*); *M.-Y. Yamamoto* (*Kochi University of Technology*); *T. Washimi* (*National Astronomical Observatory of Japan*); *H. Nakata* (*Chiba University*); *T. Watanabe* (*National Institute of Communications and Technology*); *M. Kobayashi* (*The Nippon Meteor Society*);

00:00 The Three-dimensional Ionospheric Electron Density Disturbances Following the 2011 M9.0 Tohoku-Oki Earthquake in Japan
Rui Song (*Chiba University*); *Katsumi Hattori* (*Chiba University*); *Xuemin Zhang* (*China Earthquake Administration*); *Jann-Yenq Tiger Liu* (*National Central University*); *Chie Yoshino* (*Chiba University*);

18:25 DC Electric Field Measurement onboard Japanese Sounding Rocket
Keigo Ishisaka (*Toyama Prefectural University*); *Miyuki Matsuyama* (*Toyama Prefectural University*);

18:40 Measurement of Attenuation Characteristics in Rainy and Foggy Conditions in Millimeter-wave and Subterahertz Bands
Toshiaki Watanabe (*Toyota Central R&D Labs, Inc.*); *Masaki Takanashi* (*Toyota Central R&D Labs., Inc.*); *I. Takai* (*Toyota Central R&D Labs., Inc.*); *Hirokazu Sawada* (*National Institute of Information and Communication Technology (NICT)*); *Keizo Inagaki* (*National Institute of Information and Communications Technology*); *Issei Watanabe* (*National Institute of Information and Communications Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*); *Akifumi Kasamatsu* (*National Institute of Information and Communications Technology*);

Session 2P5
FocusSession.SC1: Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 3

Friday PM, November 7, 2025

Room 5 - 103

Organized by Maha Ben Rhouma

Chaired by Maha Ben Rhouma

13:30 Multi-Scale Simulations for Predicting the Nonlinear Optical Response of Photonic Structures Made From Molecular Materials
Mariia Poleva (*Karlsruhe Institute of Technology (KIT)*); *B. Zerulla* (*Institute of Nanotechnology, Karlsruhe Institute of Technology (KIT)*); *Christof Holzer* (*Karlsruhe Institute of Technology (KIT)*); *Ivan Fernandez-Corbaton* (*Karlsruhe Institute of Technology*); *Carsten Rockstuhl* (*Karlsruhe Institute of Technology*); *Marjan Krstic* (*Karlsruhe Institute of Technology (KIT)*);

13:45 Invited Designing Photonic Topological Heterostructures with Enhanced Spatial Efficiency
Che Ting Chan (*The Hong Kong University of Science and Technology*);

14:05 Invited Free-electron Optical Nonlinearities in Heavily Doped Semiconductors and Their Potential for Integrated Photonics
Gonzalo Álvarez-Pérez (*Italian Institute of Technology (IIT)*); *H. Hu* (*Istituto Italiano di Tecnologia*); *M. Ortolani* (*Sapienza University of Rome*); *C. Ciraci* (*Istituto Italiano di Tecnologia*);

14:25 Invited Spatiotemporally Structured Light Fields
Qiwen Zhan (*University of Shanghai for Science and Technology*);

14:45 Invited Tailoring Nonlinear Wavefronts and High Harmonic Generation via Dielectric Metasurfaces
David Hähnel (*Paderborn University*); *Jens Forstner* (*Paderborn University*); *Viktor Myroshnychenko* (*Paderborn University*);

15:05 Keynote Photonic Time Crystals and the Dawn of Timetronics
Nikolay I. Zheludev (*University of Southampton*);

15:40 **Coffee Break**

16:00 Invited Classical and Quantum Modelling of Tunable Plasmonic Metasurfaces with Epsilon-near-zero Semiconductors
Pierre Berini (*University of Ottawa*);

16:20 Invited Light-emitting Metasurfaces of Colloidal Quantum Dots
Vivian Ferry (*University of Minnesota*);

16:40 Learning Numerical Green's Functions of Complex Environments from Phase-less Data with Artificial Neural Networks
Sofia Ponomareva (*LAAS-CNRS, Université de Toulouse*); *Antoine Azéma* (*LAAS-CNRS, Université de Toulouse*); *Arnaud Arbouet* (*CNRS, Université Rennes*); *Peter R. Wiecha* (*LAAS-CNRS, Université de Toulouse*);

16:55 Generation of Spatiotemporally Compressed Electron Pulses for Observing Ultrafast Electron Dynamics in Molecules
Jakub Urban (*ICFO-The Institute of Photonic Sciences*); *Fadil İyikanat* (*ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology*); *Andrea Konečná* (*Brno University of Technology*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

17:10 Machine Learning Optimization of Chiral Photonic
Invited Metasurface: Evolution-based Algorithm and Deep Learning Approach
Arash Rahimi-Iman (*Justus-Liebig-Universität Gießen*);

17:30 Quantum Corrections and Thermoelectric Effects in
Invited Nanoplasmonics
Paulo André Dias Gonçalves (*University of Southern*);

17:50 Progress and Challenges in the Design and Simulation
Invited of Large-scale Metalenses
Jens Niegemann (*Ansys Canada Inc.*); *D. Huynh* (*Ansys Germany GmbH*); *Han-Hsiang (Michael) Cheng* (*Ansys Japan K.K.*); *Thibault Leportier* (*Ansys Canada Inc.*); *Chenyi Zhou* (*Ansys Canada Inc.*); *Dylan McGuire* (*Ansys Canada Inc.*); *Adam Reid* (*Ansys Canada Inc.*);

18:10 A Simplified Version of the FMM-ASR Method for Shal-
Invited low Gratings
Brahim Guizal (*University of Montpellier — CNRS*);

00:00 Real-time Terahertz Spectroscopy Using Parametric
Invited Wavelength Conversion
Kosuke Murate (*Nagoya University*); *S. Mine* (*Nagoya University*); *Francois Blanchard* (*École de Technologie Superieure (ÉTS)*); *K. Kawase* (*Nagoya University*);

00:00 Bounds as Blueprints: Towards Optimal and Accelerated
Invited Photonic Inverse Design
Alejandro W. Rodriguez (*Princeton University*);

Session 2P6
FocusSession.SC1: Fluctuational Electrodynamics and Light-matter Phenomena: Energy and Momentum Management at the Nano/Micro-scale 3

Friday PM, November 7, 2025

Room 6 - 104

Organized by Mauro Antezza

Chaired by Mauro Antezza

13:30 There Is No Ultrastrong Coupling with Photons
Invited
D. Fernández de la Pradilla (*Universidad Autónoma de Madrid*); *Esteban Moreno* (*Universidad Autonoma de Madrid*); *Johannes Feist* (*Universidad Autonoma de Madrid*);

13:50 Electroluminescence of Hyperbolic Phonon-polaritons in
Invited Hbn-encapsulated Graphene Transistors
Yannick De Wilde (*Institut Langevin*);

14:10 Controlling Casimir Interactions via Thermal Fluctua-
Invited tions and Nanostructured Geometries
Jeremy N. Munday (*University of California, Davis*);

14:30 Casimir Force on Gratings Covered with Graphene
Invited
Ho Bun Chan (*The Hong Kong University of Science and Technology*); *T. U. Ngai* (*The Hong Kong University of Science and Technology*); *Z. Zhang* (*The Hong Kong University of Science and Technology*); *J. Li* (*The Hong Kong University of Science and Technology*); *Zhengtang Luo* (*The Hong Kong University of Science and Technology*); *Youssef Jeyar* (*University of Montpellier*); *Minggang Luo* (*CNRS-Université de Montpellier*); *Brahim Guizal* (*University of Montpellier — CNRS*); *Mauro Antezza* (*Université de Montpellier*);

14:50 Entanglement in the Vicinity of the Dielectric Medium
Invited
Jen-Tsung Hsiang (*National Taiwan University of Science and Technology*);

15:10 Low-dimensional Polaritons Thermal Radiation
Invited
Sebastian Volz (*The University of Tokyo*);

15:40 **Coffee Break**

16:00 Persistent Currents and Heat Flux Control in Non-
Invited reciprocal Nanosystems
Svend-Age Biehs (*Carl von Ossietzky Universitat*);

16:20 Decoherence and Brownian Motion of Particles Near
Invited Surfaces and in Non-inertial Motion
Kanu Sinha (*University of Arizona*);

16:40 Strong Coupling between a Single-photon and a Two-
Keynote photon State
Franco Nori (*RIKEN and University of Michigan*);

17:10 Design and Optimization of a Selective Emitter Based
Invited on Periodic Microstructured Doped Si and Multilayer Si/SiO_2 for Thermophotovoltaic Applications
Maha Ben Rhouma (*Gustave Eiffel University*); *Karam Choukri* (*Gustave Eiffel University*); *Armande Herve* (*Université Gustave Eiffel, CNRS, ESYCOM*); *Elyes Nefzaoui* (*University Gustave Eiffel*); *Elodie Richalot* (*Univ Gustave Eiffel, CNRS, ESYCOM*);

17:30 Broadband Directional Thermal Emission with Anisothermal Microsources
Florian Herz (*Université Paris-Saclay*); *Philippe Ben-Abdallah* (*Universite Paris-Sud 11*); *Riccardo Messina* (*Institut d'Optique, CNRS, Universite Paris-Saclay*);

00:00 Maximizing Nonlinear Light-matter Processes in Structured Media
Invited
Alejandro W. Rodriguez (*Princeton University*);

00:00 Near-field Thermal Radiation of Grating Structures at Variable Distances
Invited
Yongdi Dang (*Zhejiang University*); *Yungui Ma* (*Zhejiang University*);

00:00 Sculpturing Hong-Ou-Mandel Landscape with Trapped Polariton Condensates
Baryshev Stepan (*Skolkovo Institute of Science and Technology*); *Igor Smirnov* (*Skolkovo Institute of Science and Technology*); *Ivan Gnusov* (*Skolkovo Institute of Science and Technology*); *T. Cookson* (*Skolkovo Institute of Science and Technology*); *A. Zasedatelev* (*Skolkovo Institute of Science and Technology*); *Sergei Kilin* (*National Academy of Sciences of Belarus*); *Pavlos G. Lagoudakis* (*Skolkovo Institute of Science and Technology*);

00:00 Low-noise Magnetic Field Shaping Systems for Quantum Technologies
Invited
T. Mark Fromhold (*University of Nottingham*);

00:00 Scanning Casimir Force Microscope and Its Applications
Invited
Zhang Hui (*University of Science and Technology of China*); *Yichi Zhang* (*University of Science and Technology of China*); *Yunxin Liu* (*University of Science and Technology of China*); *Yucheng Liu* (*University of Science and Technology of China*); *Changgan Zeng* (*University of Science and Technology of China*);

Session 2P7
FocusSession.SC6: Towards Chiral and Magnetoelectric Quantum Electrodynamics 3

Friday PM, November 7, 2025

Room 7 - 105

Organized by Eugene O. Kamenetskii

Chaired by Eugene O. Kamenetskii

13:30 Spin Currents in Spin Super-solids
Invited
Sadamichi Maekawa (*RIKEN Center for Emergent Matter Science (CEMS)*);

13:50 Dynamics of Magnets and Ferroelectrics
Invited
Gerrit E. W. Bauer (*Tohoku University*);

14:10 Controlling Quantum Noise in Spatiotemporally Multimode Systems
Invited
Nicholas Rivera (*Cornell University*);

14:30 Quantum Optical Description of Nanophotonic Systems
Invited
Johannes Feist (*Universidad Autonoma de Madrid*);

14:50 Topological Plasmon-magnon Hybrid Modes and Beyond
Invited
Dmitry K. Efimkin (*Monash University*);

15:10 Chiral Quantum Optics for Quantum Neuromorphics
Nir Rotenberg (*Queen's University, Kingston*); *J. Ewaniuk* (*Queen's University, Kingston*);

15:25 Electromagnon-photon Entanglement
Invited
Zaza Toklikishvili (*Tbilisi State University*); *Ramaz Khomeriki* (*Tbilisi State University*); *Levan Chotorlishvili* (*Tbilisi State University*); *Vakhtang Jandieri* (*University of Duisburg-Essen*); *Jamal Berakdar* (*Martin Luther University of Halle-Wittenberg*);

15:45 **Coffee Break**

16:00 Rectified Quantum Orders and Quantum Printing
Tien-Tien Yeh (*University of Connecticut*); *Hennady Yerzhakov* (*Stockholm University*); *Patrick J. Wong* (*University of Connecticut*); *Yuefei Liu* (*Stockholm University*); *Gabierl Cardoso* (*Stockholm University*); *Erlend Syljuasen* (*Stockholm University*); *Logan Bishop-Van Horn* (*Stanford University*); *Srinivas Raghu* (*Stanford University*); *Daemo Kang* (*The University of Tokyo*); *Alexander V. Balatsky* (*University of Connecticut*);

16:15 Manipulating Chiral Molecules with Quantum Fields: An ab-initio Perspective
Invited
Enrico Ronca (*University of Perugia*); *Rosario R. Riso* (*Norwegian University of Science and Technology*); *Henrik Koch* (*Norwegian University of Science and Technology*);

16:35 Magnetic Response of Dynamical Spin Impurities near a Helical Edge
Invited
Vladimir I. Yudson (*HSE University*);

16:55 High-Q Resonant Cavities with Non-zero Helicity to Search for Dark Matter Axions
Invited
E. C. I. Paterson (*University of Western Australia*); *J. F. Bourhill* (*University of Western Australia*); *M. Goryachev* (*University of Western Australia*); *Michael E. Tobar* (*University of Wstern Australia*);

17:15 Electromagnetic Helicity in Twisted Cavity Resonators
Invited
Jeremy F. Bourhill (*The University of Western Australia*); *Emma C. I. Paterson* (*University of Western Australia*); *Maxim Goryachev* (*University of Western Australia*); *Michael E. Tobar* (*University of Western Australia*);

17:35 A PT-symmetric Chiral Interaction in a Nuclear Open Quantum System
Invited
Piotr Garbacz (*University of Warsaw*);

17:55 Optical Phenomena in Synthetic Rotations
Invited
Iñigo Liberal (*Universidad Pública de Navarra, Campus Arrosadía*);

18:15 Spin Dependent Light-matter Interactions in 2D Materials: From Moire Magnets to hBN Defects
Invited
Yong P. Chen (*Purdue University and Aarhus University*);

00:00 Quantum Sensing of Spin-dynamics in High-field Environments
Invited
Benjamin J. Lawrie (*Oak Ridge National Laboratory*); *Y. C. Wu* (*Oak Ridge National Laboratory*); *C. Hua* (*Oak Ridge National Laboratory*); *Gabor B. Halasz* (*Oak Ridge National Laboratory*); *J. Damron* (*Oak Ridge National Laboratory*);

00:00 Emerging Magnetoelectric Responses in Quantum Materials
Invited
D. J. P. de Sousa (*University of Minnesota*); *C. O. Ascencio* (*University of Minnesota*); *Nikita Roldan-Levchenko* (*University of Minnesota*); *Tony Low* (*University of Minnesota*);

Session 2P8
Advanced Photonic Technologies for Spectroscopic Applications 2

Friday PM, November 7, 2025

Room 8 - 201A

Organized by Vincenzo Spagnolo, Ulrike Willer, Lei Dong, Wei Dong Chen

Chaired by Vincenzo Spagnolo, Wei Dong Chen

13:30 Real Time Monitoring of N_2O and CO Emissions from Vehicles Using a Quartz-enhanced Photoacoustic Sensor
Invited
Pietro Patimisco (*University and Polytechnic of Bari*); *Mariagrazia Olivieri* (*University and Politecnico of Bari*); *Andrea Zifarelli* (*University and Polytechnic of Bari*); *Angelo Sampaolo* (*University and Politechnic of Bari*); *Vincenzo Spagnolo* (*University and Polytechnic of Bari*);

13:50 Free-running Dual-comb Spectroscopy by Nonlinear Optical Gain Modulation
Shaowei Huang (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Jiaqi Zhou* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Weibiao Chen* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*);

14:05 Electro-optic Dual Comb Spectroscopy and Imaging
Invited
Pedro Martin-Mateos (*Universidad Carlos III de Madrid*);

14:25 State of the Art in a Differential Photoacoustic Cell for Trace Gas Sensing
Invited
Xukun Yin (*Xidian University*); *Xiu Yang* (*Xidian University*);

14:45 Quantum Noise Limited Infrared Laser Sources for Ultra-high Sensitivity and Precision Spectroscopy
Invited
I. La Penna (*CNR-INO — Istituto Nazionale di Ottica*); *T. Gabbrielli* (*CNR-INO — Istituto Nazionale di Ottica*); *F. Cappelli* (*CNR-INO — Istituto Nazionale di Ottica*); *S. Borri* (*CNR-INO — Istituto Nazionale di Ottica*); *G. Santambrogio* (*CNR-INO — Istituto Nazionale di Ottica*); *S. Sutradhar* (*CNR-INO — Istituto Nazionale di Ottica*); *A. Gangwar* (*CNR-INO — Istituto Nazionale di Ottica*); *S. Bartalini* (*CNR-INO — Istituto Nazionale di Ottica*); *A. Montori* (*CNR-INO — Istituto Nazionale di Ottica*); *P. Cancio Pastor* (*CNR-INO — Istituto Nazionale di Ottica*); *M. G. Delli Santi* (*CNR-INO — Istituto Nazionale di Ottica*); *I. Galli* (*CNR-INO — Istituto Nazionale di Ottica*); *P. Maddaloni* (*CNR-INO — Istituto Nazionale di Ottica*); *D. Mazzotti* (*CNR-INO — Istituto Nazionale di Ottica*); *Paolo De Natale* (*CNR-INO, Istituto Nazionale di Ottica*);

15:05 Photonic Integrated Circuit Assisted Photothermal Spectroscopy for Trace Gas and Liquid Phase Sensing
Invited
Liam O'Faolain (*Munster Technological University*);

15:25 Real Time Monitoring of H_2S Emissions at the Pisciarelli Fumarolic Field (Campi Flegrei Caldera) Using a Compact Quartz-enhanced Photoacoustic Sensor
Arianna Elefante (*CNR, Istituto di Fotonica e Nanotecnologie*); *Mariagrazia Olivieri* (*University and Politecnico of Bari*); *L. Lombardi* (*PolySense Innovations srl*); *Vincenzo Spagnolo* (*University and Polytechnic of Bari*); *S. Massaro* (*Istituto Nazionale di Geofisica e Vulcanologia*); *R. Sulpizio* (*Università di Bari*); *P. Dellino* (*Università di Bari*); *F. Rufino* (*Istituto Nazionale di Geofisica e Vulcanologia*); *S. Caliro* (*Istituto Nazionale di Geofisica e Vulcanologia*); *A. Costa* (*Istituto Nazionale di Geofisica e Vulcanologia*); *P. Patimisco* (*CNR, Istituto di Fotonica e Nanotecnologie*);

15:40 **Coffee Break**

16:00 The Reactivity of Peroxy Radicals
Invited
Christa Fittschen (*Université de Lille*);

16:20 Research on Compact Photoacoustic Sensing Technoligies for Rapid and Highly Sensitive Hydrogen Purity Analysis
Invited
Hongpeng Wu (*Shanxi University*); *Chaofan Feng* (*Shanxi University*); *Lei Dong* (*Shanxi University*);

16:40 Lithium Niobate-enhanced Laser Photoacoustic Spectroscopy
Invited
Haoyang Lin (*Jinan University*); *Wenguo Zhu* (*Jinan University*); *Yongchun Zhong* (*Jinan University*); *Jieyuan Tang* (*Jinan University*); *Huihui Lu* (*Jinan University*); *Huadan Zheng* (*Jinan University*);

17:00 Versatile Directly-printable Polymer Photonics: From Waveguide to Sensor Applications
Invited
A. Ping Zhang (*The Hong Kong Polytechnic University*);

17:20 Adaptive Strategies in Free Electron Homodyne Detection
Jakub Urban (*ICFO-The Institute of Photonic Sciences*); *Valerio Di Giulio* (*Max Planck lnstitute for Multidisciplinary Sciences*); *Claus Ropers* (*Max Planck Institute of Multidisciplinary Sciences*); *Andrea Konecna* (*Brno University of Technology*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

00:00 Polarization Imaging and Deep Residual Networks for Tumor Classification: An Optical Feature-based Approach for Pathological Diagnosis
Fengqi Guo (*Xi'an Jiaotong University*);

00:00 Invited Gain Switched Optical Frequency Combs for Photonic Sensing
Prince M. Anandarajah (*Dublin City University*); *Alejandro Rosado* (*Dublin City University*); *Minghao Wei* (*Dublin City University*); *Aleksandra Kaszubowska-Anandarajah* (*Trinity College Dublin*);

00:00 Carbon Observation from the Ocean to the Lower Stratosphere with Photons
Yongyong Hu (*Université du Littoral Côte d'Opale*); *Aditya Saxena* (*Université du Littoral Côte d'Opale*); *Mélanie Ghysels-Dubois* (*Université de Reims*); *Hervé Herbin* (*Université de Lille*); *Tong Nguyen Ba* (*Université du Littoral Côte d'Opale*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*);

Session 2P9a
Metamaterials for Light and Thermal Management 1

Friday PM, November 7, 2025

Room 9 - 201B

Organized by Yang Li, Ying Li

Chaired by Yang Li, Ying Li

13:30 Invited Tungsten Based Electrochromic Materials for Wideband Manipulation
Shan Cong (*Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences*); *Zhigang Zhao* (*Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences*);

13:50 Invited Broadband Angular Control of Thermal Radiation and Detection via Non-imaging Micro-optics
Zijing Wong (*Eastern Institute of Technology*);

14:10 Invited Smart Building Envelopes: Leading the Path to Carbon Neutrality
Chi Yan Tso (*City University of Hong Kong*);

14:30 Invited Non-Hermitian Thermal Coupling Sensor
Qiang-Kai-Lai Huang (*Zhejiang University*); *Yanxiang Wang* (*Zhejiang University*); *Ying Li* (*Zhejiang University*);

14:50 Optimized Design of a Daytime Radiative Cooling Device with a Refractive Index Gradient Structure
Zhiqiang Guan (*Institute of Semiconductors, Henan Academy of Sciences*); *Xiuping Chen* (*Wuhan University*); *Xiangyu Ruan* (*Wuhan University*); *Wei Dai* (*Wuhan University*);

15:05 Passive Radiative Cooling Fabric with Embedded Nested Porous Structure Produced by Industrial Processes
Keqiao Li (*The Hongkong University of Science and Technology*); *Baoling Huang* (*The Hongkong University of Science and Technology*);

15:40 **Coffee Break**

Session 2P9b
Metasurfaces for Multi-dimensional Manipulation of Light

Friday PM, November 7, 2025

Room 9 - 201B

Organized by Zi-Lan Deng, Kun Huang

Chaired by Zi-Lan Deng

16:00 Magnetically Tunable Bound States in the Continuum with Arbitrary Polarization and Intrinsic Chirality
Qing-An Tu (*Southern University of Science and Technology*); *Hongxin Zhou* (*Southern University of Science and Technology*); *Dong Zhao* (*Southern University of Science and Technology*); *Yan Meng* (*Dongguan University of Technology*); *Maohua Gong* (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

16:15 Optical Imaging Based on Metasurfaces
Shu-Ming Wang (*Nanjing University*);

16:30 Invited Metasurface-integrated Fiber Networks for Multifaceted Applications
Tianyue Li (*The Hong Kong University of Science and Technology*);

16:50 AI-empowered Metasurface Optimization Design and Computational 3D Imaging
Boyan Fu (*Nanjing University*); *Shu-Ming Wang* (*Nanjing University*); *Xun Cao* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

17:05 Polarization Insensitive Beam Reconfiguration through Cascaded Identical Metasurfaces
Ata Ur Rahman Khalid (*Queen's University Belfast*);

17:20 Invited Circularly Polarized Coherent Thermal Emissions with Nonlocal Metasurfaces
Zhanghua Han (*Shandong Normal University*);

17:40 Invited Electrically Tunable Optical Metasurfaces Based on MEMS Mirrors
Fei Ding (*Eastern Institute of Technology*);

18:00 Invited Optical Meta-devices: Optical Property Perception
Mu Ku Chen (*City University of Hong Kong*);

18:20 Invited Controlling the Multiple Degrees of Freedom in Optical Metasurfaces
Bo Xiong (*Zhejiang University*);

00:00 High-efficiency Femtosecond Laser Two-photon Polymerization Lithography
Chaowei Wang (*University of Science and Technology of China*);

Session 2P10a
Inverse Scattering and Imaging

Friday PM, November 7, 2025

Room 10 - 202

Organized by Toshifumi Moriyama, Shouhei Kidera

Chaired by Toshifumi Moriyama, Shouhei Kidera

13:30 Factorization Method and Its Mathematical Justification in Microwave Imaging
Won-Kwang Park (*Kookmin University*);

13:45 Comparisons of the 2-D and 3-D Electromagnetic Diffraction Tomographic Reconstructibility in Half-space and Multilayered Media
Feng Han (*Great Bay University*); *Kemeng Tao* (*Great Bay University*); *Sijia Ma* (*Great Bay University*);

14:00 A Novel Regularization Technique Based on Laguerre-Gaussian Radial Hilbert Transform for Artifact-free Image Restoration
Muskan Kularia (*Indian Institute of Technology Delhi*); *Kedar Khare* (*Indian Institute of Technology Delhi*);

14:15 Novel Downhole Seismic Testing Tomographic Algorithm for Geotechnical Site Characterization
Erick Baziw (*Baziw Consulting Engineers Ltd.*);

14:30 Bidirectional Ghost Imaging with Autocorrelation Operation to Imaging through Strong Scattering Media
Dejin Zhang (*Nanjing University of Aeronautics and Astronautics*); *Guohao Zhang* (*Nanjing University of Aeronautics and Astronautics*); *Yaoyao Shi* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*); *Youwen Liu* (*Nanjing University of Aeronautics and Astronautics*);

14:45 Sensor Deployment in mm-Wave Near-field Monostatic and MIMO Radar Imaging
Mario Del Prete (*University of Campania*); *Maria Antonia Maisto* (*University of Campania*); *Antonio Cuccaro* (*University of Calabria*); *Raffaele Solimene* (*University of Campania*);

15:00 Wavenumber-domain Deep Learning-enhanced Contrast Source Inversion for Microwave Breast Cancer Quantitative Diagnosis
Peixian Zhu (*The University of Electro-Communications*); *Shouhei Kidera* (*The University of Electro-Communications*);

15:15 Wavefront Retrieval via Learnable Phase Modulation and Deep Learning
Abdourahman Khaireh-Walieh (*Université de Toulouse*); *Clément Majorel* (*Université Côte d'Azur*); *Yanel Tahmi* (*Université Côte d'Azur*); *Patrice Genevet* (*Université Côte d'Azur*); *Benoit Wattellier* (*Phasics S.A*); *Samira Khadir* (*Université Côte d'Azur*); *Peter R. Wiecha* (*LAAS-CNRS, Université de Toulouse*);

15:40 **Coffee Break**

Session 2P10b
Atom-waveguide Hybrid Platforms for Quantum Technologies 2

Friday PM, November 7, 2025

Room 10 - 202

Organized by Síle Nic Chormaic

Chaired by Síle Nic Chormaic

16:00 Invited Neutral-atom Waveguide-QED: Nanofibers and Slow-mode Waveguides
Julien Laurat (*Sorbonne Universite, CNRS*);

16:20 Invited Light Propagation in Optical Elements Formed from Layered Atomic Arrays
Lewis Ruks (*NTT Corporation*); *Kyle Edward Ballantine* (*Lancaster University*); *Janne Ruostekoski* (*Lancaster University*);

16:40 Towards Enhanced Directional Coupling in an Optical Nanofibre-cold Atom System
Zohreh Shahrabifarahani (*Okinawa Institute of Science and Technology (OIST) Graduate University*); *Michelangelo Dondi* (*Okinawa Institute of Science and Technology (OIST) Graduate University*); *Wenfang Li* (*Okinawa Institute of Science and Technology (OIST) Graduate University*); *Sile Nic Chormaic* (*Okinawa Institute of Science and Technology Graduate University*);

16:55 Enhancing Quantum Emitters Using Metal Nanoparticles on Optical Nanofibers
Yining Xuan (*Tokyo University of Science*); *Daito Miyazaki* (*Tokyo University of Science*); *Mark Sadgrove* (*Tokyo University of Science*);

17:10 Invited Excitation of ^{87}Rb Rydberg State Atoms to nS and nD States ($n \leqslant 68$) via an Optical Nanofiber
Alexey Vylegzhanin (*Okinawa Institute of Science and Technology*); *D. J. Brown* (*Imperial College London*); *A. Raj* (*Okinawa Institute of Science and Technology Graduate University*); *D. F. Kornovan* (*Aarhus University*); *J. L. Everett* (*Australian National University*); *E. Brion* (*Universite Toulouse III Paul Sabatier, CNRS*); *J. Robert* (*Université Paris-Saclay, CNRS*); *Sile Nic Chormaic* (*Okinawa Institute of Science and Technology Graduate University*);

17:30 Hybrid Quantum/Thermal Transport in One-dimensional Bose Gases
Carsten Henkel (*University of Potsdam*);

17:45 Integrating an Optical Micro-cavity in a Linear Ion Trap
Invited for Quantum Photonic Interconnects
Hiroki Takahashi (*OIST Graduate University*); *Soon Teh* (*Okinawa Institute of Science and Technology*); *Zhenghan Yuan* (*Okinawa Institute of Science and Technology*); *Shuma Oya* (*Okinawa Institute of Science and Technology*); *Vishnu Kavungal* (*Okinawa Institute of Science and Technology*); *Shaobo Gao* (*Okinawa Institute of Science and Technology*); *Ezra Kassa* (*Okinawa Institute of Science and Technology*);

18:05 A Proposal for a Photonic Quantum Battery
Charles Andrew Downing (*University of Exeter*); *Muhammed Shoufie Ukhtary* (*National Research and Innovation Agency (BRIN)*);

Session 2P11a
Superconducting Photon Detectors

Friday PM, November 7, 2025

Room 11 - 203

Organized by Takashi Yamamoto, Shigehito Miki

Chaired by Takashi Yamamoto, Shigehito Miki

13:30 Advanced Photon Counting Applications with Super-
Invited conducting Nanowire Detectors
Robert H. Hadfield (*University of Glasgow*);

13:50 High-speed SNSPDs for Qubit Rate Scaling in Quantum
Invited Networks
Boris Korzh (*University of Geneva*); *Andrew Mueller* (*California Institute of Technology*); *Towsif Taher* (*University of Geneva*); *Manish Sahu* (*University of Geneva*); *Andrew D. Beyer* (*California Institute of Technology*); *Matthew D. Shaw* (*California Institute of Technology*); *Maria Spiropulu* (*California Institute of Technology*);

14:10 Non-Gaussian Quantum State Generation with Photon-
Invited number Resolving Detector for Ultrafast Optical Quantum Information Processing
Mamoru Endo (*University of Tokyo*); *A. Furusawa* (*University of Tokyo*);

14:30 Development toward the Realization of SSPD System
Invited with Hundreds of Channels
Shigehito Miki (*National Institute of Information and Communications Technology*); *Masahiro Yabuno* (*National Institute of Information and Communications Technology*); *Shigeyuki Miyajima* (*National Institute of Information and Communications Technology*); *Hirotaka Terai* (*National Institute of Information and Communications Technology*);

14:50 Theoretical Analysis of Photon Detection Mechanism in
Invited Superconducting Single-photon Detectors
Hiroaki Matsueda (*Tohoku University*); *Yusuke Masaki* (*Tohoku University*);

15:10 Development of Mid to Far-infrared Superconducting Nanowire Single Photon Detectors
Sahil R. Patel (*California Institute of Technology*); *Andrew Mueller* (*California Institute of Technology*); *Sasha Sypkens* (*California Institute of Technology*); *Gregor Taylor* (*Ecole Polytechnique Fédérale de Lausanne*); *Bruce Bumble* (*California Institute of Technology*); *Boris Korzh* (*University of Geneva*); *Marco Colangelo* (*Northeastern University*); *Dip Joti Paul* (*Massachusetts Institute of Technology*); *Sven Van Berkel* (*California Institute of Technology*); *Alex Walter* (*California Institute of Technology*); *Jason Allmaras* (*California Institute of Technology*); *Benedikt Hampel* (*National Institute of Standards and Technology*); *Varun Verma* (*National Institute of Standards and Technology*); *Karl Berggren* (*Massachusetts Institute of Technology*); *Matthew D. Shaw* (*California Institute of Technology*); *Emma Wollman* (*California Institute of Technology*);

15:25 Superconducting Nanowire Single Photon Detector Arrays for Infrared Photon Counting Applications
Dmitry Morozov (*University of Glasgow*); *Daniel Kuznesof* (*University of Glasgow*); *Ciaran Lennon* (*Oxford Instruments Plasma Technology*); *Nidhi Choudhary* (*University of Glasgow*); *Robert H. Hadfield* (*University of Glasgow*);

15:40 **Coffee Break**

Session 2P11b
Quantum Information Processing and Devices

Friday PM, November 7, 2025

Room 11 - 203

Organized by Hai-Zhi Song, Guangwei Deng

Chaired by Hai-Zhi Song

16:00 Equilibrium Propagation Training Neural Network Based on Coherent Ising Machine
Chenrui Fan (*Beijing Normal University*); *Bo Lu* (*Beijing Normal University*); *Chuan Wang* (*Beijing Normal University*);

16:15 Integration of InGaAs/InP Single Photon Avalanche
Invited Diodes on Quantum Photonic Chips
Wei Zhang (*Tsinghua University*);

16:35 Quantum Precision Measurement and Quantum Control
Invited of Silicon Carbide Color Centers
Junfeng Wang (*Sichuan University*);

16:55 Benchmarking the Performance of Large Boson Sampling Systems
Jan-Lucas Eickmann (*Paderborn University*); *Jonas Lammers* (*Paderborn University*); *Mikhail Roiz* (*Paderborn University*); *Kai-Hong Luo* (*Paderborn University*); *Simone Atzeni* (*Paderborn University*); *Florian Lütkewitte* (*Paderborn University*); *Fabian Schlue* (*Paderborn University*); *Cheeranjiv Pandey* (*Paderborn University*); *Timon Schapeler* (*Paderborn University*); *Benjamin Brecht* (*Paderborn University*); *Tim J. Bartley* (*Paderborn University*); *Michael Stefszky* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*);

17:10 Invited High-detection-efficiency Si Single-photon Avalanche Photodiode with Low Noise and Low Timing Jitter
Yan Liang (*University of Shanghai for Science and Technology*); *Haoyu Wang* (*University of Shanghai for Science and Technology*); *Yiping Zhang* (*University of Shanghai for Science and Technology*);

17:30 Invited Mid-infrared Single-photon Upconversion Imaging
Kun Huang (*East China Normal University*);

17:50 Design of Elliptical Micropillar Cavities Serving as Polarized Single Photon Sources
Shuai Huang (*Southwest Institute of Technical Physics*); *Xiumin Xie* (*Southwest Institute of Technical Physics*); *Mengke Cai* (*Southwest Institute of Technical Physics*); *Ruomei Jiang* (*Southwest Institute of Technical Physics*); *Beitong Cheng* (*Southwest Institute of Technical Physics*); *Qiang Xu* (*Southwest Institute of Technical Physics*); *You Wang* (*Southwest Institute of Technical Physics*); *Guangwei Deng* (*University of Electronic Science and Technology of China*); *Qiang Zhou* (*University of Electronic Science and Technology of China*); *Hai-Zhi Song* (*Southwest Institute of Technical Physics & UESTC*);

18:05 Invited Identical Photons and Solid-state Qubits in GaAs Quantum Dots
Liang Zhai (*University of Electronic Science and Technology of China*);

18:25 Invited Semiconductor Cavity Quantum Electrodynamics
Jin Liu (*Sun Yat-Sen University*);

Session 2P13a
Innovations in Optical Technologies: Bridging Today's Networks with Future Demands

Friday PM, November 7, 2025

Room 13 - 205

Organized by Noboru Yoshikane

Chaired by Noboru Yoshikane

13:30 Invited Component-level Disaggregation via the FBD Model: Enabling Accurate Path Computation and QoT Estimation
Kiyo Ishii (*National Institute of Advanced Industrial Science and Technology*); *Kenji Mizutani* (*National Institute of Advanced Industrial Science and Technology*);

13:50 Effect of Modulation Format Selection Considering Inter-core XT in Distributed Control SDM-EON
Takuma Saito (*Kogakuin University*); *Ken-ichi Baba* (*Kogakuin University*);

14:05 Toward Low-latency Services over PON Using OCDMA Private Networks
Steevy J. Cordette (*IEEE Senior Member*);

14:20 Experimental Demonstration of FDM/WDM-based A-RoF Link for Expanding Coverage Areas of Distributed MIMO
Shinji Nimura (*KDDI Research, Inc.*); *Kazuki Tanaka* (*KDDI Research, Inc.*); *Ryo Inohara* (*KDDI Research, Inc.*);

14:35 Field Transition Properties in Higher-order Coupled-modes of Symmetrical Dual-core Optical Fiber Structures
Naoto Kishi (*The University of Electro-Communication*);

14:50 Demonstration of End-to-end Automation and Heterogeneous All-photonics Network Integration
Ryotaka Miyamoto (*Furukawa Electric Co., Ltd.*); *Shinya Nakamura* (*UBiqube*); *Yusuke Hirota* (*National Institute of Information and Communications Technology (NICT)*); *Ken-ichi Baba* (*Kogakuin University*); *Hirofumi Yamaji* (*TOYO Corporation*); *Satoshi Yamanoi* (*OA Laboratory*); *Sota Yoshida* (*Mitsubishi Electric*); *Yoshihiro Nakahira* (*Oki Electronics*); *Satoru Okamoto* (*Keio University*); *Shinichi Akahane* (*Alaxala Networks*); *Kenichi Goto* (*Furukawa Electric Co., Ltd.*); *Tomoaki Terasaki* (*Furukawa Electric Co., Ltd.*);

15:05 A Novel Use Case of Future Multi-carrier Interconnection — Swift and Low-cost Disaster Recovery via Carrier Cooperation
Sugang Xu (*National Institute of Information and Communications Technology (NICT)*); *Noboru Yoshikane* (*Photonic Network Laboratories, KDDI Research, Inc.*); *Xiaocheng Zhang* (*NTT Docomo Business*); *Subhadeep Sahoo* (*University of California*); *Sifat Ferdousi* (*University of California*); *Masaki Shiraiwa* (*National Institute of Information and Communications Technology (NICT)*); *Yusuke Hirota* (*National Institute of Information and Communications Technology (NICT)*); *Takehiro Tsuritani* (*KDDI Research, Inc.*); *Shigenari Suzuki* (*NTT Docomo Business*); *Massimo Tornatore* (*Polytechnic University of Milan*); *Yoshinari Awaji* (*National Institute of Information and Communications Technology*); *Biswanath Mukherjee* (*University of California*);

15:20 All-optical Nonlinear Activations Using Saturable Absorbers on a Generic InP Platform for Photonic Neural Networks
Rajib Ratan Ghosh (*Eindhoven University of Technology*); *Lukas Puts* (*Eindhoven University of Technology*); *Julian Konig* (*Eindhoven University of Technology*); *Weiming Yao* (*Technical University Eindhoven*);

15:40 **Coffee Break**

Session 2P13b
Computing Evolution with Optical Technologies

Friday PM, November 7, 2025

Room 13 - 205

Organized by Masahisa Kawashima

Chaired by Masahisa Kawashima

16:00 Fixed Latency Computing
Invited
Naoyoshi Okawa (*1FINITY Inc.*); *Jun Ogawa* (*1FINITY Inc.*); *Yuji Nomura* (*1FINITY Inc.*);

16:20 Task Scheduling for Parallel Data-processing Pipelines
Invited on the Real-time Computing Infrastructure
Taichi Furuya (*Software Innovation Center, NTT, Inc.*); *Shunpei Morita* (*Software Innovation Center, NTT, Inc.*); *Ken'yo U* (*Software Innovation Center, NTT, Inc.*); *Yoshitaka Goto* (*Software Innovation Center, NTT, Inc.*); *Jun-ya Kato* (*Software Innovation Center, NTT, Inc.*); *Akira Kanamaru* (*Software Innovation Center, NTT, Inc.*);

16:40 All-optical Convolutional Neural Network Architecture for Pre-sensing Computing
Caihua Zhang (*Tsinghua University*); *Ruidong Li* (*Shandong Yunhai Guochuang Cloud Computing Equipment Industry Innovation Co.*); *Zheng Huang* (*Tsinghua University*); *Conghe Wang* (*Tsinghua University*); *Shukai Wu* (*Tsinghua University*); *Kejian Zhu* (*Shandong Yunhai Guochuang Cloud Computing Equipment Industry Innovation Co.*); *Hongwei Chen* (*Tsinghua University*);

16:55 Data Center Scale Disaggregated Computing with
Invited Next Generation Computing Technology: ExpEther ("***ExpressEther***")
Ryuta Niino (*NEC Corporation*); *Junichi Higuchi* (*NEC Corporation*); *Yoichi Hidaka* (*NEC Corporation*);

17:15 Exploring Optical Interconnect Architectures for Scal-
Invited able and High-performance AI Clusters
Takeru Inoue (*University of Yamanashi*); *Nariaki Tateiwa* (*NTT Software Innovation Center*); *Yoshiaki Sone* (*NTT Network Innovation Laboratories*); *Koichi Takasugi* (*NTT Network Innovation Laboratories*); *Masahisa Kawashima* (*NTT*);

17:35 A PCIe-based Optical SSD and Its Potential for Future
Invited Disaggregated Networks
Ryuichi Fujimoto (*Kioxia Corporation*); *Kuniaki Ito* (*Kioxia Corporation*); *Yosuke Yamahara* (*Kioxia Corporation*); *Youichirou Shiba* (*Kioxia Corporation*); *Koji Sano* (*Kioxia Corporation*); *Takaya Yamamoto* (*Kioxia Corporation*); *Kazukuni Kitagaki* (*Kioxia Corporation*); *Shinya Kawakami* (*Kioxia Corporation*); *Yuma Nomura* (*Kioxia Corporation*); *Ryo Sekiguchi* (*Kioxia Corporation*); *Yohei Hasegawa* (*Kioxia Corporation*); *Isao Yamamoto* (*Kioxia Corporation*); *Masafumi Takahashi* (*Kioxia Corporation*);

17:55 Photonics-electronics Integrated Packaging and Module
Invited Technologies Contributing to Energy Saving for Future Computing
Takahiro Matsubara (*KYOCERA Corporation*); *Takashi Yamamoto* (*KYOCERA Corporation*); *Misa Takahashi* (*KYOCERA Corporation*); *Megumi Oishi* (*KYOCERA Corporation*); *Ayane Toujo* (*KYOCERA Corporation*); *Keiko Oda* (*KYOCERA Corporation*); *Hisaaki Nishimura* (*KYOCERA Corporation*); *Tomoyuki Akahoshi* (*KYOCERA Corporation*);

Session 2P14a
III-nitride Materials and Relevant Devices Including UV LEDs and LDs 2

Friday PM, November 7, 2025

Room 14 - 301A

Organized by Muhammad Ajmal Khan, Muhammad Nawaz Sharif

Chaired by Muhammad Nawaz Sharif

13:30 Hydride Vapor Phase Epitaxy of 6-inch GaAs-based Solar Cells for Scalable and Cost-effective Photovoltaic Manufacturing
Ryuji Oshima (*National Institute of Advanced Industrial Science and Technology*); *Keigo Kondo* (*Tokyo City University*); *Yudai Shimizu* (*Taiyo Nippon Sanso Corporation*); *Akinori Ubukata* (*Taiyo Nippon Sanso Corporation*); *Yoshinobu Okano* (*Tokyo City University*); *Hiroki Tokunaga* (*Taiyo Nippon Sanso Corporation*); *Takeyoshi Sugaya* (*National Institute of Advanced Industrial Science and Technology*);

13:45 Excitonic Optical Transitions in AlGaN-based Multiple
Invited Quantum Wells Emitting in the UV-B and UV-C Spectral Ranges
Hideaki Murotani (*Tokuyama College*); *Yoichi Yamda* (*Yamaguchi University*);

14:05 Advancement of MOCVD and Complementary Tech-
Invited nologies for Al(Ga)N-based Optoelectronic and Electronic Devices
Akinori Ubukata (*Taiyo Nippon Sanso Corporation*); *M. Bulsara* (*Taiyo Nippon Sanso Corporation*);

14:25 Physics, Epitaxy, and Applications of III-Nitride Nanos-
Keynote tructures for High-efficiency Micro-LEDs
Zetian Mi (*University of Michigan*);

00:00 Far-UV Second Harmonic Generation in a Vertical Non-inverted AlN/AlGaN Strained-layer Superlattice Channel Waveguide Pumped by CW Laser
Shahzeb Malik (*Osaka University*);

00:00 Controlling Strong Phonon-assisted Luminescence Pro-
Invited cesses in Hexagonal Boron Nitride
Jonghwan Kim (*Pohang University of Science and Technology*);

Session 2P14b
Integrated Optoelectronic Devices: Fundamentals and Applications

Friday PM, November 7, 2025

Room 14 - 301A

Organized by Song Han, Shilong Li

Chaired by Shilong Li

16:00 Heterogeneously Integrated Membrane III-V Photonic
Invited Devices on Silicon
Shinji Matsuo (*NTT Corporation*);

16:20 Topological Waveguiding Induced by Phase Dislocations
Invited in a Photonic Dirac Lattice
Bofeng Zhu (*Nanyang Technological University*); *Qi Jie Wang* (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*);

16:40 Terahertz Integrated Devices Enabled by Silicon Pho-
Invited tonics and Resonant Tunneling Diodes
Weijie Gao (*The University of Osaka*); *Masayuki Fujita* (*The University of Osaka*);

17:00 Silicon Photonic Phase Controlled Opto-optic Beam Steering
Adam Helmy (*Southern Methodist University*); *Hiva Shahoei* (*Southern Methodist University*); *Mason Tuller* (*Southern Methodist University*); *Mitchell A. Thornton* (*Southern Methodist University*); *Duncan L. MacFarlane* (*Southern Methodist University*);

17:15 All-TMDC Microdisk Heterostructure Lasers
P. A. Alekseev (*Ioffe Institute*);

17:30 Monolithic Integration of HgTe Quantum Dot Photodetectors with Micromachined Joule-Thomson Cooling
Haiyue Pei (*Westlake University*); *Menglu Chen* (*Westlake Institute for Optoelectronics*); *Dongli Liu* (*Westlake Instruments (Hangzhou) Technology Co, Ltd.*); *Ding Zhao* (*Westlake Institute for Optoelectronics*); *Min Qiu* (*Westlake University*);

17:45 ART-modulated Metasurfaces Enabled by Transferable VO_2
Fengjie Zhu (*Nanjing University*); *Kainan Yang* (*Nanjing University*); *Jianhua Hao* (*Beijing University of Technology*); *He Ma* (*Beijing University of Technology*); *Jingbo Wu* (*Nanjing University*); *Caihong Zhang* (*Nanjing University*); *Xinping Zhang* (*Beijing University of Technology*); *Huabing Wang* (*Nanjing University*); *Biaobing Jin* (*Nanjing University*); *Jian Chen* (*Nanjing University*); *Peiheng Wu* (*Nanjing University*); *Kebin Fan* (*Nanjing University*);

00:00 Lead Salts Semiconductors-based Infrared Sensors
Invited
Yu Wang (*Nanchang University*); *Zhe Cheng* (*Nanchang University*); *Qisheng Wang* (*Nanchang University*);

00:00 Design Considerations of Laser Sources for Silicon-
Invited photonic DWDM Interconnects
Nandish Mehta (*NVIDIA Research*);

Session 2P15
Emerging Materials-based Photodetection Materials and Devices

Friday PM, November 7, 2025

Room 15 - 301B

Organized by Han Young Woo, Jae Won Shim

Chaired by Han Young Woo, Jae Won Shim

13:30 Quantum Dot Nanocrystal Based Optoelectronic De-
Invited vices and Infrared Image Sensors
Soong Ju Oh (*Korea University*);

13:50 Pre-annealing Treatment Enhances Thermal Stability by
Invited Preventing Electrode Penetration in Non-fullerene Organic Solar Cells
Wonho Lee (*Kumoh National Institute of Technology*);

14:10 Development of Silver Telluride Colloidal Quantum Dots
Invited for Shortwave Infrared Photodetectors
Min-Jae Choi (*Dongguk University*);

14:30 Towards Bio-based Photodetectors and Photovoltaics
K. Van Glabbeeck (*Hasselt University*); *A. Robert* (*Hasselt University*); *Roland Valcke* (*Hasselt University*); *Jean Vittorio Manca* (*Hasselt University*);

14:45 Organic Photodiode: Beyond RGB Sensing
Invited
Dae Sung Chung (*Pohang University of Science & Technology (POSTECH)*);

15:05 Interactive Materials with Conjugated Cores for Engi-
Invited neering Interfaces in Optoelectronics
Jea Woong Jo (*Dongguk University*);

15:40 **Coffee Break**

16:00 Field-modulated Quantum Dot Solids for Efficient
Invited Shortwave-infrared Photodetector
Se-Woong Baek (*Korea University*); *Yujin Jung* (*Yeongnam University*);

16:20 High-sensitivity, Low-power Organic Photodetectors for Real-time Cardiovascular Monitoring
Invited
Sungjun Park (*Ajou University*);

00:00 Electromagnetic-photonic Coupling in $BiFeO_3$ Thin Films
Yinlian Zhu (*Songshan Lake Materials Laboratory*);

16:55 Advanced Synthesis of Ternary I-III-VI Quantum Dots for Optoelectronic Applications
Invited
Jiwoong Yang (*Daegu Gyeongbuk Institute of Science and Technology (DGIST)*);

17:15 Crystallization-guided Morphological Engineering for High-performance Near-infrared Organic Photodetectors
Invited
Doo-Hyun Ko (*Sungkyunkwan University*);

17:35 High-efficiency Perovskite Based Tandem Solar Cells with High Open-circuit Voltage
Invited
Jin Young Kim (*Ulsan National Institute of Science and Technology (UNIST)*);

17:55 NbC/n-Si Based CMOS Compatible Heterojunction Photodetector for Visible to Near-infrared Sensing Applications
Dinelka Somaweera Liyadde Gedara (*University Of New South Wales*); *S. Akter* (*University Of New South Wales*); *Haroldo T. Hattori* (*University of New South Wales*); *M. Ghodrat* (*University Of New South Wales*); *Andrey E. Miroshnichenko* (*Australian National University*);

18:10 Hole Transport Layer Control Engineering for Stable and High-efficiency Perovskite Solar Cells
Invited
Dong Suk Kim (*Ulsan National Institute of Science and Technology (UNIST)*);

Session 2P16a
Integrated Quantum Photonics

Friday PM, November 7, 2025

Room 16 - 302

Organized by Jianwei Wang

13:30 Multi-orbital Fano Resonances in One-dimensional Photonic Lattices
Polette Parra (*Universidad de Chile*); *Rodrigo A. Vicencio* (*Universidad de Chile*);

13:45 Realizing Fully Programmable Quantum Networks via Frequency Conversion
Patrick Folge (*Paderborn University*); *Abhinandan Bhattacharjee* (*Paderborn University*); *Michael Stefszky* (*Paderborn University*); *Sebastian Lengeling* (*Paderborn University*); *Benjamin Brecht* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*);

14:00 Chip-based Large-scale Quantum Communication Networks
Yun Zheng (*Peking University*); *Jianwei Wang* (*Peking University*);

14:15 On-chip Photonic Quantum Information Processing
Lantian Feng (*University of Science and Technology of China*);

14:30 Photonic Pathways to Practical Quantum Advantage
Zhenghao Li (*Imperial College London*);

00:00 Relativistic Bohmian Mechanics
Hui Wang (*University of Science and Technology of China*);

00:00 Recent Progress on Photonic Integrated Circuits for Quantum Secure Communications
Taofiq K. Paraiso (*Toshiba Europe Limited*); *Han Du* (*Toshiba Europe Limited*); *Joseph A. Dophin* (*Toshiba Europe Limited*); *Louise M. Wells* (*Toshiba Europe Limited*); *Ankur Khurana* (*Toshiba Europe Limited*); *Andrew James Shields* (*Toshiba Europe Limited*); *R. Mark Stevenson* (*Toshiba Research Europe Limited*);

Session 2P16b
Advances in Quantum Optics and Nanophotonics

Friday PM, November 7, 2025

Room 16 - 302

Organized by Liang Zhai, Xueshi Guo

Chaired by Liang Zhai

16:00 Quantum Noise in a Non-Hermitian Double Resonator System
Invited
Dmitrii N. Maksimov (*Siberian Federal University*); *A. A. Bogdanov* (*ITMO University*);

16:20 Feedforward-powered Synthetic-dimension Photonics
Invited
Zheng-Hao Liu (*Technical University of Denmark*); *Daniel Duggan* (*Technical University of Denmark*); *Simon Filgis* (*Ingenieurburo Filgis*); *Axel B. Bregnsbo* (*Technical University of Denmark*); *Jonas S. Neergaard-Nielsen* (*Technical University of Denmark*); *Ulrik L. Andersen* (*Max Planck Institute for the Science of Light*);

16:40 Detection of Multipartite Entanglement through Data-augmented Neural Networks
Invited
Yu Xiang (*Xi'an Jiaotong University*);

17:00 Monte Carlo Simulations of Quantum Emitters
Invited
Sergei Lepeshov (*Technical University of Denmark*); *Soren Stobbe* (*Technical University of Denmark*);

17:20 Waveguide-integrated Indistinguishable Single-molecule Single Photon Sources for On-chip Quantum Optics
Invited
Jianwei Tang (*Huazhong University of Science and Technology*);

17:40 Moiré Cavity Quantum Electrodynamics
Yutong Wang (*Zhejiang University*); *Feng Liu* (*Zhejiang University*);

Session 2P17
Nonlocal Metasurfaces and Novel Applications 2

Friday PM, November 7, 2025

Room 17 - 303

Organized by Zhanghua Han, Shunsuke Murai

Chaired by Shunsuke Murai, Zhanghua Han

13:30 Invited — Meta-optics for Optical Computing and AI
Yurui Qu (*ShanghaiTech University*);

13:50 Invited — Canonical Quantization Scheme for Retarded Localized Surface Plasmons in a Dispersive and Dissipative Metal Nanosphere
Kuniyuki Miwa (*Institute for Basic Science*);

14:10 Invited — Dynamically Tunable Nonreciprocal Radiation in Hybrid Metastructures
Ye Ming Qing (*Nanjing University of Posts and Telecommunications*); *Jiale Gao* (*Nanjing University of Posts and Telecommunications*); *Zhuofan Jiang* (*Nanjing University of Posts and Telecommunications*);

14:30 Invited — Isotropic Terahertz Optical Control via Amorphous Meta-atoms 3D Bulk Metamaterials
Zhen Liu (*Tohoku University*); *Yoshiaki Kanamori* (*Tohoku University*);

14:50 Invited — Chirality-controlled Harmonic Generation on Nonlinear Metasurfaces
Anlong Dong (*Hefei University of Technology*); *Ying Zhu* (*Hefei University of Technology*); *Haoshan Wu* (*Hefei University of Technology*); *Junru Wang* (*Hefei University of Technology*); *Meng Qin* (*Hefei University of Technology*); *Hongju Li* (*Hefei University of Technology*);

15:10 Nonlocal Coupling in Bilayer Metasurfaces via Out-of-plane Quadrupole Surface Lattice Resonance
Tien Yang Lo (*Kyoto University*); *Shunsuke Murai* (*Kyoto University*); *Taiki Takashima* (*Kyoto University*); *Joshua T. Y. Tse* (*Kyoto University*); *Katsuhisa Tanaka* (*Kyoto University*);

15:40 **Coffee Break**

16:00 Invited — Cathodoluminescence Nanoimaging to Evaluate Emitter-resonator Coupling
Hikaru Saito (*Kyushu University*);

16:20 Invited — Asymmetric Transmission through Magneto-chiral Plasmonic Nanoparticles Prepared by Circularly Polarized Light
Takuya Ishida (*University of Tokyo*); *Tetsu Tatsuma* (*University of Tokyo*);

16:40 Invited — Free-space Accessible Silicon Metasurfaces for Sensing Applications Using Quasi-bound States in the Continuum
Keisuke Watanabe (*National Institute for Materials Science (NIMS)*); *Masanobu Iwanaga* (*National Institute for Materials Science*); *Tadaaki Nagao* (*Hokkaido University*);

17:00 Invited — Engineering Spin Angular Momentum and Optical Chirality through Plasmonic Structure Design
Naoki Ichiji (*The University of Tokyo*);

17:20 Invited — Planar Chiral Resonant Metasurfaces with Independent and Simultaneous Controlling of Q-factor and Eigenchirality
Zi-Lan Deng (*Jinan University*);

17:40 Invited — Nanophotonics Enhances Nanophosphor Emision
Gabriel Lozano (*Spanish National Research Council*);

00:00 Harmonic Generation and Ultrafast Response in Dielectric and Plasmonic Metasurfaces Enhanced by the Bound States in the Continuum
Mihail I. Petrov (*ITMO University*);

00:00 Invited — Non-Hermitian Singularities in All-dielectric Metastructures: From Exceptional Bound States in the Continuum to Bulk Fermi Arcs
Fan Zhang (*Harbin Engineering University*); *Adrià Canós Valero* (*University of Graz*); *Nikolay S. Solodovchenko* (*ITMO University*); *Zoltan Sztranyovszky* (*University of Birmingham*); *Mikhail E. Bochkarev* (*ITMO University*); *Mingzhao Song* (*Harbin Engineering University*); *Egor A. Muljarov* (*University of Birmingham*); *Thomas Weiss* (*University of Graz*); *Mikhail F. Limonov* (*ITMO University*); *Yuri S. Kivshar* (*Australian National University*); *Andrey A. Bogdanov* (*Harbin Engineering University*);

Session 2P18
Topological Nanophotonics 1

Friday PM, November 7, 2025

Room 18 - 304

Organized by Cuicui Lu, Zhiwei Guo, Lin Chen

Chaired by Cuicui Lu

13:30 Invited — Topological Disclination States in a Non-Hermitian Lattice
Rimi Banerjee (*Nanyang Technological University*); *Subhaskar Mandal* (*Nanyang Technological University*); *Yun Yong Terh* (*Nanyang Technological University*); *Shuxin Lin* (*Nanyang Technological University*); *Gui-Geng Liu* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*);

13:50 Invited — Classifying Topology in Open and Nonlinear Photonic Systems
Alexander Cerjan (*Sandia National Laboratories*);

14:10 Keynote — Some New Topological Photonic Crystals
Che Ting Chan (*The Hong Kong University of Science and Technology*);

14:40 Topological Nano-rainbow Laser
Invited
Yongquan Zeng (*Wuhan University*); *Shouqi Zhang* (*Wuhan University*); *Cuicui Lu* (*Beijing Institute of Technology*); *Shaohua Yu* (*Peng Cheng Laboratory*); *Qi Jie Wang* (*Nanyang Technological University*);

15:00 Topological Near Fields in Nanophotonics
Invited
Shubo Wang (*City University of Hong Kong*);

15:20 Adiabaticity in Topological Photonics
Invited
Oubo You (*Shanghai Jiao Tong University*);

15:40 **Coffee Break**

16:00 Nonlinear Topological Photonics: Frequency Combs and a New Paradigm in Phase-matching
Keynote
Lida Xu (*University of Maryland*); *Mahmoud Jalali Mehrabad* (*University of Maryland*); *Christopher J. Flower* (*University of Maryland*); *Gregory Moille* (*University of Maryland*); *Alessandro Restelli* (*University of Maryland*); *Daniel G. Suarez-Forero* (*University of Maryland*); *Yanne K. Chembo* (*University of Maryland*); *Sunil Mittal* (*Northeastern University*); *Kartik Srinivasan* (*National Institute of Standards and Technology*); *Mohammad Hafezi* (*University of Maryland*);

16:30 Photonic Chern Metal with Bi-chiral Edge Propagation
Invited
Xiao-Chen Sun (*Nanjing University*);

16:50 Crystal Transformation and Luminescence Control through LSPR Effect
Invited
Hairong Zheng (*Shaanxi Normal University*);

17:10 Selectively Chiral Switching of Plasmonic Dimer Driven by Synergic Asymmetric Optomechanical and Photothermal Effects
Invited
Rong-Yao Wang (*Beijing Institute of Technology*);

17:30 Integrated Microwave Photonic Sensors
Invited
Liwei Li (*University of Sydney*); *Xiaoyi Tian* (*University of Sydney*); *Linh Nguyen* (*University of Sydney*); *Xiaoke Yi* (*University of Sydney*);

17:50 Programmable Topological Colour Routers
Invited
Cheng Chi (*Beijing Institute of Technology*);

18:10 Non-Markovian Dynamics Revealed at a Bound State in Continuum
Savannah Garmon (*Osaka Metropolitan University*); *Kenichi Noba* (*Osaka Metropolitan University*); *Gonzalo Ordonez* (*Butler University*); *Dvira Segal* (*University of Toronto*);

18:25 Valley Assisted High-Q Microwave Photonic Crystal
Geetanjali Jena (*Indian Institute of Technology Delhi*); *Ravendra K. Varshney* (*Indian Institute of Technology Delhi*); *Dibakar Roy Chowdhury* (*Anurag University*);

Session 2P19
Poster Session 2

Friday PM, November 7, 2025
14:00 PM - 18:00 PM
Poster Area

1 Microstrip Patch Antenna with Metamaterial Substrate
I. A. Gromov (*National Research University "Moscow Power Engineering Institute"*); *A. A. Politiko* (*National Research University "Moscow Power Engineering Institute"*); *V. A. Dyakonov* (*JSC "Kompozit"*); *K. S. Kharlamp'ev* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Kirill Sergeyevich Sychev* (*National Research University "Moscow Power Engineering Institute"*);

2 Cavity Mode Modulation in Micro-nanolasers via Localized Surface Plasmon Resonance
Jiahao Dong (*Tongji University*); *Yu He* (*Tongji University*); *Minghang Liang* (*Tongji University*); *Yongchen Miao* (*Tongji University*); *Ruichen Zhu* (*Tongji University*); *Pengyan Wen* (*Tongji University*);

3 Plasma Parameters Inversion Based on 1D Convolutional Neural Network
Wei Chen (*Anhui University*); *Wenxuan Liao* (*Anhui University*); *Dandan Song* (*Anhui University*); *Qingqing Deng* (*Anhui University*); *Xianmin Guo* (*Anhui University*); *Lixia Yang* (*Anhui University*); *Xiaojun Sun* (*Jianghuai Advance Technology Center*);

4 Radio Wave Back-propagation over Rough Sea Surface
K. S. Kharlamp'ev (*National Research University "Moscow Power Engineering Institute"*); *Kirill Sergeyevich Sychev* (*National Research University "Moscow Power Engineering Institute"*); *I. A. Gromov* (*National Research University "Moscow Power Engineering Institute"*); *M. S. Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *A. A. Ershova* (*National Research University "Moscow Power Engineering Institute"*);

5 Efficient Radio Wave Propagation Prediction Using Dynamic GAN-based Model with Data Augmentation
Haochang Wu (*University College Dublin*); *Hao Qin* (*University College Dublin*); *Siyi Huang* (*University of Alberta*); *Siteng Ma* (*University College Dublin*); *Xingqi Zhang* (*University of Alberta*); *Xinyue Zhang* (*University College Dublin*);

6 An Improved LISN with Calibration-based Modal Separation for SMPS Noise and Impedance Characteristics Measurement
Hongji Xu (*Beihang University*); *Mingyang Li* (*Beihang University*); *Yuxiang Xiao* (*Beihang University*); *Aixin Chen* (*Beihang University*);

7 Micro-structured Silicon Spectral Emissivity at Intermediate Temperatures from 100°C to 350°C
Georges Hamaoui (*Université Gustave Eiffel*); *Elissa Akiki* (*Université Gustave Eiffel*); *Armande Herve* (*Université Gustave Eiffel, CNRS, ESYCOM*); *Yang An* (*CIOMP, Chinese Academy of Sciences*); *Frédéric Marty* (*Université Gustave Eiffel*); *Jianping Zou* (*Nanyang Technological University*); *Tarik Bourouina* (*Université Gustave Eiffel*); *Philippe Basset* (*Université Gustave Eiffel*); *Agnès Delmas* (*Université de Lyon*); *Elyes Nefzaoui* (*University Gustave Eiffel*);

8 Development of the Radiotransparent Radome Using 3D Printing
K. S. Kharlamp'ev (*National Research University "Moscow Power Engineering Institute"*); *Kirill Sergeyevich Sychev* (*National Research University "Moscow Power Engineering Institute"*); *I. A. Gromov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *A. A. Politiko* (*JSC "Kompozit"*); *D. A. Evseev* (*Moscow Aviation Institute (National Research University)*);

9 Measurements of Sound Propagation in Acoustic Metamaterial Consisting of Coupled Helmholtz Resonators
Koichiro Sakaguchi (*Okayama Prefectural University*); *R. Mashiba* (*Okayama Prefectural University*); *H. Katagiri* (*Okayama Prefectural University*); *M. Kishihara* (*Okayama Prefectural University*); *K. Okubo* (*Okayama Prefectural University*);

10 An Atlas of Optical Skyrmions: Charting Topologically Equivalent Field Configurations
Zhujun Ye (*Hiroshima University*); *Jörg B. Götte* (*University of Glasgow*); *Claire. M. Cisowski* (*University of Glasgow*);

11 Morphology Effect of Metal-insulator-metal Nanopatch Antennas in Strong Coupling with Monolayer WSe_2
Zhiwei Hu (*Wuhan Institute of Technology*); *Xiaobo Han* (*Wuhan Institute of Technology*); *Huatian Hu* (*Wuhan Institute of Technology*);

12 Mercury Light Source Optimization for Zeeman Atomic Absorption Spectroscopy
Anda Abola (*University of Latvia*); *Gita Revalde* (*University of Latvia*); *Atis Skudra* (*University of Latvia*); *Natalja Zorina* (*University of Latvia*); *Rita Veilande* (*University of Latvia*);

13 High-precision Optical Fiber Current Sensing Method Based on Online High-speed Polarization Switch Module
Xianghan Meng (*Wuhan University of Technology*); *Biao Xu* (*Wuhan University of Technology*); *Yong Tu* (*Wuhan University of Technology*); *Zhen Pan* (*Wuhan University of Technology*); *Ciming Zhou* (*Wuhan University of Technology*);

14 Measurement of Low-volatility Organic Compounds Using Integrated Absorption Spectroscopy
Zhongmei Yang (*University of Shanghai for Science and Technology*); *Meng Wang* (*University of Shanghai for Science and Technology*); *Dean S. Venables* (*University College Cork*); *Jun Chen* (*University of Shanghai for Science and Technology*);

15 Integration of Optical Transceivers in Radar Systems: A Telecommunication Perspective
Deomits Andrejevs (*Riga Technical University*); *Aleksejs Kopats* (*Riga Technical University*); *Toms Kārkliņš* (*Riga Technical University*); *Elvira Kadylbekkyzy* (*Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeev*); *Mareks Parfjonovs* (*Riga Technical University*); *Igors Lipļanskis* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

16 Singularities Enhanced Incident Terahertz Angular Sensing
Lei Wang (*Nanjing University*); *Caihong Zhang* (*Nanjing University*); *Kebin Fan* (*Nanjing University*); *Jingbo Wu* (*Nanjing University*); *Biaobing Jin* (*Nanjing University*); *Jian Chen* (*Nanjing University*);

17 Length-dependent Performance Characteristics: Hybrid Raman-EDFA Configurations for Optical Networks
Charithra Dias (*Riga Technical University (RTU)*); *Toms Salgals* (*Riga Technical University*); *Jurgis Porins* (*Riga Technical University*);

18 Simulation of Electromagnetic Waves Propagation in Staggered Double Grating Slow-wave Structure in the Presence of Electron Beam and Periodic Permanent Magnetic Fields
Roman Antonovich Torgashov (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*); *O. R. Abramov* (*Saratov State University*); *Nikita Mikhailovich Ryskin* (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*);

19 Wideband Design of a Suspended Planar Dipole Antenna with Double-tuned Impedance Matching
Jihaeng Cho (*Agency for Defense Development*); *Hae-Won Son* (*Chonbuk National University*);

20 Decoupling-free Wearable MIMO-UWB Antenna Design Based on Polarization Diversity
Guang Yi Zhou (*Shanghai Institute of Technology*); *Jun Li* (*Shanghai Institute of Technology*); *Jia Le Ding* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

21 Via-guided Microstrip Line with Short Electrical Wavelength for Compact Microwave Device Designs
Hyeonsu Kim (*Soonchunhyang University*); *Jungwoo Lee* (*Soonchunhyang University*); *Eewuihun Hong* (*Soonchunhyang University*); *Won-Sang Yoon* (*Hoseo University*); *Jongsik Lim* (*Soonchunhyang University*); *Dal Ahn* (*Soonchunhyang University*); *Sang-Min Han* (*Soonchunhyang University*);

22 Optimizing Test Point Insertion with Machine Learning Techniques
Sang Seok Lee (*Hoseo University*); *Sung Jae Lee* (*Hoseo University*); *Won-Sang Yoon* (*Hoseo University*); *Dongsup Song* (*Hoseo University*);

23 Design of Array Antennas with Minimized Beam Squinting
Yoon-Ju Choi (*Hoseo University*); *Ji-Won Jang* (*Hoseo University*); *Sang-Min Han* (*Soonchunhyang University*); *Won-Sang Yoon* (*Hoseo University*);

24 Utilization of Loaded U-bridge to Cover Sub-GHz Spectrum on Super-wideband Spearhead-shaped Monopole Antenna
Agus Dwi Prasetyo (*Institut Teknologi Bandung*); *Dhoni Putra Setiawan* (*Telkom University*); *Trasma Yunita* (*Institut Teknologi Bandung*); *Deny Hamdani* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

25 Finite-element Electromagnetic Modeling of an Echelette Resonator for a THz-band Gyrotron
Asel B. Adilova (*Saratov State University*); *Andrei Georgievich Rozhnev* (*Saratov State University*); *Nikita Mikhailovich Ryskin* (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*);

26 Measuring and Evaluation of the Indoor Climate Sensors
Romualds Beļinskis (*Riga Technical University*); *Jurijs Titovičs* (*Riga Technical University*); *Nikolajs Bogdanovs* (*Riga Technical University*); *Artjoms Ratkuns* (*Riga Technical Universit*); *Daniils Aleksandrovs-Moisejs* (*Riga Technical University*); *Mareks Parfjonovs* (*Riga Technical University*); *Igors Lipļanskis* (*Riga Technical University*); *Toms Kārkliņš* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

27 Hybrid Fiber and Free Space Optical (FSO) Communication System in Short- to Long-reach WDM Access Network
Chien-Yu Liao (*Feng Chia University*); *Tsu-Hsin Wu* (*Feng Chia University*); *Chien-Hung Yeh* (*Feng Chia University*); *Yu-Heng Lin* (*Feng Chia University*); *Yu-Hsin Kao* (*Feng Chia University*); *Jing-Heng Chen* (*Feng Chia University*);

28 Design of a Circularly Polarized Antenna
Jing Wu (*Jimei University*); *Jun Xiao* (*Jimei University*); *Tongyu Ding* (*Jimei University*); *Chong-Zhi Han* (*Jimei University*); *Guangsong Yang* (*Jimei University*); *Josaphat Tetuko Sri Sumantyo* (*Chiba University*); *Qiubo Ye* (*Hohai University*);

29 Efficient Broadband Non-line-of-sight Imaging via All-forward Optical Neural Networks
He Zhou (*Tongji University*); *Junhe Zhou* (*Tongji University*);

30 Conversion between Spin and Orbital Polarization in Semiconductors
Chengyuan Cai (*Huazhong University of Science and Technology*);

31 Fiber Events Recognition in Integrated Sensing and Communication Systems Based on Signal State of Polarization Analysis
J. C. Wang (*Tongji University*); *T. Y. Liu* (*Tongji University*); *Junhe Zhou* (*Tongji University*);

32 A Classification of Flowing White Blood Cells Based on Simplified Optical Flow System and Machine Learning Algorithms
Anna Go (*Chung-Ang University*); *Min-Ho Lee* (*Chung-Ang University*);

33 Ultrafast Fiber Laser with Switchable Structured Light over Dozens of Modes
Wentan Fang (*Hefei University of Technology*); *Kai Chen* (*Hefei University of Technology*); *Xiaohui Ma* (*Hefei University of Technology*); *Yong Zhou* (*Hefei University of Technology*); *Xiaolin Chen* (*Hefei University of Technology*); *Song Huang* (*Hefei University of Technology*); *Weiqing Gao* (*Hefei University of Technology*);

34 Electro-thermal Modeling and Simulation of Spoof Surface Plasmon Polariton Transmission Lines
Min Tang (*Shanghai Jiaotong University*);

35 Uncertainty Analysis of $\boldsymbol{S}$-Parameter Measurements Using a Vector Network Analyzer (VNA)
Chi-Hyun Cho (*Korea Research Institute of Standards and Science*); *Hyunji Koo* (*Korea Research Institute of Standards and Science*);

36 50 GHz On-chip SMD Capacitor Characteristics for RFICs
Jerry Yu-Shao Shiao (*Taiwan Semiconductor Research Institute, National Institutes of Applied Research*); *Liang-Chung Shen* (*Taiwan Semiconductor Research Institute, National Institutes of Applied Research*); *W.-L. Chen* (*Taiwan Semiconductor Research Institute, National Institutes of Applied Research*); *K.-M. Chen* (*Taiwan Semiconductor Research Institute, National Institutes of Applied Research*); *G.-W. Huang* (*Taiwan Semiconductor Research Institute, National Institutes of Applied Research*);

37 Multi-band Antenna Designs for Narrow-bezel Notebook Computer
Jui-Han Lu (*National Kaohsiung University of Science and Technology, NKUST*); *Min-Cheng Huang* (*National Kaohsiung University of Science and Technology, NKUST*);

38 A Novel Broadband Dielectric Measurement Technique for Natural Gas Hydrates
Gaoyang Zhu (*Shandong University of Science and Technology*); *Xinhua Sun* (*China University of Petroleum (East China)*); *Xiaowang Gao* (*China University of Petroleum (East China)*); *Muzhi Gao* (*China University of Petroleum (East China)*); *Bin Wang* (*China University of Petroleum*); *Lanchang Xing* (*China University of Petroleum*); *Yunjun Zhang* (*Shandong University of Science and Technology*); *Junlin Feng* (*Shandong University of Science and Technology*);

39 Two-dimensional Radio Frequency Touch Sensing Method
Chun Huang (*Zhejiang University*); *Xuesong Guo* (*Zhejiang University*); *Sijie Chen* (*Zhejiang University*); *Yaqing Huang* (*Zhejiang University*); *Shiyu Wang* (*Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*);

40 Digital Correlation System for Noise-parameter Measurements on Low-noise Amplifier
Dazhen Gu (*National Institute of Standards and Technology*); *Xifeng Lu* (*National Institute of Standards and Technology*); *Daniel G. Kuester* (*National Institute of Standard and Technology*);

41 A Design Method for Microstrip Couplers with Enhanced Directivity via Effective Permittivity Analysis
Yeonsu Kim (*Soonchunhyang University*); *Taehwan Jeong* (*Soonchunhyang University*); *Sang-Min Han* (*Soonchunhyang University*); *Jongsik Lim* (*Soonchunhyang University*); *Dal Ahn* (*Soonchunhyang University*); *Youna Jang* (*Soonchunhyang University*);

00:00 Fourth-order Electromagnetic Theory of Open Resonator Based on Complex Source-point Method
Jin Cheng (*University of Electronic Science and Technology of China*); *Yunpeng Zhang* (*University of Electronic Science and Technology of China*); *En Li* (*University of Electronic Science and Technology of China*);

00:00 Synergistic Physical Barrier and Chemical Inhibition for Enhanced Corrosion Resistance in Magnetic Absorbers
Ruoyu Yang (*University of Electronic Science and Technology of China*); *Linbo Zhang* (*University of Electronic Science and Technology of China*);

00:00 Emergency Traffic Flow Clearance System
S. B. Dhoble (*Priyadarshini Bhagwati College of Engineering*); *Pratham Vinod Pannase* (*Priyadarshini Bhagwati College of Engineering*); *Akash Suresh Kadu* (*Priyadarshini Bhagwati College of Engineering*); *Ritesh Gopal Ramtekkar* (*Priyadarshini Bhagwati College of Engineering*); *Apurva Khangar* (*Priyadarshini Bhagwati College of Engineering*); *Riya Prakash Sonarghare* (*Priyadarshini Bhagwati College of Engineering*);

00:00 Multidimensional Tunable Metasurface for High-performance Target Camouflage
Yuqing Xiong (*Soochow University*); *Yuanhao Liu* (*Soochow University*); *Mei Song Tong* (*Tongji University*); *Linghui Kong* (*Qianyuan National Laboratory*); *Peng Li* (*Soochow University*); *Yunjing Zhang* (*Soochow University*);

00:00 Design and Characterization of Bendable LTC Transmissive Polarization Converter
Si Thu Htet (*Institut Teknologi Bandung*); *Dwi Andi Nurmantris* (*Telkom University*); *Edwar* (*Telkom University*); *Achmad Munir* (*Institut Teknologi Bandung*);

00:00 Oprational Stable Block Copolymer Single-material Organic Solar Cells $>$ **15**% Efficiency
Bin Li (*Soochow University*); *Jianyu Yuan* (*Soochow University*);

00:00 Ferromagnetic Thin Films for Printed Antennas
Nikita S. Maximov (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *B. L. Kogan* (*National Research University "Moscow Power Engineering Institute"*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*);

00:00 Design of Superjunction Blocking Junction IGBTs with Gate Doubly Doped Polysilicon and Floating Carrier Storage Layer
Quanyi Zhang (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Mingyang Chen* (*Southwest Jiaotong University*); *Yuanchang Zhan* (*Southwest Jiaotong University*);

Session 3A1
Exciton-polaritons: From Nonlinear Phenomena to Condensation and Topological Quantum Fluids 2

Saturday AM, November 8, 2025

Room 1 - 101A

Organized by Pavlos G. Savvidis, Zheng Sun, Xiaoqing Zhou

Chaired by Pavlos G. Savvidis, Zheng Sun

8:30 Keynote Strong Coupling and Nonlinearity of Polaritons in GaAs/AlGaAs Structures up to Room Temperature
David W. Snoke (*University of Pittsburgh*); *Hassan Alnatah* (*University of Pittsburgh*); *Shuang Liang* (*University of Pittsburgh*); *Jonathan Beaumariage* (*University of Pittsburgh*); *Qiaochu Wan* (*University of Pittsburgh*); *Kenneth W. West* (*Princeton University*); *Kirk Baldwin* (*Princeton University*); *Loren N. Pfeiffer* (*Princeton University*); *Man Chun Alan Tam* (*University of Waterloo*); *Zbig R. Wasilewski* (*University of Waterloo*);

9:00 Invited Observation of 2D Kardar-Parisi-Zhang Universal Scaling
Simon Widmann (*Universität Würzburg*); *Siddhartha Dam* (*Universität Würzburg*); *Johannes Düreth* (*Universität Würzburg*); *Christian G. Mayer* (*Universität Würzburg*); *Romain Daviet* (*University of Cologne*); *Carl Philipp Zelle* (*University of Cologne*); *David Laibacher* (*Universität Würzburg*); *Monika Emmerling* (*Universitat Wurzburg*); *Martin Kamp* (*University of Wurzburg*); *Sebastian Diehl* (*University of Cologne*); *Simon Betzold* (*Universitat Wurzburg*); *Sebastian Klembt* (*Universität Würzburg*); *Sven Höfling* (*Universität Würzburg*);

00:00 Manipulating the Ultrafast Dynamics of Exciton Polariton Condensates in Halide Perovskite Microcavities
Qihua Xiong (*Tsinghua University*);

9:35 Invited Artificial Gauge Fields and Dimensions in a Polariton Hofstadter Ladder
S. Widmann (*Universität Würzburg*); *J. Bellmann* (*Universität Würzburg*); *J. Düreth* (*Universität Würzburg*); *S. Dam* (*Universität Würzburg*); *C. G. Mayer* (*Universität Würzburg*); *P. Gagel* (*Universität Würzburg*); *S. Betzold* (*Universitat Wurzburg*); *M. Emmerling* (*Universitat Wurzburg*); *S. Mandal* (*Nanyang Technological University*); *R. Banerjee* (*Nanyang Technological University*); *T. C. H. Liew* (*Nanyang Technological University*); *R. Thomale* (*Universität Würzburg*); *S. Höfling* (*Universität Würzburg*); *Sebastian Klembt* (*Universität Würzburg*);

9:55 Invited Exciton-polariton Condensation and Optical Control in GaAs- and GaN-based Microcavity Structures
Yong-Hoon Cho (*Korea Advanced Institute of Science and Technology (KAIST)*);

10:15 Invited Self-organized, Electrically Tunable Spin-orbit Coupled Photonic Lattices in Liquid Crystal Microcavities
Jacek Szczytko (*University of Warsaw*); *Marcin Muszyński* (*University of Warsaw*); *Pavel Kokhanchik* (*Université Clermont Auvergne*); *Przemyslaw Oliwa* (*University of Warsaw*); *Piotr Kapuściński* (*University of Warsaw*); *Eva Oton* (*Military University of Technology*); *Rafał Mazur* (*Military University of Technology*); *Przemysław Morawiak* (*Military University of Technology*); *Przemysław Kula* (*Military University of Technology*); *Wiktor Piecek* (*Military University of Technology*); *Witold Bardyszewski* (*University of Warsaw*); *Barbara Piętka* (*University of Warsaw*); *Helgi Sigurdsson* (*University of Warsaw*); *Dmitry Solnyshkov* (*Universite Clermont-Auvergne, CNRS*); *Guillaume Malpuech* (*Universite Clermont-Auvergne, CNRS*);

10:35 **Coffee Break**

10:50 Invited Integration of TMD Excitons with Cavities: From Polariton-polariton Interactions to Polariton Propagation
Q. Shang (*Université Côte d'Azûr, Sorbonne Université, National University of Singapore, Nanyang Technological University*); *M. Zhang* (*Université Côte d'Azûr*); *T. Zhao* (*Université Côte d'Azûr, Sorbonne Université, National University of Singapore, Nanyang Technological University*); *M. V. Maggi* (*Université Clermont Auvergne*); *Kevin Dini* (*Nanyang Technological University*); *S. Nathan* (*Nanyang Technological University*); *M. Gromovyii* (*Université Côte d'Azûr*); *Timothy T. C. H. Liew* (*Nanyang Technological University*); *Dmitry Solnyshkov* (*Universite Clermont-Auvergne, CNRS*); *Guillaume Malpuech* (*Universite Clermont-Auvergne, CNRS*); *Weibo Gao* (*Nanyang Technological University*); *Jesus Zuniga-Perez* (*CNRS*);

11:10 Invited Perovskite Waveguides and Cavities for Photonic Nonlinear Information Processing and Spin-polarized Transport
Barbara Piętka (*University of Warsaw*);

11:30 Invited Novel Droplet Phase of Exciton-polariton Mixtures in Atomically Thin Semiconductors
Matteo Caldara (*International School for Advanced Studies (SISSA)*); *Olivier Bleu* (*Universite Clermont-Auvergne, CNRS*); *Francesca Maria Marchetti* (*Universidad Autónoma de Madrid*); *Jesper Levinsen* (*Monash University*); *Meera M. Parish* (*Monash University*);

11:50 Invited Supersolidity in Optically Trapped Polariton Condensates
P. Kozhevin (*St. Petersburg State University*); *A. Liubomirov* (*Russian Quantum Center*); *R. Cherbunin* (*St. Petersburg State University*); *I. Chestnov* (*ITMO University*); *A. Kavokin* (*St. Petersburg State University*); *Anton Nalitov* (*Russian Quantum Center*);

12:10 Invited Quantum Light and Fluids: Applications in Photonic Simulation and Annealing
Pavlos G. Savvidis (*Westlake University*);

00:00 Invited Polariton Nonlinearities in Superlattices for Ultrafast Optical Switching
Jiaxin Zhao (*Nanyang Technological University*); *Antonio Fieramosca* (*CNR NANOTEC Institute of Nanotechnology*); *Kevin Dini* (*Nanyang Technological University*); *Ruiqi Bao* (*Nanyang Technological University*); *Daniele Sanvitto* (*CNR NANOTEC Institute of Nanotechnology*); *Qihua Xiong* (*Tsinghua University*); *Timothy T. C. H. Liew* (*Nanyang Technological University*);

Session 3A2a
Microstrip Antennas and EMC: Design, Applications, and Measurement Methods

Saturday AM, November 8, 2025

Room 2 - 101B

Organized by Rafał Przesmycki, Marek Bugaj

Chaired by Rafał Przesmycki

8:30 Microstrip Antenna for the 802.11 Standard Placed in the PIR Sensor
Rafał Przesmycki (*Military University of Technology*); *Klaudia Januszczak* (*Military University of Technology*); *Natalia Nakonieczna-Kubasiak* (*Military University of Technology*);

8:45 Fractal Microstrip Antenna for the IEEE 802.11 Standard Band
Rafał Przesmycki (*Military University of Technology*); *Marek Bugaj* (*Military University of Technology*); *Oskar Golewski* (*Military University of Technology*);

9:00 Millimeter-wave Multiband Microstrip Antenna Operating in the 28 and 38 GHz Bands and Selected Bands in the 105 GHz–185 GHz Range
Rafał Przesmycki (*Military University of Technology*); *Marek Bugaj* (*Military University of Technology*); *Klaudia Januszczak* (*Military University of Technology*);

9:15 Analysis of EM Field Uniformity in an Anechoic Chamber in the Frequency Band Up to 1 GHz for Small-sized Devices
Rafał Przesmycki (*Military University of Technology*); *Marek Bugaj* (*Military University of Technology*); *Izabela Papuga* (*Military University of Technology*);

9:30 Circularly Polarized Antenna with EBG Cavity for High Gain WLAN Applications
Asim Quddus (*University of Chakwal*); *Syed Rizwan Hassan* (*Gachon University*);

9:45 Analysis of Radioelectric Disturbances Produced by Selected Battery-powered Garden Equipment
Rafał Przesmycki (*Military University of Technology*); *Marek Bugaj* (*Military University of Technology*); *Łucja Dmitruk* (*Military University of Technology*);

10:00 Wearable Manual Control-based Mode-reconfigurable Orbital Angular Momentum Patch Antenna
Ling Zhou (*Southwest University of Science and Technology*); *Lunyi Liu* (*Southwest University of Science and Technology*); *Chenkun Xu* (*Southwest University of Science and Technology*); *Zhengxiang Luo* (*Southwest University of Science and Technology*); *Qi Chen* (*Southwest University of Science and Technology*);

10:15 The Role of Conducted Emission Limit in Determining Insertion Loss for Power Line Filters Protecting Multimedia Devices against Electromagnetic Eavesdropping
Marek Bugaj (*Military University of Technology*); *Rafał Przesmycki* (*Military University of Technology*); *Bartosz Dudziński* (*Military University of Technology*);

10:30 **Coffee Break**

Session 3A2b
Antennas and RF Circuits

Saturday AM, November 8, 2025

Room 2 - 101B

Organized by Zhinong Ying

10:50 Measurement of a Meander Line Antenna in Skin Phantom for Biomedical Application
Ngu War Hlaing (*Sunway University*); *Cheng Wei Ping* (*Universiti Teknologi Malaysia*); *Kamilia Kamardin* (*Universiti Teknologi Malaysia*); *Yoshihide Yamada* (*National Defense Academy*); *Angela Amphawan* (*Sunway University*);

11:05 A Millimeter-wave Dual-polarized Patch Antenna with Low Cross-polarization for 5G Applications
Keshuang Feng (*Southeast University*); *Xin Xu* (*Southeast University*); *Wei Hong* (*Southeast University*);

11:20 A 12-element MIMO Antenna with Shared-radiator Pairs for 5G Smartphone Applications
Shunqi Liu (*Anhui University of Science and Technology*); *Zhonggen Wang* (*Anhui University of Science and Technology*); *Zhenzhen Chen* (*Hefei University*);

11:35 On the Electrically Small Patch Antennas: Recent Progress and Prospect
Ling-Peng Zeng (*Nanjing University of Posts and Telecommunications*); *Xiao-Hui Mao* (*Nanjing University of Posts and Telecommunications*); *Fei-Yan Ji* (*Nanjing University of Posts and Telecommunications*); *Wen-Jun Lu* (*Nanjing University of Posts and Telecommunications*);

11:50 Compact Wideband High-frequency Antenna Sensor Based Impulse Radio Sensing System for Partial Discharge Detection and Classification
Wensong Wang (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

12:05 Wideband Ridge Gap Waveguide to Double Ridge Waveguide Transition
Davood Zarifi (*Gdansk University of Technology*); *Ali Farahbakhsh* (*Gdansk University of Technology*); *Michal Piotr Mrozowski* (*Technical University of Gdansk*);

Session 3A3
Advanced Numerical Techniques in Computational Electromagnetics 2

Saturday AM, November 8, 2025

Room 3 - 102A

Organized by Mei Song Tong, Li Zhang, Shinichiro Ohnuki, Kazuki Niino

Chaired by Mei Song Tong, Kazuki Niino

8:30 Reflection Spectrum Analysis of Nanometals for Radiative Cooling in Sunlit Conditions
Jun Ito (*Nihon University*); *S. Kishimoto* (*Nihon University*); *S. Ohnuki* (*Nihon University*);

8:45 Calderon Preconditioning of Boundary Integral Operators within Non-GMRES Krylov Methods for the Helmholtz Transmission Problems
Yasuhiro Matsumoto (*Institute of Science Tokyo*); *Hiroshi Isakari* (*Keio University*);

9:00 Efficient Preconditioning Techniques for the Boundary Element Method with the Burton-Miller Method in Transmission Problems
Keigo Tomoyasu (*Keio University*); *Hiroshi Isakari* (*Keio University*);

9:15 Estimating Resonant Frequency in Open System via Padé-approximated Resolvent
K. Okuda (*Keio University*); *Hiroshi Isakari* (*Keio University*);

9:30 A Novel Region-wise Combined Field Integral Equation for Non-penetrable Targets Involving Large-scale Chaff Clouds
Chung Hyun Lee (*Hyundai Mobis Company*); *Dong-Yeop Na* (*Pohang University of Science and Technology*);

9:45 Control of Scattering Pattern by Huygens' Metasurface with Monopole Antenna
Hiroshi Hashiguchi (*National Defense Academy*); *Naobumi Michishita* (*National Defense Academy*);

10:00 A Hybrid 3-D Spectral-element Spectral-integral Method for Fast Electromagnetic Computation of Doubly Periodic Scatters in Anisotropic Layered Media
Yunyun Hu (*Tongji University*); *Jianwen Wang* (*Xiamen University*); *Qingtao Sun* (*Eastern Institute of Technology*); *Qing Huo Liu* (*Eastern Institute of Technology*);

10:15 3D Terrain Modeling and MIMO-SAR Imaging Simulation for Electromagnetic Scattering in Cluttered Environments
Xia Wu (*Jinan University*);

10:30 **Coffee Break**

10:50 Improved Backward Ray-tracing SBR Method Based on Bounding Spheres BVH and Beam Tracing
Yunchuan Wang (*Beijing Institute of Technology*); *Sen Liu* (*Beijing Institute of Technology*); *Jiyuan Wang* (*Beijing Institute of Technology*); *Xiao-Min Pan* (*Beijing Institute of Technology*);

11:05 SpatioGate-CNN: B-scan Image Reconstruction from Sparse A-scan Echoes in GPR
Jian Chen (*Fudan University*); *Yinan Wang* (*Fudan University*); *Hongxia Ye* (*Fudan University*);

11:20 Efficient Modeling and Analysis for Interactions of High-power Electromagnetic Impulses with Human Bodies
Li Zhang (*Shanghai Polytechnic University*); *Yiwen Li* (*Soochow University*); *Yunjing Zhang* (*Soochow University*); *Mei Song Tong* (*Tongji University*);

00:00 PDN Impedance Qualification Accounting for Variability in Decoupling Capacitor Properties
Shruti Sawant (*Missouri University of Science and Technology*); *Faye Squires* (*Missouri University of Science and Technology*); *Samuel Connor* (*IBM Systems Group*); *Matthew Doyle* (*IBM Systems Rochester (MN)*); *Matteo Cocchini* (*IBM Systems Poughkeepsie (NY)*); *Francesco De Paulis* (*University of L'Aquila*); *Dylan Grace* (*IBM Systems Rochester (MN)*); *Li Jun Jiang* (*Missouri University of Science and Technology*);

Session 3A4
Advanced SAR/PoLSAR Technologies and Applications

Saturday AM, November 8, 2025

Room 4 - 102B

Organized by Toshifumi Moriyama, Hiroyoshi Yamada

Chaired by Toshifumi Moriyama, Hiroyoshi Yamada

8:30 Discontinuous Landslide Monitoring in Mountain Passes Using Ground-based SAR
Yuma Koyama (*Muroran Institute of Technology*); *Yuta Izumi* (*Muroran Institute of Technology*); *Shima Kawamura* (*Muroran Institute of Technology*); *Fathin Nurzaman* (*Muroran Institute of Technology*); *Hiroto Ishii* (*Muroran Institute of Technology*);

8:45 Micro-Doppler Signals Separation of Different Targets on the Same Range Cell in Ground-based SAR Measurement Data
Fathin Nurzaman (*Muroran Institute of Technology*); *Yuta Izumi* (*Muroran Institute of Technology*); *Giovanni Nico* (*National Research Council of Italy*); *Masato Komuro* (*Muroran Institute of Technology*); *Tomoki Kawarai* (*Muroran Institute of Technology*); *Kaoru Ota* (*Muroran Institute of Technology*); *Mianxiong Dong* (*Muroran Institute of Technology*);

9:00 Development of a Terahertz Full-polarimetric SAR System for High-resolution Target Recognition
Suyun Wang (*National Institute of Information and Communications Technology*); *Kazuma Hiramatsu* (*National Institute of Information and Communications Technology*);

9:15 Identification Oriented Built-up Area through Integration of Scattering Power Decomposition and Temporal Stacked Interferometric Coherence
Ryu Sugimoto (*National Institute of Advanced Industrial Science and Technology*); *Chiaki Tsutsumi* (*National Institute of Advanced Industrial Science and Technology*); *Toru Kouyama* (*National Institute of Advanced Industrial Science and Technology*);

9:30 Comprehensive Comparison of the H/alpha Decomposition and the Co-polarization Ratio-based Decomposition
Junjun Yin (*University of Science and Technology Beijing*); *Jian Yang* (*Tsinghua University*);

9:45 SAR-FM: A Foundation Model for Target Detection in SAR Images
Haipeng Wang (*Fudan University*); *Yi Yang* (*Fudan University*);

00:00 Measurement and Modeling of Analytical Spectral Polarization Bidirectional Reflectance Distribution Function for Space Targets
Fengqi Guo (*Xi'an Jiaotong University*);

00:00 Principle Verification of Speckle Phase Fidelity under Varying Surface Roughness: Toward Single-pass InSAR with 3-D Model-based SAR Simulation
Raiki Kudo (*The University of Tokyo*); *Seisuke Fukuda* (*Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (ISAS/JAXA)*);

11:05 Rapid Ship Detection in SAR Imagery Using Statistical Characteristics
Takeshi Nishimura (*Mitsubishi Electric Software Corporation*); *Yoshikuni Shindo* (*Mitsubishi Electric Software Corporation*);

11:20 Rotated Ship Detection in SAR Images Using Horizontal Bounding Box Supervision
Huiping Lin (*Chongqing University*); *Zongsi Chen* (*Fudan University*); *Yaxuan Xing* (*Fudan University*);

11:35 Typical Applications of Tiangong-2 Interferometric Imaging Radar Altimeter Data
Yunhua Zhang (*National Space Science Center, Chinese Academy of Sciences*); *Xiao Dong* (*National Space Science Center, Chinese Academy of Sciences*); *Guo Li* (*National Space Science Center, Chinese Academy of Sciences*); *Xiaojin Shi* (*National Space Science Center, Chinese Academy of Sciences*); *Wenshuai Zhai* (*National Space Science Center, Chinese Academy of Sciences*); *Xueyan Kang* (*National Space Science Center, Chinese Academy of Sciences*); *Jiefang Yang* (*National Space Science Center, Chinese Academy of Sciences*); *Dong Li* (*National Space Science Center, Chinese Academy of Sciences*); *Bowen Xue* (*National Space Science Center, Chinese Academy of Sciences*);

11:50 Marine Gravity Anomaly Recovery Using the SSH Data of Tiangong-2 InIRA and SWOT KaRIn
Bowen Xue (*CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences*); *Yunhua Zhang* (*National Space Science Center, Chinese Academy of Sciences*); *Xiao Dong* (*National Space Science Center, Chinese Academy of Sciences*); *Wenshuai Zhai* (*National Space Science Center, Chinese Academy of Sciences*);

Session 3A5
FocusSession.SC1: Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 4

Saturday AM, November 8, 2025

Room 5 - 103

Organized by Maha Ben Rhouma

Chaired by Maha Ben Rhouma

8:30 Optical Activation of Dark Excitons in 2D Materials Using Spin-orbit-coupled Vector Vortex Beams
Invited
Shun-Jen Cheng (*National Yang Ming Chiao Tung University*);

8:50 Ideal Band Degeneracies: What Symmetry Allows and Forbids
Invited
Thomas Christensen (*Technical University of Denmark (DTU)*);

9:10 Chiral Sensing with Silicon Nanophotonics
Invited
Alberto G. Curto (*Ghent University and IMEC*);

9:30 Guided Thermal Radiation
Invited
Sebastian Volz (*The University of Tokyo*);

9:50 Cavity-assisted Generation of Super Chiral Local Fields for Enantiomers Separation
Invited
Christian Bohley (*Martin-Luther University*); *Vakhtang Jandieri* (*University of Duisburg-Essen*); *Ramaz Khomeriki* (*Tbilisi State University*); *Douglas H. Werner* (*The Pennsylvania State University*); *Jamal Berakdar* (*Martin Luther University of Halle-Wittenberg*);

10:10 Adjoint-based Deep Learning Frameworks for Efficient Inverse Photonic Design
Invited
C. Kang (*Hanyang University*); *J. Seo* (*Hanyang University*); *D. Seo* (*Yale University*); *S. Um* (*Korea Advanced Institute of Science and Technology*); *Haejun Chung* (*Hanyang University*);

10:30 **Coffee Break**

10:50 Photonic Parallel Spaces, Wormholes and Multiple Realities
Invited
Tongtong Song (*Nanjing University*); *Yongxin Jing* (*Nanjing University*); *Changhui Shen* (*Nanjing University*); *Hongchen Chu* (*Nanjing Normal University*); *Jie Luo* (*Soochow University*); *Zhao-Qing Zhang* (*The Hong Kong University of Science and Technology*); *Ruwen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*); *Yun Lai* (*Nanjing University*);

11:10 Multipole and Toroidal Engineering on Silicon Metasurfaces
Invited
Junichi Takahara (*Osaka University*);

11:30 Ultrafast and Quantum Photonics with Free Electrons
Keynote
F. Javier García de Abajo (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

00:00 HiLAB: A New Paradigm in Inverse Design of Large-scale Metamaterials
Invited
Reza Marzban (*Georgia Institute of Technology*); *Hamed Abiri* (*Georgia Institute of Technology*); *Ali Adibi* (*Georgia Institute of Technology*);

Session 3A6
Electromagnetic Wave Propagation in Complex Media 1

Saturday AM, November 8, 2025

Room 6 - 104

Organized by Anatoly A. Kudryavtsev, Chengxun Yuan

Chaired by Anatoly A. Kudryavtsev, Chengxun Yuan

8:30 Diverse Manipulation of Polarization Singularities in the Plasma Photonic Crystal
Chen Chen (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Zijia Chu* (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

8:45 Controllable Bound State in the Continuum Induced by Plasma Photonic Crystal
Ziyi Liu (*Harbin Institute of Technology*); *Chen Chen* (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

9:00 Discharge Characteristics and Repetition Rate of High Energy Microwave Plasma Interference Switch
Zijian Liu (*Harbin Institute of Technology*); *Vladislav Sergeevich Igumnov* (*Harbin Institute of Technology*); *Zijia Chu* (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

9:15 The Effect of EEDF on the Propagation of Electromagnetic Wave in Plasmas
Chengxun Yuan (*Harbin Institute of Technology*); *Yuanhang Jiang* (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*);

9:30 $TiNbCT_x/Fe_3O_4$ Hybrid with Multiple Loss Mechanisms for Efficient Microwave Absorption
Nandong Deng (*Harbing Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Zeyang Zhang* (*Harbin Institute of Technology*); *Juan Cui* (*Harbing Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

9:45 Simulation of Lower-hybrid Wave Enhancement by Chemical Substance Release
ZhiJian Lu (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Xingbao Lyu* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

10:50 Conditions of Amplification of Electromagnetic Waves in a Nonlocal Plasma with an Inverse Electron Distribution Function and Recommendations for Practical Implementation
Anatoly A. Kudryavtsev (*Harbin Institute of Technology*); *Eugene A. Bogdanov* (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

11:05 Equivalent Circuit-based Design of Flexible Multilayer Metamaterials for Ultra-wideband Microwave Absorption
Zhuyu Hua (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Xinqi Wang* (*Harbin Institute of Technology*); *Xi Long Li* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

00:00 Spectral and Microwave Diagnostics of DC Discharge Plasma in Grid Electrodes
Xingbao Lyu (*Harbin Institute of Technology*); *Zhiyong Li* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Svetlana V. Avtaeva* (*Harbin Institute of Technology*); *Anatoly A. Kudryavtsev* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

11:35 Broadband Metasurface Absorber Based on Involute Structure and Surface Plasmon Resonance
Xiuli Wei (*Harbin Institute of Technology*); *Yongge Wang* (*Harbin institute of technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

11:50 Controlling the Ba/Sr Ratio in U-type $Ba_xSr_{4-x}Co_2Fe_{36}O_{60}$ Enables the Stabilization of the Spin Cone Symmetry Achieving the Magnetoelectric Coupling Effects at Room Temperature
Shuang Wang (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Huantong Wu* (*Harbin Institute of Technology*); *Dongpeng Zhao* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

00:00 Synergistic Magnetic-dielectric Dissipation in In-situ Formed Hybrids for Next-generation Microwave Attenuation
Jun Li (*Harbin Institute of Technology*);

Session 3A7
Advances in Photonic Integrated Circuits for Optical Interconnects and Sensing

Saturday AM, November 8, 2025

Room 7 - 105

Organized by Jieyun Wu, Quandong Huang

Chaired by Jieyun Wu

8:30 Hybrid Silicon Nitride-polymer Electro-optic Waveguide
Invited Switches
Jiachen Pang (*Minzu University of China*); *Senyu Wang* (*Minzu University of China*); *Zhuo Chen* (*Technical Institute of Physics and Chemistry, Chinese Academy of Sciences*); *Jiayi Lu* (*Minzu University of China*); *Pengwei Li* (*Minzu University of China*); *Chuanbo Li* (*Minzu University of China*); *Honglian Guo* (*Minzu University of China*); *Jieyun Wu* (*University of Electronic Science and Technology of China*); *Shuhui Bo* (*Minzu University of China*);

8:50 Micro/Nano-structures Induced Light Manipulation in
Invited OLEDs
Yan-Gang Bi (*Jilin University*); *Mu Lin* (*Jilin University*); *Jia-Shuo Zhang* (*Jilin University*); *Cong-Fang Wang* (*Jilin University*); *Li-Gen Chen* (*Jilin University*); *Zi-Ye Dong* (*Jilin University*);

9:10 III-V on Si Waveguide Bonding Light Coupling Structure with Alignment Tolerance Exceeding 3-μm
Hideaki Okayama (*Oki Electric Industry Co., Ltd.*); *Hiroyuki Takahashi* (*Oki Electric Industry Co., Ltd.*); *Hideki Ono* (*Oki Electric Industry Co., Ltd.*); *Daisuke Shimura* (*Oki Electric Industry Co., Ltd.*); *Kenichi Tanigawa* (*Oki Electric Industry Co., Ltd.*); *Takahito Suzuki* (*Oki Electric Industry Co., Ltd.*); *Hironori Furuta* (*Oki Electric Industry Co., Ltd.*); *Nobuhiko Nishiyama* (*Tokyo Institute of Technology*);

9:25 Optimizing a Fully-packaged SOI-based Sensor: Microfluidic Flow and Antibody Immobilization Approaches
Francesca Bontempi (*Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni (IEIIT-CNR)*); *Veronica Toccafondo* (*CNIT*); *A. G. Luminare* (*RCHA S.R.L.*); *F. Gambineri* (*RCHA S.R.L.*); *P. Velha* (*Scuola Superiore Sant'Anna*);

00:00 Recent Progress in Metamaterial Integrated Photonics
Keynote
Pavel Cheben (*National Research Council of Canada*); *Jens H. Schmid* (*National Research Council Canada*); *Jianhao Zhang* (*National Research Council*); *R. Korček* (*National Research Council of Canada*); *A. F. Hinestrosa* (*Universidad de Málaga*); *José Manuel Luque González* (*University Malaga*); *C. P. Armenta* (*University Malaga*); *A. Sánchez-Sanchez* (*University of Málaga*); *A. Sanchez-Postigo* (*Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,*); *Alejandro Ortega-Moñux* (*Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos*); *J. Gonzalo Wangüemert-Pérez* (*Universidad de Malaga*); *"Iñigo Molina-Fernández* (*Malaga University*); *Robert Halir* (*Universidad de Malaga*); *Pablo Ginel-Moreno* (*Universidad de Málaga*); *D. González-Andrade* (*University of Málaga*); *William Fraser* (*Carleton University*); *R. Yuan* (*Carleton University*); *I. Kandid* (*Carleton University*); *Winnie N. Ye* (*Carleton University*); *D. Benedikovič* (*University of Zilina*); *M. Dado* (*University of Zilina*); *Z. Mokeddem* (*Universite Paris-Saclay*); *Daniele Melati* (*Université Paris-Saclay, CNRS*); *Carlos Alonso-Ramos* (*Université Paris-Saclay, CNRS*); *Laurent Vivien* (*Université Paris-Saclay*); *Dan-Xia Xu* (*National Research Council of Canada (NRC)*); *Yuri Grinberg* (*National Research Council of Canada*); *M. Saad Bin-Alam* (*National Research Council of Canada*); *Siegfried Janz* (*Institute for Microstructural Sciences, National Research Council Canada (NRC)*); *Shurui Wang* (*Information and Communication Technologies, National Research Council Canada*); *Martin Vachon* (*Information and Communication Technologies, National Research Council Canada*); *R. Cheriton* (*Information and Communication Technologies, National Research Council Canada*); *R. Fernández De Cabo* (*ICFO*); *Irene Olivares* (*Instituto de Óptica — CSIC*); *Aitor Villafranca Velasco* (*Consejo Superior de Investigaciones Cientificas*);

10:10 Low-power and Multifunctional Optical Switches Based
Invited on Polymeric Photonic Integrated Circuits
Xi-Bin Wang (*Jilin University*); *Shijie Sun* (*Jilin University*); *Shangrong Li* (*Jilin University*); *Yushu Fu* (*Jilin University*); *Daming Zhang* (*Jilin University*);

10:30 **Coffee Break**

10:50 High-resolution Patterning of Fluorescent Films by Fem-
Invited tosecond Laser-induced Forward Transfer
Yue-Feng Liu (*Jilin University*);

11:10 Waveguide-integrated Graphene Photodetector for High-speed Data Communication
Karuppasamy Pandian Soundarapandian (*ICFO — Institut de Ciències Fotòniques*); *Alberto Montanaro* (*Consorzio Nazionale Interuniversitario per le Telecomunicazioni*); *Ioannis Vangelidis* (*University of Ioannina*); *Stefan M. Koepfli* (*ETH Zurich, Institute of Electromagnetic Fields (IEF)*); *Laurenz Kulmer* (*ETH Zurich, Institute of Electromagnetic Fields (IEF)*); *Sefaattin Tongay* (*University of Arizona*); *Kenji Watanabe* (*National Institute for Materials Science*); *Takashi Taniguchi* (*National Institute for Materials Science*); *Elefterios Lidorikis* (*University of Ioannina*); *Klaas-Jan Tielrooij* (*Catalan Institute of Nanoscience and Nanotechnology (ICN2)*); *Juerg Leuthold* (*Institute of Electromagnetic Fields (IEF), ETH Zurich*); *Vito Sorianello* (*CNIT — National Photonics Labs*); *Marco Romangnoli* (*Consorzio Nazionale Interuniversitario per le Telecomunicazioni*); *Frank H. L. Koppens* (*ICFO — The Institute of Photonics Sciences (Barcelona)*);

11:25 Towards Extremely High-resolution Refractive Index Sensors Fully Integrated On-chip
Simone Ladanza (*Paul Scherrer Institut*); *T. A. Oliveira* (*Munster Technological University*); *Artem S. Vorobev* (*Munster Technological University*); *D. Monopoli* (*Paul Scherrer Institut*); *Fatih Bilge Atar* (*Photonics, Tyndall National Institute*); *N. Maraviglia* (*Paul Scherrer Institut*); *Brian Corbett* (*Tyndall National Institute*); *L. O'Faolain* (*Munster Technological University*);

11:40 Lithium Niobate Tuning Forks as Innovative Detectors for Gas Sensing
Giansergio Menduni (*Politecnico and University of Bari*); *Mariagrazia Olivieri* (*University and Politecnico of Bari*); *Andrea Zifarelli* (*Universita degli Studi di Bari and Politecnico di Bari*); *Aldo F. P. Cantatore* (*University and Politecnico of Bari*); *Marilena Giglio* (*University and Politecnico of Bari*); *Pietro Patimisco* (*Universita degli Studi di Bari and Politecnico di Bari*); *Vincenzo Spagnolo* (*Politecnico di Bari*); *Angelo Sampaolo* (*University and Politecnico of Bari*);

11:55 Electromagnetic Investigation of Vertical Coupling between Si_3N_4 Planar Waveguides and Microring Resonators for 3D Photonic Integrated Circuits
Wenli Zhou (*Xi'an Jiaotong-Liverpool University*); *Sang Lam* (*Xi'an Jiaotong-Liverpool University*);

Session 3A8
SC1&SC3: Modeling, Numerical Simulation and Theory in Optics and Photonics

Saturday AM, November 8, 2025

Room 8 - 201A

Organized by Yasuhide Tsuji, Jun Shibayama

Chaired by Yasuhide Tsuji, Jun Shibayama

8:30 Numerical Study of Random Lasers Using the FDTD Method
Shota Kikuchi (*Hosei University*); *Jun Shibayama* (*Hosei University*); *Toshihiro Nakamura* (*Hosei University*);

8:45 Optimal Design of Mosaic-based Optical Devices via Topology Optimal Design Based on 2D Approximated Analysis
Yoshitaka Uchida (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

9:00 Efficient Design of Plasmonic Devices Utilizing Topology Optimization
Ryunosuke Ishino (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

9:15 Study on Design of Mosaic-based Optical Devices Using Density Method and Adjoint Variable Method
Hengyuan Zhang (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

9:30 Numerical Study of Photoacoustic Pressure with Light Scattering in Dense Colloidal Suspensions: Effects of the Optical Wavelength and Concentrations
Hiroyuki Fujii (*Hokkaido University*); *Hiromichi Nozaki* (*Hokkaido University*); *Ryuga Sawada* (*Hokkaido University*); *Sou Sasaki* (*Hokkaido University*); *Hyeonwoo Na* (*Hokkaido University*); *Kazumichi Kobayashi* (*Hokkaido University*); *Masao Watanabe* (*Hokkaido University*);

9:45 Threshold Power Reduction in Dual-pumped Microresonators for Integrated DOPO Technology
Nadezhda S. Tatarinova (*Russian Quantum Center*); *Artem E. Shitikov* (*Russian Quantum Center*); *Igor A. Bilenko* (*Russian Quantum Center*); *Dmitry A. Chermoshentsev* (*Russian Quantum Center*); *Valery E. Lobanov* (*Russian Quantum Center*);

10:00 Two Mode Coupling in Distributed Bragg Reflectors for Si Photonic Waveguides
Nai-Hsiang Sun (*I-Shou University*); *Yu-Han Cheng* (*I-Shou University*); *Bo-Rui Chen* (*I-Shou University*); *Pin-Han Chen* (*I-Shou University*); *Jung-Sheng Chiang* (*I-Shou University*);

10:15 Analysis and Simulation of 5 × 5 Photonic Crystal Fiber Coupler
Jung-Sheng Chiang (*I-Shou University*); *Kai-Wei Liu* (*I-Shou University*); *Meng-Han Sie* (*I-Shou University*); *Hui-Yu Cheng* (*I-Shou University*); *Nai-Hsiang Sun* (*I-Shou University*);

10:30 **Coffee Break**

10:50 A Wide-range Liquid Refractive Index Sensor Based on a Rectangular-core Photonic Crystal Fiber
Zejun Zhang (*Zhejiang University*); *Shiqi Pu* (*Zhejiang University*); *Yu Li* (*Zhejiang University*); *Jinbo Su* (*Zhejiang University*); *Jing Xu* (*Zhejiang University*);

11:05 A Novel Methodology for Fast-computation of Bands in Phoxonic Crystals with Complex-shaped Scatterers
C. Chandraprakash (*IIT Kanpur*); *K. Prajwal Subudhi* (*IIT Kanpur*);

11:20 A Comprehensive Master Equation for Laser Passive Modelocking
Franco Prati (*Università dell'Insubria*); *A. M. Perego* (*Aston University*); *J. Redondo* (*Universitat Politecnica de Valencia*); *Germán J. de Valcarcel* (*Universitat de València*);

11:35 Analysis of Temperature Dependence of Optical Response in SOI Photodiode with Metal Diffraction Grating
Hiroaki Satoh (*Shizuoka University*); *Tetsuya Kawakami* (*Shizuoka University*); *Kaito Oi* (*Shizuoka University*);

11:50 Optimized Multilayer Mediums for EM Shielding in X-band
C. Chandraprakash (*IIT Kanpur*); *Purabjeet Singh Bagga* (*IIT Kanpur*);

Session 3A9
Emergent Wave Physics in Zero-index and Exotic Metamaterials

Saturday AM, November 8, 2025

Room 9 - 201B

Organized by Jie Luo, Yun Lai

Chaired by Jie Luo, Yun Lai

8:30 Active and Nonlinear Epsilon-near-zero Photonics
Invited
Howard Ho Wai Lee (*University of California*); *Quynh Dang* (*University of California*); *David Dang* (*University of California*); *Aleksei Anopchenko* (*University of California*); *Christopher M. Gonzalez* (*University of California*); *Stuart Love* (*University of California*); *Yu-Hsun Chen* (*University of California*); *Leo Zheng* (*University of California*); *Meena Salib* (*University of California*); *Jinno Zhang* (*University of California*); *Jack Wright* (*University of California*); *Michael Father* (*University of California*); *Lawrence Liu* (*University of California*); *Massee Akbar* (*University of California*); *Teo Reyes* (*University of California*); *Phoebe Chu* (*University of California*);

8:50 Gauge Field in Metamaterials
Invited
Zhi Hong Hang (*Soochow University*); *B. Liu* (*Soochow University*);

9:10 Frequency-division Signal Routing via Chiral Photon-magnon Coupling Mediated by a Spin-refractive-index Locked Metamaterial
Yuan-Peng Peng (*Zhejiang University*); *Yi-Pu Wang* (*Zhejiang University*);

9:25 Mechanically Tunable Wire Medium with a Honeycomb Lattice
Denis Sakhno (*ITMO University*); *Jim A. Enriquez* (*ITMO University*); *Pavel A. Belov* (*ITMO University*);

9:40 Optical Parity-time Induced Perfect Resonance Transmission in Zero Index Metamaterials
Cong Wang (*Soochow University*); *Yadong Xu* (*Soochow University*);

9:55 Virtual Exceptional Points in All-dielectric Bilayer Metagratings with Central Symmetry
Guohao Zhang (*Nanjing University of Aeronautics and Astronautics*); *Changdong Chen* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*);

10:05 Long-range Optical Interactions with Structured Nanoscale Materials
Danqing Wang (*Fudan University*);

10:20 Can We Hear the "Shape" of Acoustic Metamaterials?
Sichao Qu (*The University of Hong Kong*); *Min Yang* (*Acoustic Metamaterials Group Ltd.*); *Nicholas Xuanlai Fang* (*The University of Hong Kong*);

10:35 **Coffee Break**

10:50 Coupled Mode Theory for Acoustic Vortex Generation and Manipulation via Phase Gradient Metasurfaces
Liting Wang (*Nanjing University of Aeronautics and Astronautics*); *Jiahui Tang* (*Nanjing University of Aeronautics and Astronautics*); *Chuanjie Hu* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*);

11:05 Acoustic Rainbow Trapping in Cylindrical Spoof Waveguide
Yuxin Lu (*Nanjing University of Aeronautics and Astronautics*); *Chuanjie Hu* (*Nanjing University of Aeronautics and Astronautics*); *Yangyang Fu* (*Nanjing University of Aeronautics and Astronautics*);

11:20 Acoustic Topological Modes Hosted by Orbital Interaction
Invited
Feng Gao (*Soochow University*); *Yu-Gui Peng* (*Huazhong University of Science and Technology*); *Xue-Feng Zhu* (*Huazhong University of Science and Technology*); *Andrea Alù* (*The City University of New York*);

11:40 Non-Hermitian Zero-index Materials for Ultrasensitive Higher-order Exceptional Points
Jie Luo (*Soochow University*);

11:55 Topological Wave-matter Interaction, Trapping and Sorting
Invited
Yijie Shen (*Nanyang Technological University*);

Session 3A10
Photonic Quantum Computing

Saturday AM, November 8, 2025

Room 10 - 202

Organized by Michael Stefszky, Kai-Hong Luo

Chaired by Michael Stefszky, Kai-Hong Luo

8:30 Quantum Buridan's Ass
Invited
J. Novotný (*Czech Technical University in Prague*); *G. Chadzitaskos* (*Czech Technical University in Prague*); *Igor Jex* (*Czech Technical University in Prague*); *S. M. Barnett* (*University of Glasgow*); *T. Kiss* (*HUN-REN Wigner Research Centre for Physics*);

8:50 Exponential Advantages in Learning Continuous-
Invited variable Systems
Changhun Oh (*KAIST*);

9:10 Unitary Averaging in Photonic Quantum Systems
Invited
Ryan J. Marshman (*University of Queensland*); *Timothy C. Ralph* (*University of Queensland*);

00:00 Photonic Quantum Advantage and Beyond
Invited
Hui Wang (*University of Science and Technology of China*);

00:00 Explore Photonic Quantum Computing for Data Science
Keynote and AI
Helen Cai (*The Hong Kong Polytechnic University*); *Wei Wang* (*The Hong Kong Polytechnic University*); *Ai Qun Liu* (*The Hong Kong Polytechnic University*);

10:50 High Performance Femto-second Coherent Ising Machine
Invited
Hai Wei (*Beijing QBoson Quantum Technology Co., Ltd.*); *Chengjun Ai* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Putuo Guo* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Bingjie Jia* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Lixin Yuan* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Hanquan Song* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Shaobo Chen* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Chongyu Cao* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Chao Ju* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Yin Ma* (*Beijing QBoson Quantum Technology Co., Ltd.*); *Chuan Wang* (*Beijing Normal University*); *Kai Wen* (*Beijing QBoson Quantum Technology Co., Ltd.*);

11:10 Extensible Photonic Quantum Computing Platform for
Invited Versatile Protocols
Shang Yu (*Imperial College London*);

11:30 Towards Wafer-scale Fabrication of Erbium-doped LNOI Photonic Devices
Reinhard Geiss (*Fraunhofer Institute for Applied Optics and Precision Engineering*); *Frank Setzpfandt* (*Friedrich-Schiller-Universitat Jena*); *Thomas Pertsch* (*Friedrich-Schiller-Universitat*); *Falk Eilenberger* (*Friedrich Schiller University*);

Session 3A11
Quantum Technologies Related to Electromagnetics

Saturday AM, November 8, 2025

Room 11 - 203

Organized by Weng Cho Chew, Wei E. I. Sha

Chaired by Dong-Yeop Na, Wei E. I. Sha

8:30 Non-Markovian Quantum Electrodynamic Modeling of
Invited Single Quantum Dots Coupled to Plasmonic Nanoantennas
Hyunwoo Choi (*Pohang University of Science and Technology*); *Weng Cho Chew* (*Purdue University*); *Dong-Yeop Na* (*Pohang University of Science and Technology*);

8:45 The Numerical Investigation of Quantum Scattering in
Invited Nanostructures Induced by Two Independent Photons
Chengnian Huang (*Zhejiang University*); *Wei E. I. Sha* (*Zhejiang University*);

9:00 Theory and Applications of Quantum-inspired Metasurfaces
Long Chen (*Southeast University*); *Jian Wei You* (*Southeast University*); *Xinyu Li* (*Southeast University*); *Shi Long Qin* (*Southeast University*); *Qian Ma* (*Southeast University*); *Tie Jun Cui* (*Southeast University*);

9:15 Wavelength-tunable Entangled Photon Source
Yongzheng Ye (*Zhejiang University*); *Zongyin Yang* (*Zhejiang University*); *Feng Liu* (*Zhejiang University*);

9:30 High-order Modulation Large MIMO Detector Based on Physics-inspired Methods
Qing-Guo Zeng (*Southern University of Science and Technology*); *Xiao-Peng Cui* (*Fudan University*); *Xian-Zhe Tao* (*Southern University of Science and Technology*); *Jia-Qi Hu* (*Tsinghua University*); *Shi-Jie Pan* (*Beijing University of Posts and Telecommunications*); *Wei E. I. Sha* (*Zhejiang University*); *Man-Hong Yung* (*Southern University of Science and Technology*);

9:45 Simulation Model of a Communication System Based on Rydberg Atoms
Xinyi Y. I. Xu (*Zhejiang University*); *Jinpeng Yuan* (*Shanxi University*); *Wei E. I. Sha* (*Zhejiang University*);

10:00 Fundamental Commutator, Energy Conservation, and
Invited Quantum Electromagnetics
Weng Cho Chew (*Purdue University*); *Dong-Yeop Na* (*Pohang University of Science and Technology*); *Jie Zhu* (*Purdue University*); *Christopher Jayun Ryu* (*University of Illinois Urbana-Champaign*);

10:30 **Coffee Break**

10:45 Invited
Applications of Quantum Annealing for Electromagnetic Problems
Sanghoek Kim (*Kyung Hee University*); *Yunhee Son* (*Kyung Hee University*); *Sangbin Lee* (*Kyung Hee University*);

11:00 Invited
Speedup of High-order Unconstrained Binary Optimization Using Quantum Z2 Lattice Gauge Theory
Bi-Ying Wang (*Yangtze River Delta Industrial Innovation Center of Quantum Science and Technology*); *Xiao-Peng Cui* (*Fudan University*); *Man-Hong Yung* (*Southern University of Science and Technology*); *Yu Shi* (*Shanghai Institute for Advanced Studies*);

11:15 Invited
Coupled Electromagnetic and Hydrodynamic Modeling for Semiconductors Using Finite Volume Method and Mixed Finite Element Method
Na Liu (*Xiamen University*); *Chengzhuo Zhao* (*Xiamen University*); *Luojie Lin* (*Xiamen University*);

11:30 Invited
Nonlinear and Non-Hermitian Dynamics with Trapped Ions
Moonjoo Lee (*Pohang University of Science and Technology (POSTECH)*);

11:45 Invited
Efficient Simulation of Rydberg Atom-based Microwave Field Detection Using the Monte Carlo Wave Function Method
Guoda Xie (*Anhui University*); *Wenjie Ding* (*Anhui University*); *Yingsong Li* (*Anhui University*); *Zhixiang Huang* (*Anhui University*);

12:00
Hybrid Quantum-inspired Approach for Large-scale Hermitian Eigenvalue Problems
Pengcheng Luo (*Zhejiang University*); *Wei E. I. Sha* (*Zhejiang University*);

Session 3A13a
Quantum Secure Communication and Its Beyond

Saturday AM, November 8, 2025

Room 13 - 205

Organized by Guan-Jie Fan-Yuan, Yun-Ru Fan

Chaired by Guan-Jie Fan-Yuan

8:30 Invited
The Recent Development of Reference frame Independent Quantum Key Distribution
Shihai Sun (*Sun Yat-sen University*);

8:50
Toward a Digital Twin Framework for Quantum Key Distribution Networks
Yuhang Liu (*Beijing University of Posts and Telecommunications*); *Xiaosong Yu* (*Beijing University of Posts and Telecommunications*); *Yongli Zhao* (*Beijing University of Posts and Telecommunications*);

9:05
Quantum Secure Communication Networks: Architecture, Key Technologies and Future Directions
Yuxin Chen (*University of Science and Technology of China*); *Jian Li* (*University of Science and Technology of China*); *Kaiping Xue* (*University of Science and Technology of China*);

9:20 Invited
Fully Reference-frame-independent Quantum Key Distribution
Chun-Mei Zhang (*Nanjing University of Posts and Telecommunications*);

9:40 Invited
Drone-based Quantum Optical Experiments towards Mobile Quantum Network
Hua-Ying Liu (*Nanjing University*); *Xiaohui Tian* (*Nanjing University*); *Zhen-Da Xie* (*Nanjing University*);

10:00 Invited
Research Progress on the Practical Implementation of Quantum Secure Direct Communication
Dong Pan (*Beijing Academy of Quantum Information Sciences*);

Session 3A13b
Spin Related Quantum Technology and Electromagnetism

Saturday AM, November 8, 2025

Room 13 - 205

Organized by Akira Hirose

Chaired by Akira Hirose

11:10
Spin-wave Dynamics and Its Physical Picture Effective and Useful in the Forthcoming Physical Artificial Intelligence Era
Akira Hirose (*The University of Tokyo*); *Kimihiro Akiyama* (*The University of Tokyo*); *Yuta Miyasaka* (*The University of Tokyo*); *Ryo Natsuaki* (*The University of Tokyo*);

11:25
Spin-wave Reservoir Chips: Toward CMOS-compatible Nonlinear Computing
Koji Sekiguchi (*Yokohama National University*);

11:40
Perturbation-based Nonlinearity Analysis of Spin Waves in Application to Neuromorphic Computing
Jiaxuan Chen (*The University of Tokyo*); *Yicheng Song* (*The University of Tokyo*); *Akira Hirose* (*The University of Tokyo*);

11:55
Probing the Broken Time Reversal Symmetry in Monolayers Using the Z-scan Technique
Husam H. Abu-Safe (*German Jordanian University*);

Session 3A14
Optical Sensors, Fundamentals and Applications

Saturday AM, November 8, 2025

Room 14 - 301A

Organized by Cees Ronda

Chaired by Cees Ronda

8:30 Silicon Nanowires for Gas Sensing: DFT Model and Experiment
Valerii M. Kondratev (*Alferov University*); *Alexey D. Bolshakov* (*Moscow Institute of Physics and Technology*);

8:45 Fundamental Limitations of Electro-optic Electrically Small Antennas
Gabriel Santamaria Botello (*Colorado School of Mines*);

9:00 Demonstration of a Stand-off Trace Gas Sensor with Optical Detection of Photothermal Effect during Infrared Laser Absorption
Shigeru Yamaguchi (*Tokai University*); *Yuki Kawamoto* (*Tokai University*); *Masaki Asobe* (*Tokai University*); *Kazuyoku Tei* (*Tokai University*);

9:15 An All-optical Spiking Neuron On-chip for Nanosecond Real-time Analog Optical Signal Processing
Weiming Yao (*Technical University Eindhoven*); *Lukas Puts* (*Eindhoven University of Technology*); *Daan Lenstra* (*Eindhoven University of Technology*);

9:30 Shock and Detonation Velocity Sensing at 100 GHz and 30 THz
Yohan Barbarin (*CEA-DAM*); *Alexandre Lefrancois* (*CEA-DAM*); *Gregory Lefrere* (*CEA-DAM*); *L. Poffo* (*University of Limoges*); *J.-M. Goujon* (*CNRS, Institut FOTON, Université de Rennes*);

9:45 Temperature-compensated Magnetic Field Sensing System Based on Optoelectronic Oscillator
Ming Deng (*Chongqing University*); *Tianqi Wang* (*Chongqing University*); *Sanfeng Gu* (*Chongqing University*); *J. S. Zhang* (*Southwest Technology and Engineering Research Institute*);

10:30 Optical Carrier Microwave Interference Sensing System Based on Autler-Townes Splitting
Tianqi Wang (*Chongqing University*); *Ming Deng* (*Chongqing University*);

10:45 3D Metamaterials and the Sensitivity of Refractive Index
Chang-Zhi Gu (*Institute of Physics, Chinese Academy of Sciences*);

11:00 LiDAR Sensing Enabled by InP Integrated Photonics
Victor Dolores-Calzadilla (*Eindhoven University of Technology*); *Y. Han* (*Eindhoven University of Technology*); *M. Wopereis* (*Eindhoven University of Technology*); *A. Sedilot* (*Eindhoven University of Technology*); *M. Gagino* (*Eindhoven University of Technology*); *L. Zhang* (*Eindhoven University of Technology*);

00:00 Femtosecond Laser Inscription of On-surface Optical Waveguide in Sapphire
Wei Lyu (*Westlake Institute for Optoelectronics*); *Ding Zhao* (*Westlake Institute for Optoelectronics*); *Min Qiu* (*Westlake University*);

Session 3A15a
Hybrid Optoelectronics

Saturday AM, November 8, 2025

Room 15 - 301B

Organized by Meicheng Li, Yuyi Feng

Chaired by Yuyi Feng

8:30 Invited Chiral-perovskite Optoelectronics
Guankui Long (*Nankai University*);

8:50 Invited Mid Infrared Metasurfaces
Yoshiaki Nishijima (*Yokohama National University*);

9:10 Invited MEMS-enabled Metadevices for Dynamic Electromagnetic Control
Xiaoguang Zhao (*Tsinghua University*);

9:30 Invited From MEMS Resonators to MEMS Atomic Vapor Cells for Timing Device
Yuxin Ruan (*Beijing University of Chemical Technology*); *Haopeng Xu* (*Beijing University of Chemical Technology*); *Yingfeng Liu* (*Beijing University of Chemical Technology*); *Jiahui Xu* (*Beijing University of Chemical Technology*); *Quan Yuan* (*Beijing University of Chemical Technology*);

9:50 Invited Large-area Perovskite Metamaterials with Giant Optical Chirality
Yuyi Feng (*North China Electric Power University*); *Xin Bi* (*North China Electric Power University*); *Yifan Zeng* (*North China Electric Power University*); *Yuxuan Dong* (*North China Electric Power University*); *Meicheng Li* (*North China Electric Power University*);

10:10 Azobenzene Derivatives Regulate the Crystallization of Inorganic Perovskite Solar Cells
Shiang Zhang (*Zhejiang University*); *Yuxiang Gao* (*Zhejiang University*); *Yucai Yuan* (*Zhejiang University*); *Baodan Zhao* (*Zhejiang University*); *Dawei Di* (*Zhejiang University*);

10:30 **Coffee Break**

10:50 High Optical Feedback-tolerance of Distributed Feedback III-V-on-SOI Laser for High Speed Isolator-free Operation
Amin Souleiman Dabar (*Université Grenoble Alpes*); *Kamel Merghem* (*SAMOVAR, Télécom SudParis, Institut Polytechnique de Paris*); *Karim Hassan* (*Universite Grenoble Alpes, CEA, LETI*); *Delphine Néel* (*III-V Lab, a Joint Lab from Nokia, Thales and CEA*); *Nicolas Vaissiere* (*III-V Lab, a Joint Lab from Nokia, Thales and CEA*); *Claire Besançon* (*III-V Lab, a Joint Lab from Nokia, Thales and CEA*); *Stéphane Malhouitre* (*CEA LETI, Université Grenoble Alpes*); *Jean Decobert* (*III-V Lab, a Joint Lab from Nokia, Thales and CEA*); *Joan Manel Ramirez* (*III-V Lab, a Joint Lab from Nokia, Thales and CEA*);

Session 3A15b
Perovskite and Organic Optoelectronics 1

Saturday AM, November 8, 2025

Room 15 - 301B

Organized by Gang Li, Hyun Suk Jung

Chaired by Gang Li

11:10 Energy Losses in All-perovskite Tandem Solar Cells Based on Opto-electro-thermal Multiphysics Field Simulation
Zhaosheng Xia (*Anhui University*); *Xingang Ren* (*Anhui University*); *Gang Wang* (*Anhui University*); *Yongchun Miao* (*Anhui University*); *Zhixiang Huang* (*Anhui University*);

11:25 Invited Multi-length Scale Active Layer Morphology Studies for Organic and Perovskite Solar Cells
Xinhui Lu (*The Chinese University of Hong Kong*);

11:45 Invited Navigate the Chemical Space of Hybrid Perovskites: From Inverse Design to Optoelectronic Applications
Tom Wu (*Hong Kong Polytechnic University*);

12:05 Self-assembled Molecule Design for Efficient Inverted Perovskite Solar Cells
Qi Jiang (*Institute of Semiconductors, Chinese Academy of Sciences*);

Session 3A16a
Quantum Technologies with Photonic Entanglement

Saturday AM, November 8, 2025

Room 16 - 302

Organized by He Lu, Zheng-Da Li

Chaired by He Lu, Zheng-Da Li

8:30 Experimental Construction of High-capacity Quantum Information Protocols
Shengshuai Liu (*East China Normal University*);

8:45 Experimental Generation and Verification of High-dimensional Multipartite Entangled States
Xufei Yin (*University of Science and Technology of China*);

9:00 Quantum Sensing of Color Centers in Silicon Carbide and hBN
Junfeng Wang (*Sichuan University*);

00:00 Quantum Information Processing in an Integrated Large Programmable Photonic Chip
Yuan Li (*The Hong Kong Polytechnic University*);

9:30 PaQS, the Paderborn Quantum Sampler
Michael Stefszky (*Paderborn University*); *Kai-Hong Luo* (*Paderborn University*); *Simone Atzeni* (*Paderborn University*); *Mikhail Roiz* (*Paderborn University*); *Jan-Lucas Eickmann* (*Paderborn University*); *Jonas Lammers* (*Paderborn University*); *Florian Lütkewitte* (*Paderborn University*); *Fabian Schlue* (*Paderborn University*); *Cheeranjiv Pandey* (*Paderborn University*); *Timon Schapeler* (*Paderborn University*); *Laura Ares Santos* (*Paderborn University*); *Robert Schade* (*Paderborn University*); *Christian Plessl* (*Paderborn University*); *Tim J. Bartley* (*Paderborn University*); *Benjamin Brecht* (*Paderborn University*); *Jan Sperling* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*);

9:45 Long-distance Distributed Quantum Operations among Independent Photons
Ya-Li Mao (*Nankai University*);

10:00 Generation and Detection of Multiphoton Entanglement in Lithium Niobate Waveguides
He Lu (*Shandong University*);

10:15 Fundamental Tests of Quantum Physics in Photonic Quantum Networks
Zheng-Da Li (*Shenzhen International Quantum Academy*);

10:30 **Coffee Break**

Session 3A17
Short-Oral Presentations for Best Student Presentation Awards Competition - Part 4

Saturday AM, November 8, 2025

Room 17 - 303

8:30 (1) Numerical Study of Light Scattering in a Hollow Sphere Using Mie Theory
Ryuga Sawada (*Hokkaido University*); *Hiroyuki Fujii* (*Hokkaido University*); *Kazumichi Kobayashi* (*Hokkaido University*); *Masao Watanabe* (*Hokkaido University*);

8:33 (2) A Semi-implicit Non-equilibrium Green's Function Simulation Scheme for Quantum Transport with Consideration of Phonon Scattering Effect
Liang Tian (*Zhejiang University*); *Yizhang Liu* (*Zhejiang University*); *Wenchao Chen* (*Zhejiang University*);

8:36 (3) A Physics-guided Wireless Localization Framework for Communications-based Train Control
Yunxi Mu (*Peking University*); *Hao Qin* (*University College Dublin*); *Xinyue Zhang* (*University College Dublin*); *Xingqi Zhang* (*University of Alberta*);

8:39 (4) An Efficient Solution Method for the Angular Glint Characteristics of Multiple Objects Based on the TCM and MLFMA
Zhaoyuan Wang (*Nanjing University of Science and Technology*); *Jihong Gu* (*Nanjing University of Science and Technology*); *Jiaxuan Wang* (*Beihang University*); *Dazhi Ding* (*Nanjing University of Science and Technology*); *Chao-Fu Wang* (*Nanjing University of Science and Technology*);

8:42 (5) Topology, Symmetry, and Finite-size Effects in the Competition between Non-Hermitian Skin Effect and Anderson Localization
Shu-Man Huang (*Zhejiang University*); *Qi Hong* (*Zhejiang University*); *Yi-Pu Wang* (*Zhejiang University*);

8:45 (6) Meta-grating-lens Based Monolithic Polarization Camera
Fengjun Li (*Jinan University*); *Ziwei Feng* (*Jinan University*); *Zi-Lan Deng* (*Jinan University*); *Xiangping Li* (*Jinan University*);

8:48 (7) Q-switching Nanophotonic Biosensing
Jiacheng Sun (*Westlake University*); *Liaoyong Wen* (*Westlake University*);

8:51 (8) Colorimetric Refractive Index Sensor Using Polarization Dependence of Optical Resonances in Modulated Cr Subwavelength Grating/SiO_2/Ni Structure
Hyuga Miyatake (*Tokushima University*); *Yususke Takashima* (*Tokushima University*); *Masanobu Haraguchi* (*Tokushima University*); *Yoshiki Naoi* (*Tokushima University*);

8:54 (9) Inverse Design of Metasurfaces Using Reinforcement Learning Combined with Physics-informed Neural Networks
Vlad Medvedev (*Fraunhofer Institute for Integrated Systems and Device Technology IISB*); *Rodrigo Coelho* (*Fraunhofer Institute for Integrated Systems and Device Technology (IISB)*); *Andreas Erdmann* (*Fraunhofer Institute for Integrated Systems and Device Technology IISB*); *Andreas Rosskopf* (*Fraunhofer Institute for Integrated Systems and Device Technology IISB*);

8:57 (10) Omnidirectional Collection of Microdisk Laser Emission via Fully-covered Metasurface Integration
Aran Yu (*Korea University*); *Seung Ju Yoon* (*Samsung Electronics*); *Myung-Ki Kim* (*Korea University*); *Da In Song* (*Samsung Electronics*); *Moohyuk Kim* (*Korea University*);

9:00 (11) Low-complexity Electromagnetic Regulation and Failure Feedback Mechanisms for Distributed Reconfigurable Intelligent Surfaces
Zhen Jie Qi (*Southeast University*); *Hui Dong Li* (*Southeast University*); *Junyan Dai* (*Southeast University*); *Qiang Cheng* (*Southeast University*);

9:03 (12) Compact Free-electron Vortex Laser
Yiwei Peng (*Zhejiang University*); *Zijian Zhang* (*Zhejiang University*); *Yuan-Zhen Li* (*Zhejiang University*); *Kai Wang* (*Zhejiang University*); *Zhaozhen Dong* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*); *Fei Gao* (*Zhejiang University*);

9:06 (13) Microring Resonator as a Rayleigh Mirror for Broadband Comb Generation
Anastasiia S. Netrusova (*Skolkovo Institute of Science and Technology*); *A. A. Mkrtchyan* (*Skolkovo Institute of Science and Technology*); *Z. Ali* (*Skolkovo Institute of Science and Technology*); *Mikhail S. Mishevsky* (*Skolkovo Institute of Science and Technology*); *Nikita Yu. Dmitriev* (*Russian Quantum Center*); *K. N. Min'kov* (*Russian Quantum Center*); *Dmitry A. Chermoshentsev* (*Russian Quantum Center*); *Albert G. Nasibulin* (*Skolkovo Institute of Science and Technology*); *Igor A. Bilenko* (*Russian Quantum Center*); *Yuriy G. Gladush* (*Skolkovo Institute of Science and Technology*);

9:09 (14) Regional Biomechanical Study of Corneal Leukoma Based on Optical Coherence Elastography
Sizhu Ai (*Tianjin University*); *Xingdao He* (*Nanchang Hangkong University*); *Baozhen Ge* (*Tianjin University*);

9:12 (15) Valley-polarized Exciton-polariton Dynamics in a 2D Semiconductor Microcavity
Xingzhou Chen (*East China Normal University*); *Artem Volosniev* (*Aarhus University*); *Areg Ghazaryan* (*Infineon Technologies*); *Zheng Sun* (*East China Normal University*);

9:15 (16) All-optical Combinational Logical Units featuring Fifth-Order Cascade
Haiqi Gao (*University of Chinese Academy of Sciences*); *Yu Shao* (*University of Chinese Academy of Sciences*); *Chenying Yang* (*University of Chinese Academy of Sciences*);

9:18 (17) Cascade Lanthanide-triplet Energy Transfer for Nanocrystal-sensitized Organic Photon Upconversion
Zhijie Ju (*Zhejiang University*); *Renren Deng* (*Zhejiang University*);

9:21 (18) Enhanced Detectivity in Quantum Dot Photodetectors through P-type Ink and ALD Integration
Hong Gu Kang (*Hanyang University*); *Daekwon Shin* (*Sungkyunkwan University*); *Seohee Park* (*Korea Institute of Industrial Technology (KITECH)*); *Ji Hyeon Woo* (*Hanyang University*); *Min Seok Kim* (*Hanyang University*); *Hyeonjun Jeong* (*Sungkyunkwan University*); *Sohee Jeong* (*Sungkyunkwan University*); *Jung Hoon Song* (*Mokpo National University*); *Ju Young Woo* (*Hanyang University*); *Seong-Yong Cho* (*Hanyang University*);

9:24 (19) Circularly Polarized Luminescence Confining-helical Superstructures
Mingjiang Zhang (*University of Science and Technology of China*); *Taotao Zhuang* (*University of Science and Technology of China*);

9:27 (20) Relaxation Dynamics in Optically Controlled Carrier Polarity of the Si Metal-oxide-semiconductor Structure
Jin Miura (*Tokyo University of Agriculture and Technology*); *F. Inamura* (*Tokyo University of Agriculture and Technology*); *T. Ikuta* (*Tokyo University of Agriculture and Technology*); *K. Maehashi* (*Tokyo University of Agriculture and Technology*); *Kenji Ikushima* (*Tokyo University of Agriculture and Technology*);

9:30 (21) A High-efficiency Multiobject Reinforcement Learning Optimization Method for Pixel Antenna without Topological Constraint
Haibiao Chen (*Shanghai Jiaotong University*); *Rui Zhang* (*Shanghai Jiao Tong University*); *Ze-Ming Wu* (*Shanghai Jiaotong University*); *Lixiao Wang* (*Eastern Institute of Technology*); *Xiaochun Li* (*Shanghai Jiao Tong University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

9:33 (22) Valley Topological Waveguide-based 2D Leaky-wave Antenna with Single-port Excitation
Zhaozhen Dong (*Zhejiang University*); *Xin Cheng* (*Xi'an Jiaotong University*); *Yuan-Zhen Li* (*Zhejiang University*); *Xinrong Xie* (*Zhejiang University*); *Kai Wang* (*Zhejiang University*); *Yiwei Peng* (*Zhejiang University*); *Zijian Zhang* (*Zhejiang University*); *Jiaqian Ding* (*Xi'an Jiaotong University*); *Enzong Wu* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*); *Xiaoming Chen* (*Xi'an Jiaotong University*); *Fei Gao* (*Zhejiang University*);

9:36 (23) Analysis of Snow and Water Effect on EBG Waveguides for Microwave Snow Melting to Prevent Electromagnetic Wave Leakage
Koyo Hatazawa (*National Institute of Technology, Hakodate College*); *Masashi Nakatsugawa* (*National Institute of Technology, Hakodate College*); *Tamami Maruyama* (*Hiroshima Institute of Technology*); *T. Nakamura* (*National Institute of Technology, Hakodate College*); *T. Yamamoto* (*National Institute of Technology, Hakodate College*); *Manabu Omiya* (*Hokkaido University*); *Noriharu Suematsu* (*Tohku University*);

9:39 (24) An Innovative Neural Network Technique for MIMO Systems: Iterative Decoding and Channel Estimation for Optimal Performance
Muhammad Arslan (*Tongji University*); *Mei Song Tong* (*Tongji University*);

9:42 (25) A Compact Multi-folded Meandered Antenna for 5G mmWave Systems
Akhtar Khan (*Tongji University*); *Shakeel Ahmad* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

9:45 (26) Simplified Design Method of Generalized Sequential Rotation Array Based on Rotation-independent Element
Xin Yu Wu (*Southeast University*); *Zhihao Jiang* (*Southeast University*);

9:48 (27) Scalable Multiple-channel Current Diffusion Models with Spatial-temporal Attention for Inverse Scattering Problems
Jianfa Liu (*zhejiang University*); *Zhun Wei* (*Zhejiang University*);

9:51 (28) Classification of Dart-out Risks of Pedestrians in Tree-occluded NLOS Areas Using a 2.4 GHz FMCW Radar
Yuki Nakaoka (*Ritsumeikan University*); *Kenshi Saho* (*Ritsumeikan University*);

9:54 (29) Detecting Seasonal Sea Ice via GOCI-II Geostationary Satellite Imagery Based on Deep Learning
Yan Huang (*Nanjing University*); *Wentao Ma* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*);

9:57 (30) Unusual LF Oscillations Associated with a X5.89-class Solar Flare in May 2024: Possible Link to EUV Emissions
Akane Kubota (*Chiba University*); *Hiroyo Ohya* (*Chiba University*); *F. Tsuchiya* (*Tohoku University*); *H. Nakata* (*Chiba University*);

10:00 (31) Macroscopic Diamagnetic Levitated Optomechanics: Feedback Cooling towards the Ground State
Alexander Hodges (*Okinawa Institute of Science and Technology*); *Jinjin Du* (*Okinawa Institute of Science and Technology*); *Shilu Tian* (*Okinawa Institute of Science and Technology*); *Jason Twamley* (*Okinawa Institute of Science and Technology*);

10:03 (32) A Magnetically Levitated Conducting Rotor with Ultra-low Rotational Damping Circumventing Eddy Loss
Daehee Kim (*Okinawa Institute of Science and Technology Graduate University*); *Shilu Tian* (*Okinawa Institute of Science and Technology Graduate University*); *Breno Calderoni* (*Okinawa Institute of Science and Technology Graduate University*); *Cristina Sastre Jachimska* (*Okinawa Institute of Science and Technology Graduate University*); *James Downes* (*Macquarie University*); *Jason Twamley* (*Okinawa Institute of Science and Technology Graduate University*);

10:06 (33) A Two-level Coarse Model Assisted Space Mapping Optimization Technique for Waveguide Filter Design
Mutian Li (*Tianjin University*); *Feng Feng* (*Tianjin University*); *Jinyi Liu* (*Tianjin University*); *Jiali Zhang* (*Tianjin University*); *Qi-Jun Zhang* (*Carleton University*);

10:09 (34) Capacity-driven Optimization of Non-uniform Arrays via Neural Network-assisted Parallel Tempering Algorithm
Yutong Jiang (*Zhejiang University*); *Pengcheng Luo* (*Zhejiang University*); *Shuai S. A. Yuan* (*Zhejiang University*); *Wei E. I. Sha* (*Zhejiang University*);

00:00 Study of New Types of Microwave Applicators for Thermoablation in Cardiology
Kateřina Pavelková (*Czech Technical University in Prague*); *Michaela Nečasová* (*Czech Technical University in Prague*); *Filip Zajan* (*Czech Technical University in Prague*); *Jan Vrba* (*Czech Technical University in Prague*); *Milan Babak* (*Czech Technical University in Prague*);

00:00 Intelligent Transparent LCE/Ag NWs Film: A Switch for Infrared Stealth and EMI Shielding
Wansong Gu (*University of Electronic Science and Technology of China*); *Hetao Chu* (*University of Electronic Science and Technology of China*);

00:00 On-demand Customization of Visible-infrared Compatible Anti-counterfeiting Materials Empowered by Deep Learning
Wenzhuang Ma (*University of Electronic Science and Technology of China*); *Li Zhang* (*University of Electronic Science and Technology of China*);

00:00 Electron-driven Polariton Sources via Smith-Purcell Radiation
Zhiguo Sun (*Nankai University*); *Wei Cai* (*Nankai University*); *Jingjun Xu* (*Nankai University*);

00:00 An Eight-element Wideband Antenna with Multiple Resonant Modes and Decoupling Structure
Mingna Ma (*Xihua University*); *Nian Chen* (*Xihua University*); *Yong Mao Huang* (*Xihua University*);

00:00 Design of an AI-optimized BAW Resonator at N79-band for Mobile Communications
Yanfeng Liang (*Guangdong Polytechnical Normal University*); *Shangran Wang* (*Guangdong Polytechnical Normal University*); *Chen Zhao* (*Guangdong Polytechnical Normal University*); *Zhixuan Huang* (*Guangdong Polytechnical Normal University*); *Zhiqiang Lai* (*Guangdong Polytechnical Normal University*); *Hui Liu* (*Guangdong Polytechnical Normal University*);

00:00 Research and Design of a SPDT Switch for RF Front-end Module Chips
Haijian Zhao (*Guangdong Polytechnical Normal University*); *Yanfeng Liang* (*Guangdong Polytechnical Normal University*); *Yongtu Hao* (*Guangdong Technical Normal University*); *Hui Liu* (*Guangdong Polytechnical Normal University*);

00:00 Enhanced Wave-direction Sensing at Exceptional Points
Yumeng Yang (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*); *Fei Gao* (*Zhejiang University*);

Session 3A18
Photonic Topological Meta-materials and Meta-crystals 1

Saturday AM, November 8, 2025

Room 18 - 304

Organized by Shaojie Ma, Hongwei Jia

Chaired by Shaojie Ma, Hongwei Jia

8:30 Invited Weak-coupling Bound States in Semi-infinite Topological Waveguide QED
Savannah Garmon (*Osaka Metropolitan University*); *Gonzalo Ordonez* (*Butler University*); *Kenichi Noba* (*Osaka Metropolitan University*);

8:50 Invited Observation of Corner and End States in Higher-order Non-Hermitian Topological Circuits
Shuo Liu (*University of Birmingham*); *Ce Shang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Tie Jun Cui* (*Southeast University*);

9:10 Invited Bulk-spatiotemporal Vortex Correspondence in Gyromagnetic Double-zero-index Media
Ruo-Yang Zhang (*The Hong Kong University of Science and Technology*); *Xiaohan Cui* (*The Hong Kong University of Science and Technology*); *Yuan-Song Zeng* (*City University of Hong Kong*); *Neng Wang* (*Shenzhen University*); *Geng-Bo Wu* (*City University of Hong Kong*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

9:30 Invited Insulator-Free Topological Multilane Waveguides for High Spatial Efficiency Unidirectional Light Guiding
Xiaohan Cui (*The Hong Kong University of Science and Technology*); *Ruo-Yang Zhang* (*The Hong Kong University of Science and Technology*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

9:50 Invited Artificial Gauge Fields for Non-Abelian and Non-Hermitian Photonic Systems
Wange Song (*Nanjing University*);

10:10 Invited Gauge-field-induced Duality Group in Metamaterials
Yan Meng (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

10:30 **Coffee Break**

10:50 Invited Unconventional Topological Edge States in Non-Hermitian Gapless Systems
Jing Hu (*Shanghai University*); *Hongwei Jia* (*Tongji University*);

11:10 Topological Phase Transition Induced by Dopping in Magnetic Photonic Crystals
Hai-Xiao Wang (*Ningbo University*);

11:25 Space and Space-time Topologies in a Type-II Hyperbolic Lattice
Jingming Chen (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

11:40 High-fidelity Quasi-adiabatic Transport in Waveguide Array with Polarization Splitting
Ming-Li Chang (*The Hong Kong University of Science and Technology*); *Shuo-Shi Zhang* (*Sun Yat-sen University*); *Hou-Hong Chen* (*Sun Yat-sen University*); *Guo-Jing Tang* (*Sun Yat-sen University*); *Meng-Yu Li* (*Sun Yat-sen University*); *Ze-Peng Zhuang* (*Sun Yat-sen University*); *Chao-Heng Guo* (*Sun Yat-sen University*); *Xiao-Dong Chen* (*Sun Yat-sen University*); *Xin-Tao He* (*Sun Yat-sen University*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*); *Jian-Wen Dong* (*Sun Yat-sen University*);

11:55 Non-Hermitian Bloch Braids and Associated Topological Phase Transitions
jinglin Liu (*Southern University of Science and Technology*); *Yuxin Zhong* (*Southern University of Science and Technology*); *Jingming Chen* (*Southern University of Science and Technology*); *Zhenxiao Zhu* (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

Session 3A19a
Poster Session for Best Student Presentation Awards Competition - Part 4

Saturday AM, November 8, 2025

Poster Area

Session 3A19b
Poster Session 3

Saturday AM, November 8, 2025

9:00 AM - 12:00 AM

Poster Area

41 Identification of Small Objects from Two-dimensional Fresnel Dataset: The Case of Transverse Magnetic Polarized Waves
Minyeob Lee (*Kookmin University*); *Taeyoung Ha* (*National Institute for Mathematical Sciences*); *Youngho Woo* (*National Institute for Mathematical Sciences*); *Won-Kwang Park* (*Kookmin University*);

42 Partial Signal Reconstruction for Acoustic Detection via Radar Echo Analysis: Laryngeal Phoneme Recognition in Noisy Environments
Nezah Balal (*Ariel University*);

43 Conversion of Photon Angular Momentum to Spin Supercurrent
Ping Li (*Huazhong University of Science and Technology*); *Tao Yu* (*Huazhong University of Science and Technology*);

44 An On-chip Millimeter-wave Power Amplifier Utilizing a Adaptative Current Biasing Loop for Efficiency Improvement During Power Backoff
Yukai Feng (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Liaug Yunn* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*);

45 Precision Microwave Thermotherapy with Dual-frequency Circular Arrays: A Feasibility Study
Janghoon Jeong (*Soonchunhyang University*); *Jang-Moon Jo* (*Soonchunhyang University*); *Won-Young Song* (*Electronics and Telecommunications Research Institute*); *Kwang-Jae Lee* (*Electronics and Telecommunications Research Institute*); *Seong-Ho Son* (*Soonchunhyang University*);

46 Low-latency Defogging Algorithm for Camera Monitor Systems Implemented on ZYNQ
Ling Chen Xu (*Tongji University*); *Jie Han* (*Tongji University*); *Ya Ming Xie* (*Tongji University*);

47 A Design of In-vehicle Electronic Rearview Mirror System Based on High-speed Serial Bus
Qi Lin Yang (*Shanghai Institute of Technology*); *Le Le Han* (*Shanghai Institute of Technology*); *Ling Chen Xu* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

48 Design of a Compact Dual-mode Antenna with Distinct Radiation Patterns for WBAN Applications
Jawad Ahmad (*Nazarbayev University*); *Mohammad Hashmi* (*Nazarbayev University*);

49 Short-term Frequency Stability of the Rubidium Atomic Fountain Clock NTSC-RbF2 at the NTSC
Yang Bai (*National Time Service Center, Chinese Academy of Science*); *Si-Chen Fan* (*National Time Service Center, Chinese Academy of Science*); *Hui Zhang* (*National Time Service Center, Chinese Academy of Science*); *Jun Ruan* (*National Time Service Center, Chinese Academy of Sciences*);

50 Enhanced Microwave Imaging in High-loss Media via Green's Function Compensation
Janghoon Jeong (*Soonchunhyang University*); *Jang-Moon Jo* (*Soonchunhyang University*); *Won-Kwang Park* (*Kookmin University*); *Seong-Ho Son* (*Soonchunhyang University*);

51 Compact Metamaterial Antenna for Advanced Robotic Communication
Saif Jamal Qureshi (*University of Hertfordshire*); *Azunka N. Ukala* (*University of Hertfordshire*); *Martin A. Thomas* (*University of Hertfordshire, College Lane*); *Eugene A. Ogbodo* (*University of Hertfordshire*);

52 Dual-mode Collaborative Recognition for UAV Swarms in Complex Electromagnetic Environments: A Deep Learning Approach with Feature Fusion
Yangyi Chen (*Nation University of Defense Technology*); *Xinrui Qin* (*Nation University of Defense Technology*); *Wei Zhang* (*Nation University of Defense Technology*);

00:00 Cherenkov Radiation in the Field of Vacuum Ultraviolet
V. S. Malyshevsky (*Southern Federal University*); *G. V. Fomin* (*Southern Federal University*); *A. R. Gucheva* (*Southern Federal University*); *S. A. Kudelya* (*Southern Federal University*);

00:00 Wireless Exceptional-point Sensors Enhanced by Noise
Zhipeng Li (*University of Science and Technology of China*);

00:00 Controlled Fabrication of Chiral Au Metastructures for Applications in Sensing and Circularly Polarized Luminescence
Xiaolin Lu (*Wuhan University*);

00:00 Multifunctional Properties of Cr-doped Sb_2Te_3: A Comprehensive Investigation into Optoelectronic, Magnetic, Thermoelectric, and Mechanical Characteristics
Sikander Azam (*Riphah International University*); *M. Jawad* (*Riphah International University*); *Qaiser* (*Riphah International University*); *Amin Ur Rahman* (*Riphah International University*);

00:00 Enhanced Intramolecular Hole Transfer in Block Copolymer Enables >15% and Operational Stable Single-material-organic Solar Cells
Bin Li (*Soochow University*); *Jianyu Yuan* (*Soochow University*);

00:00 Ultra-wideband Radio Telescope Receiver System for Solar Observations
Jun Shi (*National Space Science Center, CAS*); *Zhaomin Peng* (*National Space Science Center, CAS*);

00:00 WEGA-Net: A Wavelet-enhanced Global Feature Alignment Network for High-quality Pansharpening
Mingzhou Ma (*Chongqing University of Posts and Telecommunications*); *Shuyue Luo* (*Chongqing University of Posts and Telecommunications*); *Yuxiang Tao* (*Chongqing University of Posts and Telecommunications*);

00:00 A Segmented Anode NPN Fast-switching IGBT Superjunction Structure with p-buffer Layer
Yuanchang Zhan (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Quanyi Zhang* (*Southwest Jiaotong University*); *Mingyang Chen* (*Southwest Jiaotong University*);

00:00 Self-assembly of Lipids in $CaCl_2$ Solution with External Electric Fields: A Coarse-grained Molecular Dynamics Simulation
Zheng Mao (*Nanjing Institute of Technology*); *Yiqian Mao* (*Southeast University*);

Session 3P1
Topologically Structured Light 2

Saturday PM, November 8, 2025

Room 1 - 101A

Organized by Yijie Shen, Jian Chen

Chaired by Yijie Shen, Jian Chen

13:30 Invited Controlling the Information Flow in Optical Metrology with Plasmonics
Cheng-Hung Chi (*University of Southampton*); *Thomas A. Grant* (*University of Southampton*); *Kevin Francis MacDonald* (*University of Southampton*); *Luca Neubacher* (*Vienna University of Technology (TU Wien)*); *S. Rotter* (*Vienna University of Technology (TU Wien)*); *Maximilian Weimar* (*Vienna University of Technology (TU Wien)*); *Huanli Zhou* (*University of Southampton*); *Nikolay I. Zheludev* (*University of Southampton*);

13:50 Nanometric Localization Assisted by Structured Light
Yu Wang (*Nanyang Technological University*); *Eng Aik Chan* (*Nanyang Technological University*); *Benquan Wang* (*Nanyang Technological University*); *Yijie Shen* (*Nanyang Technological University*); *Jun-Yu Ou* (*University of Southampton*);

14:05 Topological Magnetic Lattices for On-chip Nanoparticle Trapping and Sorting
Xi Xie (*Nanyang Technological University*); *Yijie Shen* (*Nanyang Technological University*);

14:20 Inherent Spin-orbit Locking in Topological Lasing via Bound State in the Continuum
Jiajun Wang (*Fudan University*); *Xinhao Wang* (*Fudan University*); *Lei Shi* (*Fudan University*); *Yuri S. Kivshar* (*Australian National University*); *Jian Zi* (*Fudan University*);

14:35 Invited Structured Acoustic Vectorial Fields
Hao Ge (*Nanjing University*); *Xiangyuan Xu* (*Nanjing University*); *Wen-Yu Wang* (*Nanjing University*); *Ming-Hui Lu* (*Nanjing University*); *Yan-Feng Chen* (*Nanjing University*);

14:55 Invited Ultrafast Photoelectron Imaging of Spatiotemporal Plasmonic Vortices
Qian Chen (*Southern University of Science and Technology*); *Shuoshuo Zhang* (*Shenzhen University*); *Guoyu Xian* (*Institute of Physics, Chinese Academy of Sciences*); *Haoqiang Hu* (*Southern University of Science and Technology*); *Xiaohua Wu* (*Southern University of Science and Technology*); *Xiaofei Wu* (*Leibniz Institute of Photonic Technology*); *Jer-Shing Huang* (*Leibniz Institute of Photonic Technology*); *Chen-Bin Huang* (*National Tsing Hua University*); *Jin-Hui Zhong* (*Southern University of Science and Technology*); *Yu Quan Zhang* (*Shenzhen University*); *Xiao-Cong Yuan* (*Shenzhen University*); *Changjun Min* (*Shenzhen University*); *Ya Nan Dai* (*Southern University of Science and Technology*);

00:00 Invited Interaction between Optical Quasiparticles and Matters
Takashige Omatsu (*Chiba University*);

16:00 Towards Optical Control of Surface Topography and
Invited Hopfionic Haptics
Ivan I. Smalyukh (*University of Colorado & WPI-SKCM², Hiroshima University*); *Jacques Peixoto* (*Eindhoven University of Technology*); *Darian Hall* (*University of Colorado*); *Dirk J. Broer* (*Eindhoven University of Technology*); *Danqing Liu* (*Eindhoven University of Technology*);

16:20 Axis-geometry-based Liquid Crystal Skyrmions
Yunqi Zhang (*University of Oxford*); *An Aloysius Wang* (*University of Oxford*); *Zimo Zhao* (*University of Oxford*); *Yifei Ma* (*University of Oxford*); *Ruofu Liu* (*University of Oxford*); *Runchen Zhang* (*University of Oxford*); *Chao He* (*University of Oxford*);

16:35 Vectorial Liquid-crystal Holography
Invited
Ling-Ling Ma (*Nanjing University*); *Zeyu Wang* (*Nanjing University*);

16:55 Electrically Tunable Momentum Space Polarization Sin-
Invited gularities in Liquid Crystal Microcavities
Jacek Szczytko (*University of Warsaw*); *Przemyslaw Oliwa* (*University of Warsaw*); *Piotr Kapuściński* (*University of Warsaw*); *Maria Popławska* (*University of Warsaw*); *Marcin Muszyński* (*University of Warsaw*); *Mateusz Król* (*University of Warsaw*); *Przemysław Morawiak* (*Military University of Technology*); *Rafał Mazur* (*Military University of Technology*); *Wiktor Piecek* (*Military University of Technology*); *Przemysław Kula* (*Military University of Technology*); *Witold Bardyszewski* (*University of Warsaw*); *Barbara Piętka* (*University of Warsaw*); *Helgi Sigurdsson* (*University of Warsaw*);

17:15 Skyrmion Creation and Encoding in Chiral Magnets via
Invited Poincaré Beams
Qifan Zhang (*Great Bay University*); *Yijie Shen* (*Nanyang Technological University*); *Shirong Lin* (*Great Bay University*);

17:35 Recent Progress in Magnetic Skyrmions
Invited
X. R. Wang (*The Chinese University of Hong Kong (Shenzhen)*);

17:55 Topological Spintronics
Invited
Yan Zhou (*Chinese University of Hong Kong (Shenzhen)*);

00:00 Magnetic Skyrmion Bundles with Arbitrary Topological
Invited Charges
Jin Tang (*Anhui University*);

18:35 Electrical Creation and Manipulation of Magnetic Hop-
Invited fions
Yizhou Liu (*Hefei Institute of Physical Sciences, Chinese Academy of Sciences*);

Session 3P2a
Antenna and Base Station Technology for B5G/6G Networks

Saturday PM, November 8, 2025

Room 2 - 101B

Organized by Wenfu Fu, Kun Li

Chaired by Wenfu Fu, Kun Li

13:40 Ray-tracing and Physical-optics Model for Phased Array Antennas Combined with Hybrid Domes
Hairu Wang (*KTH Royal Institute of Technology*); *Mingzheng Chen* (*KTH Royal Institute of Technology*); *Francisco L. Mesa* (*Universidad de Sevilla*); *Oscar Quevedo-Teruel* (*KTH Royal Institute of Technology*);

13:55 Progress of Common-mode Suppression Technology for
Invited Electromagnetic Compatibility: Advanced Processes and Design Methods
Peng Zhou (*Nanjing University of Science and Technology*); *Qiao Chen* (*Nanjing University of Science and Technology*); *Dazhi Ding* (*Nanjing University of Science and Technology*);

14:15 Three Practical Solutions to EMF Touch Compliant Indoor Base Stations: Two Antenna-based and a Sensing-based
Wenfu Fu (*KTH Royal Institute of Technology*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

14:30 Channel Capacity Analysis for Cell-free Massive MIMO System
Kun Li (*The University of Electro-Communications*);

00:00 A Novel Beam-scanning Leaky Wave Antenna of Sum
Keynote and Difference Beams
Kwai Man Luk (*City University of Hong Kong*); *Kai Qin* (*City University of Hong Kong*);

Session 3P2b
Advanced Wireless Technologies for Ice, Snow, and Underwater Applications

Saturday PM, November 8, 2025

Room 2 - 101B

Organized by Tamami Maruyama, Masashi Nakatsugawa

Chaired by Tsunayuki Yamamoto, Masashi Nakatsugawa

16:00 Diode on Antenna (DoA) Topology for Highly Efficient
Invited Millimeter Wave Rectification
Kenji Itoh (*Kanazawa Institute of Technology*); *Naoki Sakai* (*Kanazawa Institute of Technology*); *Masaomi Tsuru* (*Kanazawa Institute of Technology*); *Keisuke Noguchi* (*Kanazawa Institute of Technology*);

16:20 Invited Evaluation of Spectrum Sharing between SWIPT System Using $\boldsymbol{M}$-ary PSK Modulated Chirp Signal and 2.4-GHz Band Wireless LAN
Masashi Nakatsugawa (*National Institute of Technology, Hakodate College*); *T. Iso* (*National Institute of Technology, Hakodate College*); *Hideyuki Uehara* (*Toyohashi University of Technology*); *Noriharu Suematsu* (*Tohku University*);

16:40 Invited A Study on Reconfigurable Conformal Metasurface Reflector with Flexible Printed Circuit
Taisei Urakami (*National Institute of Technology, Kagawa College*); *K. Okada* (*National Institute of Technology, Kagawa College*); *Tamami Maruyama* (*Hiroshima Institute of Technology*); *A. Ono* (*National Institute of Technology, Kagawa College*); *N. Chen* (*University of Science and Technology Beijing*); *M. Okada* (*Nara Institute of Science and Technology*);

17:00 A Study on 3D Beam Steering Using Reconfigurable Convex-type Multi-beam Metasurface Reflector
Akira Ono (*National Institute of Technology, Kagawa College*); *A. Satou* (*National Institute of Technology, Kagawa College*); *Taisei Urakami* (*National Institute of Technology, Kagawa College*); *Tamami Maruyama* (*Hiroshima Institute of Technology*); *N. Chen* (*University of Science and Technology Beijing*); *Minoru Okada* (*Nara Institute of Science and Technology*);

17:15 Invited Efficient Feeding Method of a Zeroth-order Resonance in a CRLH Racetrack-shaped Waveguide for a Microwave Snow Melting System
Tsunayuki Yamamoto (*National Institute of Technology, Tsuyama College*); *Peerawit Tararam* (*National Institute of Technology, Tsuyama College*); *Tamami Maruyama* (*Hiroshima Institute of Technology*);

17:35 Invited High Gain Design of Normal-mode Helical Antenna at 1 MHz for Undersea Applications
Yoshihide Yamada (*Universiti Technologi Malaysia*); *A. A. Badrul* (*Universiti Technologi Malaysia*); *M. Syamim Fitri Othman* (*Universiti Technologi Malaysia*); *K. Kamilia* (*Universiti Technologi Malaysia*); *P. Idnin* (*University of Aizu*); *Nozomu Ishii* (*Niigata University*); *Masaharu Takahashi* (*Chiba University*); *Naobumi Michishita* (*National Defense Academy*);

17:55 Invited Antenna Configuration for Underwater MIMO Communications Considering Spatial Correlation and Channel Capacity
Miyuki Hirose (*Tokyo Denki University*);

18:15 Method of Moments Analysis of Wireless Power Transfer from Air to Underwater via Magnetic Coupling
Tamami Maruyama (*Hiroshima Institute of Technology*); *Akari Kamada* (*National Institute of Technology, Hakodate College*); *Masashi Nakatsugawa* (*National Institute of Technology, Hakodate College*); *Masaya Tamura* (*Toyohashi University of Technology*); *Ikuo Awai* (*Fuji Wave Corporation*); *Noriharu Suematsu* (*Tohku University*);

Session 3P3a
Electromagnetic Wave Simulation and Its Application

Saturday PM, November 8, 2025

Room 3 - 102A

Organized by Tatsuya Kashiwa, Jun Shibayama

Chaired by Tatsuya Kashiwa, Jun Shibayama

13:40 Numerical Analysis of Energy Flow in Two-dimensional Photonic Crystal Waveguide with Air-hole Array Coupled to Dielectric Slab Waveguides
Masahiro Tanaka (*Gifu University*);

13:55 Characteristics of a Terahertz Wave Absorber with and without the Loss of a Dielectric Substrate
Takaya Nakamura (*Hosei University*); *Shohei Tsuzuki* (*Hosei University*); *Jun Shibayama* (*Hosei University*);

14:10 Study on Advanced SWG-NRD Guide Devices Using Topology Optimal Matching Circuit for THz Application
Md. Iquebal Hossain Patwary (*Muroran Institute of Technology*); *T. Bashir* (*Nanjing University of Posts and Telecommunications*); *A. Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*); *T. Kashiwa* (*Kitami Institute of Technology*);

14:25 Efficient Topology Optimal Design of Photonic Devices Using Domain Decomposition Finite Element Method
Fangming He (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

14:40 Numerical Estimation of Frequency Dependency of Temperature Increase Due to Implanted Metal Plates in Microwave Exposure
Shuhei Waki (*Hokkaido University*); *Takashi Hikage* (*Hokkaido University*); *Tomoaki Nagaoka* (*National Institute of Information and Communications Technology*);

14:55 Accelerating FDTD Simulations Based on Spark Resistance Model for Air-discharge ESD Problems
Kazuhiro Fujita (*Saitama Institute Technology*);

15:10 Reconstructing Time-Domain $\boldsymbol{E}$-fields from Spectral Components for Efficient Pulsed LF/IF Dosimetry
Yukihisa Suzuki (*Tokyo Metropolitan University*); *Masao Taki* (*Tokyo Metropolitan University*); *K. Esaki* (*National Institute of Information and Communications Technology*); *M. Ikuyo* (*National Institute of Information and Communications Technology*); *T. Onishi* (*National Institute of Information and Communications Technology*);

15:25 Microwave Analyses Based on the Parallel FEM
Amane Takei (*University of Miyazaki*); *H. Kawai* (*Toyo University*);

15:40 **Coffee Break**

Session 3P3b
Efficient Electromagnetic Computation Methods and AI-assisted Imaging Algorithms

Saturday PM, November 8, 2025

Room 3 - 102A

Organized by Changyou Li, Zicheng Liu

Chaired by Changyou Li

16:00 Iterative Neural Network Solver for Electromagnetic Inverse Scattering Problems
Yutong Du (*Northwestern Polytechnical University*); *Zicheng Liu* (*Northwestern Polytechnical University*); *Zupeng Liang* (*Northwestern Polytechnical University*);

16:15 A Fast Method for Calculating the RCS of Electrically Large Targets
Saihang Qie (*Northwestern Polytechnical University*); *Changyou Li* (*Northwestern Polytechnical University*);

16:30 Equivalent Model with Anisotropic Parameters for Scattering Properties of Arbitrarily Oriented Fiber Reinforced Laminates
Feiwu He (*Northwestern Polytechnical University*); *Changyou Li* (*Northwestern Polytechnical University*);

16:45 GPR Least-squares Reverse Time Migration
Zejia Chen (*Northwestern Polytechnical University*); *Changyou Li* (*Northwestern Polytechnical University*);

17:00 Toward Reliable CIE Inversion for Optical Microscopy: A Framework for Hyper-parameter Selection and Efficient Reconstruction
Yi Huang (*UiT The Arctic University of Norway*); *Yingying Qin* (*UiT The Arctic University of Norway*); *Yu Zhong* (*FINIAC Pte Ltd. Singapore*); *Krishna Agarwal* (*UiT The Arctic University of Norway*);

17:15 Improved Imaging Performances for Electromagnetic Inverse-scattering-problem Solver with Reinforcement Learning
Junqing Lou (*Northwestern Polytechnical University*); *Yutong Du* (*Northwestern Polytechnical University*); *Zicheng Liu* (*Northwestern Polytechnical University*);

17:30 Improved Deep-neural-network-based Inverse Scattering Problem Solver by Integrating Low-frequency Features
Haonan Wang (*Northwestern Polytechnical University*); *Yutong Du* (*Northwestern Polytechnical University*); *Bazargul Matkerim* (*Al-Farabi Kazakh National University*); *Zicheng Liu* (*Northwestern Polytechnical University*);

17:45 Time Reversal of Guided Microwave for Super-resolution Imaging in Thin Composite Layers
Kang An (*Northwestern Polytechnical University*); *Changyou Li* (*Northwestern Polytechnical University*);

18:00 Gradient-based Optimization of Core-shell Particles with Discrete Materials for Directional Scattering
Dalin Soun (*Laboratoire d'analyse et d'architecture des systèmes (LAAS-CNRS), Université de Toulouse*); *Antoine Azéma* (*LAAS-CNRS, Université de Toulouse*); *Lucien Roach* (*Laboratoire de Chimie, CNRS, ENS de Lyon*); *Glenna L. Drisko* (*Laboratoire de Chimie, CNRS, ENS de Lyon*); *Peter R. Wiecha* (*LAAS-CNRS, Université de Toulouse*);

Session 3P4a
Advance on Radar Scattering of Random Media and Applications

Saturday PM, November 8, 2025

Room 4 - 102B

Organized by Ying Yang, Kun-Shan Chen

Chaired by Ying Yang, Kun-Shan Chen

13:30 On Radiometric Resolution Characterization in the Moon-Borne Monostatic/Bistatic SAR Systems: Orbital Perturbation Effects and Performance Implications
Zhen Xu (*Hohai Universitity*); *Kun-Shan Chen* (*Nanjing University*); *Ying Yang* (*Nanjing University*); *Jiahan Wang* (*Hohai University*); *Jiaqi Chen* (*Hohai University*);

13:45 A Statistical Analysis of Wind-driven Ocean Surface Patterns by Simulated SAR
Cheng-Yen Chiang (*National Taipei University of Technology*); *Kun-Shan Chen* (*Nanjing University*); *Chiung-Shen Ku* (*National Taipei University of Technology*);

14:00 A Comprehensive Scattering Operator Framework for Scattering and Emission Problem for General Layered Medium
Dongjin Bai (*National Space Science Center, Chinese Academy of Sciences*); *Saibun Tjuatja* (*University of Texas at Arlington*); *Xiaolong Dong* (*National Space Science Center, Chinese Academy of Sciences*); *Di Zhu* (*National Space Science Center, Chinese Academy of Sciences*); *Zijin Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

14:15 Near-field Millimeter-wave Imaging Based on the Space-frequency Time Reversal Technique
Chiung-Shen Ku (*National Taipei University of Technology*); *Cheng-Yen Chiang* (*National Taipei University of Technology*); *Yang-Lang Chang* (*National Taipei University of Technology*);

14:30 Electromagnetic Scattering Characteristics of Breaking Waves with Refined Hydrodynamic Modeling
Yingzhu Zhao (*Tsinghua University*); *Yanlei Du* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Junjun Yin* (*University of Science and Technology Beijing*); *Jian Yang* (*Tsinghua University*);

14:45 Electromagnetic Modeling of Microwave Emission from Foam-covered Ocean Surface with Rough Boundaries
Ying Yang (*Nanjing University*); *Kun-Shan Chen* (*Nanjing University*);

15:00 Fast Multilevel SMCG of Radar Backscattering from 3D Rough Surfaces with Roughness Parameter ***kh*** between 1 to 20
Firoz Kanti Borah (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Tien-Hao Liao* (*National Taipei University of Technology*); *Edward J. Kim* (*NASA Goddard Space Flight Center*);

15:40 **Coffee Break**

Session 3P4b
Sensing and Imaging using Electromagnetics in Biomedicine

Saturday PM, November 8, 2025

Room 4 - 102B

Organized by Weng Cho Chew, Luis Javier Gomez

Chaired by Weng Cho Chew, Luis Javier Gomez

16:00 Recent Advances in Electromagnetic Inverse Scattering Imaging in Inhomogeneous Backgrounds
Xinhui Zhang (*Beijing Institute of Technology*); *Naike Du* (*Beijing Institute of Technology*); *Xiuzhu Ye* (*Beijing Institute of Technology*);

16:15 A Through-wall Radar Moving Target Tracking Method Based on Multi-hypothesis Probability-weighted Fusion
Guangzhong Zhang (*Beijing Institute of Technology*); *Naike Du* (*Beijing Institute of Technology*); *Yuchao Guo* (*Beijing Institute of Technology*); *Xiuzhu Ye* (*Beijing Institute of Technology*);

16:30 From Electric Fields to Brain Responses in TMS Mapping and Neuromodulation
Jose Gomez-Tames (*Chiba University*);

16:45 Scalable Bidomain BEM Modeling of Neuronal Activation under Electromagnetic Stimulation
Nahian Ibn Hasan (*Purdue University*); *V. Sabino* (*Purdue University*); *W. Amanda* (*Purdue University*); *Luis Javier Gomez* (*Purdue University*);

17:00 Model Based Reconstruction of Lung Conductivity Using Electrical Impedance Tomography
Yimeng Xu (*Tsinghua University*); *Ke Zhang* (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*);

00:00 The Recent Progress of Low-field Portable MRI Hardware, Open-source Efforts, and the Future Perspectives
Shao Ying Huang (*Singapore University of Technology and Design*);

17:30 Keynote RF Shielding-free Magnetic Resonance Imaging at 0.05 Tesla for Accessible Healthcare
Ed Xuekui Wu (*The University of Hong Kong*);

00:00 Microwave System for Real-time and Noninvasive Monitoring of Cerebral Perfusion
Mengchu Wang (*Tsinghua University*); *Rui Guo* (*Tsinghua University*); *Weiwei Wu* (*Tsinghua University*); *Rongrong Zhu* (*Tsinghua University*); *Jiazheng Li* (*Tsinghua University*); *Shibiao Liu* (*Tsinghua University*); *Qi Wu* (*Tsinghua University*); *Dan Ling* (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*);

18:15 Microgel-based Electromagnetic Biomedical Framework for Continuous Glucose Monitoring
Zheng Gong (*University of Electronic Science and Technology of China*); *Yifan Chen* (*University of Electronic Science and Technology of China*);

18:30 Magnetic Field Enhancement for 1.5 T MRI Using an Advanced Large-aperture Cylindrical Resonator
Wenfu Fu (*KTH Royal Institute of Technology*); *Ruiqi Hu* (*KTH Royal Institute of Technology*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

Session 3P5a
FocusSession.SC1: Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 5

Saturday PM, November 8, 2025

Room 5 - 103

Organized by Maha Ben Rhouma

Chaired by Maha Ben Rhouma

13:30 Invited Modeling of Nanoscale Radiative Heat Transfer in Nonlocal and Topological Systems
Svend-Age Biehs (*Carl von Ossietzky Universitat*);

13:50 Invited Fundamental Properties of Unidirectional Guided Resonances
Lijun Yuan (*Chongqing Technology and Business University*); *Ya Yan Lu* (*City University of Hong Kong*);

14:10 Invited Radiative Heat Transfer in Dynamically Modulated Many-body Systems Beyond the Adiabatic Limit
R. Messina (*Universite Paris-Saclay*); *Philippe Ben-Abdallah* (*Universite Paris-Sud 11*);

00:00 Invited Chip-scale Superconducting Terahertz Quantum Technology for Ultrafast Quantum Networks
Kaveh Delfanazari (*University of Glasgow*);

00:00 Hardware-accelerated Optoelectronic Platform Opens High-resolution Hyperspectral Video Understanding at 1.2 Tb/s
Arturo Burguete Lopez (*King Abdullah University of Science and Technology (KAUST)*); *Q. Wang* (*King Abdullah University of Science and Technology (KAUST)*); *S. Rodionov* (*King Abdullah University of Science and Technology (KAUST)*); *Andrea Fratalocchi* (*King Abdullah University of Science and Technology (KAUST)*);

Session 3P5b
Light-emitting Devices Based on Perovskite, Organic and Low-dimensional Semiconductors 2

Saturday PM, November 8, 2025

Room 5 - 103

Organized by Dawei Di

Chaired by Dawei Di, Chen Zou

16:00 Keynote — Development of an OLED Illuminated Metasurface for Holographic Image Projection
Junyi Gong (*University of St Andrews*); *Mohammad Biabanifard* (*University of St Andrews*); *Kou Yoshida* (*University of St Andrews*); *Graham A. Turnbull* (*University of St Andrews*); *Andrea Di Falco* (*University of St Andrews*); *Ifor D. W. Samuel* (*University of St Andrews*);

16:30 Invited — Topological Exciton Polaritons in Lead Halide Perovskites
Rui Su (*Nanyang Technological University*);

16:50 Invited — Molecular Doping and Stabilization in Perovskite Light-emitting Diodes
Baodan Zhao (*Zhejiang University*);

17:10 Invited — Perovskite Lasers: Structure, Mechanism, Regulation, and Realization of Ultra-low Threshold
Chen Zou (*Zhejiang University*);

17:30 A Short Cut to Electrically Driven Lasing in Solution-processed Perovskite Microcrystals
Anatoly P. Pushkarev (*Skolkovo Institute of Science and Technology*); *Pavlos G. Lagoudakis* (*Skolkovo Institute of Science and Technology*);

17:45 Miniaturized Optics from Structured Nanoscale Cavities
Danqing Wang (*Fudan University*);

Session 3P6
Electromagnetic Wave Propagation in Complex Media 2

Saturday PM, November 8, 2025

Room 6 - 104

Organized by Anatoly A. Kudryavtsev, Chengxun Yuan

Chaired by Anatoly A. Kudryavtsev, Chengxun Yuan

13:40 Sensing of Small Scatterers with a Coaxial Probe: Analytical Model and Experimental Validation
Rotem Gal Katzir (*Tel-Aviv University*); *Emily Porter* (*McGill University*); *Yarden Mazor* (*Tel-Aviv University*);

13:55 Enhanced Dielectric Loss in NiS/Graghene for Optimizing Microwave Absorption
Zhengyu Zhang (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Zegeng Chen* (*Harbin Institute of Technology*); *Xinqi Wang* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

14:10 Design of Broadband Microwave-absorbing Metamaterial Structures Based on Superparamagnetism
Guijiang Liu (*Harbin Institute of Technology*); *Xingbao Lyu* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Anatoly A. Kudryavtsev* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

14:25 Stochastic Modeling of Ionosphere Modification
Nurken E. Aktaev (*Harbin Institute of Technology*); *ZhiJian Lu* (*Harbin Institute of Technology*); *Anatoly A. Kudryavtsev* (*Harbin Institute of Technology*); *Hui Li* (*China Research Institute of Radio Waves Propagation*); *Zhongxiang Zhou* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

14:40 Stochastic Modeling of Ionosphere Modification
Nurken E. Aktaev (*Harbin Institute of Technology*); *ZhiJian Lu* (*Harbin Institute of Technology*); *Anatoly A. Kudryavtsev* (*Harbin Institute of Technology*); *Hui Li* (*China Research Institute of Radio Waves Propagation*); *Zhongxiang Zhou* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

14:55 Deep Learning-designed Coding Pattern Units Enabling Ultrathin Chessboard Metasurfaces for Effective Multiband RCS Reduction
Tian Yu (*Harbin Institute of Technology*); *Xiaoling Xiao* (*Harbin Institute of Technology*); *Yulin Zeng* (*Harbin Institute of Technology*); *Zijing Zhou* (*Harbin Institute of Technology*); *Xi Long Li* (*Harbin Institute of Technology*); *Zhengyu Zhang* (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

15:10 Numerical Analysis of Plasma Formation in Quartz Tube of High-power Microwave Pulse Compressors Switch
Vladislav Sergeevich Igumnov (*Harbin Institute of Technology*); *Zijian Liu* (*Harbin Institute of Technology*); *Vasily Yu. Kozhevnikov* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

15:25 Detection of Small Targets at the Air-water Interface Using Nanosecond Microwave Radar: Numerical Simulation for Enhanced Riverine Safety
Vladislav Sergeevich Igumnov (*Harbin Institute of Technology*); *Vasily Yu. Kozhevnikov* (*Harbin Institute of Technology*); *Zijian Liu* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

15:40 **Coffee Break**

16:00 Investigation of Dynamic Magnetoelectric Effect in La-doped Z-type Hexaferrites
Huantong Wu (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Fuguang Han* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

16:15 Synergistic Magnetic-dielectric Loss in In Situ Grown Composites via Molten Salt Etching for Advanced Microwave Absorption
Zeyang Zhang (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Huantong Wu* (*Harbin Institute of Technology*); *Zhengyu Zhang* (*Harbin Institute of Technology*); *Nandong Deng* (*Harbing Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

16:30 A Dual-functional Metasurface for Simultaneous Microwave Absorption and Vortex Beam Generation Towards Enhanced RCS Reduction
Xinqi Wang (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Zhuyu Hua* (*Harbin Institute of Technology*); *Zhengyu Zhang* (*Harbin Institute of Technology*); *Zegeng Chen* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

16:45 Finite Element Simulation and Machine Learning of Magnetoelectric Coupling Properties of 2-2 Type Multiferroic Composites
Fuguang Han (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Huantong Wu* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

17:00 Smith-Chart-Driven Optimization of Bi_2Te_3 Single Crystal for Broadband Microwave Absorption
Zegeng Chen (*Harbin Institute of Technology*); *Jun Li* (*Harbin Institute of Technology*); *Zhengyu Zhang* (*Harbin Institute of Technology*); *Xinqi Wang* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*);

17:15 Numerical Modeling of Electron Heating in Turbulence Region in Ionosphere Plasma Taking into Account Electron Collisions
Nurken E. Aktaev (*Harbin Institute of Technology*); *Anatoly A. Kudryavtsev* (*Harbin Institute of Technology*); *C. Yuan* (*Harbin Institute of Technology*);

00:00 Electromagnetic-tunable Topological Edge States via Anomalous Scattering
Chengxi Yang (*Harbin Institute of Technology*); *Jianfei Li* (*Harbin Institute of Technology*); *Jialin Liu* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

Session 3P7
FocusSession.SC3: Recent Trends in Integrated Photonics 2

Saturday PM, November 8, 2025

Room 7 - 105

Organized by Pavel Cheben, Laurent Vivien

13:30 Keynote Advances in Quantum Dots for Lasers and Quantum Technologies
Yasuhiko Arakawa (*The University of Tokyo*);

14:00 Invited Erbium-doped Waveguide Amplifiers in Polycrystalline Aluminium Oxide
Carlos E. Osornio-Martinez (*University of Twente*); *D. B. Bonneville* (*University of Twente*); *Meindert Dijkstra* (*University of Twente*); *Sonia M. Garcia-Blanco* (*University of Twente*);

14:20 Invited Edge Bound States in the Continuum Supported at Silicon Pillar Photonic Crystal for On-chip Applications
R. Sato (*Technical University of Denmark*); *C. Vinther Bertelsen* (*Technical University of Denmark*); *Maxim Nikitin* (*Technical University of Denmark*); *E. Lopez Aymerich* (*Technical University of Denmark*); *Radu Malureanu* (*Technical University of Denmark*); *W. E. Svendsen* (*Technical University of Denmark*); *Andrei V. Lavrinenko* (*Technical University of Denmark*); *Osamu Takayama* (*Technical University of Denmark*);

14:40 Ultra-broadband On-chip Wavelength Division Multiplexer for Erbium-doped Thin-film Lithium Niobate Waveguide Amplifiers via High-order Mode Pumping
Baobao Chen (*China Information and Communication Technologies Group Corporation (CICT)*); *Peiqi Zhou* (*China Information and Communication Technologies Group Corporation (CICT)*); *Yanxia Ye* (*China Information and Communication Technologies Group Corporation (CICT)*); *Daigao Chen* (*Wuhan Research Institute of Posts and Telecommunications*); *Min Tan* (*Huazhong University of Science and Technology*); *Xi Xiao* (*China Information and Communication Technologies Group Corporation (CICT)*);

14:55 Invited On the Importance of In-plane Scattering for Silicon and Other High-index Contrast Photonics
Lars Zimmermann (*Technische Universität Berlin*); *G. Georgieva* (*Technische Universität Berlin*);

00:00 Invited Scalable Photonic Couplers for Next-generation Data Center Interconnects
Samuel Serna-Otalvaro (*Bridgewater State University*); *Drew Weninger* (*Massachusetts Institute of Technology*); *Lionel C. Kimerling* (*Massachusetts Institute of Technology*); *Anu Agarwal* (*Massachusetts Institute of Technology*);

16:00 Invited Advancements in Deep Learning for Integrated Photonics: From Design Optimization to Fabrication Intelligence
Yuri Grinberg (*National Research Council of Canada*); *D. X. Xu* (*National Research Council of Canada*); *Q. Wang* (*University of Ottawa*); *N. Israel* (*University of Ottawa*); *L. Ramunno* (*University of Ottawa*); *A. S. Li* (*McGill University*); *D. Gostimirovic* (*McGill University*); *M. Vachon* (*National Research Council of Canada*); *O. Liboiron-Ladouceur* (*McGill University*);

16:20 Invited Photonic Integration on the SiN/SiO_2 Platform for Quantum Applications
Mario Dagenais (*University of Maryland*);

00:00 Advanced Designs of Optical Phased Array
Invited
Jianhao Zhang (*National Research Council*); *Pavel Cheben* (*National Research Council of Canada*); *Jens H. Schmid* (*National Research Council*);

17:00 STIRAP-inspired Waveguide Devices Utilizing Higher-
Invited order Spatial Modes
Dan M. Marom (*Hebrew University of Jerusalem*); *David Halfon* (*Hebrew University of Jerusalem*); *Alexei Kukin* (*Hebrew University of Jerusalem*);

17:20 Fiber and Chip-based Time-bin Analyzers for Scalable
Invited Quantum Photonics
Nicola Montaut (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Monika Monika* (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Farzam Nosrati* (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Hao Yu* (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Stefania Sciara* (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Mario Chemnitz* (*Leibniz Institute of Photonic Technology*); *Ulf Peschel* (*Friedrich-Schiller-University*); *Zhiming Wang* (*Tianfu Jiangxi Laboratory*); *Rosario Lo Franco* (*University of Palermo*); *William J. Munro* (*Okinawa Institute of Science and Technology Graduate University*); *David J. Moss* (*Swinburne University of Technology*); *Jose Azana* (*Institut National de la Recherche Scientifique — Centre Énergie, Matériaux et Télécommunications (INRS-EMT)*); *Roberto Morandotti* (*Institut National de la Recherche Scientifique (INRS-EMT)*);

17:40 Mechanical Scanning Probe Lithography of Nanopho-
tonic Devices
P. A. Alekseev (*Ioffe Institute*);

17:55 Second-harmonic Assisted UV to Near-infrared Light Generation in a Telecom-pumped Silicon Nitride Microresonator
Ji Zhou (*École Polytechnique Fédérale de Lausanne*); *Samantha Sbarra* (*École Polytechnique Fédérale de Lausanne*); *Junqiu Liu* (*École Polytechnique Fédérale de Lausanne*); *Boris Zabelich* (*École Polytechnique Fédérale de Lausanne*); *Marco Clementi* (*École Polytechnique Fédérale de Lausanne*); *Christian Lafforgue* (*École Polytechnique Fédérale de Lausanne*); *Ozan Yakar* (*École Polytechnique Fédérale de Lausanne*); *Tobias J. Kippenberg* (*École Polytechnique Fédérale de Lausanne*); *Camille-Sophie Bres* (*Ecole Polytechnique Federale Lausanne*);

18:10 Kerr-comb-driven Widely-tunable Integrated Green Light Source
Gang Wang (*EPFL*); *Ozan Yakar* (*École Polytechnique Fédérale de Lausanne*); *Xinru Ji* (*EPFL*); *Marco Clementi* (*École Polytechnique Fédérale de Lausanne*); *Ji Zhou* (*École Polytechnique Fédérale de Lausanne*); *Christian Lafforgue* (*École Polytechnique Fédérale de Lausanne*); *Jiaye Wu* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *Jianqi Hu* (*EPFL*); *Tobias J. Kippenberg* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *Camille-Sophie Bres* (*Ecole Polytechnique Federale Lausanne*);

18:25 FUTUR-IC: Building a Resource-efficient Microchip In-
Invited dustry Value Chain Across Manufacturing and Operation
Anuradha Murthy Agarwal (*Massachusetts Institute of Technology*);

Session 3P8
Structured Light from Laser Sources and Applications

Saturday PM, November 8, 2025

Room 8 - 201A

Organized by Srinivasa Rao Allam, Quan Sheng

Chaired by Srinivasa Rao Allam, Quan Sheng

13:30 Generation of Multi-wavelength Vortex Lasers via
Invited Diamond-based Raman Conversion
Zhenxu Bai (*Hebei University of Technology*);

13:50 Advancing Circularly Polarized Lasers: Achieving High
Invited g_{lum} and Opposite Chirality for Directional Emission in Chiral Quantum Optics
Tzu-Ling Chen (*National Yang Ming Chiao Tung University*);

00:00 Structured Light and Its Transformations from Laser
Invited Cavity
Zilong Zhang (*Beijing Institute of Technology*);

14:30 Hermite-Gaussian Mode Laser up to $HG_{630,0}$ Based on
Invited Off-axis Pumping
Quan Sheng (*Tianjin University*); *Dechen Zhan* (*Tianjin University*); *Tianchang Liu* (*Tianjin University*); *Wei Shi* (*Tianjin University*); *Jian-Quan Yao* (*Tianjin University*);

14:50 Sculpting Higher-dimensional Photonic Topologies Us-
Invited ing Integrated Photonic Nanostructures
Wenbo Lin (*Institute of Science Tokyo*); *Yasutomo Ota* (*Keio University*); *Satoshi Iwamoto* (*The University of Tokyo*);

15:10 Intracavity Generation of the Ultrafast Vortices Based
Invited on Solid State Laser System
Jinwei Zhang (*Huazhong University of Science and Technology*);

15:40 **Coffee Break**

16:00 Structured Light Recognition for Quantum Communication
Invited
Antonio Zelaquett Khoury (*Universidade Federal Fluminense*); *M. Gil De Oliveira* (*Universidade Federal Fluminense*); *A. L. S. Santos Junior* (*Universidade Federal Fluminense*); *P. M. R. Lima* (*Universidade Federal de Minas Gerais*); *A. C. Barbosa* (*Universidade Federal Fluminense*); *B. Pinheiro Da Silva* (*Universidade Federal Fluminense*); *S. Pádua* (*Universidade Federal de Minas Gerais*);

16:20 Enhanced Generation of the Longitudinal Field of an
Invited Annular-shaped, Radially Polarized Beam for Laser Nanoprocessing
Yuichi Kozawa (*Tohoku University*); *Wenqi Wang* (*Tohoku University*); *Yuuki Uesugi* (*Tohoku University*);

16:40 Manipulation of Cold Atoms with On-chip Waveguide Holographic Gratings
Aiping Liu (*Nanjing University of Posts and Telecommunications*); *Jiabei She* (*Nanjing University of Posts and Telecommunications*);

16:55 Structured Light Probe for Dynamic Environments in Real-time Enabled by a Photonic Integrated Circuit
Adam J. Vallance (*University of Glasgow*); *Aleksandr Boldin* (*University of Glasgow*); *Ultan J. Daly* (*University of Glasgow*); *Zhaozhong Chen* (*University of Glasgow*); *Martin P. J. Lavery* (*University of Glasgow*);

17:10 Multi-order Diffraction Optical Element Matched with Optical Modes to Detection Wavefront Aberrations
Pavel A. Khorin (*Samara National Research University*); *A. V. Chernykh* (*Samara National Research University*);

17:25 Terbium Oxide-based Saturable Absorber for Q-switched Pulsed Operation of a 1088 nm Fiber Laser
Nur Farhanah Binti Zulkipli (*Tunku Abdul Rahman University of Management and Technology (TAR UMT) Penang Branch*); *Nurul Athirah Mohamad Abdul Ghafar* (*University of Malaya*); *Ahmad Haziq Aiman Rosol* (*University of Malaya*); *Ahmet Altuncu* (*Afyon Kocatepe University*); *Nurhaffizah Hassan* (*Universiti Teknologi MARA*); *Norizan Ahmed* (*Universiti Teknologi MARA*);

Session 3P9a
Metamaterials for Light and Thermal Management 2

Saturday PM, November 8, 2025

Room 9 - 201B

Organized by Yang Li, Ying Li

Chaired by Yang Li, Ying Li

13:30 Nonreciprocal Thermal Fizeau Drag Radiation around
Invited Asymmetric Exceptional Points
Mengqi Liu (*National University of Singapore*);

13:50 Thermal Radiation Regulation and Nighttime Energy
Invited Generation Enabled by 2D Metamaterial
Dudong Feng (*Southeast University*);

14:10 Adaptive Metasurface for Active and Passive Thermal
Invited Camouflage
Yang Li (*Zhejiang University*); *Qingkai Chen* (*Zhejiang University*);

00:00 Thermal Meta-emitters by Machine Learning
Invited
Han Zhou (*Shanghai Jiao Tong University*);

14:50 Bioinspired Thermoregulation Schemes for Energy Har-
Invited vesting and Thermostats
Young Min Song (*Gwangju Institute of Science and Technology*);

15:10 Dynamic Control of Light and Thermal Radiation Based
Invited on Nanophotonic Cavities and Reversible Metal Electrodeposition
Boxiang Wang (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*); *S. H. Jin* (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*); *J. H. Hou* (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*); *T. Xie* ();

15:40 **Coffee Break**

Session 3P9b
Symmetry in Metamaterials

Saturday PM, November 8, 2025

Room 9 - 201B

Organized by Nicholas Xuanlai Fang, Sichao Qu

Chaired by Sichao Qu

16:00 Causal Structure of Interacting Weyl Points in Acoustic Crystals
Hau Tian Teo (*Nanyang Technological University*); *Gui-Geng Liu* (*Westlake University*); *Yong Ge* (*Institute of Acoustics, Chinese Academy of Sciences*); *Hong-Yu Zou* (*Jiangsu University*); *Wei-Chi Chiu* (*Northeastern University*); *Hongyu Chen* (*Nanyang Technological University*); *Yang Long* (*Nanyang Technological University*); *Shou-Qi Yuan* (*Jiangsu University*); *Arun Bansil* (*Northeastern University*); *Hong-Xiang Sun* (*Jiangsu University*); *Guoqing Chang* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*);

16:15 Acoustic Super-absorber Enhanced by the Physics of Duality Symmetry
Sichao Qu (*The University of Hong Kong*); *Min Yang* (*Acoustic Metamaterials Group Ltd.*); *Nicholas Xuanlai Fang* (*The University of Hong Kong*);

16:30 Optimal Center for the Multipole Description of Acoustic Scattering by Subwavelength Metaatoms
Nikita Ustimenko (*Karlsruhe Institute of Technology (KIT)*); *Carsten Rockstuhl* (*Karlsruhe Institute of Technology*); *Alexander V. Kildishev* (*Purdue University*);

16:45 Invited Non-reflecting Glide and Twist Symmetries as Related to $\boldsymbol{\mathcal{P}\cdot\mathcal{T}\cdot\mathcal{D}}$ and Rotational Symmetries
Roee Geva (*Tel Aviv University*); *Mário G. Silveirinha* (*University of Lisbon*); *Raphael Kastner* (*Tel Aviv University*);

17:05 Hysteretic Self-oscillatory Acoustic Radiation with Tunable Orbital Angular Momentum
Li Zhang (*The University of Hong Kong*);

17:20 Invited Symmetry Protection in Metamaterials and Metasurfaces
Yun Lai (*Nanjing University*); *Hongchen Chu* (*Nanjing Normal University*); *Jie Luo* (*Soochow University*); *Changqing Xu* (*Nanjing Normal University*);

17:40 Symmetry Transitions in Photonic Time Crystals
Calvin M. Hooper (*University of Exeter*); *James R. Capers* (*Univ Exeter*); *Ian R. Hooper* (*University of Exeter*); *Simon A. R. Horsley* (*University of Exeter*);

17:55 ENZ Band Theory via Quasistatic-ENZ Duality
Qinghui Yan (*Technion — Israel Institute of Technology*); *Ruo-Yang Zhang* (*Nanjing University*);

00:00 Invited Unlocking Acoustic Blackbody Through Instability
Min Yang (*Acoustic Metamaterials Group Ltd.*); *Sichao Qu* (*The University of Hong Kong*); *Nicholas Xuanlai Fang* (*The University of Hong Kong*); *Shuyu Chen* (*Acoustic Metamaterials Group Ltd.*);

00:00 Invited Finding Symmetries Where There Seem to Be None: Latent Symmetries in Acoustic and Electromagnetics
Malte Röntgen (*Eastern Institute of Technology*); *Wenlong Gao* (*Eastern Institute of Technology, Ningbo*);

Session 3P10a
Cold Atom Platform for Quantum Simulation, Quantum Computation, and Precision Measurement

Saturday PM, November 8, 2025

Room 10 - 202

Organized by Yoshiro Takahashi, Tetsushi Takano

Chaired by Tetsushi Takano

13:30 Invited Hybrid Atom Array of Nuclear Spin and Optical Clock Qubits for Efficient Mid-circuit Measurements
Yuma Nakamura (*Yaqumo Inc.*);

13:50 Invited The Einstein-de Haas Effect in an Ultracold Atomic Gas
Hiroki Matsui (*Institute of Science Tokyo*); *Ryoto Goto* (*Institute of Science Tokyo*); *Yuki Miyazawa* (*Institute of Science Tokyo*); *Mikio Kozuma* (*Institute of Science Tokyo*);

14:10 Invited Quantum Simulation of Frustrated Systems with Bosonic Atoms in Triangular Optical Lattices
Takeshi Fukuhara (*Waseda University*);

14:30 Invited Precision Isotope Shift Spectroscopy of Ytterbium for New Physics Searches
Koki Ono (*Kyoto University*);

14:50 Keynote Make Optical Lattice Clocks Compact and Useful for Real-world Applications
Hidetoshi Katori (*University of Tokyo*);

15:40 **Coffee Break**

Session 3P10b
Quantum Simulations in Artificial Lattices

Saturday PM, November 8, 2025

Room 10 - 202

Organized by Zhaoju Yang, Da-Wei Wang

Chaired by Da-Wei Wang

00:00 Invited Multiqubit Superconducting Devices for Exploring Quantum Many-body Physics
Pengfei Zhang (*Zhejiang University*); *Haohua Wang* (*Zhejiang University*);

16:30 Invited Experimental Demonstration of Efficient Influence Sampling of Quantum Junta Processes
Hao Zhan (*Nanjing University*); *Zongbo Bao* (*Nanjing University*); *Zekun Ye* (*Nanjing University*); *Qianyi Wang* (*Nanjing University*); *Minghao Mi* (*Nanjing University*); *Penghui Yao* (*Nanjing University*); *Lijian Zhang* (*Nanjing University*);

16:50 Invited Experimental Quantum Thermodynamics Using Nuclear Magnetic Resonance
Dawei Lu (*Southern University of Science and Technology*);

17:10 Invited Optical Quasi-symmetry Induced by Spin-orbit Coupling
Bo Wang (*Shanghai Jiao Tong University*); *Guangfeng Wang* (*Shanghai Jiao Tong University*);

17:30 Invited Invisibility Angle in Dipolar Photonic Lattices
Diego Román-Cortés (*Universidad de Chile*); *Rodrigo A. Vicencio* (*Universidad de Chile*);

17:50 Invited A Bright Single-pass Integrated Squeezed Source
Kai-Hong Luo (*Paderborn University*); *Florian Lütkewitte* (*Paderborn University*); *Jan-Lucas Eickmann* (*Paderborn University*); *Simone Atzeni* (*Paderborn University*); *Mikhail Roiz* (*Paderborn University*); *Jonas Lammers* (*Paderborn University*); *Fabian Schlue* (*Paderborn University*); *Cheeranjiv Pandey* (*Paderborn University*); *Benjamin Brecht* (*Paderborn University*); *Michael Stefszky* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*);

00:00 Continuous-variable Quantum Entanglement on Chip
Xinyu Jia (*Peking University*); *Jianwei Wang* (*Peking University*);

Session 3P11a
MMW/THz Imaging

Saturday PM, November 8, 2025

Room 11 - 203

Organized by Kiyotaka Sasagawa

Chaired by Kiyotaka Sasagawa

13:30 Asynchronous Microwave Electric Field Imaging System Using $LiNbO_3$ Sensor
Ryoma Okada (*Nara Institute of Science and Technology*); *Maya Mizuno* (*National Institute of Information and Communications Technology*); *Hironari Takehara* (*Nara Institute of Science and Technology*); *Makito Haruta* (*Nara Institute of Science and Technology*); *Hiroyuki Tashiro* (*Nara Institute of Science and Technology*); *Jun Ohta* (*Nara Institute of Science and Technology*); *Kiyotaka Sasagawa* (*Nara Institute of Science and Technology*);

13:45 Real-time Photonic THz Continuous-wave Imaging Integrating Super-resolution and Hyperspectral Analysis
Xing Fang (*Zhejiang University*); *Lu Zhang* (*Zhejiang University*); *Tianyu Li* (*Zhejiang University*); *Oskars Ozoliņš* (*Riga Technical University, Latvian Academy of Sciences*); *Xiaodan Pang* (*Zhejiang University*); *Xianbin Yu* (*Zhejiang University*);

14:00 Calibration Method of Electro-optic Probe for Millimeter-wave Measurement
Dong-Joon Lee (*Korea Research Institute of Standards and Science*); *Young-Pyo Hong* (*Korea Research Institute of Standards and Science*);

14:15 Influences of Wrinkles and Layers in Porcine Skin Tissue on Terahertz Reflection Property
Maya Mizuno (*National Institute of Information and Communications Technology*); *S. Yamazaki* (*National Institute of Information and Communications Technology*); *Y. Kushiyama* (*National Institute of Information and Communications Technology*); *Tomoaki Nagaoka* (*National Institute of Information and Communications Technology*);

14:30 A Spherical Scanning System for Millimeter-wave Antenna Measurement Using Flexible Waveguides and EO Probes
Shinya Ochi (*Gifu University*); *Hokuto Isogai* (*Gifu University*); *Wataru Kumazawa* (*Gifu University*); *Yusuke Tanaka* (*Gifu University*); *Shintaro Hisatake* (*Gifu University*);

14:45 A Method for Improving Polarization Extinction Ratio in Electro-optic Visualization Using DAST Crystal
Hokuto Isogai (*Gifu University*); *Shinya Ochi* (*Gifu University*); *Shintaro Hisatake* (*Gifu University*);

15:00 Single-shot Broadband Detection of Terahertz Waves by Non-collinear Phase Matching
Gabriel Gandubert (*École de technologie supérieure*); *Joel Edouard Nkeck* (*École de technologie supérieure*); *Sota Mine* (*Nagoya University*); *Jonathan Lafrenière-Greig* (*École de technologie supérieure*); *Xavier Ropagnol* (*École de technologie supérieure*); *Kosuke Murate* (*Nagoya University*); *Francois Blanchard* (*École de Technologie Superieure (ÉTS)*);

15:15 Sensitivity Enhancement in Millimeter and Terahertz-wave Imaging Based on Cascade Lock-in Detection
Kota Nishimura (*Photonic Edge Inc.*); *Yusuke Tanaka* (*Gifu University*); *Hokuto Isogai* (*Gifu University*); *Shinya Ochi* (*Gifu University*); *Takeshi Sugiyama* (*Photonic Edge Inc.*); *Shintaro Hisatake* (*Gifu University*);

15:40 **Coffee Break**

Session 3P11b
Quantum Control of Trapped Ions and Its Applications

Saturday PM, November 8, 2025

Room 11 - 203

Organized by Utako Tanaka

Chaired by Utako Tanaka, Hiroki Takahashi

16:00 Invited Scalable Microwave Quantum Computing with Trapped Ions
N. Pulido (*Leibniz Universität Hannover*); *H. Mendpara* (*Leibniz Universität Hannover*); *M. Duwe* (*Leibniz Universität Hannover*); *A. Bautista-Salvador* (*Physikalisch-Technische Bundesanstalt*); *H. Hahn* (*Leibniz Universität Hannover*); *J. Morgner* (*Leibniz Universität Hannover*); *G. Zarantonello* (*Leibniz Universität Hannover*); *L. Krinner* (*Leibniz Universität Hannover*); *Klemens Hammerer* (*Leibniz Universität Hannover*); *M. Schulte* (*Leibniz Universität Hannover*); *Reinhard F. Werner* (*Leibniz Universität Hannover*); *T. Dubielzig* (*Leibniz Universität Hannover*); *A. Onkes* (*Leibniz Universität Hannover*); *C. Joohs* (*Leibniz Universität Hannover*); *N. Krishnakumar* (*Physikalisch-Technische Bundesanstalt*); *E. Iseke* (*Physikalisch-Technische Bundesanstalt*); *N. Stahr* (*Leibniz Universität Hannover*); *K. Thronberens* (*Physikalisch-Technische Bundesanstalt*); *J. Stupp* (*Leibniz Universität Hannover*); *F. Giebel* (*Physikalisch-Technische Bundesanstalt*); *M. Billah* (*Leibniz Universität Hannover*); *J. Baetge* (*Leibniz Universität Hannover*); *A. Hoffmann* (*Leibniz Universität Hannover*); *R. Munoz* (*Leibniz Universität Hannover*); *F. Ungerechts* (*Leibniz Universität Hannover*); *B. Kaune* (*Leibniz Universität Hannover*); *T. Meiners* (*Leibniz Universität Hannover*); *C. F. Reiche* (*Leibniz Universität Hannover*); *M. Bonkowski* (*Leibniz Universität Hannover*); *S. Halama* (*Leibniz Universität Hannover*); *P. Toth* (*Technische Universität Braunschweig*); *P. Shine Eugine* (*Technische Universität Braunschweig*); *Y. Kudabay* (*Technische Universität Braunschweig*); *K. Yamashita* (*Keio University*); *Hiroki Ishikuro* (*Keio University*); *Vadim Issakov* (*Technische Universität Braunschweig*); *M. Schubert* (*Technische Universität Braunschweig*); *I. Elenskiy* (*Technische Universität Braunschweig*); *M. Schilling* (*Technische Universität Braunschweig*); *T. Pootz* (*Leibniz Universität Hannover*); *L. Kilzer* (*Leibniz Universität Hannover*); *R. Goyal* (*Leibniz Universität Hannover*); *D. Stuhrmann* (*Leibniz Universität Hannover*); *N. Al-Zaki* (*Leibniz Universität Hannover*); *E. Vandrey* (*Leibniz Universität Hannover*); *S. Agne* (*Physikalisch-Technische Bundesanstalt*); *V. Galbierz* (*Physikalisch-Technische Bundesanstalt*); *P. O. Schmidt* (*Physikalisch-Technische Bundesanstalt*); *Andreas Waag* (*Technische Universität Braunschweig*); *C. Torkzaban* (*Leibniz Universität Hannover*); *Christian Ospelkaus* (*Leibniz Universität Hannover*);

16:20 Invited For the Laser-free Quantum Manipulation of Trapped Ions with Superconducting Circuits
Atsushi Noguchi (*The University of Tokyo*);

16:40 Invited Trap-integrated Photonics and Superconducting Nanowire Single-photon Detectors for Trapped-ion Qubit State Readout
Benedikt Hampel (*National Institute of Standards and Technology*); *Daniel H. Slichter* (*National Institute of Standards and Technology*); *Dietrich Leibfried* (*National Institute of Standards and Technology*); *Richard P. Mirin* (*National Institute of Standards and Technology*); *Sae Woo Nam* (*National Institute of Standards and Technology*); *Varun B. Verma* (*National Institute of Standards and Technology*);

17:00 Invited Distributed Quantum Computing across an Optical Network Link
D. Main (*University of Oxford*); *P. Drmota* (*University of Oxford*); *D. P. Nadlinger* (*University of Oxford*); *E. M. Ainley* (*University of Oxford*); *A. Agrawal* (*University of Oxford*); *B. C. Nichol* (*University of Oxford*); *R. Srinivas* (*University of Oxford*); *G. Araneda* (*University of Oxford*); *David M. Lucas* (*University of Oxford*);

17:20 A Scalable Trap Electrode Control Architecture Using Time-division Multiplexing for Large-scale Trapped-ion Quantum Processors
Ryutaro Ohira (*QuEL, Inc.*); *M. Miyamoto* (*The University of Osaka*); *S. Morisaka* (*QuEL, Inc.*); *I. Nakamura* (*The University of Tokyo*); *Atsushi Noguchi* (*The University of Tokyo*); *Utako Tanaka* (*Osaka University*); *T. Miyoshi* (*QuEL, Inc.*);

17:35 Invited Scaling Trapped-Ion QCCD QPUs through Integrated Metasurfaces
Nathan Kenneth Lysne (*Quantinuum KK*);

17:55 Invited Matter-wave Interferometer of a Trapped Single Ion for a Quantum Sensing Application
Takashi Mukaiyama (*Tokyo Institute of Technology*);

18:15 Invited Laser Spectroscopy of Triply Charged Thorium-229 Isomer
Atushi Yamaguchi (*RIKEN*);

Session 3P13a
Machine Learning for Photonics Applications

Saturday PM, November 8, 2025

Room 13 - 205

Organized by Arash Rahimi-Iman, Willie John Padilla

Chaired by Arash Rahimi-Iman, Kebin Fan

13:30 Invited Advancing the Next Generation of Photonic Systems Using Machine Learning
Darko Zibar (*Technical University of Denmark*);

13:50 Deep Learning-based Noninvasive Characterization of Optical Micro/Nanofibers
Xinyi Zhu (*Zhejiang University*); *Arash Rahimi-Iman* (*Justus-Liebig-Universität Gießen*); *Wei Fang* (*Zhejiang University*);

14:05 Transformer-empowered High-precision Process Control and Monitoring Based on Dielectric Metasurfaces
Kebin Fan (*Nanjing University*);

00:00 Invited Research on Machine Learning Assistant Micro-spectrometer
He Zhu (*University of Chinese Academy of Science*); *Ning Dai* (*University of Chinese Academy of Science*); *Huizhen Wu* (*Zhejiang University*);

14:40 Neural-network-based Optical Temperature Sensing of Semiconductor Membrane External Cavity Laser
Jakob Mannstadt (*Justus-Liebig-Universität Gießen*); *Arash Rahimi-Iman* (*Justus-Liebig-Universität Gießen*);

14:55 Invited Model-free Training of Optical Neural Networks Based on Semiconductor Lasers
Anas Skalli (*CNRS & University Bourgogne Franche-Comté*); *Satoshi Sunada* (*Kanazawa University*); *Mirko Goldmann* (*CNRS & University Bourgogne Franche-Comté*); *Nasibeh Haghighi* (*Technische Universität Berlin*); *Marcin Gebski* (*Lodz University of Technology*); *Stephan Reitzenstein* (*Technische Universität Berlin*); *James A. Lott* (*Technische Universität Berlin*); *Tomasz Czyszanowski* (*Lodz University of Technology*); *Daniel Brunner* (*CNRS & University Bourgogne Franche-Comté*);

15:40 **Coffee Break**

Session 3P13b
Light and Aging — Advanced Photonic Technologies for Understanding, Modulating, and Treating the Aging

Saturday PM, November 8, 2025

Room 13 - 205

Organized by Junjie Yao, Lingyan Shi

Chaired by Junjie Yao

16:00 In Vivo Hepatic Hemodynamics Monitoring Using Ultrasound Localization Microscopy to Investigate Aging and Metabolic Disease
Soon-Woo Cho (*Duke University*); *Rui Yao* (*Duke University*); *Nanchao Wang* (*Duke University*); *Yirui Xu* (*Duke University*); *Jingting Li* (*Duke University*); *Ji Hye Jun* (*Duke University*); *Rajesh Kumar Dutta* (*Duke University*); *Seh-Hoon Oh* (*Duke University*); *Zhi Li* (*University of California*); *Kuo Du* (*Duke University*); *David Umbaugh* (*Duke University*); *Jen-Tsan Chi* (*Duke University*); *Lingyan Shi* (*University of California*); *Anna Mae Diehl* (*Duke University*); *Junjie Yao* (*Duke University*);

16:15 Invited Human-based Vascular Aging Models
Yu Shrike Zhang (*Harvard Medical School*);

16:35 Deep-brain Imaging of Age-associated Glymphatic Dysfunction Using Photoacoustic and Ultrasound Localization Tomography
Nanchao Wang (*Duke University*); *Junjie Yao* (*Duke University*);

16:50 Invited Optical and Acoustic Hybrid Imaging of Brain Neurovascular Coupling to Investigate Aging
Chengbo Liu (*Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences*);

17:10 Deep Brain Neuromodulation of High-efficiency Photoacoustic Stimulation Transmitter and Application in Memory Improvement
Tao Zhang (*Huazhong University of Science and Technology*); *Benpeng Zhu* (*Huazhong University of Science and Technology*);

17:25 Ultra-fast Functional Photoacoustic Microscopy of Biological Systems
Junjie Yao (*Duke University*);

17:40 Metabolic Nanoscopy to Study Cellular Metabolic Dynamics
Hongje Jang (*University of California San Diego*); *Lingyan Shi* (*University of California San Diego*);

17:55 Invited Recent Clinical Translation of Advanced Photoacoustic and Ultrasound Imaging at OSTECH
Chulhong Kim (*Pohang University of Science and Technology*);

00:00 Multidimensional Dynamic Optical Imaging Reveals the Mitochondrial-ATP Axis in Age-related Heterogeneity of the Blood-brain Barrier
Honghui Li (*Guangdong Provincial People's Hospital, Southern Medical University*); *Liming Nie* (*Guangdong Provincial People's Hospital (Guangdong Academy of Medical Sciences), Southern Medical University*);

Session 3P14
Nanophotonics for Enhanced Optoelectronic Device Applications

Saturday PM, November 8, 2025

Room 14 - 301A

Organized by Li Gao

Chaired by Li Gao, Jingxuan Wei

13:30 Keynote 2D-material Computational Detectors for Multi-dimensional Information Processing
Qi Jie Wang (*Nanyang Technological University*);

14:00 Keynote Manipulate Exciton and Polariton Quantum Fluids of Light in TMD Materials
Qihua Xiong (*Tsinghua University*);

14:30 Invited On-chip Full-stokes Metaphotonic Photodetector for In-situ Polarimetric Sensing
Jingxuan Wei (*University of Electronic Science and Technology of China*);

14:50 Beyond Traditional: Exploring PdSe2 as a Next-generation High-refractive-index Material for Advanced Photonics
Nikolay Pak (*Moscow Center for Advanced Studies*); *Georgy A. Ermolaev* (*Emerging Technologies Research Center, XPANCEO*); *Aleksandr S. Slavich* (*Emerging Technologies Research Center, XPANCEO*); *Mikhail K. Tatmyshevskiy* (*Moscow Center for Advanced Studies*); *Dmitry Grudinin* (*Emerging Technologies Research Center, XPANCEO*); *Ivan Kruglov* (*Emerging Technologies Research Center, XPANCEO*); *A. Eghbali* (*Moscow Center for Advanced Studies*); *Konstantin V. Kravtsov* (*Emerging Technologies Research Center, XPANCEO*); *Andrey Vyshnevyy* (*Emerging Technologies Research Center, XPANCEO*); *Gleb Tselikov* (*Emerging Technologies Research Center, XPANCEO*); *Dmitry Svintsov* (*Moscow Center for Advanced Studies*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *Valentin Volkov* (*Emerging Technologies Research Center, XPANCEO*);

15:05 Electrically Gated High-Q Photonic Crystal Cavities in Si_3N_4 for the VIS-NIR Spectrum
A. Di Toma (*Paul Scherrer Institut*); *D. R. Callegari* (*Paul Scherrer Institut*); *S. Shan* (*Paul Scherrer Institut*); *Antti J. Moilanen* (*Paul Scherrer Institut*); *Kirsten E. Moselund* (*Paul Scherrer Institut*); *L. Novotny* (*Paul Scherrer Institut*); *Simone Iadanza* (*Paul Scherrer Institut*);

15:40 **Coffee Break**

16:00 Invited Blending Isotropy and Anisotropy in a Single Metasurface
Xiaoxuan Ma (*Nanjing Normal University*); *Hongchen Chu* (*Nanjing Normal University*); *Xiangteng Li* (*Nanjing Normal University*); *Changqing Xu* (*Nanjing Normal University*); *Xiaoxi Zhou* (*Soochow University*); *Ruwen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*); *Yun Lai* (*Nanjing University*);

16:20 Strong Nonlinear Optical Chirality in MoS_2 Nanoscrolls
Tongtong Xue (*Beijing Institute of Technology*); *Xu Han* (*Beijing Institute of Technology*); *Jinghan Zhao* (*Beijing Institute of Technology*); *Yunyun Dai* (*Beijing Institute of Technology*);

16:35 Two-dimensional Organic/Inorganic Heterostructures for High-performance Optoelectronic Devices
Huijuan Zhao (*Nanjing University of Posts and Telecommunications*); *Li Gao* (*Nanjing University of Posts and Telecommunications*);

16:50 Plasmon-integrated Low-dimensional Infrared Photodetection
Yuanfang Yu (*Nanjing University of Posts and Telecommunications*); *Li Gao* (*Nanjing University of Posts and Telecommunications*);

17:05 One-dimensional Moire Photonic Crystal Semiconductor Nanolasers in the Telecom C-band
Taojie Zhou (*South China University of Technology*); *Yilan Wang* (*South China University of Technology*);

17:20 Ultrafast Carrier Dynamics Modulation in Transition Metal Dichalcogenides and Heterostructures
Anran Wang (*Nanjing University of Posts and Telecommunications*);

Session 3P15
Perovskite and Organic Optoelectronics 2

Saturday PM, November 8, 2025
Room 15 - 301B
Organized by Gang Li, Hyun Suk Jung
Chaired by Gang Li

13:30 Invited Engineering Tunable Electronic Properties in Semiconductor Nanocrystals for High-Performance Optoelectronics
Sohee Jeong (*Sungkyunkwan University*);

13:50 Invited Low-dose and In situ Scanning Transmission Electron Microscopy (STEM) Characterizations of Halide Perovskite Photovoltaics
Songhua Cai (*The Hong Kong Polytechnic University*); *Zhimin Li* (*The Hong Kong Polytechnic University*); *Zhipeng Shao* (*Qingdao Institute of Bioenergy & Bioprocess Technology, Chinese Academy of Sciences*); *Zhipeng Li* (*Qingdao Institute of Bioenergy & Bioprocess Technology, Chinese Academy of Sciences*); *Shuping Pang* (*Qingdao Institute of Bioenergy & Bioprocess Technology, Chinese Academy of Sciences*); *Yuanyuan Zhou* (*The Hong Kong University of Science and Technology*);

14:10 Perovskite Solar Cells with High UV- and Reverse-bias-stability
Yongbo Yuan (*Central South University*);

14:25 Invited Strained Film of Formamidinium Lead Tri-iodide ($FAPbI_3$) with Preferred Oriented Grains for Perovskite Solar Cells
Hyunjung Shin (*Sungkyunkwan University*);

14:45 Invited A Holistic Approach to Defect Engineering of Wide Bandgap Metal Halide Perovskites
Jin-Wook Lee (*Sungkyunkwan University*);

15:05 Invited Vacuum-processable Additive for Controlling Growth of Perovskite Crystals in Vacuum Processed Perovskite Solar Cell
Kyungkon Kim (*Ewha Womans University*);

15:25 Invited Crystal Growth Regulation for Strain Control in Halide Perovskite Films
Hui-Seon Kim (*Inha University*);

15:45 **Coffee Break**

16:00 Synergistic Hybrid-ligand Engineering of Perovskite
Invited Nanocrystals for High-performance Solar Cells and Light-emitting Diodes
Bo-Ram Lee (*Sungkyunkwan University*); *Younghoon Kim* (*Kookmin University*); *Jongmin Choi* (*Daegu Gyeongbuk Institute of Science and Technology (DGIST)*); *Hyosung Choi* (*Hanyang University*);

16:20 Interfacial Layer Engineering with 2D Halide Perovskites
Invited for Perovskite Solar Cells
Jun Hong Noh (*Korea University*);

16:40 High-performance Solar Cells Based on Perovskite
Invited Quantum Dots
Sung-Yeon Jang (*Ulsan National Institute of Science and Technology (UNIST)*);

17:00 Recent Progress in Printable Solar Cells
Invited
Gang Li (*Hong Kong Polytechnic University*);

17:20 Efficient and Stable Perovskite Solar Cells through In-
Invited terface and Additive Engineering
Jangwon Seo (*Korea Advanced Institute of Science and Technology (KAIST)*);

17:40 Low-temperature Solution Processing of $BaZrS_3$ Chalco-
Invited genide Perovskite Thin Films
Wooseok Yang (*Sungkyunkwan University (SKKU)*);

00:00 Toward Sustainable Perovskite Solar Cells: Advance-
Invited ments in Recycling, Green Processing, and Commercial Viability
Hyun Suk Jung (*Sungkyunkwan University*);

18:20 Interface Design of Metal Halide Perovskites for En-
Invited hanced Performance and Stability in Optoelectronic Devices
Dong Hoe Kim (*Korea university*);

Session 3P16
Emerging Topics in Metaphotonics

Saturday PM, November 8, 2025

Room 16 - 302

Organized by Min Seok Jang

Chaired by Min Seok Jang

13:30 Electro-optically Tunable Active Metasurfaces in Reflec-
Keynote tion and Transmission
Harry A. Atwater (*California Institute of Technology*);

14:00 Tunable "Meta"-Optical Fibers for Advanced Imaging
Invited and Endoscopy
Howard Ho Wai Lee (*University of California*); *Andrew Palmer* (*University of California*); *Yucheng Jin* (*University of California*); *Jin Yan* (*University of Califonria*); *Beyonce Hu* (*University of California*); *Harvey Lin* (*University of California*); *Stuart Love* (*University of California*); *Yuechen Liu* (*University of California*); *David Dang* (*University of California*); *M. Father* (*University of California*); *L. Liu* (*University of California*); *A. Teoh* (*University of California*);

14:20 Diamond Quantum Metasurfaces Enable Optimized
Invited Absorption-based Spin Readout for Compact, High-sensitivity Magnetic Field Sensing
Laura Kim (*University of Florida*);

14:40 Plasmon-enhanced Exciton Re-localization in Quasi-2D
Invited Perovskites for Room-temperature Nanolasing
Yu-Jung Lu (*National Taiwan University*);

15:00 Integrated Photonics with Computational Optimization
Invited
Kiyoul Yang (*Harvard University*);

15:20 Record-low-loss On-chip Chalcogenide Glass Microres-
Invited onators and Waveguides for Mid-infrared Photonics
Hansuek Lee (*Korea Advance Institute of Science and Technology*); *Daewon Suk* (*Korea Advance Institute of Science and Technology*); *Kiyoung Ko* (*Korea Advance Institute of Science and Technology*); *Soobong Park* (*Korea Advance Institute of Science and Technology*); *Dohyeong Kim* (*Korea Advance Institute of Science and Technology*); *Seong Cheol Lee* (*Korea Advance Institute of Science and Technology*); *Kwang-Hoon Ko* (*Korea Atomic Energy Research Institute*); *Fabian Rotermund* (*Korea Advance Institute of Science and Technology*); *Duk-Yong Choi* (*Australian National University*);

15:40 **Coffee Break**

16:00 Hyperspectral Dual-comb Compressive Imaging
Invited
Myoung-Gyun Suh (*NTT Research, Inc.*);

16:20 Broadband Multi-resonant Metasurfaces for Multifunc-
Invited tional Optical Wavefront Shaping and Spectral Imaging
Pin Chieh Wu (*National Cheng Kung University*);

16:40 Inverse Design in Meta-optics: Adjoint Optimization to
Invited Deep Learning
Haejun Chung (*Hanyang University*);

17:00 Exploiting Disorder in Classical and Quantum Photonic
Invited Signal Processing
Sunkyu Yu (*Seoul National University*);

17:20 Polaritonic Fourier Crystals for Meta-polaritonics
Invited
Sergey Menabde (*Korea Advanced Institute of Science & Technology*);

17:40 Robust Pure-phase Resonance in the Optical Transmis-
Invited sion
Ki Young Lee (*Hanyang University*); *Jae Woong Yoon* (*Hanyang University*);

18:00 Deep-UV Dielectric Metasurfaces for Biomolecular Sens-
Invited ing and Light Manipulation
Ming Lun Tseng (*National Yang Ming Chiao Tung University*); *Kuan-Heng Chen* (*National Yang Ming Chiao Tung University*); *Yu Hung Lin* (*National Yang Ming Chiao Tung University*); *Haruyuki Sakurai* (*The University of Tokyo*); *Kuniaki Konishi* (*The University of Tokyo*); *Yuri S. Kivshar* (*Australian National University*);

18:20 Invited Spontaneous Emission and Lasing in Photonic Temporal Crystals
Kyungmin Lee (*KAIST*); *Bumki Min* (*Korea Advanced Institute of Science and Technology (KAIST)*);

18:40 Invited Scalable Hetero-integration for Metaphotonic Devices: From Nanolasers to Functional Metasurfaces
Moohyuk Kim (*Korea University*); *Aran Yu* (*Korea University*); *Byoung Jun Park* (*Korea University*); *Da In Song* (*Korea University*); *Myung-Ki Kim* (*Korea University*);

Session 3P17
Quantum Photonics 2

Saturday PM, November 8, 2025

Room 17 - 303

Organized by Christopher Paul Anderson

Chaired by Christopher Paul Anderson, Giovanni Scuri

13:30 Invited Dynamics of Non-classical Light Generation from Quantum Dots
Kai Muller (*Technical University Munich*);

13:50 Invited Ultrafast Integrated Lithium Niobate Photonics for Computing
Timothy P. McKenna (*NTT Research*); *Edwin Ng* (*NTT Research*); *Marc Jankowski* (*NTT Research*); *Ryotatsu Yanagimoto* (*NTT Research*); *Ryan Hamerly* (*NTT Research*); *Yoshihisa Yamamoto* (*NTT Research*);

14:10 Invited Integrated Nonlinear Photonics for Advancing Quantum Networking
Elizabeth A. Goldschmidt (*University of Illinois at Urbana-Champaign*); *Kejie Fang* (*University of Illinois*);

14:30 Keynote Integrated Alkali Vapors with Photonic Integrated Circuits for Quantum Science and Technology Applications
Kartik Srinivasan (*National Institute of Standards and Technology*);

15:00 Invited 4H-SiC Integrated Photonic Platform for Quantum Information Processing
Qing Li (*Carnegie Mellon University*);

15:20 Invited Unlocking Multiphoton Emission from a Single-photon Source through Mean-field Engineering
S. K. Kim (*Technische Universität München*); *S. E. Zubizarreta Casalengua* (*Technische Universität München*); *K. Boos* (*Technische Universität München*); *F. Sbresny* (*Technische Universität München*); *C. Calcagno* (*Technische Universität München*); *H. Riedl* (*Technische Universität München*); *J. J. Finley* (*Technische Universität München*); *C. Anton Solanas* (*Universidad Autónoma de Madrid*); *F. P. Laussy* (*Instituto de Ciencia de Materiales de Madrid ICMM-CSIC*); *E. Del Valle* (*Technische Universität München*); *K. Müller* (*Technische Universität München*); *Lukas Hanschke* (*Technische Universität München*);

15:40 **Coffee Break**

16:00 Invited Bidirectional Microwave-optical Conversion with an Integrated Soft-ferroelectric Barium Titanate Transducer
Charles Möhl (*IBM Research Europe*); *Annina Riedhauser* (*IBM Research Europe*); *Max Glantschnig* (*IBM Research Europe*); *Daniele Caimi* (*IBM Research Europe*); *Ute Drechsler* (*IBM Research Europe*); *Antonis Olziersky* (*IBM Research Europe*); *Deividas Sabonis* (*IBM Research Europe*); *David I. Indolese* (*IBM Research Europe*); *Thomas M. Karg* (*IBM Research Europe*); *Paul Seidler* (*IBM Research GmbH*);

16:20 Invited Erbium Doped Silicon Nanophotonics for Scalable Quantum Networks
Kilian Sandholzer (*Technical University of Munich*);

16:40 Invited Enhanced Trapped-ion Laser Cooling and Gates via Integrated Photonic Delivery
O. Jaramillo (*Cornell University*); *A. Kolhatkar* (*Cornell University*); *V. Natarajan* (*Cornell University*); *H. M. Rivy* (*Cornell University*); *Z. Xing* (*Cornell University*); *Karan K. Mehta* (*Cornell University*);

00:00 Resonance Fluorescence from a Single NV Center in an Open Microcavity
Yannik Fontana (*University of Basel*); *M. Obramenko* (*University of Basel*); *A. Corazza* (*University of Basel*); *V. Yurgens* (*University of Basel*); *S. Ruffieux* (*University of Basel*); *P. Maletinsky* (*University of Basel*); *Richard J. Warburton* (*University of Basel*);

17:20 Invited Integrated Quantum Photonic Technologies with Diamond Membranes
Alexander A. High (*University of Chicago*);

17:40 Invited Quantum Interconnects for Scalable Fault-tolerant Quantum Computing
Mihir K. Bhaskar (*Lightsync*);

18:00 Invited Lithium Niobate Nonlinear Integrated Photonic Circuits for Quantum Light Generation and Atom-like Quantum Systems
Hyounghan Kwon (*Korea Institute of Science and Technology (KIST)*);

00:00 Invited Hybrid Quantum Photonics with Diamond Color Centers
Shuo Sun (*University of Colorado Boulder*);

18:40 Restoration of Quantized Thouless Pumping in Non-Hermitian Systems
Mingyuan Gao (*Nanjing University*); *Chong Sheng* (*Nanjing University*); *Kun Ding* (*Fudan University*); *Shi-Ning Zhu* (*Nanjing University*); *Hui Liu* (*Nanjing University*);

Session 3P18
Topological Nanophotonics 2

Saturday PM, November 8, 2025

Room 18 - 304

Organized by Cuicui Lu, Zhiwei Guo, Lin Chen

Chaired by Cuicui Lu

00:00 Finite Barrier Bound States
Invited
Meng Xiao (*Wuhan University*);

13:50 Near-field Imaging of Deep Sub-wavelength Polaritonic Topological Edge-state in 2D Hyperbolic Medium
Lorenzo Orsini (*ICFO-Institut de Ciencies Fotoniques*); *Hanan Herzig Sheinfux* (*ICFO*); *Yandong Li* (*Cornell University*); *Seojoo Lee* (*Cornell University*); *Matteo Ceccanti* (*ICFO*); *Saundarapandian Karuppasami* (*ICFO*); *Eli Janzen* (*Kansas State University*); *James H. Edgar* (*Kansas State University*); *Gennady Shvets* (*Cornell University*); *Frank H. L. Koppens* (*ICFO — The Institute of Photonics Sciences (Barcelona)*);

14:05 Toroidal Circular Dichroism of Planar Metasurfaces
Invited
Xiaoxiao Wu (*The Hong Kong University of Science and Technology (Guangzhou)*);

14:25 Multiple Unidirectional Chiral Zero Modes Arising from
Invited a Large Chern Number in 2D Photonic Crystals
Weiyuan Tang (*The University of Hong Kong*); *Hsun-Chi Chan* (*The University of Hong Kong*); *Shaojie Ma* (*Fudan University*); *Chuang Tan* (*The University of Hong Kong*); *Biye Xie* (*The Chinese University of Hong Kong, Shenzhen*); *Kazuki Hasebe* (*National Institute of Technology, Sendai College*); *Nicholas Xuanlai Fang* (*The University of Hong Kong*); *Shuang Zhang* (*The University of Hong Kong*);

14:45 Photonic Dirac Cavity on a Gradient Dislocation
Invited
Hai-Xiao Wang (*Ningbo University*); *Wei Li* (*Guangxi Normal University*); *Junhui Hu* (*Guangxi Normal University*); *Jian-Hua Jiang* (*Soochow University*);

15:05 Coupled Pseudo-magnetic Field and Valley Spin in Pho-
Invited tonic Crystals
Shiyu Liu (*China University of Mining and Technology*); *Yuting Yang* (*China University of Mining and Technology*); *Mingxuan Li* (*China University of Mining and Technology*); *Bin Yang* (*China University of Mining and Technology*); *Xiaopeng Shen* (*China University of Mining and Technology*); *Liwei Shi* (*China University of Mining and Technology*); *Wei Zhao* (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

15:25 Tensor-monopole-induced Topological Boundary Effects in Four-dimensional Acoustic Metamaterials
Qingyang Mo (*The University of Hong Kong*); *Shanjun Liang* (*Hong Kong Polytechnic University*); *Cuicui Lu* (*Beijing Institute of Technology*); *Jie Zhu* (*Tongji University*); *Shuang Zhang* (*The University of Hong Kong*);

15:40 **Coffee Break**

16:00 Novel Transport and Optical Properties of Two-
Invited dimensional Weyl Semimetals Achieved by Thickness-dependent Topological Phase Transition
Suk-Ho Choi (*Kyung Hee University*);

16:20 Configurable Topological Photonic Polycrystal Based on
Invited a Synthetic Hybrid Dimension
Tianyue Li (*The Hong Kong University of Science and Technology*);

16:40 Probing Metal and Dielectric Near-field Modes with
Invited Photoemission Electron Microscopy
Yaolong Li (*Peking University*);

00:00 Topological Phase Transition and Flat Bands in a One-dimensional Excitonic Model: Theoretical and Experimental Studies
Jianhua Zhu (*Peking University*); *Yanshu Shi* (*Kunming University*); *Xuekun Wang* (*Kunming University*); *Yumin Song* (*Kunming University*); *Tingting Guo* (*Kunming University*); *Ji Chen* (*Peking University*); *Wei Wu* (*University College London*);

17:15 Near-field Imaging of On-chip Integrated Plasmonic
Invited Topological Nanochains
Cuicui Lu (*Beijing Institute of Technology*);

17:35 Impact of Photonic Dirac Frequency on Wide-mode Single Guiding in Valley Photonic Crystal Heterostructure Waveguides
Xiaomeng Chi (*The University of Tokyo*); *Chengkun Zhang* (*The University of Tokyo*); *Nao Harada* (*The University of Tokyo*); *Gaungtai Lu* (*The University of Tokyo*); *Satoshi Iwamoto* (*The University of Tokyo*);

17:50 Quasi-flat-band-enabled Rainbow Trapping on Chip
Cuicui Lu (*Beijing Institute of Technology*); *Yanji Zheng* (*Beijing Institute of Technology*);

18:05 Landau Rainbow Based on Floquet Helical Waveguide Systems
Rong Zhou (*Beijing Institute of Technology*); *Zhihao Wang* (*Beijing Institute of Technology*); *Wenshuo Ma* (*Beijing Institute of Technology*); *Wen Zhao* (*Beijing Institute of Technology*); *Yongchun Liu* (*Tsinghua University*); *Cuicui Lu* (*Beijing Institute of Technology*);

Session 3P19
Poster Session 4

Saturday PM, November 8, 2025
14:00 PM - 18:00 PM
Poster Area

1 Runway Exit Prediction for Landing Aircraft Based on Ultra-weak Fiber Optic Bragg Grating Sensing Array and Deep Learning
Shuokai Wan (*Wuhan University of Technology*); *Sheng Li* (*Wuhan University of Technology*); *Zhi Li* (*Han Jiang National Laboratory*); *Lina Yue* (*Wuhan University of Technology*); *Yimin Xu* (*Wuhan University of Technology*); *Yan Yang* (*Wuhan University of Technology*); *Fang Liu* (*Wuhan University of Technology*); *Qiuming Nan* (*Wuhan University of Technology*);

2 On Using an Optical Cones Array for Tracker-less Sunlight Harvesting
Zeev Weissman (*Shenkar College of Engineering & Design*);

3 A Novel Broadband Non-contact Feed Antenna for Terahertz Coplanar Waveguides
Hexiang Song (*China University of Petroleum (East China)*); *Muzhi Gao* (*China University of Petroleum (East China)*); *Bin Wang* (*China University of Petroleum*); *Gaoyang Zhu* (*Shandong University of Science and Technology*); *Lanchang Xing* (*China University of Petroleum*); *Xiaowang Gao* (*China University of Petroleum (East China)*); *Yanlin Lv* (*China University of Petroleum (East China)*);

4 An Infinite Wave Propagation Speed and Magnetic Sources Leading to a Negative Self-inductance for a Conducting Loop: Part (I)
Namik Yener (*Dumlupinar Mahallesi, Ataturk Cad., Gozde Park Evleri No. 30B-10, Pendik*);

5 Electromagnetic-thermal Coupling Simulation of a Water-based Absorber Using Nonuniform HIE/ADI FDTD Method
Yanshun Xiong (*Nanjing University of Aeronautics and Astronautics*); *Yi Wang* (*Nanjing University of Aeronautics and Astronautics*); *Qi Wang* (*Xidian University*);

6 Electromagnetic Fields of Transport Sources of Radiation at Different Speeds of Movement
Lyudmila A. Alexeyeva (*Institute of Mathematics and Mathematical Modeling*); *Ilmira Aidossovna Kanymgaziyeva* (*Institute of Mathematics and Mathematical Modeling*);

7 Experimental Validation of Passive Reconfigurable Intelligent Surfaces Varying in the Time Domain in Accordance with the Pulsed Waveform
Eisuke Omori (*Nagoya Institute of Technology*); *K. Takimoto* (*Nagoya Institute of Technology*); *Atsuko Nagata* (*Nagoya Institute of Technology*); *Shinya Sugiura* (*The University of Tokyo*); *Hiroki Wakatsuchi* (*Nagoya Institute of Technology*);

8 The Possibility of Using Additive Technologies for the Manufacture of Dielectric Substrates of Printed Antennas
K. S. Kharlamp'ev (*National Research University "Moscow Power Engineering Institute"*); *Kirill Sergeyevich Sychev* (*National Research University "Moscow Power Engineering Institute"*); *I. A. Gromov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *A. A. Politiko* (*National Research University "Moscow Power Engineering Institute"*); *D. A. Evseev* (*Moscow Aviation Institute (National Research University)*);

9 Enhanced Calibration and Compensation Methods for Near-field Probes in Spectral Domain and Spatial Domain
Lixiao Wang (*Eastern Institute of Technology*); *Zheng He* (*Xiamen University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

10 A Model for Observed Nonlinear Structures in Space Plasmas
J. K. Shi (*State Key Laboratory of Solar Activity and Space Weather, NSSC/CAS*); *Zheng Wang* (*State Key Laboratory of Solar Activity and Space Weather, NSSC/CAS*); *M. N. S. Qureshi* (*Government College University*);

11 A Pulsed Current Injection Method with the Long Coupling Cable for Overhead Power Lines
Yi Zhou (*Xi'an Jiaotong University*);

12 Asymmetric Terahertz Transmission in GaAs-based Metamaterials with Coupled SRR Structures
Ziqi Mei (*Tsinghua University*); *Chao Liang* (*Tsinghua University*); *Xiayu Wang* (*Tsinghua University*); *Bingbai Li* (*Tsinghua University*); *Rongbo Xie* (*Tsinghua University*); *Chi Zhang* (*Tsinghua University*); *Enze Zhou* (*Tsinghua University*); *Qingsong Feng* (*Tsinghua University*); *Zijian Cui* (*Tsinghua University*); *Xiaoguang Zhao* (*Tsinghua University*);

13 A Thin Polarization Insensitive Frequency Selective Surface for X-band RCS Reduction
Ming Dong (*Technology Innovation Institute*); *Daria Kulikova* (*Technology Innovation Institute*); *Papa Ousmane Leye* (*Technology Innovation Institute*); *Islem Yahi* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14 Fundamental Characteristics of Gas-liquid Discharge Plasma Plumes
Hailu Wang (*Institute of Defense Engineering, AMS, PLA*); *Xingbao Lyu* (*Harbin Institute of Technology*); *Liang Guo* (*Institute of Defense Engineering, AMS, PLA*); *Lin Miao* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

15 Magnetically Tunable Optofluidic Lenses
Mojtaba Moshkani (*Okinawa Institute of Science and Technology Graduate University*); *Daehee Kim* (*Okinawa Institute of Science and Technology Graduate University*); *M. Couillard* (*Okinawa Institute of Science and Technology Graduate University*); *Jason Twamley* (*Okinawa Institute of Science and Technology Graduate University*);

16 Ultra-high-speed LED Array for Three-dimensional Profilometry with Projector Defocusing
Hong-Xu Huang (*Beihang University*);

17 An Adaptive Reverse Bias Voltage Readout Circuit for Single-photon Avalanche Diodes Arrays
Yuxuan Fan (*Fuzhou University*); *Ziqiang Peng* (*Fuzhou University*); *Cong Wei* (*Fuzhou University*); *Rongshan Wei* (*Fuzhou University*);

18 A High-precision Sagnac Effect Correction in Ultra-long-distance Field Fiber Time Transmission
Bo Liu (*National Time Service Center, Chinese Academy of Sciences*); *Xinxing Guo* (*National Time Service Center, Chinese Academy of Sciences*); *Jiang Chen* (*National Time Service Center, Chinese Academy of Sciences*); *Puyu Sun* (*National Time Service Center, Chinese Academy of Sciences*); *Tao Liu* (*National Time Service Center, Chinese Academy of Sciences*); *Ruifang Dong* (*National Time Service Center, Chinese Academy of Sciences*); *Shou-Gang Zhang* (*National Time Service Center, Chinese Academy of Sciences*);

19 Implementation of Cognitive Radio on an SDR Platform within a Private 5G Open Radio Access Network
Roberts Pildavs (*Riga Technical University*); *Sergejs Šukšins* (*Riga Technical University*); *Tianhua Chen* (*Riga Technical University*); *Anna Karklina* (*Riga Technical University*); *Nadezda Ungure* (*Riga Technical University*); *Igors Lipļanskis* (*Riga Technical University*); *Romans Jerjomin* (*Riga Technical University*); *Elans Grabs* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

20 Simulation of the Wavefront Aberrations Influence at Sharp Focusing
Pavel A. Khorin (*Samara National Research University*); *N. A. Ivliev* (*Samara National Research University*); *Svetlana Nikolaevna Khonina* (*Samara National Research University*);

21 Smart Road Infrastructure Enabled by Embedded FBG Sensor Network for Real-time Structural Monitoring
Ugis Senkans (*Riga Technical University*); *Nauris Silkans* (*Riga Technical University*); *Remo Merijs-Meri* (*Riga Technical University*); *Peteris Skels* (*Riga Technical University*); *Arun Kumar Chethakudam Shaji* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Viktors Haritonovs* (*Riga Technical University*); *Janis Braunfelds* (*Riga Technical University*);

22 High Efficiency Ku-band GaN Power Amplifier MMIC for MUAV Data Link Systems
Younsub Noh (*Electronics and Telecommunications Research Institute (ETRI)*); *Hyung Seok Lee* (*Electronics and Telecommunications Research Institute (ETRI)*); *Sung-Bum Bae* (*Electronics and Telecommunications Research Institute (ETRI)*);

23 High-performance Tri-band Filtering Power Divider Based on Stub-loaded Resonators
Zhanpeng Lin (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Quancheng Yu* (*Southwest University of Science and Technology*); *Mingjie Liu* (*Southwest University of Science and Technology*);

24 Transition between Microstrip Lines via Fuzz Button
Natalia Alexandrovna Shcheglova (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *D. A. Perov* (*JSC Concern VKO "Almaz-Antey"*);

25 A Novel Ice Sensor Based on Coplanar Waveguide with Defect Ground Structure
Xiao Shuai Li (*Tongji University*); *Ya Ming Xie* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

26 Broadband Microstrip Patch Array Antenna
Hangjiang Xiao (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Xiang Wang* (*Southwest University of Science and Technology*); *Mingjie Liu* (*Southwest University of Science and Technology*);

27 Utilizing Magneto-dielectric Material for Enhancing Selectivity of Waveguide Bandpass Filter
Junas Haidi (*Institut Teknologi Bandung*); *Zulfi* (*Institut Teknologi Bandung*); *Yohandri* (*Universitas Negeri Padang*); *Agustinus Agung Nugroho* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

28 Reconfigurable Intelligent Surface Assisted Integrated Sensing and Communication Design
Xueyun Gu (*Nanjing Vocational Institute of Transport Technology*); *Ning Cao* (*Hohai University*);

29 Multi-band 8-element Fractal-inspired MIMO Antenna with Mutual Coupling Reduction Using Decoupling Line Integration
Jawad Ahmad (*Nazarbayev University*); *Mohammad Hashmi* (*Nazarbayev University*);

30 3D-printed Rectangular-to-circular Waveguide Mode Converters: Design, Fabrication and Experimental Validation at X-band
Nezah Balal (*Ariel University*); *Aviad Michael* (*Ariel University*);

31 Applications of Norm-constrained Adaptive Beamforming to Antenna-arrayed High-frequency Coastal Radar
Zhen-Xiong You (*China Medical University*); *H.-M. Chang* (*National Central University*); *Hwa Chien* (*National Central University*);

32 All-optical Triaxial Spin-exchange Relaxation-free Atomic Magnetometer
Xiaoyu Li (*Beihang University*); *Zhongyu Wang* (*Beihang University*); *Jianwei Sheng* (*Beihang University*); *Shushan Gao* (*Beihang University*); *Jixi Lu* (*Beihang University*);

33 A CMOS Temperature Sensor with a $3\boldsymbol{\sigma}$ Inaccuracy of $\pm$ **0.3**°C from $-$**45**°C to 125°C
Jizhen Chu (*University of Electronic Science and Technology of China*); *Hua Fan* (*University of Electronic Science and Technology of China*); *Panfeng Zhao* (*University of Electronic Science and Technology of China*); *Wei Zhou* (*University of Electronic Science and Technology of China*);

34 Design and Optimization of a Radio Frequency Low-noise Amplifier with Simultaneously Noise and Impedance Matching for Near-field Communication
Lingyi Zeng (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Liaug Yunn* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Yifan Li* (*Guangzhou University*);

35 Numerical Investigation on the Electromagnetic Vulcanizer Thermal Plate
Tian Liu (*Shandong University*); *Longhao Xiang* (*Shandong University*); *Guanghui Cao* (*Shandong University*); *Songying Chen* (*Shandong University*);

36 An Efficient Optimization Method for Optical Spectrometer Design Based on Deep Learning
Zheng Ang Li (*Tongji University*); *Jun Jie Yuan* (*Tongji University*); *Ya Ming Xie* (*Tongji University*);

37 Enhanced Photovoltaic Power Forecasting with a Stacking Ensemble of Hybrid Models
Hao Yin (*Jiangsu University of Science and Technology*); *Genghua Zhang* (*Jiangsu University of Science and Technology*); *Jiachen Li* (*Jiangsu University of Science and Technology*); *Sijie Chen* (*Zhejiang University*); *Xuesong Guo* (*Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*); *Peiying Lin* (*Jiangsu University of Science and Technology*);

38 Real-time In-situ Monitoring of Internal States in Materials during Laser Processing
Hiroshi Ogawa (*National Institute of Advanced Industrial Science and Technology (AIST)*); *E. Terasawa* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *D. Satoh* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Tatsunori Shibuya* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *R. Kuroda* (*National Institute of Advanced Industrial Science and Technology (AIST)*);

39 Spatial Dynamics of the Light Propagating in Ring-Core Photonic Crystal Optical Fiber
Kirill V. Serebrennikov (*Novosibirsk State University*); *N. V. Bochkarev* (*Novosibirsk State University*); *Mikhail D. Gervaziev* (*Institute of Automation and Electrometry SB RAS*); *A. A. Revyakin* (*Institute of Automation and Electrometry SB RAS*); *Denis S. Kharenko* (*Institute of Automation and Electrometry, SB, RAS*);

40 Miniaturized Dual-beam SERF Magnetometer Using Natural Abundance Rubidium
Jianwei Sheng (*Beihang University*); *Xiaoyu Li* (*Beihang University*); *Zhongyu Wang* (*Beihang University*); *Shushan Gao* (*Beihang University*); *Jixi Lu* (*Beihang University*);

41 Synthesis of Ruthenium Complexes under Microwave Irradiation and Their Analysis by NMR Spectroscopy
Moka Yamauchi (*Kanto Gakuin University*); *Takeko Matsumura* (*Minerva Light Laboratory, L.L.C.*); *Kie Takahashi* (*Kanto Gakuin University*); *Hirokazu Iida* (*Kanto Gakuin University*);

42 On-chip Low Power near Terahertz Chip-to-Chip Data Interconnect Featuring Silicon-based Metawaveguide and Plasmonic Oscillator
Wen Liang Lin (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Liaug Yunn* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Yifan Li* (*Guangzhou University*);

43 An Efficient Detection Method for Meat Freshness Based on Deep Learning
Jun Li (*Shanghai Institute of Technology*); *Guang Yi Zhou* (*Shanghai Institute of Technology*); *Jia Le Ding* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

44 Design and Implementation of a Semi-physical Simulation Experimental System for Train Braking Performance Based on STM32
Shi Long An (*CRRC Qiqihar Rolling Stock Co., Ltd.*); *Yu Xi Ren* (*CRRC Qiqihar Rolling Stock Co., Ltd.*); *Jun Jie Yuan* (*Tongji University*); *Ya Ming Xie* (*Tongji University*);

45 Recent Advances in Distributed Optical Sensing Technologies Based on Rayleigh, Brillouin and Raman Scattering
Ugis Senkans (*Riga Technical University*); *Nauris Silkans* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Janis Braunfelds* (*Riga Technical University*);

00:00 The Phenomenon of "Anomalous Electrons" in High-current Vacuum Discharges
Vladislav Sergeevich Igumnov (*Harbin Institute of Technology*); *Zijian Liu* (*Harbin Institute of Technology*); *Vasily Yu. Kozhevnikov* (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*);

00:00 Quasi-monochromatic Cherenkov Radiation in the Spectral Range of the "Water Window"
V. S. Malyshevsky (*Southern Federal University*); *G. V. Fomin* (*Southern Federal University*); *A. P. Rodnykh* (*Southern Federal University*);

00:00 Spectral Features Caused by Damping Compensation in Two Coupled Magnonic Waveguides
Olga Stanislavovna Temnaya (*Moscow Power Engineering Institute*); *Ansar Rizaevich Safin* (*National Research University "Moscow Power Engineering Institute"*);

00:00 3-D Numerical Simulation of a Low-pressure Microwave Plasma Cleaning Device
Yu-Hang Li (*University of Electronic Science and Technology of China*); *Huan Zou* (*University of Electronic Science and Technology of China*); *Hai-Yang Wang* (*University of Electronic Science and Technology of China*);

00:00 Terahertz Near-field Scanning Microscopy for Nanoscale Imaging of Ovarian Cancer Cells
Zhaomin Peng (*National Space Science Center*); *Wei Mao* (*Peking Union Medical College*); *J. Shi* (*National Space Science Center*); *De Hai Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

00:00 Design and Performance Analysis of an Encrypted DWDM System for a Long-haul Network with High Channel Capacity
Manish Kumar Soni (*MANIT*); *Aditya Goel* (*MANIT*);

00:00 Hole Trap Formation in Quantum Dot Light-emitting Diodes under Electrical Stress
Quan Niu (*South China University of Technology*); *Jiangxia Huang* (*South China University of Technology*); *Wenxin Lin* (*South China University of Technology*); *Shuxin Li* (*South China University of Technology*);

00:00 Weather-resilient FSOC System: A Study of Modulation Strategies for Reliable Data Transmission
Yogesh Kumar Gupta (*MANIT*); *Aditya Goel* (*MANIT*);

00:00 Experimental Investigations Feeding Techniques of a Millimeter Wave Dielectric Resonator Antenna for 5G Frequency Bands
Abinash Gaya (*Universiti Teknologi Malaysia*); *Mohd Haizal Jamaluddin* (*Universiti Teknologi Malaysia*); *Irene Kong Cheh Lin* (*Southern University College*);

00:00 Robust Adaptive Array Beamforming Using Generalized Sidelobe Canceller and Zero-forcing Equalizer under Array Mutual Coupling
Cheng-Jie Wang (*National Taiwan University*); *Ju-Hong Lee* (*National Taiwan University*);

00:00 Development of a Transparent ITO-PDMS Based Millimeter Wave Reflectarray Antenna for 5G Communication Systems
Muhammad Inam Abbasi (*Universiti Teknikal Malaysia Melaka (UTeM)*); *A. A. Mugheri* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *S. Kesarajah* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *I. M. Ibrahim* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. H. Sulaiman* (*Universiti Tun Hussein Onn Malaysia*);

00:00 Mathematical Modeling and Computer Design of Bandpass SIW Filters in the Ku Frequency Band
S. I. Gorbunov (*National Research University "Moscow Power Engineering Institute"*); *Nikita S. Maximov* (*National Research University "Moscow Power Engineering Institute"*); *S. G. Vesnin* (*RTM Diagnostics LLC*); *A. A. Blinnikov* (*RTM Diagnostics LLC*);

00:00 Adaptive Multi-layer Geological Model Inversion of Look-ahead Logging-while-drilling Electromagnetic Data
Shun Zhang (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Wenxiu Zhang* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Pengfei Liang* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Wenxuan Chen* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Xinghan Li* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Hong Li* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*); *Jian Zheng* (*Institute of Geology and Geophysics, Chinese Academy of Sciences*);

00:00 Design of a 650 V FRD Terminal Structure
Quanyi Zhang (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Mingyang Chen* (*Southwest Jiaotong University*); *Yuanchang Zhan* (*Southwest Jiaotong University*);

00:00 Synthesis and Characterization of $Cd_{\mathbf{x}}$ $Ni_{\mathbf{x}}$ $Zn_{(\mathbf{1-2x})}O$ Nanoparticles
Chidambar S. Kamat (*P. C. Jabin Science College Autonomous*); *Soumya T. Kotekar* (*P. C. Jabin Science College Autonomous*); *Sujanya J. Naik* (*P. C. Jabin Science College Autonomous*); *Rangappa Basappa Pujar* (*P. C. Jabin Science College Autonomous*);

00:00 High-order Virtual Gain for Optical Loss Compensation in Plasmonic Metamaterials
Fuxin Guan (*University of Hong Kong*); *Zemeng Lin* (*University of Hong Kong*); *Sixin Chen* (*University of Hong Kong*); *Xinhua Wen* (*The University of Hong Kong*); *Shuang Zhang* (*The University of Hong Kong*);

00:00 Observation of Cavity-mediated Nonlinear Landau Fan and Modified Landau Level Degeneracy in Graphene Quantum Transport
Hongxia Xue (*The University of Hong Kong*); *Hsun-Chi Chan* (*The University of Hong Kong*); *Zuzhang Lin* (*The University of Hong Kong*); *Dalin Boriçi* (*Université Paris Cité, CNRS*); *Shaobo Zhou* (*The University of Hong Kong*); *Yanan Wang* (*The University of Hong Kong*); *Kenji Watanabe* (*National Institute for Materials Science*); *Takashi Taniguchi* (*National Institute for Materials Science*); *Cristiano Ciuti* (*Université Paris Cité, CNRS*); *Wang Yao* (*The University of Hong Kong*); *Dong-Keun Ki* (*The University of Hong Kong*); *Shuang Zhang* (*The University of Hong Kong*);

Session 4A1
A Progress in IF/RF/Microwave Active/Passive Components and Antenna Unit Design for UHF/L/S/C/X/Ku/ K/Ka/V/W/mm-wave/THz Band Aerospace, Defense, Space and 5G/6G/7G Intelligent Wireless Communication S

Sunday AM, November 9, 2025

Room 1 - 101A

Organized by Venkata Kishore Kothapudi, Lakshman Pappula

Chaired by Venkata Kishore Kothapudi, Lakshman Pappula

8:30 An X-band LNA Employing a CS-CD Cascode with Active Feedback in 65 nm CMOS Process
Shah Yash Hemant (*Korea Aerospace University*); *Ahmad Bilal* (*Korea Aerospace University*); *Sohom Bhattacharjee* (*Korea Aerospace University*); *Abdul Hadee* (*Korea Aerospace University*); *Cho Choon Sik* (*Korea Aerospace University*);

8:45 Cutting-edge 8-way RF Feeding Network Using Chebyshev Distribution with Unequal Amplitude Hybrid Couplers Chain for X-band Airborne SAR Applications
Venkata Kishore Kothapudi (*Koneru Lakshmaiah Education Foundation (KLEF)*); *Shaik Soniya Sahera Begum* (*Vignan's Foundation for Science, Technology and Research*); *Yuktha Telaganeedi* (*Vignan's Foundation for Science, Technology and Research*); *Priyadarshini Dhonadi* (*Vignan's Foundation for Science, Technology and Research*); *Venkateswara Rao Battula* (*Vignan's Foundation for Science, Technology and Research*); *Sarikonda Gopi Krishna Raju* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Lakshman Pappula* (*GITAM (Deemed to be University)*);

9:00 State-of-the-art RF Feeding Network Design: Unequal Amplitude 180 Hybrid Ring Couplers for Sum and Difference Patterns in Tracking Radar Systems
Venkata Kishore Kothapudi (*Koneru Lakshmaiah Education Foundation (KLEF)*); *Yuktha Telaganeedi* (*Vignan's Foundation for Science, Technology and Research*); *Shaik Soniya Sahera Begum* (*Vignan's Foundation for Science, Technology and Research*); *Priyadarshini Dhonadi* (*Vignan's Foundation for Science, Technology and Research*); *Venkateswara Rao Battula* (*Vignan's Foundation for Science, Technology and Research*); *Sarikonda Gopi Krishna Raju* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Lakshman Pappula* (*GITAM (Deemed to be University)*);

9:30 A Ka-band All-metal Beam Scanning Reflector Antenna for High Power Microwave Applications
Chenkun Xu (*Southwest University of Science and Technology*); *Liang Liu* (*Southwest University of Science and Technology*); *Ling Zhou* (*outhwest University of Science and Technology*); *Junyi Yang* (*Southwest University of Science and Technology*); *Qi Chen* (*Southwest University of Science and Technology*);

9:45 High-Power Array Antenna Based on Gap Waveguide Technology
Zhengxiang Luo (*Southwest University of Science and Technology*); *Liang Liu* (*Southwest University of Science and Technology*); *Chenkun Xu* (*Southwest University of Science and Technology*); *Ling Zhou* (*outhwest University of Science and Technology*); *Qi Chen* (*Southwest University of Science and Technology*);

10:15 Single-layer Dual-band Bandpass Filters with Large Frequency Ratio and High Design Flexibility
Yu Fei Pan (*Guangzhou University*); *Xin Liao* (*Guangzhou University*); *H. H. Peng* (*Guangzhou University*); *Zhen Zhang* (*Guangzhou University*);

10:30 **Coffee Break**

10:50 AI-driven Electromagnetic Prediction with Pixelated Matching Networks for Broadband and Miniaturized Rectifier Design
Hao Zhang (*Northwestern Polytechnical University*); *Zhiwei Liang* (*Northwestern Polytechnical University*); *Haodong Li* (*Northwestern Polytechnical University*); *Tao Zhang* (*Empyrean Technology Co., Ltd.*);

11:05 Planar Thinned Array Antenna Synthesis for X Band Applications: A Metaheuristic Multi-objective Optimization Approach
Lakshman Pappula (*GITAM (Deemed to be University)*); *Sahiti Vankayalapati* (*Koneru Lakshmaiah Education Foundation*); *Venkata Kishore Kothapudi* (*Koneru Lakshmaiah Education Foundation (KLEF)*); *Srinu Budumuru* (*School of Technology, GITAM (Deemed to be University)*);

11:20 Development of Fast-curing Epoxy-based EMI Shielding Material
Srinu Budumuru (*GITAM (Deemed to be University)*); *Lakshman Pappula* (*GITAM (Deemed to be University)*); *Allu Gayatri* (*School of Technology, GITAM (Deemed to be University)*); *J. Durga Rao* (*GITAM (Deemed to be University)*); *T. V. S. Apparao* (*GITAM (Deemed to be University)*); *S. Srinivasa Rao* (*GITAM (Deemed to be University)*); *Venkata Kishore Kothapudi* (*Koneru Lakshmaiah Education Foundation (KLEF)*);

00:00 A Lattice Inspired SIW Backed Self-multiplexing Antenna for Octa-band Operation
Sounik Kiran Kumar Dash (*SRM Institute of Science and Technology*); *Abhishek Agrawal* (*SRM Institute of Science and Technology*); *Ujjwal Shrivastava* (*SRM Institute of Science and Technology*); *Vaishali P* (*SRM Institute of Science and Technology*); *Qingsha S. Cheng* (*Southern University of Science and Technology*);

00:00 A Highly Isolated SIW Backed Multiband Antenna with Microfluid Pockets for Frequency Tuning
Sounik Kiran Kumar Dash (*SRM Institute of Science and Technology*); *Abhishek Agrawal* (*SRM Institute of Science and Technology*); *Ujjwal Shrivastava* (*SRM Institute of Science and Technology*); *Taimoor Khan* (*National Institute of Technology*);

00:00 Efficient Power Distribution in X-band 9.375 GHz Airborne and Space Borne Synthetic Aperture Radar: Series-fed RF Feeding Network Design Using Dual Directional Couplers
Priyadarshini Dhonadi (*Vignan's Foundation for Science, Technology and Research*); *Shaik Soniya Sahera Begum* (*Vignan's Foundation for Science, Technology and Research*); *Yuktha Telaganeedi* (*Vignan's Foundation for Science, Technology and Research*); *Venkateswara Rao Battula* (*Vignan's Foundation for Science, Technology and Research*); *Venkata Kishore Kothapudi* (*Vignan's Foundation for Science, Technology, and Research (Deemed to be University)*); *Lakshman Pappula* (*GITAM (Deemed to be University)*);

00:00 Ku-band Dual Beam Radial Line Slot Array Antenna Design
Onur Cumurcu (*Sci. & Technol Res. Council. Turkey TUBITAK*);

00:00 Rapid Design for a G-band Folded Waveguide Travelling Wave Tube Based on Deep Neural Networks and Search Algorithms
Jintao Xiao (*University of Electronic Science and Technology of China*); *Shaomeng Wang* (*University of Electronic Science and Technology of China*); *Qingying Yi* (*University of Electronic Science and Technology of China*); *Yubin Gong* (*University of Electronic Science and Technology of China*);

00:00 Ka-band Output Multiplexer Based on Dual-mode Filters with Modified Resonators
Boris Markovich Kats (*Waveguide-based Systems LLC*); *Kirill Aleksandrovich Sayapin* (*Waveguide-based Systems LLC*); *Maksim Evgenyevich Golubtsov* (*Waveguide-based Systems LLC*);

00:00 Multifunctional Smart Antenna Designs for IoT, 5G & Next Generation 6G: An Overview
Salah Eddine El Aoud (*Cadi Ayyad University*); *Hind Abbaoui* (*Cadi Ayyad University*); *Nasima El Assri* (*Cadi Ayyad University*); *Saida Ibnyaich* (*Cadi Ayyad University*); *Abdelouhab Zeroual* (*Cadi Ayyad University*);

00:00 Implementation of High-isolation Shielded Half Mode Self-triplexing Antenna for 5G, Derived from Self-hexaplexing Structures
Abhinandana N. Howle (*PES University*); *Manoj Kumar Karadakal* (*PES University*); *Sophia D. Antoinette* (*PES University*); *Renuka Kajur* (*PES University*); *Ananya Parameswaran* (*SRMIST*);

Session 4A2
Sub-THz Communication System and Devices

Sunday AM, November 9, 2025
Room 2 - 101B
Organized by Tetsuya Kawanishi
Chaired by Tetsuya Kawanishi

8:30 Impact of Submillimeter Misalignment on 300 GHz System Performance due to Two-wave Ground-reflection Interference
Arata Ogaki (*Waseda University*); *Keisuke Miyano* (*Waseda University*); *Kanna Onda* (*Waseda University*); *Bo Kum Jung* (*Technische Universität Braunschweig*); *Keizo Inagaki* (*National Institute of Information and Communications Technology*); *Tetsuya Kawanishi* (*Waseda University*);

8:45 Measurement of 300 GHz Rain Scattering for Crosstalk Analysis in Terahertz Spatial Multiplexing Systems
Kanna Onda (*Waseda University*); *Arata Ogaki* (*Waseda University*); *Kota Nakazawa* (*Waseda University*); *Masataka Sugiyama* (*Ltd. SED*); *Keizo Inagaki* (*National Institute of Information and Communications Technology*); *Tetsuya Kawanishi* (*Waseda University*);

9:00 Measurement of 300 GHz Radiation Patterns under Simulated and Natural Rainfall
Kota Nakazawa (*Waseda University*); *Arata Ogaki* (*Waseda University*); *Kanna Onda* (*Waseda University*); *Keizo Inagaki* (*National Institute of Information and Communications Technology*); *Masataka Sugiyama* (*Ltd. SED*); *Tetsuya Kawanishi* (*Waseda University*);

9:15 Analysis of Asymmetric Scattering Distribution under 45-degree Polarized Incidence for Terahertz Waves
Riku Yoshino (*Waseda University*); *S. Saito* (*Waseda University*); *R. Nishidono* (*Waseda University*); *Y. Anma* (*Waseda University*); *Keizo Inagaki* (*National Institute of Information and Communications Technology*); *Tetsuya Kawanishi* (*Waseda University*);

9:30 Detection of a QPSK-modulated Terahertz Wireless Signal Using Photonics-based System with Electro-optic Polymer Device
Kotaro Matsushima (*Gifu University*); *Kota Miyake* (*Gifu University*); *Takahiro Kaji* (*National Institute of Information and Communications Technology (NICT)*); *Atsushi Kanno* (*Nagoya Institute of Technology*); *Isao Morohashi* (*National Institute of Information and Communications Technology (NICT)*); *Akira Otomo* (*National Institute of Information and Communications Technology (NICT)*); *Hiroki Kishikawa* (*Tokushima University*); *Takeshi Yasui* (*Tokushima University*); *Shintaro Hisatake* (*Gifu University*);

9:45 High-speed Graphene-based Sub-terahertz Receivers Enabling Wireless Communications for 6G and Beyond
Karuppasamy Pandian Soundarapandian (*ICFO — Institut de Ciències Fotòniques*); *Sebastián Castilla* (*ICFO — Institut de Ciències Fotòniques*); *Stefan M. Koepfli* (*ETH Zurich, Institute of Electromagnetic Fields (IEF)*); *Simone Marconi* (*ICFO — Institut de Ciències Fotòniques*); *Laurenz Kulmer* (*ETH Zurich, Institute of Electromagnetic Fields (IEF)*); *Ioannis Vangelidis* (*University of Ioannina*); *Ronny De la Bastida* (*Catalan Institute of Nanoscience and Nanotechnology (ICN2)*); *Enzo Rongione* (*Catalan Institute of Nanoscience and Nanotechnology (ICN2)*); *Sefaattin Tongay* (*University of Arizona*); *Kenji Watanabe* (*National Institute for Materials Science*); *Takashi Taniguchi* (*National Institute for Materials Science*); *Elefterios Lidorikis* (*University of Ioannina*); *Klaas-Jan Tielrooij* (*Catalan Institute of Nanoscience and Nanotechnology (ICN2)*); *Juerg Leuthold* (*Institute of Electromagnetic Fields (IEF), ETH Zurich*); *Frank H. L. Koppens* (*ICFO — The Institute of Photonics Sciences (Barcelona)*);

10:30 **Coffee Break**

10:50 Characterization of Terahertz Cavity-modal Confinement on a Bragg Metal Grating Structure
Borwen You (*National Changhua University of Education*); *Ja-Yu Lu* (*National Cheng Kung University*);

11:05 Angularly Stable Wheel Shaped VO_2 Controlled Cross Polarization Converter for THz Applications
Shobit Agarwal (*University of Naples Federico II*); *Muhammad Fayyaz Kashif* (*Università degli Studi di Napoli Federico II*); *Junaid Yaseen* (*Università di Napoli Federico II*); *Zahra Mazaheri* (*Università di Napoli Federico II*); *Daniele Riccio* (*Università di Napoli Federico II*); *Antonello Andreone* (*University of Naples "Federico II"*); *Antonio Iodice* (*University of Naples "Federico II"*);

11:20 An Efficient Linear-to-linear Polarization Conversion Metasurface for THz Applications
Muhammad Fayyaz Kashif (*Università degli Studi di Napoli Federico II*); *Shobit Agarwal* (*University of Naples Federico II*); *Junaid Yaseen* (*Università di Napoli Federico II*); *Zahra Mazaheri* (*Università di Napoli Federico II*); *Antonio Iodice* (*University of Naples "Federico II"*); *Antonello Andreone* (*University of Naples "Federico II"*); *Daniele Riccio* (*University of Naples "Federico II"*);

11:35 Terahertz Subwavelength Dielectric Ribbon Waveguides
Ja-Yu Lu (*National Cheng Kung University*); *Pin-Jung Lu* (*National Changhua University of Education*); *Borwen You* (*National Changhua University of Education*);

11:50 On-chip Terahertz Wave Power Enhancement Using an $\mathbf{8 \times 1}$ UTC-PD Array Integrated with Microstrip Antenna and Coupled-line Wilkinson Combiner
Hussein Ssali (*Kyushu University*); *Yoshiki Kamiura* (*Kyushu University*); *Kazutoshi Kato* (*Kyushu University*);

Session 4A3a
Novel Mathematical Methods in Electromagnetics

Sunday AM, November 9, 2025

Room 3 - 102A

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi

8:30 Detection of Resonances and Bound in Continuum States in Nanoparticles via Berry Phase
C. Leckie (*University of Strathclyde*); *D. McArthur* (*University of Strathclyde*); *Francesco Papoff* (*University of Strathclyde*);

8:45 Comparative Diffraction Analysis of E- and H-polarized Plane Waves in a Finite Parallel-plate Waveguide Cavity with Perfect Electric Conductor Loading
Tong Zhang (*Chuo University*); *Kazuya Kobayashi* (*Chuo University*);

9:00 Regularization of Scattering Problems Modelled by the Electric Field Integral Equation
Elena D. Vinogradova (*Macquarie University*); *Paul D. Smith* (*Macquarie University*);

9:15 Coherence Attenuation of Slightly Back-scattered Waves in Continuous Random Media
Mitsuo Tateiba (*Kyushu University*); *Yukihisa Nanbu* (*National Institute of Technology, Ariake College*);

9:30 Investigation of Quantum Algorithms for the Solution of EFIE-based Matrix Equation System for 3D PEC Scatterers
Rui Chen (*Nanjing University of Science and Technology*); *Teng-Yang Ma* (*Origin Quantum Computing Technology (Hefei) Co., Ltd.*); *Meng-Han Dou* (*Origin Quantum Computing Technology (Hefei) Co., Ltd.*); *Chao-Fu Wang* (*National University of Singapore*);

9:45 Invited Unequal-interval Mirror Kirchhoff Approximation with Sensitive Segmentation to Predict Shadowing Gain
Xin Du (*Tokyo Institute of Technology*);

10:05 Rigorous Solution of Plane Wave Diffraction by a Perfectly Conducting Rectangular Cylinder Using the Wiener-Hopf Technique
Kewen He (*Hunan University of Science and Technology*); *Kazuya Kobayashi* (*Chuo University*);

10:20 Survey of Electromagnetic Plane Wave Scattering Problems for 2D Open Arbitrary Cavities Solved by the MAR with New Solutions for Cavities with Rough Walls
Elena D. Vinogradova (*Macquarie University*);

00:00 Soliton Interactions in Maxwell-Bloch System
Sitai Li (*Xiamen University*);

Session 4A3b
Advancing Computational Electromagnetics for Next-generation Technologies: From Theory to Applications

Sunday AM, November 9, 2025

Room 4 - 102B

Organized by Jihong Gu, Xu Zhang

Chaired by Jihong Gu

10:50 A Robust Numerical Algorithm for Process-variation Induced Mesh Degradation in 3D Semiconductor Carrier Transport Simulation with Density Gradient Quantum Correction
Yiqun Niu (*Zhejiang University*); *Wenchao Chen* (*Zhejiang University*);

11:05 Hybridizable Discontinuous Galerkin Method for Multiphysics Simulation of GaN HEMT in RF Applications
Qinyi Huang (*Zhejiang University*); *Wenchao Chen* (*Zhejiang University*);

11:20 An Implementation-friendly Non-conformal Mesh-based SIE Solver for RL Parameters Extraction
Mingyu Wang (*Xpeedic Co., Ltd.*); *Wenliang Dai* (*Xpeedic Company Ltd.*); *Ping Liu* (*Xpeedic Co., Ltd.*); *Qinqin Jiang* (*Xpeedic Co., Ltd.*);

11:35 An Efficient Scheme of Parallel Mesh Refinement with Distributed Octree Construction on the Tianhe Supercomputing Platform
Xiaoyu Zhang (*Nanjing University of Aeronautics and Astronautics*); *Jihong Gu* (*Nanjing University of Science and Technology*); *Zhaoyuan Wang* (*Nanjing University of Science and Technology*); *Mengmeng Li* (*Nanjing University of Science and Technology*); *Dazhi Ding* (*Nanjing University of Science and Technology*);

00:00 Leapfrog CDI-FDTD Method for Scattering from an Object over a Randomly Rough Surface
Shuo Liu (*Xpeedic Company Ltd.*); *Eng Leong Tan* (*Nanyang Technological University*); *Ping Liu* (*Xpeedic Company Ltd.*); *Liguo Jiang* (*Xpeedic Company Ltd.*); *Wenliang Dai* (*Xpeedic Company Ltd.*);

Session 4A4
Advances in Remote Sensing of Trace Gases and Aerosols for Air Quality and Climate Monitoring

Sunday AM, November 9, 2025

Room 4 - 102B

Organized by Xiaozhen (Shawn) Xiong, Hitoshi Irie

Chaired by Hitoshi Irie

8:30 Requirements and Design of TanSat-2 Mission
Invited
Liangfu Chen (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Meng Fan* (*Aerospace Information Research Institute, Chinese Academy of Science*);

8:50 International Air Quality and SKY Research Remote Sensing Network (A-SKY): Recent Activities and Results
Hitoshi Irie (*Chiba University*);

9:05 An Integrated Cal/Val and Modelling Framework for Remote Sensing of Earth and Mars Atmospheres: A Novel Research Infrastructure of Italy
Ugo Cortesi (*National Research Counil — Istitute for Applied Physics*); *Stefano della Fera* (*National Research Counil — Istitute for Applied Physics*); *Adelaide Dinoi* (*National Research Counil — Istitute of Atmospheric Sciences and Climate*); *Umberto Rizza* (*National Research Counil — Istitute of Atmospheric Sciences and Climate*);

00:00 Detection of Methane Emission from Coal Mine Using Observation from Sentinel-2 Satellite
Mingmin Zou (*Anhui University*); *Tianqi Liu* (*Anhui University*); *Zizheng Chen* (*Anhui University*); *Xuwen Wang* (*Anhui University*); *Shuli Sheng* (*Anhui University*);

9:35 Satellite and Ground-based Monitoring of BC and BrC Aerosols
Meng Fan (*Aerospace Information Research Institute, Chinese Academy of Science*); *Liangfu Chen* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Benben Xu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

9:50 Retrieval of CFC-11 and CCL4, and Their Long-term Trend from AIRS and CrIS Radiances: An Update
Xiuhong Chen (*The University of Michigan*); *Xianglei Huang* (*University of Michigan*); *Qing Yue* (*California Institute of Technology*); *Eric Fetzer* (*California Institute of Technology*);

00:00 Effects of Emission Variability on Atmospheric CO_2 Concentrations in Mainland China by Using GEOS-Chem and OCO-2 Data
Shenshen Li (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Wenjing Lu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

11:50 Remote Sensing of Aerosols Combining Radiative Transfer and Machine Learning Techniques
Chong Shi (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Husi Letu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Chenqian Tang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Wenwu Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Ruijie Yao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Teruyuki Nakajima* (*The University of Tokyo*); *Miho Sekiguchi* (*Tokyo University of Marine Science and Technology*);

00:00 Stray Light Correction and Image Enhancement for Nighttime Low-light Observations from the Fengyun-3E Early-morning-orbit Satellite
Min Min (*Sun Yat-sen University*); *Yongen Liang* (*Sun Yat-sen University*);

00:00 Synergistic Analysis of Methane Hotspots Using Multiple Spaceborne IR/SWIR Measurements and a PC-based Radiative Transfer Model
Xiaozhen Xiong (*NASA Langley Research Center*); *Xu Liu* (*NASA Langley Research Center*); *Ming Zhao* (*NASA Langley Research Center*); *Qiguang Yang* (*NASA Langley Research Center*); *Wan Wu* (*NASA Langley Research Center*); *Liqiao Lei* (*NASA Langley Research Center*); *Robert Spurr* (*RT SOLUTIONS Inc.*); *Philip G. Brodrick* (*California Institute of Technology*); *David R. Thompson* (*California Institute of Technology*);

Session 4A5
High-precision Radar Imaging: Technologies and Applications 1

Sunday AM, November 9, 2025

Room 5 - 103

Organized by Deqing Mao, Yu Hai

Chaired by Tinghao Zhang, Yin Zhang

8:30 Comparison of Radar Interferograms from NISAR and Sentinel-1
Howard A. Zebker (*Stanford University*);

8:45 A Robust Imaging Method for Sparse Targets with Outliers in Forward-looking Scanning Radar
Jiahao Shen (*University of Electronic Science and Technology of China*); *Deqing Mao* (*University of Electronic Science and Technology of China*); *Yin Zhang* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*);

9:00 Application of Probing Signals with a Zero Autocorrelation Zone to Enhance the Quality of Space Debris Images in Inverse Synthetic Aperture Radar
Roman N. Ipanov (*Moscow Power Engineering Institute*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*); *A. I. Baskakov* (*National Research University "Moscow Power Engineering Institute"*); *M. S. Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

9:15 Joint Design of Multi-pulse Sequences and Receiving Filters in Forward-looking Scanning Radar
Xian Zhao (*University of Electronic Science and Technology of China*); *Deqing Mao* (*University of Electronic Science and Technology of China*); *Yongchao Zhang* (*University of Electronic Science and Technology of China (UESTC)*); *Yin Zhang* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*);

9:30 A Dual-channel Divide-and-conquer Approach for Multistatic SAR Fusion Imaging
Lu Jiao (*University of Electronic Science and Technology of China (UESTC)*); *Haihui Huang* (*University of Electronic Science and Technology of China (UESTC)*); *Yulin Huang* (*University of Electronic Science and Technology of China*); *Jiahao Shen* (*University of Electronic Science and Technology of China*); *Yin Zhang* (*University of Electronic Science and Technology of China*); *Deming Guo* (*University of Electronic Science and Technology of China (UESTC)*); *Huaigen Zhang* (*University of Electronic Science and Technology of China (UESTC)*); *Wenjing Wang* (*University of Electronic Science and Technology of China (UESTC)*);

9:45 Space Debris Resolution Using Polarization Characteristics of Radar Signals
A. I. Baskakov (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*); *Roman N. Ipanov* (*National Research University "Moscow Power Engineering Institute"*); *M. S. Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

10:30 **Coffee Break**

10:50 Phase-frequency Modulated Metasurfaces for Multipulse Staring Imaging
Liyuan Lyu (*University of Electronic Science and Technology of China*); *Yu Hai* (*University of Electronic Science and Technology of China*); *Junjie Wu* (*University of Electronic Science and Technology of China*); *Wei Pu* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*); *Shaonan Chen* (*Southeast University*);

11:05 Hybrid Spatial Field Modulation with RIS-OAM Routing: A Non-cooperative Dual-link Wireless Covert Transmission Architecture
Yufei Zhao (*Nanyang Technological University*); *Deyu Lin* (*Nanchang University*); *Yujing Hong* (*Nanyang Technological University, Institute for Infocomm Research, A*STAR*); *Yongliang Guan* (*Nanyang Technol University*); *Chau Yuen* (*Nanyang Technological University*);

11:20 Fast Two-dimensional ADMM-CLEAN Method for SAR Target Scattering Center Extraction
Yanjing Ma (*University of Electronic Science and Technology of China*); *Jifang Pei* (*University of Electronic Science and Technology of China (UESTC)*); *Weibo Huo* (*University of Electronic Science and Technology of China (UESTC)*); *Yin Zhang* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*);

11:35 Scanning Radar Angular Super-resolution via Joint TV-wavelet Priors and Split Bregman Iteration
Jiawei Luo (*University of Electronic Science and Technology of China*); *Yin Zhang* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*);

11:50 Super-resolution Imaging Method for Forward-looking Phased Array Scanning Radar
Xingyu Tuo (*Institute of Electronic Engineering, China Academy of Engineering Physics*); *Wen Jing* (*Institute of Electronic Engineering, China Academy of Engineering Physics*); *Yushi Xu* (*Institute of Electronic Engineering, China Academy of Engineering Physics*); *Gei Jiang* (*Institute of Electronic Engineering, China Academy of Engineering Physics*);

Session 4A6a
Imaging and Deep Learning Techniques for Millimeter-wave Radar in Automotive and Healthcare Applications

Sunday AM, November 9, 2025

Room 6 - 104

Organized by Naoki Honma, Shouhei Kidera

Chaired by Naoki Honma, Shouhei Kidera

8:30 Radar Image Enhancement via CNN Regression Using Direction-of-arrival Information
Naoki Honma (*Iwate University*); *S. Watanabe* (*Iwate University*); *K. Murata* (*Iwate University*);

8:45 Radar-based Vital Sensing Based on Two-wave Model Considering Body Movement
Toshifumi Moriyama (*Nagasaki University*); *Mie Mie Ko* (*Nagasaki University*);

9:00 Real Time Precise Tracking of Multi-pedestrians by Multiple Millimeter-wave Radars
Panus Kowatcharakul (*Chiang Mai University*); *Ukrit Mankong* (*Chiang Mai University*); *Songyot Kitthamkesorn* (*Chiang Mai University*); *Kampol Woradit* (*Chiang Mai University*);

9:15 Millimeter Wave Doppler Associated Radar Imaging for Pedestrian Detection with 79 GHz Band MIMO Radar
Shouhei Kidera (*The University of Electro-Communications*); *Yoshiki Sekigawa* (*The University of Electro-Communications*);

9:30 Physics-inspired Quantitative Computational Imaging Utilizing Sensors with Constrained Apertures
Yuxin Zhang (*Hangzhou Dianzi Univerisity*); *Kuiwen Xu* (*Hangzhou Dianzi University*); *Rencheng Song* (*Hefei University of Technology*);

9:45 Advanced IoT Home Security System Powered by Deep Learning
Pyi Phyo Aung (*Sunway University*); *Yitian Gan* (*Sunway University*); *Ngu War Hlaing* (*Sunway University*);

00:00 Cross-modality AI for Emergency Trauma Assessment: A Conceptual Framework for Inferring CT-based Diagnostics from Radar Sensing
Reem A. Kassem (*American University of Kuwait (AUK)*); *David Liang* (*American University of Kuwait (AUK)*); *Omar Elkalesh* (*American University of Kuwait (AUK)*); *Amro A. Nour* (*American University of Kuwait (AUK)*);

Session 4A6b
Visualization and Imaging of Electromagnetic Fields and Waves

Sunday AM, November 9, 2025

Room 6 - 104

Organized by Satoshi Yagitani, Aya Ohmae

Chaired by Satoshi Yagitani

12:05 Mixed-reality Visualization of Magnetic Near-field Distributions and Source Currents
Kaira Yamamoto (*Kanazawa University*); *Yoshiaki Tsubata* (*Kanazawa University*); *Soichiro Kato* (*Kanazawa University*); *Satoshi Yagitani* (*Kanazawa University*); *Mitsunori Ozaki* (*Kanazawa University*); *Tomohiko Imachi* (*Kanazawa University*);

11:05 Time Domain Near-field Electromagnetic Visualization System Focused on Malfunction Analysis
Kurata Matsumoto (*Noise Laboratory*); *Shinsuke Nezu* (*Noise Laboratory*); *Takeshi Ishida* (*Noise Laboratory Co., Ltd.*);

11:35 Stacked Metasurface Sensor for Low-frequency Field Measurement
Satoshi Yagitani (*Kanazawa University*); *Taiki Shimizu* (*Kanazawa University*); *Ryota Nagai* (*Kanazawa University*); *Masaki Arimatsu* (*Kanazawa University*); *Shinichi Tanimoto* (*Panasonic Connect Co., Ltd.*); *Akihiro Tatsuta* (*Panasonic Connect Co., Ltd.*); *Makoto Iyoda* (*Panasonic Connect Co., Ltd.*); *Mitsunori Ozaki* (*Kanazawa University*); *Tomohiko Imachi* (*Kanazawa University*);

10:50 A Low-frequency Magnetic Metasurface Absorber for Electromagnetic Noise Visualization
Akihiro Tatsuta (*Panasonic Connect Co., Ltd*); *Shinichi Tanimoto* (*Panasonic Connect Co., Ltd*); *Makoto Iyoda* (*Panasonic Connect Co., Ltd*); *Ryota Nagai* (*Kanazawa University*); *Masaki Arimatsu* (*Kanazawa University*); *Satoshi Yagitani* (*Kanazawa University*);

11:50 Measurement of Field Distributions Using a Patch-antenna-type Metasurface
Erik Madyo Putro (*Kanazawa University*); *Satoshi Yagitani* (*Kanazawa University*); *Tomohiko Imachi* (*Kanazawa University*); *Mitsunori Ozaki* (*Kanazawa University*);

11:20 Localization and 3D Imaging Method of Magnetic Target via UAV Aeromagnetic Sensing
Zhitao Du (*Northwestern Polytechnical University*); *Menghui Qin* (*Northwestern Polytechnical University*); *Liming Fan* (*Northwestern Polytechnical University*); *Hao Hu* (*Northwestern Polytechnical University*);

Session 4A7
Study of Electromagnetic Field Problems in KOSEN

Sunday AM, November 9, 2025

Room 7 - 105

Organized by Toshihiko Shibazaki, Toshihisa Kamei

Chaired by Toshihiko Shibazaki, Toshihisa Kamei

8:30 Improvement of Reading Accuracy of IC Tags Attached Near Multiple Conductor Cylindrical Pipes
Akari Kominami (*GOP Co., LTD.*); *Yusuke Fukase* (*GOP Co., LTD.*); *Hiroshi Sakuraba* (*GOP Co., LTD.*); *Toshihiko Shibazaki* (*Tokyo Metropolitan College of Industrial Technology*);

8:45 Simulation-based Evaluation of Microwave Leakage Mitigation Mechanisms for Process Openings
Aki Fujita (*Science and Technology Research Inst. Co.*); *Teruhiro Kinoshita* (*Science and Technology Research Inst. Co.*); *Keiko Kikuchi* (*Science and Technology Research Inst. Co.*); *Kyohei Murayama* (*Fuji Electronic Industrial Co., Ltd.*); *Mutsumi Yoshida* (*Fuji Electronic Industrial Co., Ltd.*);

9:00 An Analytical Design of the Dual-mode Dual-level J-inverter for Dual-band Filters
Koma Kikuya (*Tokyo Metropolitan College of Industrial Technology*); *Naoki Miyata* (*Tokyo Metropolitan College of Industrial Technology*);

9:15 Versatility of Transformer-based Surrogate Model for Designing Microwave Filters
Keiichiro Yamada (*Kyoto Institute of Technology*); *T. Nomura* (*Tokyo Metropolitan University*); *S. Nagaoka* (*Tokyo Metropolitan College of Industrial Technology*); *Takashi Kuroki* (*Tokyo Metropolitan College of Industrial Technology*); *Naoki Miyata* (*Tokyo Metropolitan College of Industrial Technology*);

9:30 DTM line (Dielectric Tube Supported Metal Rod Transmission Line) as a Transmission Media at Sub-THz Wave Frequencies
Futoshi Kuroki (*National Institute of Technology*); *Yasunari Demoto* (*National Institute of Technology*); *Mototsugu Ohtani* (*National Institute of Technology*);

9:45 Study of Conversion Characteristics for Comb-type Linear-to-circular Polarization Converter Fabricated with Vat Photopolymerization 3D Printing
Takuma Kawakami (*Tokyo Metropolitan College of Industrial Technology*); *Kiyoto Asakawa* (*Tokyo Metropolitan College of Industrial Technology*); *K. Sudo* (*Tokyo Metropolitan University*); *K. Alfred* (*Tokyo Metropolitan University*); *Michihiko Suhara* (*Tokyo Metropolitan University*);

10:30 **Coffee Break**

10:50 Detection of Surface and Subsurface Plastic Using UAV and GPR Imagery with YOLO
Jun Sonoda (*Sendai National College of Technology*); *Taito Kato* (*Sendai National College of Technology*); *Yuuri Mikuni* (*Sendai National College of Technology*);

11:05 An Ultra-thin Planar Inverted-F Antenna for Metal-mount UHF RFID Tags
Tatsuya Kakubari (*Tokyo Metropolitan College of Industrial Technology*); *Naoki Miyata* (*Tokyo Metropolitan College of Industrial Technology*);

11:20 Optical Behavior of Milled TiN Nanoparticles: Effect of Size, Oxidation and Nanogap Absorption
Masanori Sakamoto (*Niihama KOSEN*); *Hideyuki Hirazawa* (*Niihama KOSEN*); *Masami Nishikawa* (*Nagaoka University of Technology*); *Aki Fujita* (*Science and Technology Research Inst. Co.*);

11:35 Microwave-band Oscillator Based on Thin-film Bulk Acoustic Resonator with Wide Frequency Tunability for Atomic Clock Applications
Masahiro Fukuoka (*National Institute of Information and Communications Technology*); *Kazuhiko Nishio* (*Institute of Science Tokyo*); *Motoaki Hara* (*National Institute of Information and Communications Technology*); *Hiroyuki Ito* (*Institute of Science Tokyo*);

Session 4A8
Biological Effects of Electromagnetic Fields

Sunday AM, November 9, 2025
Room 8 - 201A
Organized by Constantinos Simserides
Chaired by Constantinos Simserides

8:30 Investigating the Spectrum of Coherent Exciton and Charge Oscillations along Epigenetically Modified B-DNA Sequences
Dennis Herb (*Ulm University*); *Mirko Rossini* (*Ulm University*); *J. Ankerhold* (*Ulm University*);

8:45 Maxwell's Microbes — Interactions of Electroactive Bacteria as 'Living Electrical Wires' with Electric Fields and Light
Lealia Derickx (*Hasselt University*); *Remy Ratajczak* (*Hasselt University*); *Bart Cleuren* (*Hasselt University*); *Roland Valcke* (*Hasselt University*); *Jean Vittorio Manca* (*Hasselt University*);

9:00 EMF-induced Disruption of DNA Electron Transfer: Theoretical Insights into Genotoxicity and Therapeutic Potential
Samira Fathizadeh (*Urmia University of Technology*); *F. Nemati* (*Urmia University of Technology*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

9:15 Frequency Content of Charge Transfer in B-DNA, Including the Backbone, via a Four-channel Tight Binding (TB) Model and TB Parameters Obtained by Density Functional Theory (DFT)
A. Kordas (*National and Kapodistrian University of Athens*); *A. Morphis* (*National and Kapodistrian University of Athens*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

9:30 Statistical Analysis of Photoexcited DNA: Exciton Lifetime and Charge Separation in Wildtype and Mutated Sequences
Dennis Herb (*Ulm University*); *Mirko Rossini* (*Ulm University*); *J. Ankerhold* (*Ulm University*);

9:45 In Vivo Treatment of Alzheimer's Disease Using Electromagnetic Waves
Sohom Bhattacharjee (*Korea Aerospace University*); *Jeeln Choi* (*CHA University*); *Chaewon Baek* (*CHA University*); *Yash Hemant Shah* (*Korea Aerospace University*); *Abdul Hadee* (*Korea Aerospace University*); *Min Young Kim* (*CHA University*); *Choon Sik Cho* (*Korea Aerospace University*);

10:50 Dielectric Stability and Homogeneity of In-house Synthesized Phantom for 5G Radiation Exposure
Nur Farah Afiqah Asmadi (*Universiti Putra Malaysia (UPM)*); *Aduwati Sali* (*Universiti Putra Malaysia (UPM)*); *Nurul Huda Abd Rahman* (*Universiti Teknologi MARA*); *Suriati Paiman* (*Universiti Putra Malaysia*); *Muhammad Zamir Mohyedin* (*Universiti Putra Malaysia*);

11:05 Influence of ELF Electric Fields on RBC Migration in Confined Whole Blood under Capacitive-coupling Exposure
Miki Kanemaki (*Hokkaido University of Science*); *Hisae O. Shimizu* (*Hokkaido University of Science*); *Koichi Shimizu* (*Xidian University*);

11:20 Bioluminescent Response in Plant Leaves Generated by Magnetic Fields of Multiple Frequencies
Masao Masugi (*Ritsumeikan University*);

00:00 High Frequency Exposure of ***Mytilus Galloprovincialis*** Male Gametes at 27 GHz: Dosimetric Assessment and Biologic Evaluation
C. Sica (*University of Catania*); *D. Guarnera* (*University of Catania*); *Roberta Pecoraro* (*University of Catania*); *Elena Maria Scalisi* (*University of Catania*); *Santi Concetto Pavone* (*University of Catania*); *Gino Sorbello* (*University of Catania*); *Maria Violetta Brundo* (*University of Catania*); *Loreto Di Donato* (*University of Catania*);

00:00 Frequency Content of Charge Oscillations along B-DNA Sequences, under Influence of Transition Mutations and Disorder
P. Banev (*National and Kapodistrian University of Athens*); *A. Falliera* (*National and Kapodistrian University of Athens*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

Session 4A9
Advances in Metamaterials, Metasurfaces and Topological Photonics

Sunday AM, November 9, 2025
Room 9 - 201B
Chaired by Chia Chien Huang

8:30 Robust Metastructures Using Huygens Congener Dipole Elements
Shicheng Wan (*Harbin Engineering University*); *Jinhui Shi* (*Harbin Engineering University*); *Mikhail V. Rybin* (*ITMO University*); *Ekaterina E. Maslova* (*ITMO University*);

8:45 Continuum Landau Modes and Non-Hermitian Anomaly in a Non-Hermitian Weyl Semimetal
Shuxin Lin (*Nanyang Technological University*); *Kohei Kawabata* (*University of Tokyo*); *Rimi Banerjee* (*Nanyang Technological University*); *Zheyu Cheng* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*);

9:00 Flat-band Enhanced Magnon-photon Coupling in Photonic Lattices
Qi Hong (*Zhejiang University*); *Jie Qian* (*East China Normal University*); *Fujia Chen* (*Zhejiang University*); *Yihao Yang* (*Zhejiang University*); *Yi-Pu Wang* (*Zhejiang University*);

9:15 Optically Transparent and Wideband Absorption-tunable Metasurface Based on Patterned Graphene Structure
Xuanye Wu (*Xi'an University of Architecture and Technology*); *Jianfeng Yang* (*Xi'an University of Architecture and Technology*);

9:30 PEEM Based Near-field Imaging of Plasmonic Topological Nanochains
Qiuchen Yan (*Peking University*); *Boheng Zhao* (*Tsinghua University*); *Xiaoyong Hu* (*Peking University*); *Qihuang Gong* (*Peking University*);

9:45 Kirigami-based Chiral Metasurface for Enantiomeric Biocrystal Sensing by Controlling Terahertz Circular Dichroism
Kyungbin Cho (*Soongsil University*); *Wonwoo Lee* (*University of Minnesota*); *Hojin Lee* (*Soongsil University*);

10:00 Flexible Electromagnetic Absorption/Reflector Design with Adjustable Bandwidth
Aomei Zhang (*Nanjing University of Aeronautics and Astronautics*); *Yi Wang* (*Nanjing University of Aeronautics and Astronautics*); *Qunsheng Cao* (*Nanjing University of Aeronautics and Astronautics*);

10:30 **Coffee Break**

10:50 Mid-infrared Polariton Canalization in van der Waals Quaternary Oxides via Synthetic Transverse Optical Resonances
Yen-Ze Wu (*National Chung Hsing University*); *Chia Chien Huang* (*National Chung Hsing University*);

11:05 Broadband Generalized Kerker Effect of Macroscopic Objects
Yaqing Huang (*Zhejiang University*); *Yu Luo* (*Nanjing University of Aeronautics and Astronautics*); *Dexin Ye* (*Zhejiang University*);

11:20 Friedrich-Wintgen Bound States in the Continuum in an Aluminum Cavity-emitter System at THz Frequencies
Tenyu Aikawa (*University of Illinois Chicago*); *G. M. Rodriguez-Barrios* (*Rice University*); *Zairui Li* (*Morehouse College*); *Andrey Baydin* (*Rice University*); *Junichiro Kono* (*Rice University*); *Wesley Sims* (*Morehouse College*); *Pai-Yen Chen* (*University of Illinois at Chicago*); *Thomas Andrew Searles* (*University of Illinois Chicago*); *Zizwe Atiba Chase* (*University of Illinois Chicago*);

11:35 Design of Reflective Multi-beam Metagratings Leveraging Angle-sensitive Properties
Jiahui Ji (*Xi'an Jiaotong University*); *Cong Liu* (*Xi'an Jiaotong University*); *Shixiong Wang* (*Xi'an Jiaotong University*); *Lina Zhu* (*Xidian University*); *Zhihao Jiang* (*Southeast University*); *Jianjia Yi* (*Xi'an Jiaotong University*);

11:50 Wireless Body Sensor Networks Based on Metamaterial Textiles
Xi Tian (*Tsinghua University*);

12:05 Passive High-speed Switching Metasurfaces
Atsuko Nagata (*Nagoya Institute of Technology*); *S. Sugiura* (*The University of Tokyo*); *Hiroki Wakatsuchi* (*Nagoya Institute of Technology*);

Session 4A10
Quantum Metrology

Sunday AM, November 9, 2025

Room 10 - 202

Organized by Lijian Zhang, Liang Xu

Chaired by Lijian Zhang

8:30 Sequential Measurements Quantum Metrology
Victor Montenegro (*University of Electronic Science and Technology of China (UESTC)*);

8:45 Synthetic Off-Axis Quantum Holography with Undetected Light
S. Topfer (*Technical University of Darmstadt*); *S. Tovar-Perez* (*Technical University of Darmstadt*); *J. R. Leon Torres* (*Fraunhofer Institute for Applied Optics and Precision Engineering IOF*); *D. Derr* (*Technical University of Darmstadt*); *E. Giese* (*Technical University of Darmstadt*); *J. Fuenzalida* (*The Barcelona Institute of Science and Technology*); *Markus Grafe* (*Technical University of Darmstadt*);

9:00 Invited Krylov Shadow Tomography: Efficient Estimation of Quantum Fisher Information
Da-Jian Zhang (*Shandong University*); *D. M. Tong* (*Shandong University*);

9:20 Invited Experimental Distributed Quantum Metrology Based on Photonic Quantum Networks
Zheng-Da Li (*Shenzhen International Quantum Academy*);

9:40 Invited Research Progress in Quantum Radar and Imaging
Hai-Zhi Song (*Southwest Institute of Technical Physics & UESTC*); *Jing Qiu* (*Southwest Institute of Technical Physics*); *Si Shen* (*University of Electronic Science and Technology*); *Beitong Cheng* (*Southwest Institute of Technical Physics*); *Mochou Yang* (*Southwest Institute of Technical Physics*); *Zichang Zhang* (*Southwest Institute of Technical Physics*);

10:50 Invited Quantum Induced Coherence LiDAR
Da-Wei Wang (*Zhejiang University*);

11:10 Invited Heisenberg-scaling Quantum Metrology with Restricted Set of Controls
He Lu (*Shandong University*);

00:00 Invited Experimental Construction of All-optical Quantum Information Systems
Jietai Jing (*East China Normal University*);

00:00 Invited Geometry of Multi-parameter Quantum Sensing
Jing Yang (*Zhejiang University*);

11:30 Critical Properties of Fisher Information in Quantum Rabi Ring Model for Parameter Estimation
Fuli Li (*Xi'an Jiaotong University*);

Session 4A11
Superconducting Quantum Circuits

Sunday AM, November 9, 2025

Room 11 - 203

Organized by Hirotaka Terai, Yutaka Tabuchi

Chaired by Hirotaka Terai

8:30 Invited Toward Integration of Superconducting Qubits
Tsuyoshi Yamamoto (*NEC*);

8:50 Classical-quantum Hybrid-modeling and Heterogeneous Simulations of Circuit QED Systems
Qiang Chen (*Zhengzhou University*); *Xu Tao* (*Zhengzhou University*); *Zeze Ning* (*Zhengzhou University*); *Bolin Zhang* (*Zhengzhou University*);

9:05 Invited Novel Josephson Junction Techniques for Scalable Superconducting Quantum Circuits
Taro Yamashita (*Tohoku University*);

9:25 Invited Introduction to the Superconducting IQM Star Quantum Processing Unit
Jeroen Verjauw (*IQM Quantum Computers*);

9:45 Open-source Highly-parallel Simulation Workflow for Superconducting Circuits
David Sommers (*The University of Queensland*); *Prasanna Pakkiam* (*The University of Queensland*); *Zachary Degnan* (*The University of Queensland*); *Divita Gautam* (*The University of Queensland*); *Chun-Ching Chiu* (*The University of Queensland*); *Yi-Hsun Chen* (*The University of Queensland*); *Arkady Fedorov* (*The University of Queensland*);

10:30 **Coffee Break**

10:50 Invited Measurement Induced State Transitions in Inductively Shunted Transmon Qubits
Nicholas Zobrist (*Google Quantum AI*); *Agustin Di Paolo* (*Google Quantum AI*); *John Mark Kreikebaum* (*Google Quantum AI*); *Mostafa Khezri* (*Google Quantum AI*); *Sergei Isakov* (*Google Quantum AI*); *Yaxing Zhang* (*Google Quantum AI*); *Daniel Sank* (*Google Quantum AI*); *Clarke Smith* (*Google Quantum AI*);

11:10 Invited A Near-quantum-limited Maser Amplifier Operating at Millikelvin Temperatures
Morihiro Ohta (*Okinawa Institute of Science and Technology Graduate University*); *Ching-Ping Lee* (*Okinawa Institute of Science and Technology Graduate University*); *I. Kostylev* (*Okinawa Institute of Science and Technology Graduate University*); *Hiroki Takahashi* (*Okinawa Institute of Science and Technology Graduate University*); *Yuimaru Kubo* (*Okinawa Institute of Science and Technology Graduate University*);

11:30 Traveling Wave Parametric Amplifiers on $SrTiO_3$
Connor Denney (*Colorado School of Mines*); *Chandler Wilburn* (*Colorado School of Mines*); *Gabriel Santamaria Botello* (*Colorado School of Mines*);

11:45 Invited Constructing Bosonic Qubits for Superconducting Devices
Shiro Saito (*NTT, Inc.*); *Takumi Mikawa* (*NTT, Inc.*); *Kosuke Mizuno* (*National Institute of Advanced Industrial Science and Technology*); *Takaaki Takenaka* (*NTT, Inc.*);

Session 4A13a
Plasmonics & Nanophotonics

Sunday AM, November 9, 2025

Room 13 - 205

Chaired by Yuri Gorodetski

8:30 Nanoparticle-assisted Plasmonic Heating at the Tip of a Multimode Optical Fiber
Muhammad Fayyaz Kashif (*Università degli Studi di Napoli Federico II*); *Di Zheng* (*Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies*); *Linda Piscopo* (*Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies*); *Giulio Mastrototaro* (*Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies*); *Liam Collard* (*Università degli Studi di Napoli Federico II*); *Antonio Balena* (*Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies*); *Daniele Riccio* (*University of Naples "Federico II"*); *Massimo De Vittorio* (*Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia*); *Ferruccio Pisanello* (*Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia*);

8:45 Plasmonic Spatio-temporal Weak Measurement
S. Sahoo (*Ariel University*); *Andre Yaroshevsky* (*Ariel University*); *D. Cheskis* (*Ariel University*); *Yuri Gorodetski* (*Ariel University*);

9:00 Investigation of Surface Plasmon-enhanced Optical Properties of Coumarin Dye in the Vicinity of Graphene-coated Core-shell Nanomatryoshka for Photovoltaic Applications
Pratima Rajput (*JSS University, Noida*); *Alok Singh* (*JSS University, Noida*); *Richa Verma* (*Shiv Nadar University*); *Manmohan Singh Shishodia* (*Gautam Buddha University*);

9:15 Pulse Interaction with a Refractive Index Front in Periodically Modulated Silicon Waveguide
Boyi Zhang (*Hamburg University of Technology*); *Maurice Pfeiffer* (*Hamburg University of Technology*); *Mahmoud A. Gaafar* (*Hamburg University of Technology*); *He Li* (*Sun Yat-sen University*); *Xinlun Cai* (*Sun Yat-Sen University*); *Juntao Li* (*Sun Yat-Sen University*); *Manfred Eich* (*Hamburg University of Technology*); *Alexander Yu. Petrov* (*Hamburg University of Technology*);

9:30 Second-harmonic Generation in Ultrathin Crystalline Ag Nanostructures
Saad Abdullah (*The Barcelona Institute of Science and Technology*); *Philipp K. Jenke* (*University of Vienna*); *Andrew P. Weber* (*Centro de Física de Materiales CSIC/UPV-EHU — Materials Physics Center*); *"'Alvaro Rodríguez Echarri* (*ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology*); *Fadil Iyikanat* (*The Barcelona Institute of Science and Technology*); *Vahagn Mkhitaryan* (*The Barcelona Institute of Science and Technology*); *Frederik Schiller* (*Centro de Física de Materiales CSIC/UPV-EHU — Materials Physics Center*); *J. Enrique Ortega* (*Centro de Física de Materiales CSIC/UPV-EHU — Materials Physics Center*); *Philip Walther* (*University of Vienna*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Lee A. Rozema* (*University of Vienna*);

00:00 AI-driven Optimization Method Enhances LSPR Surface-core Fiber Performance by Integrating Genetic Algorithms and Neural Networks for Advanced Biosensing Applications
Lucas Emanuel Lobo Costa (*Universidade Federal de Minas Gerais*); *Pedro Moreira Beiro* (*Universidade Federal de Minas Gerais*); *Jhonattan Córdoba Ramírez* (*Universidade Federal de Minas Gerais*);

00:00 Extreme Plasmonic Nanogap Architectures: From Coherent Frequency Conversion to Nanoscopic and AI-enhanced Sensing
Wen Chen (*East China Normal University*); *Huatian Hu* (*Istituto Italiano di Tecnologia (IIT)*); *Christophe Galland* (*Ecole Polytechnique Fédérale de Lausanne (EPFL)*); *Hongxing Xu* (*Institute of Physics, Henan Academy of Sciences*);

Session 4A13b
Metasurface for Light Manipulation and Novel Optical Response

Sunday AM, November 9, 2025

Room 13 - 205

Organized by Ting Xu, Maowen Song

10:50 Twist-enabled Transmissive Metasurface with Co-polarized Geometric Phase
Jiusi Yu (*The Hong Kong University of Science and Technology (Guangzhou)*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

11:05 Tunable Quantum Light Source towards OAM-selective Emission
Yan Liu (*Agency for Science Technology and Research (A*STAR)*); *Zhaogang Dong* (*Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)*);

11:20 Modulation of Fabry-Perot Bound States in the Continuum Properties via Symmetry Breaking in Dielectric Photonic Structures
K. V. Semushev (*ITMO University*); *Zilong Zhao* (*Qingdao Innovation and Development Center of Harbin Engineering University*); *A. A. Bogdanov* (*ITMO University*); *Mikhail V. Rybin* (*ITMO University*); *Ekaterina E. Maslova* (*ITMO University*);

11:35 Tailoring Hot Carrier Sites in 2D Lattices through Polarization-responsive Metasurfaces
Artur Movsesyan (*University of Electronic Science and Technology of China*); *Alina Muravitskaya* (*University of Electronic Science and Technology of China*); *LucasV. Besteiro* (*Universidade de Vigo*); *Zhiming Wang* (*University of Electronic Science and Technology of China*);

11:50 Strong Mode Coupling and Hybridization in Bianisotropic Optical Metasurfaces
Luis Manuel Máñez-Espina (*Universitat Politècnica de València/Nanophotonics Technology Institute*); *B. Amrahi* (*Aalto University*); *Viktar S. Asadchy* (*Aalto University*); *A. Diaz-Rubio* (*Universitat Politecnica de Valencia*);

00:00 Asymmetric Emission BIC in Dielectric Heterogeneous Metasurfaces
Tung Son Ha (*Agency for Science, Technology and Research*);

Session 4A14
Optoelectronic Devices and Integration

Sunday AM, November 9, 2025

Room 14 - 301A

Chaired by Ivan G. Savenko

8:30 Synthesis of Perovskite-chalcogenide Heteronanocrystals
Invited
Lin Zhang (*North China Electric Power University*); *Hengwei Qiu* (*North China Electric Power University*);

8:50 Ultrafast Non-local Charge Dynamics in 2D Materials
Invited Probed by On-chip Terahertz Spectroscopy
Katsumasa Yoshioka (*NTT Corporation*);

9:10 A Photodiode Effect in 2D Superconductors
Invited
Anton Parafilo (*Institute for Basic Science (IBS)*); *Vadim Kovalev* (*Institute of Semiconductor Physics*); *Ivan G. Savenko* (*Guangdong Technion-Israel Institute of Technology (GTIIT)*);

9:30 Interactive Neuromorphic Devices
Invited
Qijun Sun (*Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences*);

9:50 Overcoming Illumination Instability in IGZO TFTs with a Gate-controllable Pt Schottky Capping Layer
Xiaoci Liang (*Sun Yat-Sen University*); *Yi Huang* (*Sun Yat-Sen University*); *Chuan Liu* (*Sun Yat-sen University*);

10:05 Tuning Structural and Electronic Characteristics in Al_2O_3/β-Ga_2O_3 Superlattices via Layer Period Modulation
Jiahe Cao (*Hong Kong University of Science and Technology (Guangzhou)*); *Chee-Keong Tan* (*Hong Kong University of Science and Technology (Guangzhou)*);

10:30 **Coffee Break**

10:50 Resistive Switching in Selenium-implanted Ga_2O_3 via Oxygen Vacancy Engineering
Yimin Liao (*Hong Kong University of Science and Technology (Guangzhou)*); *Chee-Keong Tan* (*Hong Kong University of Science and Technology (Guangzhou)*);

11:05 High-field Electron Transport Properties of β-Ga_2O_3: An integrated Monte Carlo and First-principles Approach
Zhigao Xie (*The Hong Kong University of Science and Technology (Guangzhou)*); *Chee-Keong Tan* (*Hong Kong University of Science and Technology (Guangzhou)*); *Ming-Cheng Cheng* (*Clarkson University*);

11:20 Bifunctional Quantum-dot diodes for Light-emitting and Photodetection
Yunfei Ren (*Sun Yat-sen University*); *Baiquan Liu* (*Sun Yat-sen University*); *Chuan Liu* (*Sun Yat-sen University*);

11:35 Enhancements in Thermal Stability of 1.3 µm InAs/GaAs Quantum Dot Lasers
Huiwen Deng (*University College London*); *Jaesong Park* (*University College London*); *Hexing Wang* (*University College London*); *Yangqian Wang* (*University College London*); *Jiajing Yuan* (*University College London*); *Hui Jia* (*University College London*); *Haotian Zeng* (*University College London*); *Pawan Mishra* (*Cardiff University*); *George Jandu* (*Cardiff University*); *Peter M. Smowton* (*Cardiff University*); *Mingchu Tang* (*University College London*); *Alwyn J. Seeds* (*University College London*); *Huiyun Liu* (*University College London*);

11:50 Temperature-induced Optical Degradation in RGB Primary Color Lasers and LEDs
Yu He (*Tongji University*); *Junshu Han* (*Tongji University*); *Jiahao Dong* (*Tongji University*); *Minghang Liang* (*Tongji University*); *Pengyan Wen* (*Tongji University*);

Session 4A15a
Next-Generation Perovskite-based Photovoltaics: Emerging Materials and Sustainable Innovations

Sunday AM, November 9, 2025

Room 15 - 301B

Organized by Sara Pescetelli, Antonio Agresti

Chaired by Sara Pescetelli, Antonio Agresti

8:30 Bismuth-based Semiconductors for Sustainable Light-energy Conversion
Teresa Gatti (*Politecnico di Torino*);

00:00 Low-frequency Vibrational Modes and Thermal Transport in Cesium Halide Perovskites: Effects of Structural Dimensionality on Lattice Dynamics and Stability
Giovanna D'Angelo (*University of Messina*); *Mariangela Ruggeri* (*University of Messina*); *Rosaria Verduci* (*University of Messina*); *Teresa Gatti* (*Politecnico di Torino*); *Antonio Agresti* (*University of Rome Tor Vergata*); *Sara Pescetelli* (*University of Rome Tor Vergata*); *Aurora Rizzo* (*CNR NANOTEC — Istituto di Nanotecnologia*); *Rosanna Mastria* (*CNR Istituto Nanoscienze*); *Daria Szewczyk* (*Polish Academy of Sciences*);

9:00 Four Birds with One Stone: Textured Interfaces as Holistic Strategy Enhancing Device Performance of Flexible Perovskite Solar Cells
G. Martinez-Denegri (*Helmholtz-Zentrum Berlin für Materialien und Energie GmbH*); *Klaus Jäger* (*Helmholtz-Zentrum Berlin für Materialien und Energie GmbH*); *Christiane Becker* (*Helmholtz Zentrum Berlin Mat & Energie, Inst Silizium Photovolta*);

9:15 Polaritons without Excitons: The Mechanism of Lasing in Lead Halide Perovskites
Michele Saba (*Università di Cagliari*); *Angelica Simbula* (*Università di Cagliari*); *Nicola Sestu* (*Università di Cagliari*); *Francesco Mattana* (*Università di Cagliari*); *Nan Zhao* (*Università di Cagliari*); *Elisa Pili* (*Università di Cagliari*); *Aditya Bhardwaj* (*Università di Cagliari*); *Silvia Liscia* (*Università di Cagliari*); *Selene Matta* (*Università di Cagliari*); *Valeria Demontis* (*Università di Cagliari*); *Daniela Marongiu* (*Università di Cagliari*); *Francesco Quochi* (*Università di Cagliari*); *Andrea Mura* (*Università di Cagliari*); *Giovanni Bongiovanni* (*Università di Cagliari*);

00:00 Unveiling the Intricacies of Charge Transfer Across the BiOI/ZnO Interface
Ribhu Bhatia (*Universita di Ferrara*); *Simone Meloni* (*Universita di Ferrara*);

00:00 Entropy-engineered Perovskite Oxides: Low-energy Vibrational Dynamics and Thermal Transport in HEPOs Based on $BaCeO_3$
Rosaria Verduci (*University of Messina*); *Luca Spiridigliozzi* (*University of Cassino and Southern Lazio*); *Raffaele Cioffi* (*Parthenope University of Naples*); *Gianfranco Dell'Agli* (*University of Cassino and Southern Lazio*); *Claudio Ferone* (*Parthenope University of Naples*); *Daria Szewczyk* (*Polish Academy of Sciences*); *Mariangela Ruggeri* (*University of Messina*); *Giovanna D'Angelo* (*University of Messina*);

Session 4A15b
Organic and Hybrid Chiral Optoelectronics

Sunday AM, November 9, 2025

Room 15 - 301B

Organized by Shaocong Hou

Chaired by Shaocong Hou

10:50 Invited Ultrafast Charge Carrier and Spin Dynamics in Novel Chiral Metal-halide Perovskites
Julia Anthea Gessner (*Heidelberg University*); *Felix Deschler* (*Physikalisch-Chemisches Institut*);

11:10 Invited Chiral Optoelectronic Devices Enable Information Interaction
Taotao Zhuang (*University of Science and Technology of China*);

11:30 Optical Spin Hall Effect Driven by Hybrid Spin-orbit Coupling in Organic Microcavities
Zheng Sun (*East China Normal University*);

00:00 Invited Metasurface-based Chiral Light Sources
Yang Chen (*University of Science and Technology of China*);

00:00 Scalable Fabrication of Perovskite Solar Cells via Magnetron Sputtering
Jing Hu (*Wuhan University*); *Bo Gao* (*Peking University*); *Dechun Zou* (*Peking University*); *Shaocong Hou* (*Wuhan University*);

Session 4A16a
Photonic Quantum Circuits for Quantum Info-communication

Sunday AM, November 9, 2025

Room 16 - 302

Organized by Shigeki Takeuchi, Ryo Okamoto

Chaired by Ryo Okamoto

8:30 Invited Quantum State Generation and Control in Silicon Photonic Integrated Circuits via Nonlinear Optical Effects for Quantum Information Processing
Takafumi Ono (*Kagawa University*);

8:50 Invited Entanglement Generation and Measurement Using Discrete Fourier Transform Circuits
Ryo Okamoto (*Kyoto University*); *T. Kiyohara* (*Kyoto University*); *G. Park* (*Kyoto University*); *Holger F. Hofmann* (*Hiroshima University*); *Shigeki Takeuchi* (*Kyoto University*);

9:10 Invited Characteristic Photon Number Statistics of Entangled Multi-mode Systems
Holger F. Hofmann (*Hiroshima University*);

9:30 Invited All-optical Storage and Routing toward High-efficiency Generation of Entangled Photons
Fumihiro Kaneda (*Tohoku University*);

9:50 Invited Progress on Deterministic Quantum Dot Photon Sources for Telecom Quantum Photonic Applications
Andreas Theo Pfenning (*University of Würzburg*); *T. Huber-Loyola* (*Universität Würzburg*); *Sven Höfling* (*Universität Würzburg*);

10:10 Efficient Entanglement Evaluation of Multi-frequency-mode Entangled Photon Pairs Generated from an On-chip Ring Resonator
Hirofumi Gotoh (*Kyoto University*); *Ryo Okamoto* (*Kyoto University*); *Brent E. Little* (*QXP Technology*); *Sai Tak Chu* (*City University of Hong Kong*); *Shigeki Takeuchi* (*Kyoto University*);

10:30 **Coffee Break**

Session 4A16b
The Classical and Quantum Theory of Electromagnetic Fields

Sunday AM, November 9, 2025

Room 16 - 302

Organized by Mohammad Sajjad Mirmoosa

10:50 On Feynman Diagrams and Causal Models
Christopher Gregory Weaver (*University of Illinois at Urbana-Champaign*);

11:05 Wave-mixing Frequency Generation with Electron Beams
Leila Rocio Prelat (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Eduardo J. C. Dias* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

11:20 A Significant Aspect of Displacement Current Density That Have Been Overlooked
Toshio Hyodo (*Institute of Materials Structure Science*);

11:35 Preparation and Performance of Green Electromagnetic Shielding Materials
Siyu Fang (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*); *Yudong Shang* (*Xi'an Polytechnic University*);

11:50 Enhancing Electromagnetic Performance of Garment Fabrics with Carbon Nanotubes
Zhe Liu (*Xi'an Polytechnic University*); *Siyu Fang* (*Xi'an Polytechnic University*); *Pengcheng Liu* (*Yulin Yirenmei Clothing Co., Ltd.*);

12:05 Research on Shielding Effectiveness of Same-type Multilayer Electromagnetic Shielding Fabric
Xiuchen Wang (*Xi'an Polytechnic University*); *Ying Li* (*Xi'an Polytechnic University*); *Junchang Zuo* (*Xianyang Textile Group Co., Ltd.*); *Zhe Liu* (*Xi'an Polytechnic University*); *Xing Rong* (*Xi'an Polytechnic University*);

Session 4A17a
Diffraction and Radiation Characteristics of Electromagnetic Wave: Applications and Fundamental Theories

Sunday AM, November 9, 2025

Room 17 - 303

Organized by Keisuke Fujita, Takashi Nagasaka

Chaired by Keisuke Fujita, Takashi Nagasaka

8:30 The Symmetry Method Applied to Electromagnetic Diffraction in Isotropic and Gyroelectric Plasma Media
Kirill Klionovski (*Indian Institute of Technology Delhi*); *Sergey E. Bankov* (*Kotelnikov Institute of Radio Engineering and Electronics of Russian Academy of Science*);

8:45 Design of a Low-cost Leakage Cable in the UHF Band
Chi-Fang Huang (*Tatung University*); *Hao-Wen Pai* (*Tatung University*);

9:00 Active Control of Smith-Purcell Radiation
Eduardo J. C. Dias (*University of Southern Denmark*); *Theis P. Rasmussen* (*University of Southern Denmark*); *Alvaro Rodriguez Echarri* (*ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Joel D. Cox* (*University of Southern Denmark*);

9:15 Excitation and Control of Polaritons Using Period Arrays
Leila Rocio Prelat (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Eduardo J. C. Dias* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

9:30 Plane Wave Diffraction by a Slit in a Plate with Fractional Boundary Conditions: A Comparison with the Strip Analysis
Takashi Nagasaka (*Ashikaga University*); *Kazuya Kobayashi* (*Chuo University*);

9:45 Solution of Boundary Value Problem for Spherical Helix Type Antennas
Keisuke Fujita (*Maebashi Institute of Technology*);

00:00 Light Scattering by Ice Crystal Particles of Cirrus Clouds for Laser Beam Propagation Modeling of a Precision Rangefinder
Natalia V. Kustova (*Institute of Atmospheric Optics, Russian Academy of Sciences*); *Alexander V. Konoshonkin* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Victor A. Shishko* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Dmitry N. Timofeev* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Ilia V. Tkachev* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Kirill S. Salnikov* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Nadezhda V. Kan* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*); *Anastasia E. Babinovich* (*V.E. Zuev Institute of Atmospheric Optics SB RAS*);

Session 4A17b
Advances in Electromagnetic Wave Propagation and Scattering: Novel Techniques, Models, and Emerging Applications

Sunday AM, November 9, 2025

Room 17 - 303

Organized by Hao Qin, Xingqi Zhang

Chaired by Hao Qin, Xinyue Zhang

10:50 Physics-informed Deep Reinforcement Learning for Optimal Wireless Access Point Deployment in Railway Environments
Hao Qin (*University College Dublin*); *Yunxi Mu* (*Peking University*); *Xinyue Zhang* (*University College Dublin*); *Xingqi Zhang* (*University of Alberta*);

11:05 Transport, Diffusion, and Localization of Electromagnetic Radiation in Open Non-Hermitian Disordered Media
Valentin D. Freilikher (*Bar-Ilan University*);

11:20 Efficient Millimeter-wave Propagation Achieved by Tape-based Metasurfaces
Phuc-Toan Dang (*Nagoya Institute of Technology*); *Y. Ashikaga* (*Teraoka Seisakusyo Co., Ltd.*); *Y. Tsuchiya* (*Teraoka Seisakusyo Co., Ltd.*); *K. Suzuki* (*Nagoya Institute of Technology*); *Sendy Phang* (*University of Nottingham*); *Hiroki Wakatsuchi* (*Nagoya Institute of Technology*);

11:35 Bistatic Radar Cross Section-based Evaluation of Simplified Car Models for Integrated Sensing and Communication Systems
Subhash Jayasree Karthik (*Institute of Science Tokyo*); *Nopphon Keerativoranan* (*Tokyo Institute of Technology*); *A. Ziganshin* (*Technische Universitat Ilmenau*); *Christian Schneider* (*Technische Universitat Ilmenau*); *J. Takada* (*Institute of Science Tokyo*);

11:50 An Infinite Wave Propagation Speed and Magnetic Sources Leading to a Negative Self-inductance for a Conducting Loop: Part (II)
Namik Yener (*Dumlupinar Mahallesi, Ataturk Cad., Gozde Park Evleri No. 30B-10, Pendik*);

12:05 Voltage-controlled Shunt Active Power Filter for Harmonic Damping in Power Distribution Systems: Strategy and Optimal Site Selection
Uzair Shakir (*Southeast University*); *Muhammad Akhtar Nawaz* (*Southeast University*);

00:00 Nanoroughness Induced Anti-reflection and Haze in Opaque Systems
V. Gareyan (*Alikhanyan National Laboratory*); *N. Margaryan* (*Alikhanyan National Laboratory*); *Zh. S. Gevorkian* (*Alikhanyan National Laboratory*);

Session 4A18
Photonic Topological Meta-materials and Meta-crystals 2

Sunday AM, November 9, 2025

Room 18 - 304

Organized by Shaojie Ma, Hongwei Jia

Chaired by Shaojie Ma, Hongwei Jia

8:30 Keynote Interference and Switching of Topological Photonic Modes
Xiao Hu (*Shanghai University*);

9:00 Invited Magnetic Topological Photonic Crystals
Yihao Yang (*Zhejiang University*);

9:20 Invited Topological Devices Based on Artificial Gauge Fields
Cuicui Lu (*Beijing Institute of Technology*);

9:40 Realization of a Chiral Topological Whispering-gallery-mode Cavity in Gyromagnetic Photonic Crystals
Zhen Gao (*Southern University of Science and Technology*); *Zhengting Wu* (*Southern University of Science and Technology*);

9:55 Topological Exciton-polaritons with Negative Coupling
Zixuan Yu (*Nanyang Technological University*); *Feng Jin* (*Nanyang Technological University*); *Jiahao Ren* (*Nanyang Technological University*); *Subhaskar Mandal* (*Indian Institute of Technology Bombay*); *Baile Zhang* (*Nanyang Technological University*); *Rui Su* (*Nanyang Technological University*);

10:10 Real-space Topology Determines Quasistatic Photonic Bands
Qinghui Yan (*Technion — Israel Institute of Technology*); *Ming-Li Chang* (*The Hong Kong University of Science and Technology*);

10:30 **Coffee Break**

10:50 Resonant Phenomena in GaP Nanowires
Alexey Kuznetsov (*Moscow Institute of Physics and Technology*); *Aleksandra A. Kutuzova* (*ITMO University*); *Valerii M. Kondratev* (*Alferov University*); *Vladimir V. Fedorov* (*Saint Petersburg Academic University*); *Mikhail V. Rybin* (*ITMO University*); *Alexey D. Bolshakov* (*Moscow Institute of Physics and Technology*);

11:05 Magnetically Induced Topological Evolutions of Degeneracies in Photonic Bands
Xingqi Zhao (*Fudan University*); *Jiajun Wang* (*Fudan University*); *Wenzhe Liu* (*Fudan University*); *Lei Shi* (*Fudan University*); *Jian Zi* (*Fudan University*);

11:20 Probing Non-Hermitian Band Structures via Supercells
Jing Lin (*Fudan University*); *Jia-Xin Zhong* (*The Pennsylvania State University*); *Yun Jing* (*The Pennsylvania State University*); *Kun Ding* (*Fudan University*);

11:35 Realization of a Photonic Higher-order Double-Weyl Semimetal
Yingfeng Qi (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

11:50 Tunable Non-Hermitian System by Light Matter Interaction
Xiaoyuan Jiao (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

Session 4A19
Poster Session 5

Sunday AM, November 9, 2025

9:00 AM - 12:00 AM

Poster Area

1 A Magnetic Posture Sensing Method for Catheters
Shiyu Wang (*Zhejiang University Shaoxing Institute & Zhejiang University*); *Xiangquan Xiang* (*Zhejiang University*); *Xuesong Guo* (*Zhejiang University*); *Sijie Chen* (*Zhejiang University*); *Yaqing Huang* (*Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*);

2 Application of Multi-channel Vector OAM Based on Spin-decoupled Metasurfaces for Encrypted Information Transmission
Zhao Xu (*Xiamen university*);

3 Electron in the Vacuum of the Quantized Electromagnetic Field Using the Spherical Coordinates in Momentum Space
Imants Bersons (*University of Latvia*); *Rita Veilande* (*University of Latvia*);

4 Transmission Characteristics of High-speed Train Window Glass in the 2–20 GHz Frequency Band
Yudan Lu (*Shanghai University*); *Yong Luo* (*Shanghai University*);

5 A Wideband, Wide-beam Dual Circularly Polarized Microstrip Antenna Element for X-band Applications
Ze-Shuai Miao (*School of Electronic Engineering, Xidian University*);

6 Multi-dimensionally Multiplexed Holograms Based on Cascaded Bi-layer Metasurfaces
Joonkyo Jung (*KAIST*); *Jonghwa Shin* (*Korea Advanced Institute of Science and Technology (KAIST)*);

7 Performance Evaluation on Chipless RFID Tags Based on Reflective LTC Polarization Converter
Dwi Andi Nurmantris (*Telkom University*); *Radial Anwar* (*Telkom University*); *Nana Sutisna* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

8 Experimental Observation of Gapless and Gapped Nodal Rings in Two-dimensional Photonic Crystals
Wanting Wu (*China University of Mining and Technology*); *Yuting Yang* (*China University of Mining and Technology*); *Liwei Shi* (*China University of Mining and Technology*); *Enyuan Wang* (*China University of Mining and Technology*); *Zhi Hong Hang* (*Soochow University*);

9 A Glide-symmetry Method to Generate Spatiotemporal Optical Vortex
Ken Qin (*The Hong Kong University of Science and Technology (Guangzhou)*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

10 Fast Transitory Magnetic Fields Generation and Monitoring toward Laser Particle Acceleration Processes
Aurelian Marcu (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Valentin Ionita* (*National University for Science and Technology Politehnica Bucharest*); *Bogdan Butoi* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Paul Dinca* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Cornel Staicu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Mihai Serbanescu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Razvan Ungureanu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Gabriel Cojocaru* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Constantin Diplasu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Georgiana Giubega* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Cecilia Oanca* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Ana Tiuleanu* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Mihai Stafe* (*National University for Science and Technology Politehnica Bucharest*); *Maria Balan* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*); *Sandel Simion* (*National Institute for Laser, Plasma and Radiation Physics (NILPRP)*);

11 High Damage Threshold Plasmonic Nanocavity Realized by Single Semiconductor Nanowires for Strong Coupling
Xiaohong Li (*Wuhan Institute of Technology*); *Xiaobo Han* (*Wuhan Institute of Technology*); *Huatian Hu* (*Wuhan Institute of Technology*);

12 Soliton Phase Transition in a Fiber Laser with Saturable Absorber
Hsuan-Sen Wang (*National Sun Yat-Sen University*); *Chao-Kuei Lee* (*National Sun-Yat-Sen University*); *Kuei-Huei Lin* (*University of Taipei*); *Wen-Hsuan Kuan* (*University of Taipei*);

13 Efficient Raman Conversion to the First Stokes of Tens of Nanoseconds Long Pulses in Methane-filled Antiresonant Fibers
Roy Avrahamy (*Ben-Gurion University of the Negev*); *Daniel Belker* (*Ben-Gurion University of the Negev*); *Michael H. Frosz* (*Max Planck Institute for the Science of Light*); *Amiel Avraham Ishaaya* (*Ben-Gurion University of the Negev*);

14 Hybrid Convolutional and Recurrent Neural Networks for Nonlinear Distortion Compensation in Fiber-optic Communication Lines
Igors Lipļanskis (*Riga Technical University*); *Nataļja Muračova* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Lilita Gegere* (*Riga Technical University*); *Elans Grabs* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

15 Strong Coupling between Magnon Mode and an Anderson-localized Photonic Mode in a Disordered Microwave Resonator Array
Peicheng Sun (*Zhejiang University*); *Qi Hong* (*Zhejiang University*); *Yi-Pu Wang* (*Zhejiang University*);

16 Compact Diplexer Using a Wideband BPF with Tap-coupled and Quasi-LC Parallel Resonators
Kaito Uchida (*National Institute of Technology, Kisarazu College*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Koji Wada* (*The University of Electro-Communications*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*);

17 A Microstrip Tri-band Bandpass Filter Based on Cross Resonators and Pseudo-interdigital Structure Resonators
Zhanpeng Lin (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Ji Li* (*Southwest University of Science and Technology*); *Xiang Wang* (*Southwest University of Science and Technology*); *Mingjie Liu* (*Southwest University of Science and Technology*);

18 A Novel Wearable Antenna Based on EPDM Substrate for Health Monitoring Systems
Jehangir Khan (*Tongji University*); *Yi Bin Wang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

19 A Filtering Balun Based on SISL and Microstrip-slotline Structure
Xiang Wang (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Hangjiang Xiao* (*Southwest University of Science and Technology*); *Jie Zheng* (*Southwest University of Science and Technology*);

20 A Compact Dual-band Rectifier Using Novel Impedance Compression Technology for Wireless Power Transfer
Zijian Cao (*Anhui University*); *Guyu Han* (*Anhui University*); *ZiJun Wang* (*Anhui University*); *Ruoxi Qian* (*Anhui University*); *Qinghua Wang* (*Anhui University*); *Yingsong Li* (*Anhui University*);

21 Electro-thermal-stress Multiphysical Field Coupling Optimization Design for Through Silicon via Array Based on Reinforcement Learning
Chunlin Zheng (*Shanghai Jiao Tong University*); *Qingtao Sun* (*Eastern Institute of Technology*); *Qing Huo Liu* (*Eastern Institute of Technology*);

22 Observation of DC Electric Field at Sporadic E Layer by S-310-46 Sounding Rocket
Miyuki Matsuyama (*Toyama Prefectural University*); *Hotsuma Sakano* (*Toyama Prefectural University*); *Keigo Ishisaka* (*Toyama Prefectural University*); *Akinori Saito* (*Kyoto University*); *Takumi Abe* (*JAXA/ISAS*);

23 A Differential-sensing Nonplanar Microwave Device for Liquid Identification
Chen-Pu Chang (*National Taiwan University*); *Chien-Hao Liu* (*National Taiwan University*);

24 A Study on a Compact Quadplexer Using BPFs Embedded within the Line Width of a 50-Ohm Transmission Line
Kosei Tanii (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*);

25 A Novel Gain-enhanced Miniaturized UWB Vivaldi Nonuniform Slot Antenna
Quancheng Yu (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Jiayuan Hu* (*Southwest University of Science and Technology*); *Haowen Zheng* (*Southwest University of Science and Technology*); *Xiang Wang* (*Southwest University of Science and Technology*);

26 Shorting Pin-based Isolation Improvement in a Modified Dual-port MIMO Antenna for WLAN and 5G Applications
Shakeel Ahmad (*Tongji University*); *Akhtar Khan* (*Tongji University*); *Sohail Khan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

27 Out-of-phase Compact Filtering Power Based on Shielded Quarter-mode Circular SIW Resonator Cavity
Mingjie Liu (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Zhanpeng Lin* (*Southwest University of Science and Technology*); *Quancheng Yu* (*Southwest University of Science and Technology*); *Haowen Zheng* (*Southwest University of Science and Technology*);

28 Impact of YIG Configuration on Radiation Performances of Square-shaped Magneto-dielectric Microstrip Antenna
Rheyuniarto Sahlendar Asthan (*Institut Teknologi Sumatera*); *Agus Dwi Prasetyo* (*Institut Teknologi Bandung*); *Junas Haidi* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

29 A Dual-band Dual-polarized High-gain Antenna for Simultaneous Wireless Information and Power Transfer (SWIPT)
Qifeng Huang (*Anhui University*); *Chaoran Huang* (*Anhui University*); *Junjie Wang* (*Anhui University*); *Qinghua Wang* (*Anhui University*); *Taotao Xu* (*Anhui University*); *Yingsong Li* (*Anhui University*);

30 Analysis of Downlink and Uplink Data Rates in 5G Frequency Bands
Guntis Ancans (*Riga Technical University*); *Arnis Ancans* (*Riga Technical University*); *Elmars Lipenbergs* (*Riga Technical University*); *Inga Vagale* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

31 A Novel Attention-enhanced Spectrum Sensing Method for Cognitive Radio Systems
Jia Le Ding (*Tongji University*); *Zhi Chong Wan* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

32 Sensitivity-enhanced Dual-axis Zero-field Atomic Magnetometer Based on Pulsed Magnetic Field Modulation
Shushan Gao (*Beihang University*); *Xiaoyu Li* (*Beihang University*); *Zhongyu Wang* (*Beihang University*); *Jianwei Sheng* (*Beihang University*); *Jixi Lu* (*Beihang University*);

33 The Concept for Evaluation of Mobile Internet QoS by Means of Big Data Analysis
Inga Vagale (*Riga Technical University*); *Elmars Lipenbergs* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Edgars Kazoks* (*Riga Technical University*); *Guntis Ancans* (*Riga Technical University*);

34 Conceptual Design of Central Region of PSC250 Superconducting Synchrocyclotron
Jingxia Gong (*Institute of Plasma Physics, Chinese Academy of Sciences*); *K. Z. Ding* (*Institute of Plasma Physics, Chinese Academy of Sciences*); *Y. H. Chen* (*Institute of Plasma Physics, Chinese Academy of Sciences*); *F. Jiang* (*Institute of Plasma Physics, Chinese Academy of Sciences*); *S. S. Du* (*Institute of Plasma Physics, Chinese Academy of Sciences*); *S. W. Xu* (*Hefei CAS Ion Medical and Technical Devices Co., Ltd.*); *J. Zhou* (*Hefei CAS Ion Medical and Technical Devices Co., Ltd.*);

35 Two-level Physics-constrained Deep Image Prior Network Enabled Two-dimensional Electromagnetic Modeling
Min Jiang (*Shanghai Jiao Tong University*); *Qingtao Sun* (*Eastern Institute of Technology*); *Xiaochun Li* (*Shanghai Jiao Tong University*); *Qing Huo Liu* (*Eastern Institute of Technology*);

36 Design of Imitation Nuclear Signal Acquisition System Based on Qt and FPGA
Haowen Zheng (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Quancheng Yu* (*Southwest University of Science and Technology*); *Mingjie Liu* (*Southwest University of Science and Technology*);

37 A DOA Estimation Algorithm for RIS Phase Mismatch
Canping Yu (*Anhui University*); *Yingsong Li* (*Anhui University*); *Liping Li* (*Anhui University*);

38 Wavelength-tunable Er^{3+}-doped ZBLAN Fiber Laser Operating around 2.8 µm
Song Huang (*Hefei University of Technology*); *Jiayi Liu* (*Hefei University of Technology*); *Yong Zhou* (*Hefei University of Technology*); *Xiaohui Ma* (*Hefei University of Technology*); *Wentan Fang* (*Hefei University of Technology*); *Xiaolin Chen* (*Hefei University of Technology*); *Weiqing Gao* (*Hefei University of Technology*);

39 Quantum Dots PbSnS/SnO_2 Heterostructure Light-activated Gas Sensor
Chiu-Hsien Wu (*National Chung Hsing University*); *Yu-Wen Yeh* (*National Chung Hsing University*); *Utkarsh Kumar* (*National Chung Hsing University*); *Zu-Yin Deng* (*National Chung Hsing University*);

40 Enhanced Vertical Light Emission from Monolithic InSe Cavities Structured by Focused Ion Beam Patterning
Sang Hyeon Mo (*Korea Advanced Institute of Science and Technology (KAIST)*); *Byung Su Kim* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Raqibul Hossen* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Baul Kim* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Jaewon Kim* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Andreas Theo Pfenning* (*University of Würzburg*); *Sven Höfling* (*Universität Würzburg*); *Yong-Hoon Cho* (*Korea Advanced Institute of Science and Technology (KAIST)*);

41 A UV-reflective Organic-inorganic Tandem Structure for Efficient and Durable Daytime Radiative Cooling in Harsh Climates
Meng Li (*The Hong Kong University of Science and Technology*); *Chongjia Lin* (*The Hong Kong University of Science and Technology*); *Keqiao Li* (*The Hongkong University of Science and Technology*); *Wei Ma* (*The Hong Kong University of Science and Technology*); *Benjamin Dopphoopha* (*The Hong Kong University of Science and Technology*); *Yang Li* (*Zhejiang University*); *Baoling Huang* (*The Hongkong University of Science and Technology*);

42 Invisible Connections: Enhancing Homelessness Support through Technological Advances Amidst Pandemic Constraints — A Design and Statistical Study
Eddy Semayobe (*University of Hertfordshire*); *Azunka N. Ukala* (*University of Hertfordshire*); *Martin A. Thomas* (*University of Hertfordshire, College Lane*); *Eugene A. Ogbodo* (*University of Hertfordshire*);

43 Sequential Waveguide-microstrip Junction in Transmission Lines
Natalia Alexandrovna Shcheglova (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Y. N. Pavlov* (*National Research University "Moscow Power Engineering Institute"*); *E. P. Aleynikova* (*National Research University "Moscow Power Engineering Institute"*); *M. G. Ivanov* (*National Research University "Moscow Power Engineering Institute"*);

44 Frequency Selective Structure for X-band Application
A. A. Politiko (*National Research University "Moscow Power Engineering Institute"*); *V. A. Dyakonov* (*JSC "Kompozit"*); *V. S. Anshin* (*JSC "Kompozit"*); *I. A. Gromov* (*National Research University "Moscow Power Engineering Institute"*); *D. A. Evseev* (*JSC "Military Industrial Complex "NPO Mashinostroenia"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *K. S. Kharlamp'ev* (*National Research University "Moscow Power Engineering Institute"*);

45 Connecting Microstrip Lines Using the Fuzz Button
Natalia Alexandrovna Shcheglova (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *D. A. Perov* (*JSC Concern VKO "Almaz-Antey"*);

00:00 Topological Corner States and Topological Transport in Subwavelength Metasurface Systems
Shuxia Wang (*Chongqing University*); *Minhang Ling* (*Chongqing University*);

00:00 Spiral Scanning of a Charged Particle Beam by Using Single Cavity
Mikayel Ivanyan (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Bagrat Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Vanik Kakoyan* (*A. Alikhanian National Scientific Laboratory (Yerevan Physics Institute)*); *Amur Margaryan* (*A. Alikhanian National Scientific Laboratory (Yerevan Physics Institute)*);

00:00 Ultra-broadband Acoustic Metaliner for Fan Noise Reduction
Chen Shao (*Tongji University*); *Yong Li* (*Tongji University*);

00:00 Nonextensivity and Quantum Recoil Effects on the Ion-acoustic Surface Waves in a Semi-bounded Plasma
Myoung-Jae Lee (*Hanyang University*); *Young-Dae Jung* (*Hanyang University*);

00:00 Design of a Broadband Mixer Used in the Terahertz Communication System
Jin Meng (*National Space Science Center, Chinese Academy of Sciences*); *De Hai Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

00:00 Chemical Sensing in Perovskite-functionalized Hollow-core Anti-resonant Fibers
Han Wang (*Wuhan University of Technology*); *Wenjing Gao* (*Wuhan University of Technology*); *Yu Zheng* (*Wuhan University of Technology*); *Ruochen Yin* (*Wuhan University of Technology*); *Haihu Yu* (*Wuhan University of Technology*); *Xin Jiang* (*Shanghai Institute of Optics and Fine Mechanics and Hangzhou Institute of Optics and Fine Mechanics*);

00:00 Highly Sensitive Detection of 2,4,6-Trinitrotoluene (TNT) Vapors Using Single Crystalline $LiNbO_3$ Film-based Surface Acoustic Wave Sensors
Chuan Xu (*Soochow University*); *Haibo Chen* (*Tongji University*); *Yunjing Zhang* (*Soochow University*); *Lingfeng Li* (*Soochow University*); *Peng Li* (*Soochow University*); *Xingli He* (*Soochow University*);

00:00 A Compact Tri-band MIMO Substrate Integrated Waveguide Fed Shared Dielectric Resonator Antenna for Sub 6 GHz 5G Applications
Abinash Gaya (*Universiti Teknologi Malaysia*); *Mohd Haizal Jamaluddin* (*Universiti Teknologi Malaysia*); *Irene Kong Cheh Lin* (*Southern University College*);

00:00 Amplitude-only Measurement Method of Complex Transmission Matrix for Multi-beam Pattern Testing of Phased Array Antennas
Huaqiang Gao (*Xi'an Jiaotong University*); *Mengting Li* (*Aalborg University*); *Xiaoming Chen* (*Xi'an Jiaotong University*);

00:00 Innovative Machine Learning-driven Duplexing Patch Antenna System for Optimised Energy Harvesting and Seamless Communication in the Era of Smart Cities
Azunka N. Ukala (*University of Hertfordshire*); *Eugene A. Ogbodo* (*University of Hertfordshire*); *Martin A. Thomas* (*University of Hertfordshire, College Lane*); *Adrian Okonkwo* (*Nile University of Nigeria*);

00:00 Ionospheric Phase Screen Reconstruction Using GMRT and IRI-constrained Gradient Inversion
Bhuvnesh Brawar (*Indian Institute of Technology Indore*); *Abhirup Datta* (*Indian Institute of Technology Indore*);

00:00 High-dimensional Orbital Angular Momentum Multiplexed Quantum Memory in Cold Atoms
Chengyuan Wang (*Xi'an Jiaotong University*); *Xin Yang* (*Xi'an Jiaotong University*); *Jinwen Wang* (*Xi'an Jiaotong University*); *Hong Gao* (*Xi'an Jiaotong University*); *Yun Chen* (*Huzhou University*);

00:00 A SiC Superjunction UMOS Design with Floating P-pillar and Blocking Junction
Mingyang Chen (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yuanchang Zhan* (*Southwest Jiaotong University*); *Quanyi Zhang* (*Southwest Jiaotong University*);

00:00 Theoretical Insights into the Half-metallicity and Strong Ferro-magnetism of Ag-doped GaN Diluted Semiconductor
Ang-Yang Yu (*Heilongjiang Agricultural Engineering Vocational College*);

00:00 Spectrum Sensing Based on Discrete Wavelet Transform and Transformer-based Network
Jia Le Ding (*Tongji University*); *Jun Li* (*Shanghai Institute of Technology*); *Guo Chun Wan* (*Tongji University*);

Session 4P1a
Antennas and Metasurfaces for 6G Near-field Communications

Sunday PM, November 9, 2025

Room 1 - 101A

Organized by Shuai Zhang

Chaired by Shuai Zhang

00:00 Compact 2-D Passive Beam Scanning THz Antenna Array Based on Copper Additive Manufacturing
Yuanxi Cao (*Xi'an Jiaotong University*); *Xinyue Song* (*Xi'an Jiaotong University*); *Penghao Feng* (*Xi'an Jiaotong University*); *Sen Yan* (*Xi'an Jiaotong University*);

13:55 Performance Gains of 3-D Holographic MIMO Arrays under Multi-scenario Channel Models
Quan Gao (*Zhejiang University*); *Shuai S. A. Yuan* (*Zhejiang University*); *Wei E. I. Sha* (*Zhejiang University*);

14:10 Efficient Near-field Data Reduction by a Symmetry Constrained Warping Based Greedy Algorithm
Mario Del Prete (*University of Campania*); *Maria Antonia Maisto* (*University of Campania*); *Antonio Ciociola* (*University of Campania*); *Antonio Cuccaro* (*University of Calabria*); *Raffaele Solimene* (*University of Campania*);

14:25 Electric ITO-glass Meta-surface for Rapid Beam Steering
Yikun Li (*Nanyang Technological University*); *Yujing Hong* (*Nanyang Technological University, Institute for Infocomm Research, A*STAR*); *Yufei Zhao* (*Nanyang Technological University*); *Xiong Qin* (*Nanyang Technological University*); *Chau Yuen* (*Nanyang Technological University*); *Yong Liang Guan* (*Nanyang Technological University*);

15:40 **Coffee Break**

Session 4P1b
Antenna and Array: Theory and Applications

Sunday PM, November 9, 2025

Room 1 - 101A

Chaired by Yunhua Zhang

14:40 A 7.1/8.5/20/30-GHz Band Horn Antenna with Corrugated and Ring-loaded Coaxial Grooves
Hiroki Nishida (*Doshisha University*); *Masataka Ohira* (*Doshisha Univ*); *Hiroyuki Deguchi* (*Doshisha University*);

14:55 Novel Compact Millimeter-wave Fabry Pérot Architecture Antennas without Independent Partially Reflective Surface
Qingyi Guo (*Shenzhen University*); *Runcong Lv* (*Shenzhen University*);

15:10 A Compact Flexible EPDM-based Meandered Cross-slotted Antenna for Sub-6 GHz 5G Applications
Jehangir Khan (*Tongji University*); *Akhtar Khan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

15:40 **Coffee Break**

16:00 A Flexible Wideband Antenna Based on EPDM for ISM and WBAN Applications
Jehangir Khan (*Tongji University*); *Mei Song Tong* (*Tongji University*);

16:15 Effect Analysis of Thermal Deformation on the Phase Center of Phased Array Antenna
Xiaowen Zhao (*National Space Science Center, Chinese Academy of Sciences*); *Jixi Lu* (*National Space Science Center, Chinese Academy of Sciences*); *Yunhua Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

16:30 Low Axial Ratio Wide-angle Scanning Phased Array Antenna Utilizing Low Dielectric Matching Layer
Takashi Uesaka (*Mitsubishi Electric Corporation*); *H. Watanabe* (*Mitsubishi Electric Corporation*); *T. Tanaka* (*Mitsubishi Electric Corporation*); *T. Takahashi* (*Mitsubishi Electric Corporation*);

16:45 Deep Learning-based Interference Mitigation for MRC and EGC Receivers in LIS Systems
Mário Marques da Silva (*Universidade Autónoma de Lisboa*); *Gelson Pembele* (*Universidade Autónoma de Lisboa*); *Rui Dinis* (*Universidade Nova de Lisboa*);

17:00 A Monte Carlo-based Comparative Study on Different Detection and Decoding Procedures for Performance Optimization of MIMO Systems
Muhammad Arslan (*Tongji University*); *Wen Ke Li* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

17:15 Mutual Coupling Reduction in a Single-layer Wideband Micorstrip Patch Antenna Array Inspired by its Transmission Line Model
Chunling Chen (*Changzhou University*);

Session 4P2a
Recent Advances in Electromagnetic Compatibility Applications

Sunday PM, November 9, 2025

Room 2 - 101B

Organized by Xingchang Wei, Da Li

13:30 A De-embedding Measurement System of Multi-port Transformers for Conductive Emission Application
Ming Jie Pang (*Zhejiang University*); *Xingchang Wei* (*Zhejiang University*);

13:45 Theoretical Study of Bonding Contact Resistance Effects on Interconnect Reliability by Multiphysics Simulation
Yizhang Liu (*Zhejiang University*); *Liang Tian* (*Zhejiang University*); *Yiqun Niu* (*Zhejiang University*); *Qinyi Huang* (*Zhejiang University*); *Wenchao Chen* (*Zhejiang University*);

14:00 Assessing HDMI Radiation Using Fast Fourier-transformed Time Domain Data and Frequency Domain Measurements
Aysha Al Neyadi (*Technology Innovation Institute*); *David Martinez* (*Technology Innovation Institute*); *Ali Yaqoob* (*Technology Innovation Institute*); *Islem Yahi* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14:15 Novel Evanescent Wave Interference Suppression by Anisotropic Metasurface in Electrically Small Cavity Circuit
Da Yi (*Chongqing University*); *Wei Zhou* (*Chongqing University*); *Jia-Qi He* (*Chongqing University*); *Shi-Yu Wang* (*Naval University of Engineering*); *Gao-Qi Dou* (*Naval University of Engineering*); *Huapeng Zhao* (*University of Electronic Science and Technology of China*); *Ming-Chun Tang* (*Chongqing University*);

14:30 Investigation of QPSK Receiver Performance under High-power LFM Radar Interference
Jiawei Huang (*University of Electronic Science and Technology of China*); *Chunguang Ma* (*University of Electronic Science and Technology of China*); *Mingwen Zhang* (*University of Electronic Science and Technology of China*); *Yong Luo* (*University of Electronic Science and Technology of China*);

14:45 Impact of HPM Pulse Edge Time Variations on LNA Burnout Threshold
Chunguang Ma (*University of Electronic Science and Technology of China*); *Mingwen Zhang* (*University of Electronic Science and Technology of China*); *Ruilong Song* (*University of Electronic Science and Technology of China*); *Jiawei Huang* (*University of Electronic Science and Technology of China*); *Jianxun Wang* (*University of Electronic Science and Technology of China*);

15:00 Object-oriented and Multi-physics Modeling of RF Effects on Systems
Robert L. Gardner (*Consultant USA*);

15:15 Reactive Near-field to Far-field Transformation Based on Plane Wave Expansion and Calibration
Dong-Hao Han (*Zhejiang University*); *Ming Jie Pang* (*Zhejiang University*); *Xingchang Wei* (*Zhejiang University*);

15:40 **Coffee Break**

Session 4P2b
Wireless Power Transfer and Microwave Technologies

Sunday PM, November 9, 2025

Room 2 - 101B

Chaired by Alexander Kukaev

16:00 Wide-range Wireless Power Delivery to Pebble-scale Sensors via Hierarchical Resonators
Takuya Sasatani (*The University of Tokyo*); *Alanson P. Sample* (*University of Michigan*); *Yoshihiro Kawahara* (*The University of Tokyo*);

16:15 Patched-wall Quasi-static Cavity Resonators for 3-D Wireless Power Transfer
Takuya Sasatani (*The University of Tokyo*); *Yoshihiro Kawahara* (*The University of Tokyo*);

16:30 Infrared Stealth, Flame Retardancy and Thermal Energy Harvesting Design and Properties of Janus Alk-MXene PVDF@GO-PVDF Composites
Xiuchen Wang (*Xi'an Polytechnic University*); *Wei Meng* (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*); *Jin Duan* (*Xi'an Polytechnic University*);

16:45 Development of 75–110 GHz Front-end LNA Module for the 19-pixel Radio-astronomical Imaging Array
Yen-Lin Chen (*National Tsing Hua University*); *Tzi-Hong Chiueh* (*National Taiwan University*); *Jerry Shiao* (*Taiwan Semiconductor Research Institute*);

17:00 Inspection of Partial-circumferential Pipe Wall Thinning Using TM_{01} Mode Microwaves
Weiying Cheng (*Japan Power Engineering and Inspection Corporation*);

17:15 High-precision Reconstruction and Rapid Prediction of Non-uniform Electromagnetic Radiation Field Distribution with Adaptive Optimization Method for Mixed Signal Circuits and System
Hao-Ran Zhu (*Anhui University*); *Pei Ge* (*Anhui University*);

17:30 Application of Closed Elliptical Electrode Topologies for Inertial Sensors on Surface Acoustic Waves
Alexander Kukaev (*Saint-Petersburg Electrotechnical University "LETI"*); *Maria Sorvina* (*Saint-Petersburg Electrotechnical University "LETI"*);

17:45 Alk-MXene PVA@Alk-PVA@PVDF Hierarchical Core-Sheath Fiber Sensor Design with Electromagnetic Shielding and Flame Retardancy
Jin Duan (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*); *Xiuchen Wang* (*Xi'an Polytechnic University*);

18:00 Hilbert-structured Antenna Design for Microwave Heating in Moving Systems
Xiangquan Xiang (*Zhejiang University*); *Sijie Chen* (*Zhejiang University*); *Xuesong Guo* (*Zhejiang University*); *Yaqing Huang* (*Zhejiang University*); *Shiyu Wang* (*Zhejiang University Shaoxing Institute & Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*);

00:00 A Modified Oven Magnetron for Wireless Microwave Technologies
Gennadiy Churyumov (*Harbin Institute of Technology*); *Ihor Kuzmychov* (*O.Ya. Usikov Institute for Radio Physics and Electronics NAS of Ukraine*); *Yuchen Tong* (*Harbin Institute of Technology*);

Session 4P3a
Optical Sensors and Fiber Optics

Sunday PM, November 9, 2025

Room 3 - 102A

Chaired by Ramzil Galiev, Youssef Amin

13:30 Smartphone-integrated YOLOv4-CNN for Rapid and Accurate Colorimetric Antioxidant Analysis in Saliva at Point-of-care
Youssef Amin (*Istituto Italiano di Tecnologia (IIT)*); *Paola Cecere* (*Istituto Italiano di Tecnologia (IIT)*); *Tania Pomili* (*Istituto Italiano di Tecnologia (IIT)*); *Pier Paolo Pompa* (*Italian Institute of Technology & Zhejiang University*);

13:45 The Fiber Grating Hydrophone
Wei-Chen Li (*Feng-Chia University*); *Chang-Chun Kuo* (*Feng-Chia University*); *Wen-Fung Liu* (*Feng Chia University*); *I-Nan Chang* (*Feng-Chia University*);

14:00 Gas-pressure Sensor Based on a Fiber Bragg Grating
Chia-Cheng Cheng (*Feng Chia University*); *Yi-Jhen Li* (*Feng Chia University*); *Wen-Fung Liu* (*Feng Chia University*); *Kun-Huang Chen* (*Feng Chia University*);

14:15 Liquid-index Sensor Based on a Tapered-fiber Bragg Grating
Shian-Ming Liu (*Feng-Chia University*); *Cheng-En Tsai* (*Feng-Chia University*); *Wen-Fung Liu* (*Feng Chia University*);

14:30 Experimental Study on Monitoring Typical Defects in Small and Medium-sized Bridges Based on Ultra-weak FBG Sensing Array
Xinyan Lin (*Wuhan University of Technology*); *Qiuming Nan* (*Wuhan University of Technology*); *Sheng Li* (*Wuhan University of Technology*); *Zhi Li* (*Han Jiang National Laboratory*); *Lina Yue* (*Wuhan University of Technology*); *Fang Liu* (*Wuhan University of Technology*); *Yan Yang* (*Wuhan University of Technology*); *Ai Zhou* (*Wuhan University of Technology*);

14:45 Photoacoustic Spectroscopy-based Intelligent System for SF_6 Leakage Detection in Large Scale GIS Devices
Rubao Wang (*Beijing Duke Technology Co., Ltd.*); *Chen Xu* (*Beijing Duke Technology Co., Ltd.*);

15:00 Evaluating TeX-SGD for Material Identification Using Reduced-band LWIR Multispectral Imaging
Ramzil Galiev (*Technology Innovation Institute*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Mariam Al Khateri* (*Technology Innovation Institute*); *Rashed Al Blooshi* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

15:15 Measurement of Ozone with Deep Ultraviolet Broadband Cavity Absorption Spectroscopy
Zhenghao Chen (*University of Shanghai for Science and Technology*); *Meng Wang* (*University of Shanghai for Science and Technology*); *Jun Chen* (*University of Shanghai for Science and Technology*);

15:40 **Coffee Break**

Session 4P3b
Integrated and Fiber-based Photonic Circuits and Devices

Sunday PM, November 9, 2025

Room 4 - 102B

Organized by Mikhail E. Belkin

16:00 Topological Photonic Crystal Fiber
Bofeng Zhu (*Nanyang Technological University*); *Qi Jie Wang* (*Nanyang Technological University*); *Wonkeun Chang* (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*);

00:00 Influence of MgO Particle Shape on the Thermal Performance of Silicone Matrix Composites
Christopher Kagenda (*Kyambogo University*);

16:30 In-plane Routing of Electrons and Photons in Photonic Nanoelectromechanical Systems
Babak Vosoughi Lahijani (*Technical University of Denmark*); *Marcus Albrechtsen* (*Technical University of Denmark*); *Rasmus E. Christiansen* (*Technical University of Denmark*); *Christian A. Rosiek* (*Technical University of Denmark*); *Konstantinos Tsoukalas* (*Technical University of Denmark*); *Mathias T. Sutherland* (*Technical University of Denmark*); *Soren Stobbe* (*Technical University of Denmark*);

00:00 Devising a Cost-efficient Optical Interconnect for the Remote Metering in Microwave Band
Mikhail E. Belkin (*MIREA — Russian Technological University*); *Anna Voronina* (*MIREA — Russian Technological University*); *Alexander S. Sigov* (*MIREA — Russian Technological University*);

Session 4P4
Remote Sensing, SAR and Imaging

Sunday PM, November 9, 2025

Room 4 - 102B

Chaired by Xianglei Huang, Jieying He

13:30 Looking at Earth in the Far-IR: 54 Years of Waiting and the Initial Results from NASA's PREFIRE Mission
Xianglei Huang (*University of Michigan*); *Xiuhong Chen* (*The University of Michigan*); *Tristan L'Ecuyer* (*University of Wisconsin-Madison*); *Brian Drouin* (*Caltech/JPL*);

13:45 Manned Airborne Microwave Radiation Observations for Atmospheric Thermal Parameter Studies
Jieying He (*National Space Science Center, Chinese Academy of Sciences*); *Yuxuan Feng* (*National Space Science Center, Chinese Academy of Sciences*);

14:00 Geometric Accuracy Using DEM Shaded Relief Images for Landsat-8/OLI and Landsat-9/OLI-2 L1TP Images
Hiroyuki Saito (*Hirosaki University*);

14:15 A Satellite-driven Workflow for Mapping Shallow Coastal Waters
Ramzil Galiev (*Technology Innovation Institute*); *Rashed Al Blooshi* (*Technology Innovation Institute*); *Mariam Al Khateri* (*Technology Innovation Institute*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14:30 A Phase-based Method for I/Q Imbalance and DC Offset Calibration of Radar Sensors in Blade Tip Clearance Measurement
Yujia Zhang (*Xi'an jiaotong university*); *Yajie Guan* (*Xi'an Jiaotong University*); *Ye Tian* (*Xi'an Jiaotong University*); *Shuming Wu* (*Xi'an Jiaotong University*); *Zhibo Yang* (*Xi'an Jiaotong University*); *Long Su* (*Xi'an Jiaotong University*); *Shujing Lin* (*Xi'an Jiaotong University*); *Feng Tian* (*Xi'an Jiaotong University*);

14:45 Vertical Resolution in SAR Subsurface Tomography
Juliana de Almeida Góes (*University of Campinas*); *Gian Carlos Oré Huacles* (*University of Campinas*); *Konstantin Alexandrovich Lukin* (*National Academy of Sciences of Ukraine*); *Leonardo Sant'Anna Bins* (*Technology Innovation Institute*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*);

15:00 Maximum Depth in Subsurface SAR Tomography with Spiral Flight Paths
Juliana de Almeida Góes (*University of Campinas*); *Henrique Stumm Rocha* (*University of Campinas*); *João Roberto Moreira Neto* (*Radaz S.A., São José dos Campos*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*);

15:15 Enhanced UNet with Intermediate Feature Refinement for Improved Remote Sensing Image Segmentation
Zesheng Lai (*Zhejiang University*); *Yanpeng Jia* (*Zhejiang University*); *Lizhen Yang* (*Zhejiang University*); *Chang Xi* (*Zhejiang University*); *Hai Lin* (*Zhejiang University*);

15:40 **Coffee Break**

16:00 An Holographic Approach in Multi-layered Material Diagnostics
Mario Del Prete (*University of Campania*); *Maria Antonia Maisto* (*University of Campania*); *Loreto Di Donato* (*University of Catania*); *Raffaele Solimene* (*University of Catania*);

16:15 One-dimensional (1D) Inverse Profiling for Plasma Diagnostics
Roberto Dima (*Universita degli Studi della Campania "Luigi Vanvitelli"*); *Shaimaa E. Elghetany* (*University of Catania*); *Loreto Di Donato* (*University of Catania*); *Raffaele Solimene* (*University of Campania*); *Maria Antonia Maisto* (*University of Campania*);

16:30 DuViT-UNet: Dual-path Vision Transformer U-Net for Joint Total-field and Back-projection Learning in Electromagnetic Inverse Scattering
Yikai Luo (*Zhejiang University*); *Yajie Pi* (*Zhejiang University*); *Lizhen Yang* (*Zhejiang University*); *Yuxuan Li* (*Zhejiang University*); *Peng Zhang* (*Zhejiang University*); *Zhenhao Peng* (*Zhejiang University*); *Meng Geng* (*Zhejiang University*); *Yu Bo Tao* (*Zhejiang University*); *Hai Lin* (*Zhejiang University*);

16:45 Time-frequency Characteristic Analysis of Near-field Rotating Blade Echoes Based on Attribute Scattering Centers
Yajie Guan (*Xi'an Jiaotong University*); *Ye Tian* (*Xi'an Jiaotong University*); *Yujia Zhang* (*Xi'an jiaotong university*); *Shuming Wu* (*Xi'an Jiaotong University*); *Zhibo Yang* (*Xi'an Jiaotong University*); *Yijing Liu* (*Xi'an jiaotong university*); *Liuyang Zhang* (*Xi'an Jiaotong University*); *Lijiao Yang* (*Xi'an Jiaotong University*);

17:00 Potential Capabilities of UAV-borne Ground Penetrating Radar for Remote Sensing of Active-layer Tundra Soil Thickness and Moisture
Konstantin Victorovich Muzalevskiy (*Kirensky Institute of Physics, Siberian Branch, Russian Academy of Sciences*);

17:15 Using UWB Impulsed Surface and Refracted Waves for Assessing the State of the Active layer
Konstantin Victorovich Muzalevskiy (*Kirensky Institute of Physics, Siberian Branch, Russian Academy of Sciences*);

00:00 High-resolution Analysis of Mountain Glacier Surface Change Features Using UAV Photogrammetry
Jianmin Zhou (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Lei Huang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

00:00 AI-driven Personal Remote Sensing Smartwatch for Respiratory and Environmental Health Assessment and Personalized Insights
Reem A. Kassem (*American University of Kuwait (AUK)*); *Mahdi Mohammed* (*American University of Kuwait (AUK)*); *Rawan Abosedo* (*American University of Kuwait (AUK)*); *Amro A. Nour* (*American University of Kuwait (AUK)*);

00:00 Glacier Mass Balance in High Mountain Asia Analyzed from Synthetic Aperture Radar
Lei Huang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

00:00 Cooperative Power Optimization Strategy of Radar and Jammer for Multi-target Tracking Based on LPI
Jun Sun (*Xidian University*); *Xueru Bai* (*Xidian University*); *Feng Zhou* (*Xidian University*); *Maria Sabrina Greco* (*University of Pisa*); *Fulvio Gini* (*Univ Pisa*);

Session 4P5a
High-precision Radar Imaging: Technologies and Applications 2

Sunday PM, November 9, 2025

Room 5 - 103

Organized by Deqing Mao, Yu Hai

Chaired by Deqing Mao, Yu Hai

13:30 Robust Matching of SAR Image and Optical Image Based on Improved Superpoint and Superglue
L. L. Zhang (*Xidian University*); *Tinghao Zhang* (*Xidian University*); *H. Q. He* (*Xidian University*); *S. X. Dong* (*Qianyuan National Laboratory*); *Z. W. Zhou* (*Xidian University*);

13:45 High Resolution Imaging for Multi-baseline Distributed SAR
Gaotian Xu (*Xidian University*); *Tinghao Zhang* (*Xidian University*); *Yachao Li* (*Xidian University*); *S. X. Dong* (*Qianyuan National Laboratory*); *H. Q. He* (*Xidian University*); *Z. W. Zhou* (*Xidian University*);

14:00 A Novel Approach for DoA Estimation of Coherent Sources with Leaky-wave Antennas
Rida Maydani (*Nantes Universite*); *Julien Sarrazin* (*Sorbonne Universite*); *Yide Wang* (*University of Nantes*);

14:15 NLOS Cross-region Target Localization Using Weighted Dictionary-based Compressive Sensing
Zihan Xu (*University of Electronic Science and Technology of China*); *Chen Qiu* (*University of Electronic Science and Technology of China*); *Yufei Wei* (*University of Electronic Science and Technology of China*); *Shisheng Guo* (*University of Electronic Science and Technology of China*); *Zhihao Zhu* (*University of Electronic Science and Technology of China*); *Jiahui Chen* (*University of Electronic Science and Technology of China*); *Guolong Cui* (*University of Electronic Science and Technology of China*); *Lingjiang Kong* (*University of Electronic Science and Technology of China*); *Xiaobo Yang* (*University of Electronic Science and Technology of China*);

00:00 A State-of-the-art Review on Health Monitoring of Steel Structure in China High-speed Railway Station Buildings
Ge GAO (*Guangshen Railway Company Limited*); *Anyong Qing* (*Southwest Jiaotong University*);

Session 4P5b
Electromagnetics with Artificial Intelligence, Machine Learning

Sunday PM, November 9, 2025

Room 5 - 103

Chaired by Christian Conrad

16:00 Micromagnetic Characterization of Spot Welds: Optimizing Calibration for Steel Plates of Varying Thickness
Saif Shahabuddin (*Kozo Keikaku Engineering Inc*); *K. Kamitani* (*Kozo Keikaku Engineering Inc*); *Yasmine Gabi* (*Fraunhofer Institute for Nondestructive Testing, Campus E3.1*); *Christian Conrad* (*Fraunhofer Institute for Non-destructive Testing IZFP*); *T. Kitamura* (*Kyushu Institute of Technology*);

16:15 Intelligent Sensors Systems — Fraunhofers Process Monitoring Innovation
Christian Conrad (*Fraunhofer Institute for Nondestructive Testing IZFP*); *T. Müller* (*Fraunhofer Institute for Non-destructive Testing IZFP*); *Yasmine Gabi* (*Fraunhofer Institute for Nondestructive Testing, Campus E3.1*);

16:30 Physics-informed Neural Networks for Solving VLF Scattering of Receiving Antennas in the Anisotropic Ionosphere
Zhu Hong Lin (*Hangzhou City University*);

16:45 Inverse Topological Design for Reconfigurable Frequency Selective Absorbers
Li-Ye Xiao (*University of Electronic Science and Technology of China*); *Hao Lv* (*Xiamen University*); *Wei Shao* (*University of Electronic Science and Technology of China*);

17:00 Optimization of Hat Feeds Using Machine Learning
Nikita O. Sivov (*Institute of Physics, Siberian Branch of the Russian Academy of Sciences*); *Konstantin V. Lemberg* (*Institute of Physics, Siberian Branch of the Russian Academy of Sciences*);

17:15 Holistic Design of Huygens' Metasurfaces Using Automatic Differentiation
Antoine Azéma (*LAAS-CNRS, Université de Toulouse*); *Dalin Soun* (*Laboratoire d'analyse et d'architecture des systèmes (LAAS-CNRS), Université de Toulouse*); *Aurélien Cuche* (*CEMES-CNRS, Université de Toulouse*); *Peter R. Wiecha* (*LAAS-CNRS, Université de Toulouse*);

Session 4P6
Metamaterials, Metasurface and Applications

Sunday PM, November 9, 2025

Room 6 - 104

Chaired by Pai-Yen Chen, Sungtek Kahng

13:40 Frequency Selective Surface with Angular, Energy, and Polarization Selectivity
Chengjing Gao (*Zhejiang University*); *Xiaojun Hu* (*Zhejiang University*); *Dexin Ye* (*Zhejiang University*);

13:55 Millimeter-wave High-gain Metamaterial Lens Antennas Mountable on the Aircraft
Woogon Kim (*Incheon National University*); *Jinwoo Bae* (*Incheon National University*); *Sanghyun Yun* (*Incheon National University*); *Hongsik Park* (*Incheon National University*); *Sungtek Kahng* (*Incheon National University*);

14:10 A D-band Metamaterial Substrate-integrated-waveguide (SIW) Slot Antenna in Glass-based IPD Technology
Shuping Li (*Rutgers University*); *Yusiang Wu* (*National Taiwan University*); *Cheng-Hua Tsai* (*Industrial Technology Research Institute*); *Chang-Sheng Chen* (*Industrial Technology Research Institute*); *Yu-Hsiang Cheng* (*National Taiwan University*); *Pai-Yen Chen* (*University of Illinois at Chicago*); *Chung-Tse Michael Wu* (*National Taiwan University*);

14:25 Metamaterials for Frequency Absorption and Frequency Suppression
Arun Kumar Saha (*Albany State University*);

14:40 Ultrawideband and Low-loss Zero-index Metamaterials Formed by Non-Hermitian Composite Structures
Pai-Yen Chen (*University of Illinois at Chicago*); *Chung-Tse Michael Wu* (*National Taiwan University*);

14:55 Magnetic Vortex Dynamics in Spherical Objects
Vakhtang Jandieri (*University of Duisburg-Essen*); *Ramaz Khomeriki* (*Tbilisi State University*); *Guga Vardiashvili* (*Free University of Tbilisi*); *N. Tsagareli* (*Free University of Tbilisi*); *Wonbin Hong* (*Pohang University of Science and Technology (POSTECH)*); *Pingjuan L. Werner* (*The Pennsylvania State University*); *Douglas H. Werner* (*The Pennsylvania State University*); *Daniel Erni* (*University of Duisburg-Essen, Campus Duisburg*); *Jamal Berakdar* (*Martin Luther University of Halle-Wittenberg*);

15:10 A Low-profile Cross-polarization Conversion Metasurface for Sub-THz Applications
Shobit Agarwal (*University of Naples Federico II*); *Muhammad Fayyaz Kashif* (*Università degli Studi di Napoli Federico II*);

16:00 Temporal Coupled Mode Theory for High-$\boldsymbol{Q}$ Resonances in Dielectric Metasurfaces
Dmitrii N. Maksimov (*Siberian Federal University*); *P. S. Pankin* (*Siberian Federal University*); *D.-W. Kim* (*ITMO University*); *M. Song* (*Harbin Engineering University*); *C. Peng* (*Peking University*); *Andrey A. Bogdanov* (*Harbin Engineering University*);

16:15 Dynamic Hand Gesture Recognition and Classification Based on X-band Electromagnetic Metasurface Radar
Haipeng Wang (*Nanjing University of Information Science and Technology*); *Wei Pan* (*Nanjing University of Information Science and Technology*); *Zheng Xiao* (*Nanjing University of Information Science and Technology*); *Zhongfang Ren* (*Nanjing University of Information Science and Technology*);

16:30 Optically Transparent Transmissive Metasurface Enabled by Deep Learning for Broadband Electromagnetic Illusions
Peixuan Zhu (*Zhejiang University*); *Huan Lu* (*Zhejiang University*); *Jiwei Zhao* (*Zhejiang University*); *Rongrong Zhu* (*Zhejiang University*); *Bingjing Yan* (*Hangzhou City University*); *Shiming He* (*Hangzhou City University*); *Bin Zheng* (*Zhejiang University*);

16:45 Waveguide Simulators for Analyzing Metasurface Structures: Exploring Vertical and Horizontal Slot Configurations
Abdulaziz H. Haddab (*Abdullah Al Salem University*);

17:00 Simultaneously Transmitting and Reflecting Reconfigurable Intelligent Surfaces (STAR-RIS) for Terahertz Wireless Communication
Masood Urrahman (*University of Electronics Science and Technology of China*); *Feng Lan* (*University of Electronic Science and Technology of China*); *Luyang Wang* (*University of Electronics Science and Technology of China*); *Munan Yang* (*University of Electronic Science and Technology of China*); *Yueting Li* (*University of Electronic Science and Technology of China*); *Xiaolei Nie* (*University of Electronic Science and Technology of China*); *Jiayao Yang* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*);

00:00 Transmissive Metasurface for Enhanced Wireless Communication
Fengyuan Yang (*Shanghai University*);

00:00 Design and Experiment of a Terahertz Metamaterial Biosensor
Yue Zhang (*University of Electronic Science and Technology of China*); *Shaomeng Wang* (*University of Electronic Science and Technology of China*); *Qingying Yi* (*University of Electronic Science and Technology of China*); *Yubin Gong* (*University of Electronic Science and Technology of China*);

00:00 Gradient Metasurface for Wavefront Control
Yadong Xu (*Soochow University*);

00:00 Pentagonal Photonic Crystal Mirrors: Scalable Lightsails with Enhanced Acceleration via Neural Topology Optimization
Lucas Norder (*Delft University of Technology*); *Shunyu Yin* (*Brown University*); *Matthijs H. J. De Jong* (*Delft University of Technology*); *Francesco Stallone* (*Delft University of Technology*); *Hande Aydogmus* (*Delft University of Technology*); *Paolo M. Sberna* (*Delft University of Technology*); *Miguel A. Bessa* (*Brown University*); *Richard A. Norte* (*Delft University of Technology*);

00:00 Graphene-based Ultralow-profile Microwave Fresnel Lens
Linda Shao (*Shanghai University*);

00:00 High-accuracy Dispersion Surfaces Measurement Unlocks Photonic Crystal Topology
Karen Caicedo (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Fabrizio Sgrignuoli* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Adam Schwartzberg* (*Molecular Foundry, Lawrence Berkeley National Laboratory*); *Scott Duehy* (*Molecular Foundry, Lawrence Berkeley National Laboratory*); *Silvia Romano* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Gianluigi Zito* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Ivo Rendina* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Vito Mocella* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*);

Session 4P7a
Quantum Electromagnetics and Electrodynamics

Sunday PM, November 9, 2025

Room 7 - 105

Chaired by Bulat Rameev

13:30 Dynamic Multi-party to Multi-party Quantum Secret Sharing Based on Bell States
Yuan Tian (*Xi'an University of Architecture and Technology*);

13:45 Theory of Electromagnetic Radiation by Continuous Quantum Currents: The Quantum Infinitesimal Dipole Model and the Cross-correlation Green's Functions
Said Mikki (*Zhejiang University*);

14:00 Implementing a Multi-step and Multi-physics Photon Conversion in YIG Microstructures for Light-matter Coupling
Artem V. Bondarenko (*Delft University of Technology*); *T. Valet* (*Université Grenoble Alpes*); *F. Engelhardt* (*RWTH Aachen University*); *M. Kounalakis* (*RWTH Aachen University*); *O. Klein* (*Université Grenoble Alpes*); *Gerrit E. W. Bauer* (*Tohoku University*); *S. V. Kusminskiy* (*RWTH Aachen University*); *Yaroslav M. Blanter* (*Delft University of Technology*);

14:15 Resource Efficient Universal Photonic Processor Based on Time-multiplexed Hybrid Architecture
Jonas Lammers (*Paderborn University*); *Laura Ares Santos* (*Paderborn University*); *Federico Pegoraro* (*Paderborn University*); *Philip Held* (*Paderborn University*); *Benjamin Brecht* (*Paderborn University*); *Jan Sperling* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*);

14:30 Electron Scattering in an 8-nm FinFET Using FDTD
Kai Ren (*South Dakota School of Mines and Technology*);

14:45 Quantum and Fluxgate Magnetic Sensors for Geomagnetic Anomaly Mapping
Maksut Maksutoğlu (*Gebze Technical University*); *N. Güneş Saribaş* (*Gebze Technical University*); *Abdullah Demirtaş* (*Gebze Technical University*); *Hasan Piskin* (*Alanya Alaaddin Keykubat University*); *Bulat Rameev* (*Gebze Technical University*);

15:00 Toward Efficient Microwave-to-optical Transduction Using Er^{3+}-doped Crystals
Bulat Rameev (*Gebze Technical University*);

15:40 **Coffee Break**

Session 4P7b
Foundation and Implementation of Optical Quantum Information

Sunday PM, November 9, 2025

Room 7 - 105

Organized by Jietai Jing, Shengshuai Liu

Chaired by Shengshuai Liu

00:00 Quantum Squeezing Manipulation Based on Phase-sensitive Amplifier
Yanbo Lou (*East China Normal University*); *Shengshuai Liu* (*East China Normal University*); *Jietai Jing* (*East China Normal University*);

Session 4P8
CEM, EMC, Scattering & EM Theory

Sunday PM, November 9, 2025

Room 8 - 201A

Chaired by Vladimir G. Kostishin, Stanislav Bobrovskiy

13:30 A Large-scale Database Search Method for Real-time Estimation of Scattering Objects
Ryo Ikeya (*Nagoya Institute of Technology*); *H. Shiokawa* (*University of Tsukuba*); *H. Wakatsuchi* (*Nagoya Institute of Technology*);

13:45 NURBS-based Surface Reconstruction from Point Clouds for Electromagnetic Target Modeling
Qianyan Shen (*Zhejiang University*); *Ruoming Zhang* (*Zhejiang University*); *Hai Lin* (*Zhejiang University*);

14:00 Material Optimization in Radio Propagation Based on Differentiable Ray-tracing
Yangxu Li (*Zhejiang University*); *Yifan Wu* (*Zhejiang University*); *Yuxuan Li* (*Zhejiang University*); *Yuhao Shen* (*Zhejiang University*); *Hai Lin* (*Zhejiang University*);

14:15 Research on RCS Prediction of Target Coating Based on Neural Network
Fan Zhang (*Hubei University of Technology*); *Jiang Liu* (*Hubei University of Technology*); *Xin Chen* (*Hubei University of Technology*); *Juan Wang* (*Hubei University of Technology*); *Minghu Wu* (*Hubei University of Technology*);

14:30 A Consideration for Predicting Measured Values from Numerical Calculations of Electromagnetic Wave Circuit
Aoba Imoto (*Fukuoka Institute of Technology*); *Norimasa Nakashima* (*Fukuoka Institute of Technology*);

14:45 Broadband Electromagnetic Absorbing Coatings: Influence of Composition and Microstructure on Electromagnetic Properties
Stanislav Bobrovskiy (*Technology Innovation Institute*); *Papa Ousmane Leye* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*);

15:40 **Coffee Break**

16:00 Combination Design and Shielding Effectiveness of Different Types Multilayer Electromagnetic Shielding Fabric
Xing Rong (*Xi'an Polytechnic University*); *Xiuchen Wang* (*Xi'an Polytechnic University*); *Ying Li* (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*);

16:15 NiZn- and MnZn-ferrites-spinels as Effective Radio-absorbing Materials
Vladimir G. Kostishin (*National Research Technology University MISIS*); *Igor M. Isaev* (*The University of Science and Technology MISIS*);

16:30 Simulation and Measurement of Combined Target Scattering Characteristics of High-modal Electromagnetic Vortex Waves
Xinger Cheng (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yixuan Liu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhuo Zhang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

16:45 Electromagnetic Fields of Vibrotransport Sources of Radiation at Sublight Speeds of Motion
Lyudmila Alexeyevna Alexeyeva (*Institute of Mathematics and Mathematical Modeling*); *Ilmira Aidossovna Kanymgaziyeva* (*Institute of Mathematics and Mathematical Modeling*);

17:00 Characterization and Validation of Vortex Scattering Matrix for Typical Target Scattering Properties
Xinger Cheng (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yixuan Liu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhuo Zhang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

00:00 Vibrotransport Spinors of Dirac Equations at Superlight Speeds and Their Properties
Lyudmila A. Alexeyeva (*Institute of Mathematics and Mathematical Modeling*); *Gulfariza N. Aziz* (*Institute of Mathematics and Mathematical Modeling*);

00:00 Distinguishing Excellence: Exploring Object-oriented Terminologies in Internet Quality of Services
R. Prabu (*Bharath Institute of Higher Education and Research*);

Session 4P19
Poster Session 6

Sunday PM, November 9, 2025
14:00 PM - 18:00 PM
Poster Area

1 Spin Injection and Transport of Magnons in Spiral Magnets
Yanmeng Lei (*Huazhong University of Science and Technology*);

2 Modeling Radio Wave Propagation over Irregular Terrain via the Split-step Parabolic Equation Approach
Hao Qin (*University College Dublin*); *Yunxi Mu* (*Peking University*); *Siyi Huang* (*University of Alberta*); *Xinggi Zhang* (*University of Alberta*); *Xinyue Zhang* (*University College Dublin*);

3 Recognizing Chiral Amino Acids with a Dual-Optical-Response System
Yaxin Wang (*University of Science and Technology of China*); *Taotao Zhuang* (*University of Science and Technology of China*);

4 Design and Fabrication of Ultra-broadband Electromagnetic Wave Absorbers
Hee-Jo Lee (*Daegu University*);

5 High-Resolution Sampling of UWB Radar Echoes Using Waveform Crossing and TDC Techniques
Rihards Barkans (*Riga Technical University*); *Sandis Migla* (*Riga Technical University*); *Nikolajs Tihomorskis* (*Riga Technical University*); *Jakovs Ratners* (*Riga Technical University*); *Viktors Kurtenoks* (*Eventech LTD*); *Arturs Aboltins* (*Riga Technical University*);

6 A Star-topology Fiber-optic Time Transfer System for Multi-user with Ps-scale Stability
Xinxing Guo (*National Time Service Center, Chinese Academy of Sciences*); *Bo Liu* (*National Time Service Center, Chinese Academy of Sciences*); *Qian Jing* (*Xi'an Shiyou University*); *Jiang Chen* (*National Time Service Center, Chinese Academy of Sciences*); *Xin Wang* (*National Time Service Center, Chinese Academy of Sciences*); *Tao Liu* (*National Time Service Center, Chinese Academy of Sciences*); *Ruifang Dong* (*National Time Service Center, Chinese Academy of Sciences*); *Shou-Gang Zhang* (*National Time Service Center, Chinese Academy of Sciences*);

7 Enhanced Axial Resolution in Interferometric Microscopy Assisted by Near-field Reflection Planes
Aiqin Zhang (*Guangzhou College of Technology and Business*); *Kunyang Li* (*Guangzhou College of Technology and Business*); *Jianying Zhou* (*Sun Yat-sen University*);

8 A Novel Hardware Design for Projection Display Drive System Based on Digital Light Processing
Yi Bin Wang (*Tongji University*); *Mei Song Tong* (*Tongji University*);

9 Analysis of Fiber Optic Networks' Optimisation Methods Based on Pre-trained Machine Learning Models
Aleksandrs Olinš (*Riga Technical University*); *Natalja Muračova* (*Riga Technical University*); *Patriks Morevs* (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

10 Research on Electromagnetic Interference during the Turn-on and Turn-off of the IGBT Module
Yang Dong Xu (*Southwest University of Science and Technology*); *Shi Lie He* (*China Electronic Product Reliability and Environmental Test Institute Key Laboratory*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Zhen-Yong Du* (*Chengdu Juji Millimeter Wave Technology Co., Ltd.*); *Yixiang Li* (*Chengdu Juji Millimeter Wave Technology Co., Ltd.*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

11 A Statistically-bounded Machine Learning Framework for Robust Full-wave Electromagnetic Inversion
Shuwen Yang (*University of Alberta*); *Siyi Huang* (*University of Alberta*); *Hao Qin* (*University College Dublin*); *Xingqi Zhang* (*University of Alberta*); *Xinyue Zhang* (*University College Dublin*);

12 Demonstration of an Infinite-state Quantum Key Distribution Protocol
Omer Porat (*Hebrew University of Jerusalem*); *Ofer Casper* (*Ben-Gurion University of the Negev*); *Leonid Vidro* (*Hebrew University of Jerusalem*); *Hagai Eisenberg* (*Hebrew University of Jerusalem*);

13 Gas Measurement by Surface Plasmon Sensor Using Rotating Analyzer Method
Taikei Suyama (*Akashi National College of Technology*); *Takumi Kasatani* (*National Institute of Technology, Akashi College*);

14 Optimized Plasmonic Metamaterials for Tailored and Robust Angular-spectral Sensitivity and Ultra-narrow Band Extraordinary Optical Transmission in the Mid-to-Long Wave Infrared Range
Roy Avrahamy (*Ben-Gurion University of the Negev*); *Mark Auslender* (*Ben-Gurion University of the Negev*); *Moshe Zohar* (*Shamoon College of Engineering*); *Benny Milgrom* (*The Jerusalem College of Technology*);

15 Topological Meta-atoms for Optical Near Fields Manipulations
Tong Fu (*City University of Hong Kong*); *Ruo-Yang Zhang* (*The Hong Kong University of Science and Technology*); *Shiqi Jia* (*City University of Hong Kong*); *Qing Tong* (*City University of Hong Kong*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*); *Shubo Wang* (*City University of Hong Kong*);

16 Design and Fabrication of Large Area Active Varifocal Metalens
Ruixuan Zheng (*Institute of Physics, Chinese Academy of Sciences*); *Lingling Huang* (*Beijing Institute of Technology*); *Junjie Li* (*Institute of Physics, Chinese Academy of Sciences*); *Chang-Zhi Gu* (*Institute of Physics, Chinese Academy of Sciences*);

17 Temperature and Stress Analysis of Single-ridge GaN-based FP Laser Diodes
Minghang Liang (*Tongji University*); *Yu He* (*Tongji University*); *Jiahao Dong* (*Tongji University*); *Pengyan Wen* (*Tongji University*);

18 Wide Temperature-range Calibration of Polarization-based Fiber Optic Current Sensor Based on GRNN
Biao Xu (*Wuhan University of Technology*); *Xianghan Meng* (*Wuhan University of Technology*); *Yong Tu* (*Wuhan University of Technology*); *Wenjia Chen* (*Wuhan University of Technology*); *Ciming Zhou* (*Wuhan University of Technology*);

19 A Novel U-shaped POF Sensor Structure for Intensity Modulation
Le Le Han (*Shanghai Institute of Technology*); *Qi Lin Yang* (*Shanghai Institute of Technology*); *Ling Chen Xu* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

20 Efficient Gain Equalization in Booster-configured EDFAs for WDM Systems
Patriks Morevs (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Ricards Kudojars* (*Riga Technical University*); *Aleksandrs Olinš* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Natalja Muračova* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

21 Fiber Optical Parametric Amplifiers in 40 Gbps WDM Systems: Performance Limits and Optimization
Shreyas Srinivas Rangan (*Technical University of Riga*); *Toms Salgals* (*Riga Technical University*); *Jurgis Porins* (*Riga Technical University*);

22 Design of Compact Wideband Tunable Differential Phase Shifter with Large Phase Shift Range
Teng Ma (*Dalian Maritime University*); *Hongmei Liu* (*Dalian Maritime University*); *Yan Zhang* (*Dalian Maritime University*); *Yuyang Jiang* (*Dalian Maritime University*);

23 High-frequency Characteristics of the Free Rectangular Ring-bar Structure for Millimeter-wave Traveling-wave Tube
Chengfang Fu (*Shanghai Urban Construction Vocational College*); *Mingxu Lu* (*Shanghai Urban Construction Vocational College*); *B. Zhao* (*Shanghai Urban Construction Vocational College*);

24 A Novel Dual-port UWB MIMO Antenna with Dual-notch Characteristics
Quancheng Yu (*Southwest University of Science and Technology*); *Zuxue Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*DeTooLIC Technology Co., Ltd.*); *Haowen Zheng* (*Southwest University of Science and Technology*); *Zhanpeng Lin* (*Southwest University of Science and Technology*);

25 Performance-centric Analysis and Optimization for Intelligent Reflecting Surface Based MIMO Systems
Muhammad Arslan (*Tongji University*); *Mei Song Tong* (*Tongji University*);

26 Design of Aperture Coupled Spiral Resonator Array Antenna with Enhanced Radiation Characteristics
Yamato Tan (*University of Pakuan*); *Dwi Andi Nurmantris* (*Telkom University*); *Muhammad Farhan Maulana* (*Universitas Sangga Buana*); *Evyta Wismiana* (*University of Pakuan*); *Agustini Rodiah Mahdi* (*University of Pakuan*); *Mochamad Yunus* (*University of Pakuan*); *Mohammad Ridwan Effendi* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

27 Characterization of a Frequency Reconfigurable Rectangular-ring Microstrip Antenna Using Single Switch
Bambang Setia Nugroho (*Telkom University*); *Budi Syihabuddin* (*Telkom University*); *Trasma Yunita* (*Institut Teknologi Bandung*);

28 Dual-band, Dual-output Power Amplifier with Integrated Harmonic Control Based on Dual Transmission Lines
Yang Li (*Anhui University*); *Kaixian OuYang* (*Anhui University*); *Rui Chu* (*Anhui University*); *Yongbing Hu* (*Anhui University*); *Qinghua Wang* (*Anhui University*); *Taotao Xu* (*Anhui University*);

29 Analysis of Frequency Arrangement for the 600 MHz Band
Guntis Ancans (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

30 Joint Inversion of Radial Current and Ionospheric Height with High-frequency Hybrid Sky-surface Wave Radar
Mingtao Wang (*Wuhan University*); *Xiongbin Wu* (*Guilin University of Electronic Technology*); *Lan Zhang* (*Wuhan University*); *Heng Zhou* (*Wuhan University*);

31 Certified Randomness from Uncharacterized Source and Measurement
Xing Lin (*University of Hong Kong*);

32 Conception of Assessment Checkpoints of Broadband Internet Coverage and Services Availability
Elmars Lipenbergs (*Riga Technical University*); *Inga Vagale* (*Riga Technical University*); *Guntis Ancans* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

33 A CMOS On-chip Wireless Link Integrating with a Wideband Frequency Synthesizer and a High-gain Power Amplifier
Gang Wu (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Liaug Yunn* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*);

34 A Signed Recursive Approximate Multiplier for Energy-efficient Edge Computing
Wen Ke Li (*Tongji University*); *Xiaoling Jia* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

35 Soft Magnetic Actuators with High Work Density for Programmable Electromagnetic Actuation
Somi Kim (*Ulsan National Institute of Science and Technology (UNIST)*); *Hoon Eui Jeong* (*Ulsan National Institute of Science and Technology*);

36 An Improved FinFET Model Characterizing the Cryogenic Effect
Shihan Xiang (*UESTC*); *Yunqiu Wu* (*University of Electronic Science and Technology of China*); *Jun Liu* (*Hangzhou Dianzi University*); *Huihua Liu* (*UESTC*); *Chenxi Zhao* (*UESTC*); *Yiming Yu* (*UESTC*); *Kai Kang* (*University of Electronic Science and Technology of China*);

37 Micron-scale Temperature Field Measurement Based on Digital Holographic Interferometry
Teng-Yu Long (*Guilin University of Electronic Technology*); *Ling Guo* (*Guilin University of Electronic Technology*); *Jun Ma* (*Guilin University of Electronic Technology*);

38 Single-particle Analysis of Photocatalytic Performance on Graphitic Carbon Nitride by In-situ Observation
Masanori Sakamoto (*Niihama KOSEN*); *Yugo Imai* (*National Institute of Technology (KOSEN), Niihama College*); *Ken-ichi Saitow* (*Hiroshima University*); *Hideyuki Hirazawa* (*Niihama KOSEN*); *Masami Nishikawa* (*Nagaoka University of Technology*);

39 Optimized FPGA Design of Efficient Sub-pixel Convolutional Network for Real-time SAR Image Super-resolution
Bashir Zubair (*Beijing Institute of Technology*); *Weidong Hu* (*Beijing Institute of Technology*); *Raza Hamid* (*Beijing Huawei Electronics Communications Technology Ltd.*); *Jincheng Peng* (*Beijing Institute of Technology*);

40 Structural-perceptual Image Super Resolution Using Charbonnier-SSIM Loss in an Efficient Sub-pixel Convolutional Network
Zubair Bashir (*Beijing Institute of Technology*); *Weidong Hu* (*Beijing Institute of Technology*); *Raza Hamid* (*Beijing Huawei Electronics Communications Technology Ltd.*); *Jincheng Peng* (*Beijing Institute of Technology*);

41 Research on OAM and Channel Characteristics of Gibbs Vortex Beam-based on Hypersonic Plasma Turbulence Model
Qingqing Deng (*Anhui University*); *Zhaoyu Liu* (*Anhui University*); *Wei Chen* (*Anhui University*); *Lixia Yang* (*Anhui University*); *Yujie Feng* (*Anhui University*);

42 Magnetic Polymer Radio-absorbing Composites with NiZn-ferrite Fillers
Vladimir G. Kostishin (*National Research Technology University MISIS*); *Igor M. Isaev* (*The University of Science and Technology MISIS*); *Dmitrij V. Salogub* (*The University of Science and Technology MISIS*);

43 Acousto-optic Spatial Frequency Filters for Creation of Reconfigurable Hollow Optical Beams
Vladimir Ya Molchanov (*University MISIS*); *Konstantin B. Yushkov* (*National University of Science and Technology "MISIS"*); *Alexander I. Chizhikov* (*University MISIS*); *Dmitry V. Obydennov* (*University MISIS*);

44 Development of a 434 MHz Regional Hyperthermia Applicator Using 8 Bow-tie Antennas
Filip Zajan (*Czech Technical University in Prague*); *Jan Vrba* (*Czech Technical University in Prague*); *Milan Babák* (*Czech Technical University in Prague*); *Michaela Nečasová* (*Czech Technical University in Prague*); *Kateřina Pavelková* (*Czech Technical University in Prague*);

45 Secure Quantum Key Distribution Against Imperfect Source
Jia-Xuan Li (*University of Science and Technology of China*); *Yang-Guang Shan* (*University of Science and Technology of China*); *Rong Wang* (*Hangzhou Dianzi University*); *Feng-Yu Lu* (*University of Science and Technology of China*); *Zhen Qiang Yin* (*University of Science and Technology of China*); *Shuang Wang* (*University of Science and Technology of China*); *Wei Chen* (*University of Science and Technology of China*); *De-Yong He* (*University of Science and Technology of China*); *Guang-Can Guo* (*University of Electronic Science and Technology of China*); *Zhengfu Han* (*University of Science and Technology of China*);

00:00 Maximizing System Performance: Leveraging Candid Configurations for SMPs
R. Prabu (*Bharath Institute of Higher Education and Research*);

00:00 Additively Printed Broadband Electromagnetic Wave Absorber for X-band Applications
Muhammad Bello Abdullahi (*Bayero University*); *I. G. Saidu* (*Usmanu Danfodiyo University Sokoto*);

00:00 Radiation of a Charged Particle Entering a Semi-infinite Cylindrical Waveguide with a Multilayer Wall
Mikayel Ivanyan (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Bagrat Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Armen Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Lusine Aslyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Vitali Grisha Khachatryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *Klaus Floettmann* (*Deutsches Elektronen-Synchrotron DESY*); *Francois Lemery* (*Deutsches Elektronen-Synchrotron DESY*); *Vardan Avagyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*);

00:00 Using Modulated Non-thermal Electromagnetic Waves to Reduce Toxic Side Effects of Anticancer Drugs on Living Organisms
N. H. Karapetyan (*Yerevan State University*); *Yuri S. Babayan* (*Yerevan State Medical University*); *R. S. Ghazaryan* (*Yerevan State University*); *Vitaly P. Kalantaryan* (*Yerevan State University*); *A. A. Tadevosyan* (*Yerevan State Medical University*); *Gayane V. Ananyan* (*Yerevan State University*);

00:00 Time-dependent and Time-independent Solutions of Light's Deflection in the Solar Gravity Field
Ang-Yang Yu ();

00:00 Optical Manipulation of Microdroplets for Precise Imaging and Manipulation of Nanostructures
Xixi Chen (*Jinan University*); *Yuchao Li* (*Jinan University*);

00:00 Tri-band Antenna Design for Wi-Fi 7 Dedicated Handheld Device Application
Chen Hsiao (*National Ilan University*); *Chien-Wen Chiu* (*National Ilan University*);

00:00 Studies on Injection Locking and Suppression of Parasitic Modes in a Multimode Gyrotron
Nataliia V. Grigorieva (*Saratov Branch, Institute of Radio Engineering and Electronics RAS*); *Nikita Mikhailovich Ryskin* (*V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS*);

00:00 Phase-gradient Metasurface Single-layer Reflectarray for Millimeter-wave and 5G Applications
Tsung-Han Chan (*Feng Chia University*); *Hsuan-Han Huang* (*Feng Chia University*); *Bo-Hsun Huang* (*Feng Chia University*); *Ting-Yi Huang* (*Feng Chia University*);

00:00 Research on Quantum Gyroscope Based on Frequency Entangled Biphoton and Hong-Ou-Mandel Interference
Yiwei Zhai (*Shaanxi University of Science & Technology*); *Z. M. Chen* (*Shaanxi University of Science & Technology*);

00:00 Design of a Small Metal Detection System Using Magnetic Sensor Array for Endoscopic Breast Surgery Assistance
Xinyue Song (*Xi'an Jiaotong University*); *Yuanxi Cao* (*Xi'an Jiaotong University*); *Penghao Feng* (*Xi'an Jiaotong University*); *Sen Yan* (*Xi'an Jiaotong University*);

00:00 Response Surface Methodology Optimization of Micro-Kaplan Turbines for Electric Power Generator
Ryoichi S. Amano (*University of Wisconsin-Milwaukee*);

00:00 Dual-modal Fluorescent Hyperspectral Micro-CT for Precise Bioimaging Detection
Jing Luo (*Zhejiang University*); *He Zhu* (*Zhejiang University*); *Raheel Ahmed Janjua* (*Zhejiang University*); *Wenbin Ji* (*Zhejiang University*); *Ruili Zhang* (*Taizhou Hospital, Zhejiang University*); *Junbo Liang* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

00:00 Integrated X-ray CT and Hyperspectral Fluorescence Imaging for Advanced Bioimaging
Jing Luo (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);