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PIERS 2025 Abu Dhabi

PhotonIcs & Electromagnetics Research Symposium

also known as Progress In Electromagnetics Research Symposium

Program

May 4–8, 2025

Abu Dhabi, UAE

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THE ELECTROMAGNETICS ACADEMY

The ElectroMagnetics Academy (TEMA), founded by the late Professor Jin Au Kong (1942–2008) at MIT on 3 May 1989, is a nonprofit educational institution registered in the Commonwealth of Massachusetts, USA. TEMA is governed by a Board of Directors and operated by an Executive Committee consisting of the President, Vice President, Director of Operations, and Chairs of Committees.

TEMA is committed to academic excellence and the advancement of research and applications in electromagnetic theory, while also supporting the educational objectives of the electromagnetics profession. With the vision of "Advancing Photonics and Electromagnetics Science and Technology Without Borders for the Benefit of Humanity", TEMA aims to propel scientific and technological progress, nurture the next generation of leaders, and recognize those who contribute to advancements in photonics and electromagnetics.

TEMA fosters the sharing, dissemination, and discovery of knowledge in photonics and electromagnetics, while facilitating collaborative synergies between mathematicians, physicists, and engineers. It encourages both curiosity-driven research in science and technology-inspired research in engineering. This knowledge contributes to advancing global standards and improving the quality of life worldwide. Additionally, TEMA is committed to mentoring and supporting junior researchers, scientists, and engineers, who will play a pivotal role in shaping the future of technologies related to electromagnetics.

The mission of TEMA is to establish a global forum and collaborative environment for researchers to exchange and discuss their findings in a harmonious, inclusive manner. TEMA sponsors PhotonIcs and Electromagnetics Research Symposium (PIERS), also known as Progress In Electromagnetics Research Symposium, and the PhotonIcs and Electromagnetics Research Journals (PIER Journals). PIERS and PIER Journals aim to promote and accelerate the growth of science and technology worldwide, particularly in areas related to Maxwell's equations. This encompasses a wide range of frequencies, length scales, and topics, from classical electromagnetics to quantum optics and electromagnetics. Given the breadth and depth of this field, priority will be given to emerging and innovative areas. PIERS will serve as a platform for networking, knowledge sharing, and dissemination, bringing together scientists and engineers from across the globe. Supported by the open-access PIER Journals, this platform will play a key role in advancing TEMA's mission.

Professor Jin Au Kong, MIT

Founding President and PIERS Founding Chair

Professor Leung Tsang, University of Michigan

President of The Electromagnetics Academy and PIERS Chair

PIER JOURNALS (WWW.JPIER.ORG)

PIER
Progress In Electromagnetics Research

PIER Journals (PIER, PIER B, PIER C, PIER M, and PIER Letters) are a family of journals supported by the PhotonIcs and Electromagnetics Research Symposium (PIERS). Progress In Electromagnetics Research (PIER), also known as PhotonIcs & Electromagnetics Research.

These journals prioritize timely peer review to ensure rapid publication while keeping costs manageable for researchers from diverse background. Meanwhile, all content is freely accessible to readers worldwide for efficient dissemination of research.

The main PIER published by The Electromagnetic Academy (USA), is a highly selective multidisciplinary journal with a mission to publish ground-breaking, high-quality, and new research and invited reviews of significance across all areas of photonics and electromagnetics. The paper published in PIER should substantially advance a particular field, open a new area of research, or solve a long-standing challenge in an existing field. The impact factor of PIER is 6.1 in 2023, and 9.15 in 2024 (real time).

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PhotonIcs & Electromagnetics Research Symposium
May 4–8, 2025
Abu Dhabi, UAE

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Mehmet Burçin ÜNLÜ, Ozyegin University

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Weng Cho Chew, Purdue University

Sailing He, Zhejiang University; Royal Institute of Technology

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Leung Tsang, University of Michigan

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SYMPOSIUM VENUE

The 2025 PhotonIcs & Electromagnetics Research Symposium, will be held in Abu Dhabi from 4 to 8 May 2025, at the Abu Dhabi National Exhibition Centre (ADNEC).

Address: ADNEC Centre Abu Dhabi, Khaleej Al Arabi Street, P. O. Box 5546, Abu Dhabi, United Arab Emirates.

REGISTRATION

The PIERS technical sessions will begin at 16:00 on Sunday, May 4, 2025. You may come to register during 8:30–18:30 on Sunday, May 4, 2025, at the registration desks at the ADNEC. Registration is also available from 8:00–18:00 on May 5–8, 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

The Symposium Reception will be organized on Sunday, May 4 from 19:00 to 21:00 at the conference site, ADNEC. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by April 15, 2025.

Symposium Banquet

The Symposium Banquet will be on Wednesday, May 7 from 20:00 to 23:00. The banquet venue is TBD and that transportation from ADNEC to the banquet and back will be provided. A limited number of banquet tickets will be available. For all participants, the price will be USD 80 per person after April 1, 2025. Please make reservation and pay in advance for the banquet by April 1, 2025.

PIERS ONLINE

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

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Onsite Oral Presentations

- **LOAD and TEST Presentation Files in Advance:**
  All Oral Presenters must load and test presentation files in the PIERS OFFICE no later than 12 hours before the scheduled talk. 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, Power Point are recommended. Movies or animations in MPEG, Windows Media, and etc., should be tested in PIERS computer in PIERS OFFICE no later than half-day before the 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. All poster presenters are suggested to be present at least during 10:00–10:30 and 15:30–16:00.
- 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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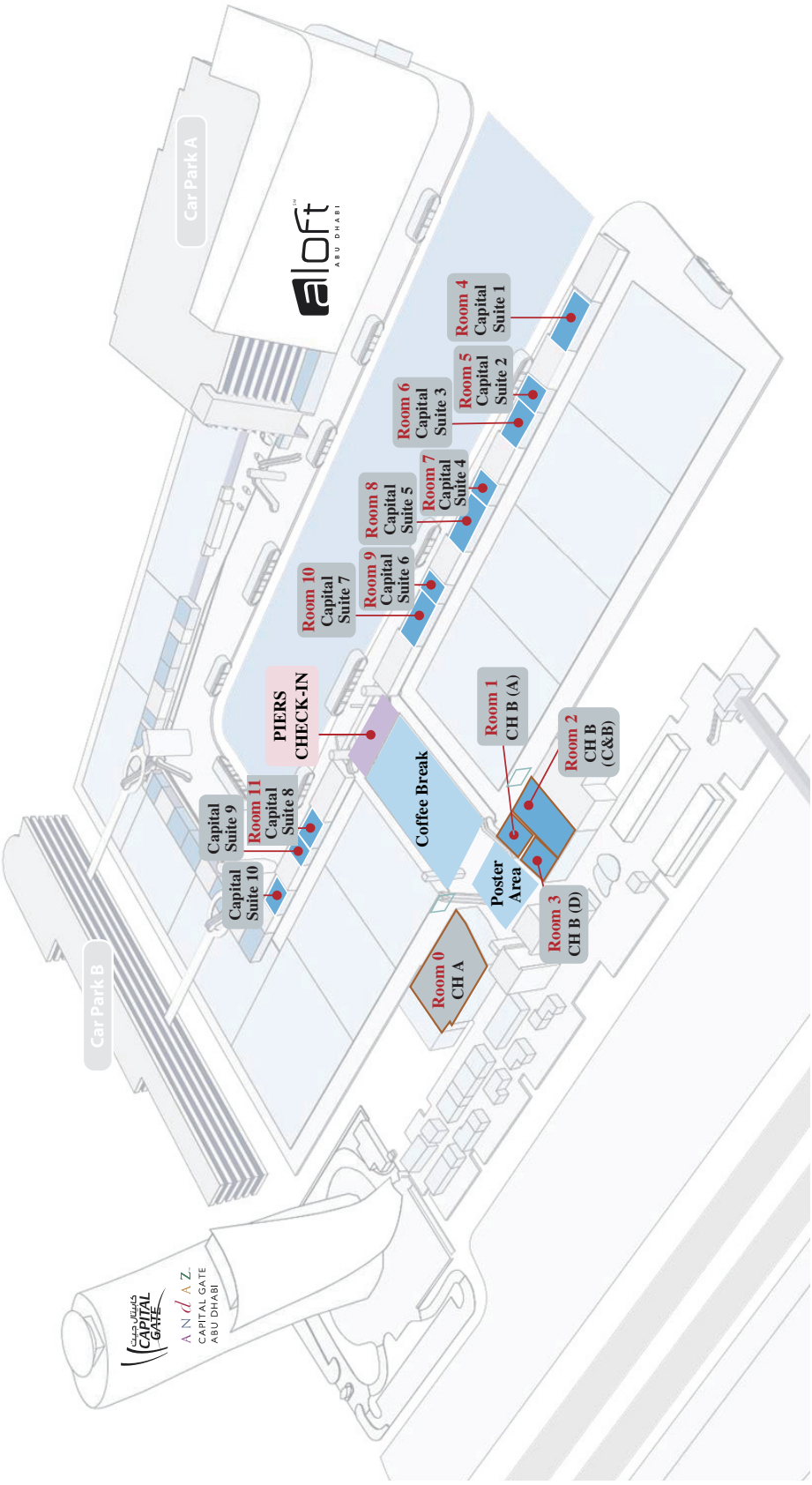

OPENING CEREMONY 16:00-17:00

Sunday PM, May 4, 2025

Room 0 - CH A

Organized by Ibrahim (Abe) M. Elfadel

00:00 Welcome Note from General Chairs
Ibrahim (Abe) M. Elfadel (Khalifa University);

00:00 Overview of the Technical Program
Boon S. Ooi (King Abdullah University of Science and Technology);

00:00 Overview of the Social Program
Ibrahim (Abe) M. Elfadel (Khalifa University);

00:00 Welcome Address by VIP 1

00:00 Welcome Address by VIP 2

HOT TOPICS IN PHOTONICS AND ELECTROMAGNETICS

Sunday PM, May 4, 2025

Room 0 - CH A

Organized and Chaired by Sailing He

17:00 Tailoring Light Beyond the Textbook
Andrew Forbes (University of the Witwatersrand);

17:10 Singular Dispersion Equation: Breaking Diffraction Limit in Dielectrics
Renmin Ma (Peking University);

17:20 Nanotechnology for Vision Restoration
Guglielmo Lanzani (Istituto Italiano di Tecnologia);

17:30 Terahertz Photonics on a Chip
Mona Jarrahi (University of California-Los Angeles (UCLA);

17:40 Full-spectrum Reconfigurable Intelligent Surfaces (RIS): Advancing Communication, Sensing, and Localization from Microwave to Optical
Qammer H. Abbasi (University of Glasgow)

17:50 All-angle Scanning and Multifunctional Metasurfaces
Sergei A. Tretyakov (Aalto University)

18:00 Intelligent Metamaterials and Metamaterials Intelligence
Hongsheng Chen (Zhejiang University)

00:00 Advances and Fusion of Organic and Perovskite Photovoltaics
Gang Li (Hong Kong Polytechnic University)

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English.

CURRENCY AND CREDIT CARDS

United Arab Emirates currency is Emirati Dirham with its monetary unit AED. The exchange rate is 1 USD for about 3.67 AED. Credit cards and cash are acceptable for payments. International credit cards are acceptable in almost all shops, restaurants etc..

TAXI

Usually, a taxi is available along the roadsides, while you wave for it. However, on main streets it is only available at taxi stops or in front of a hotel.

BUSINESS OPENING HOURS

- **Government and Bank Hours**
  Opening hours: (4.5 days) 08:00 – 16:00, from Monday to Thursday; 08:00 – 12:00, Friday.
- **Malls and Markets**
  Operating hours: generally 10:00 – 23:00, from Monday to Sunday.
- **Emirates Post**
  Opening hours: usually 08:00 – 20:00, from Monday to Friday.
- **ATMs**
  Opening hours: 24 hours a day, seven days a week.

ELECTRICITY

In Abu Dhabi, the standard outlets provide AC of 220 V/50 Hz.

PIERS 2025 ABU DHABI TECHNICAL PROGRAM

Session 0P0
Opening Ceremony 16:00-17:00

Sunday PM, May 4, 2025

Room 0 - CH A

Organized by Ibrahim (Abe) M. Elfadel

00:00 Welcome Note from General Chairs
Ibrahim (Abe) M. Elfadel (*Khalifa University*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

00:00 Overview of the Technical Program
Boon S. Ooi (*King Abdullah University of Science and Technology*);

00:00 Overview of the Social Program
Ibrahim (Abe) M. Elfadel (*Khalifa University*);

00:00 Welcome Address by VIP 1
();

00:00 Welcome Address by VIP 2
();

Session 0P1
Hot Topics in Photonics and Electromagnetics

Sunday PM, May 4, 2025

Room 0 - CH A

Organized by Sailing He

Chaired by Sailing He

17:00 Hot Topic Tailoring Light Beyond the Textbook
Andrew Forbes (*University of the Witwatersrand*);

17:10 Hot Topic Singular Dispersion Equation: Breaking Diffraction Limit in Dielectrics
Renmin Ma (*Peking University*);

17:20 Hot Topic Nanotechnology for Vision Restoration
Guglielmo Lanzani (*Istituto Italiano di Tecnologia*);

17:30 Hot Topic Terahertz Photonics on a Chip
Mona Jarrahi (*University of California-Los Angeles (UCLA)*);

17:40 Hot Topic Full-spectrum Reconfigurable Intelligent Surfaces (RIS): Advancing Communication, Sensing, and Localization from Microwave to Optical
Qammer H. Abbasi (*University of Glasgow*);

17:50 Hot Topic All-angle Scanning and Multifunctional Metasurfaces
Sergei A. Tretyakov (*Aalto University*);

18:00 Hot Topic Intelligent Metamaterials and Metamaterials Intelligence
Hongsheng Chen (*Zhejiang University*);

00:00 Hot Topic Advances and Fusion of Organic and Perovskite Photovoltaics
Gang Li (*Hong Kong Polytechnic University*);

Session 1A1
Metasurfaces for Wireless Communications and Sensing 1

Monday AM, May 5, 2025

Room 1 - CH B (A)

Organized by Jorge Ricardo Mejia-Salazar, Jhonattan Córdoba Ramírez

Chaired by Jorge Ricardo Mejia-Salazar, Jhonattan Córdoba Ramírez

8:30 Keynote Artificial Intelligence-aided Understanding of Metasurfaces
Osvaldo N. Oliveira, Jr. (*University of Sao Paulo*); *Jorge Ricardo Mejia-Salazar* (*National Institute of Telecommunications (Inatel)*);

9:00 Invited On the Compromise between Performance and Efficiency in RIS-aided Communication Systems
Pedro Henrique Cardoso de Souza (*National Institute of Telecommunications — Inatel*); *M. Khazaee* (*National Institute of Telecommunications — Inatel*); *Luciano Leonel Mendes* (*National Institute of Telecommunications — Inatel*);

9:20 A Liquid Crystal Assisted RIS for Two-dimensional Beam Tailoring in the mm-Wave/THz Band
Antonello Andreone (*University of Naples "Federico II"*); *Marco Castriota* (*University of Calabria*); *Antonio Ferraro* (*NANOTEC, National Research Council (CNR)*); *Vincenzo Galdi* (*Universita degli Studi di Salerno*); *Michele Giocondo* (*NANOTEC, National Research Council (CNR)*); *Muhammad Fayyaz Kashif* (*Università degli Studi di Napoli Federico II*); *Zahra Mazaheri* (*Università di Napoli Federico II*); *Francesco Pio Monaco* (*MANTID srl*); *Gian Paolo Papari* (*Università di Napoli Federico II*); *Roberto Parente* (*MANTID srl*); *Junaid Yaseen* (*Università di Napoli Federico II*); *Daniele Riccio* (*Università di Napoli Federico II*);

9:35 Next-generation Programmable Holographic Metasurface Antenna
Abdul Jabbar (*Glasgow Caledonian University*); *Mostafa Elsayed* (*University of Glasgow*); *Masood Ur-Rehman* (*University of Glasgow*); *Muhammad Ali Imran* (*University of Glasgow*); *Hadi Larijani* (*Glasgow Caledonian University*); *Qammer H. Abbasi* (*University of Glasgow*); *Muhammad Usman* (*Glasgow Caledonian University*);

9:50 Ultra-thin Angularly Stable Polarization Conversion Metasurface for Millimeter-wave Applications
Hisham Khalil (*The University of Lahore*); *Umair Rafique* (*University of Oulu*); *Hijab Zahra* (*Macquarie University*); *Shobit Agarwal* (*Indian Institute of Technology, Ropar*); *Syed Muzahir Abbas* (*Macquarie University Sydney*);

10:05 **Coffee Break**

10:30 How to Bring 6G to Reality? Its Enabling Technologies
Keynote
Qammer H. Abbasi (*University of Glasgow*);

11:00 2-bit Reconfigurable Metasurfaces Based on Two-layer
Invited Jerusalem Crosses for Frequency and Polarization Control
William Orivaldo Faria Carvalho (*National Institute of Telecommunications (Inatel)*); *Osvaldo N. Oliveira, Jr.* (*University of Sao Paulo*); *Jorge Ricardo Mejia-Salazar* (*National Institute of Telecommunications (Inatel)*);

11:20 An Overview of High Impedance Surface Antenna: Design and Analysis
Ahmad T. Almutawa (*Abdullah Al Salem University*);

11:35 Metamaterial Circular Polarizer Using Double Layer Split-Ring Resonator
Farman Ali Mangi (*University of Electronic Science and Technology of China*); *Fatima Ghulam Kakepoto* (*Zhejiang Normal University*); *Syed Muzahir Abbas* (*Macquarie University Sydney*);

11:50 Design and Fabrication of a Flexible Metamaterial Absorber Based on Fabric
Yajing Wang (*Xi'an Polytechnic University*); *Xiuchen Wang* (*Xi'an Polytechnic University*);

12:05 Novel Nanoantennas for Gas Sensing Applications
Invited
Mohamed A. Swillam (*University of Toronto*); *AbdelRahman M. Ghanim* (*The American University in Cairo*);

Session 1A2
Acoustic Metamaterials and Metasurfaces

Monday AM, May 5, 2025

Room 2 - CH B (C&B)

Organized by Yun Lai, Ying Wu

Chaired by Yun Lai, Ying Wu

8:30 Elastic Spin-orbit Interaction and Chirality-induced
Invited Phonon Spin Selectivity
Jie Ren (*Tongji University*);

8:50 Cyclic Evolution of Synergized Spin and Orbital Angular
Invited Momenta
Xiujuan Zhang (*Nanjing University*); *Lei Liu* (*Nanjing University*); *Xiao-Chen Sun* (*Nanjing University*); *Yuan Tian* (*Nanjing University*); *Ming-Hui Lu* (*Nanjing University*); *Yan-Feng Chen* (*Nanjing University*);

9:10 Topological Phononics Arising from Fluid-solid Interac-
Invited tions
Haiyan Fan (*Southeast University*); *Tuo Liu* (*Institute of Acoustics, Chinese Academy of Sciences*); *Jie Zhu* (*Tongji University*); *Xiang Zhang* (*University of Hong Kong*);

9:30 Acoustic Leaky-wave Antenna Based on Phononic Crystals
Keqiang Lyu (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

9:45 Machine Learning Driven Inverse Design of Broadband Acoustic Superscattering
Lijuan Fan (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

10:00 **Coffee Break**

10:30 Acoustic Metagratings: From Principle to Applications
Invited
Jun Mei (*South China University of Technology*);

10:50 Three-dimensional Double-zero-index Medium
Invited
Changqing Xu (*Nanjing Normal University*); *Hong Chen Chu* (*Nanjing University*); *Zeguo Chen* (*Hong Kong Baptist University*); *Jinjie Shi* (*Nanjing University*); *Guancong Ma* (*Baptist University of Hongkong*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*); *Yun Lai* (*Nanjing University*);

11:10 Acoustic Pancharatnam-Berry Metasurfaces
Wanyue Xiao (*City University of Hong Kong*); *Wenjian Kuang* (*Hong Kong Polytechnic University*); *Sibo Huang* (*City University of Hong Kong*); *Shanjun Liang* (*Hong Kong Polytechnic University*); *Din Ping Tsai* (*City University of Hong Kong*); *Shubo Wang* (*City University of Hong Kong Shenzhen Research Institute*);

11:25 Acoustic Meta-devices with Ultra-broadband Function-
Invited alities
Chenkai Liu (*Nanjing University*); *Jinjie Shi* (*Nanjing University*); *Yun Lai* (*Nanjing University*);

11:45 Directional Scattering of Acoustic Waves: Acoustomechanical Forces and Acoustical Lift Effect
Mikhail Smagin (*ITMO University*); *I. Timankova* (*ITMO University*); *M. Kuzmin* (*ITMO University*); *Vladimir Dmitrievich Igoshin* (*ITMO University*); *Andrey Lutovinov* (*ITMO University*); *Ivan Toftul* (*Australian National University*); *Konstantin Y. Bliokh* (*RIKEN*); *Mihail I. Petrov* (*ITMO University*);

12:00 Silicon-polystyrene Binary Colloidal Photonic Crystals for Light Reflection Engineering and Confinement Applications
Sreya Sanjeev (*National Institute of Technology Calicut*); *Abijith Kaithatharayil Reju* (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*); *Subramanyan Namboodiri Varanakkottu* (*National Institute of Technology Calicut*);

Session 1A3
Advanced Photonic Technologies for Spectroscopic Applications 1

Monday AM, May 5, 2025

Room 3 - CH B (D)

Organized by Simone Borri, Weixiong Zhao, Wei Dong Chen

Chaired by Simone Borri, Wei Dong Chen

8:30 Monitoring Greenhouse and Pollutant Gases Emission
Invited by Ultra-long Open-air Path Dual-comb Spectroscopy
Ruo-Can Zhao (*University of Science and Technology of China*); *Yu Wang* (*University of Science and Technology of China*); *Chong Wang* (*University of Science and Technology of China*); *Yuli Han* (*University of Science and Technology of China*); *Xiang-Hui Xue* (*University of Science and Technology of China*);

8:50 Field Deployed Mid-infrared Intrapulse DFG Frequency
Invited Combs for Atmospheric and Chemical Kinetic Applications
Greg B. Rieker (*University of Colorado*);

9:10 Development of UAV Atmospheric Composition and Aerosol Detection System
Weixiong Zhao (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Jiacheng Zhou* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Haiyue Zhai* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Shichuan Ni* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Weidi Wang* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Bo Fang* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy Sciences*); *Weihua Cui* (*Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences*); *Weijun Zhang* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*);

9:25 Suborbital Laser Heterodyne Spectrometer for Martian Methane Measurement
Tu Tan (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*); *Weixiong Zhao* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Xiaoming Gao* (*Anhui Institutes of Physical Science, Chinese Academy of Sciences*); *Jun Li* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*);

9:40 Comparative Analysis of Data-driven Models for Spatially Resolved Thermometry Using Emission Spectroscopy
Ruiyuan Kang (*Technology Innovation Institute*); *Meixia Geng* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

10:00 **Coffee Break**

10:30 New Environmental Monitoring Technology and Its Ap-
Invited plication in Air Quality Research and Management
Zhi Ning (*City University of Hong Kong*);

10:50 Near Infrared Imaging for Clinical Applications
Invited
Jingjing Jiang (*University Hospital and University of Zurich*);

11:10 High-precision Measurement of CO_2 Concentration and
Invited Its Isotopic Ratios Based on QCLAS Technology
Xiaojuan Cui (*Anhui University*); *Qizhi Zhu* (*Anhui Univerisitry*); *Xiaohan Cui* (*Anhui Univerisitry*); *Shuaikang Yin* (*Anhui Univerisitry*); *Xin Shi* (*Anhui Univerisitry*); *Yang Hong* (*Jianghuai Advance Technology Center*); *Benli Yu* (*Anhui University*);

11:30 High-sensitivity Cantilever-enhanced Photoacoustic Sensors: Novel Configurations towards Low-power and High-resolution Regimes
Jacopo Pelini (*CNR-INO — Istituto Nazionale di Ottica*); *Stefano Dello Russo* (*ASI Agenzia Spaziale Italiana — Centro di Geodesia Spaziale*); *Zhen Wang* (*The Chinese University of Hong Kong*); *Iacopo Galli* (*CNR-INO, Istituto Nazionale di Ottica*); *Maria Concetta Canino* (*INFN, Istituto Nazionale di Fisica Nucleare*); *Alberto Roncaglia* (*INFN, Istituto Nazionale di Fisica Nucleare*); *Pablo Cancio Pastor* (*CNR-INO — Istituto Nazionale di Ottica*); *Naota Akikusa* (*Hamamatsu Photonics K.K.*); *Wei Ren* (*The Chinese University of Hong Kong*); *Paolo De Natale* (*CNR-INO, Istituto Nazionale di Ottica*); *Mario Siciliani De Cumis* (*ASI Agenzia Spaziale Italiana — Centro di Geodesia Spaziale*); *Simone Borri* (*CNR-INO, Istituto Nazionale di Ottica*);

11:45 Portable Laser-flash Photolysis Faraday Rotation Spectrometer for Measuring Atmospheric Total OH Reactivity
Weijun Zhang (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Bo Fang* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy Sciences*); *Weixiong Zhao* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy of Sciences*); *Nana Wei* (*Anhui Institute of Optics and Fine Mechanics, HFIPS, Chinese Academy Sciences*);

12:00 Suppression of Dye Fluorescence Quenching via Strong Coupling
Ilya V. Doronin (*NL Dukhov All-Russian Scientific Research Institute of Automation*);

Session 1A4a
Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media

Monday AM, May 5, 2025

Room 4 - Capital Suite 1

Chaired by Ravikiran Saripalli, Baile Zhang, Hongsheng Chen

8:30 Three-dimensional Topological Valley Photonic Crystals
Wenhao Li (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*); *Haoran Xue* (*The Chinese University of Hong Kong*); *Yihao Yang* (*Zhejiang University*);

8:45 Omnidirectionally Matched Cloak for Unpolarized Waves
Yuqi Wang (*Zhejiang University*); *Xiaojun Hu* (*Zhejiang University*); *Yuan Gao* (*Shandong University of Technology*); *Dexin Ye* (*Zhejiang University*);

9:00 Topological Edge States in a Square Lattice of Dielectric Bianisotropic Resonators
Alina D. Rozenblit (*ITMO University*); *Nikita A. Olekhno* (*ITMO University*);

9:15 Highly-efficient Near-field Thermophotovoltaics Based on Nanowire Metamaterials for Low-grade Heat Recovery
Xinran Li (*Zhejiang University*); *Sen Zhang* (*Zhejiang University*); *Yongdi Dang* (*Zhejiang University*); *Yuxuan Li* (*Zhejiang University*); *Yi Jin* (*Zhejiang University*); *Yungui Ma* (*Zhejiang University*);

9:30 High-resolution Recommender System for Metamaterial Synthesis
Ismail Abiola Shittu (*Khalifa University*); *Mohamed A. Abou-Khousa* (*Khalifa University*); *Ibrahim (Abe) M. Elfadel* (*Khalifa University*);

9:45 Tailorable Resonant Emissivity in the Mid-infrared Range between 10 µm and 25 µm on Highly Doped Pristine Silicon Gratings
Kirollos Ernest Matta (*Université Gustave Eiffel, CNRS, ESYCOM*); *Sreyash Sarkar* (*Université Gustave Eiffel*); *Ahmed Elsayed* (*Si-Ware Systems*); *Frederic Marty* (*Université Gustave Eiffel*); *Armande Herve* (*Université Gustave Eiffel, CNRS, ESYCOM*); *Martine Gnambodoe-Capochichi* (*Université Gustave Eiffel*); *Abdelkrim Khelif* (*Hamad Bin Khalifa University*); *Mazen Erfan* (*Si-Ware Systems*); *Yasser M. Sabry* (*Si-Ware Systems*); *Elyes Nefzaoui* (*Université Gustave Eiffel*); *Tarik Bourouina* (*Université Paris-Est*);

10:00 **Coffee Break**

Session 1A4b
Oral Presentations for Best Student Paper Awards — SC4: Antennas and Microwave Technologies

Monday AM, May 5, 2025

Room 4 - Capital Suite 1

Chaired by Lutfi Albasha, Mihai Sanduleanu, Ping Li

10:30 Multifunctional Conformal Reconfigurable Holographic Metasurface
Xinyu Zhang (*Xidian University*); *Wei Hu* (*Xidian University*); *Tao Hong* (*Xidian University*);

10:45 A Miniaturized High-gain Ultra-wideband Antipodal Vivaldi Antenna with Circular Reflectors
Jing Jing Cao (*Tongji University*); *Ajay K. Poddar* (*Synergy Microwave Corporation*); *Ulrich L. Rohde* (*Synergy Microwave Corporation*); *Mei Song Tong* (*Tongji University*);

11:00 High-gain Circularly Polarized Foldable Reflectarray for 3U CubeSat
Khamis Hassan Ali (*Khalifa University*); *Omar Samir Hassan* (*Khalifa University*); *Mohamed A. Abou-Khousa* (*Khalifa University*);

11:15 Width-independent and Robust Multimode Interference Waveguides Based on Anomalous Bulk States
Lei Liu (*Nanjing University*); *Xiujuan Zhang* (*Nanjing University*); *Ming-Hui Lu* (*Nanjing University*); *Yan-Feng Chen* (*Nanjing University*);

11:30 Experimental Demonstration of Microwave Energy Harvesting Metasurface
C. Abdul Varis (*National Institute of Technology Calicut*); *Amogh Suseelan* (*National Institute of Technology Calicut*); *P. V. Arjun* (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

11:45 Modeling of Transparent Mesh Technology — Wideband Dispersion Model from Scattering Matrix
Amira Merainani (*Nantes Universite, CNRS, IETR UMR 6164*); *Yann Mahe* (*Nantes Universite, CNRS, IETR UMR 6164*); *Mohammed El-Gibari* (*Lunam Universite, Universite de Nantes*); *Tchanguiz Razban-Haghighi* (*LUNAM, IETR UMR 6164*);

Session 1A5a
Functional Nanomaterials for Optical Sensing and Imaging 1

Monday AM, May 5, 2025

Room 5 - Capital Suite 2

Organized by Pier Paolo Pompa

Chaired by Pier Paolo Pompa

8:30 Invited Solid-state Synthesized Poly(3,4-propylenedioxythiophene)/$LaFeO_3$ Composite; Structure, Properties and Application as Potential Electrode Materials for Sensing CECs
Thabo J. Mahlaka (*University of South Africa, Florida Science Campus*); *Unathi T. Sidwaba* (*University of South Africa, Florida Science Campus*); *Titus A. M. Msagati* (*University of South Africa, Florida Science Campus*);

8:50 Invited Novel Molecular Tools for Scalable Recordings of Neuronal Activity in vivo
Kiryl D. Piatkevich (*Westlake University*);

9:10 Keynote Light Transducers for Cell Photo Stimulation
Guglielmo Lanzani (*Istituto Italiano di Tecnologia*);

9:40 Invited Sustainable Optical Biosensing with Bioinspired Tools and Nanomaterials: From Paper- to Thread-based Microfluidic Analytical Devices
Elisa Michelini (*University of Bologna*); *Maria Maddalena Calabretta* (*University of Bologna*); *Denise Gregucci* (*University of Bologna*); *Faisal Nazir* (*University of Bologna*); *Emanuela Maiorano* (*University of Bologna*); *Caterina Cambrea* (*University of Bologna*);

10:00 **Coffee Break**

Session 1A6
Ultrafast and Nonlinear Nanophotonics 1

Monday AM, May 5, 2025

Room 6 - Capital Suite 3

Organized by Sergey Makarov, Mihail I. Petrov, Andrey A. Bogdanov, Costantino De Angelis

Chaired by Sergey Makarov, Costantino De Angelis

8:30 Invited Polarization-controlled Lasing in Few-layer $MoTe_2$ Coupled with an Optical Metasurface Supporting Quasi-trapped Modes
Valentyn S. Volkov (*Emerging Technologies Research Center, XPANCEO*); *A. N. Toksumakov* (*Emerging Technologies Research Center, XPANCEO*); *A. V. Shesterikov* (*Moscow Institute of Physics and Technology*); *F. M. Maksimov* (*Moscow Institute of Physics and Technology*); *M. K. Tatmyshevskiy* (*Moscow Institute of Physics and Technology*); *Mikhail Yu. Gubin* (*Moscow Institute of Physics and Technology*); *R. V. Kirtaev* (*Emerging Technologies Research Center, XPANCEO*); *Elena I. Titova* (*Moscow Institute of Physics and Technology*); *Dmitry I. Yakubovsky* (*Mocsow Institute of Physics and Technology*); *Elena S. Zhukova* (*Moscow Institute of Physics and Technology*); *S. M. Burdin* (*Moscow Institute of Physics and Technology*); *Sergey M. Novikov* (*Moscow Institute of Physics and Technology*); *Alexander I. Chernov* (*Moscow Institute of Physics and Technology*); *D. A. Ghazaryan* (*Moscow Institute of Physics and Technology*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *A. V. Prokhorov* (*Emerging Technologies Research Center, XPANCEO*);

8:50 Invited Nonlinear Optics and Ultrafast Carrier Dynamics in 2D Materials
F. Javier García de Abajo (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

9:10 Invited Intrinsically Chiral Exciton Polaritons in a Monolayer Semiconductor
Ivan Iorsh (*Queen's University*); *M. J. Wurdack* (*Stanford University*); *I. Staude* (*Friedrich Schiller University Jena*); *Yuri S. Kivshar* (*Australian National University*); *Elena A. Ostrovskaya* (*The Australian National University*);

9:30 Invited "hskip2emThe Interplay of Exciton-polaritons and Phonons
in Low-dimensional Semiconductor Systems
Anton Samusev (*Technische Universität Dortmund*);

9:50 Invited Van der Waals Heterostructure Metasurfaces
Luca Sortino (*Ludwig-Maximilians-Universität München*);

10:05 **Coffee Break**

10:30 Tunable Nanostructuring for van der Waals Materials
Invited
Gleb I. Tselikov (*Emerging Technologies Research Center, XPANCEO*); *Anton A. Minnekhanov* (*Emerging Technologies Research Center, XPANCEO*); *Georgy A. Ermolaev* (*Emerging Technologies Research Center, XPANCEO*); *Gleb V. Tikhonowski* (*Emerging Technologies Research Center, XPANCEO*); *Ivan S. Kazantsev* (*Emerging Technologies Research Center, XPANCEO*); *Ivan A. Kruglov* (*Emerging Technologies Research Center, XPANCEO*); *Alexander V. Syuy* (*Emerging Technologies Research Center, XPANCEO*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *Valentyn S. Volkov* (*Emerging Technologies Research Center, XPANCEO*);

10:50 Superscattering via Friedrich-Wintgen Mechanism and
Invited Its Applications
Adrià Canós Valero (*University of Graz*); *Hadi K. Shamkhi* (*ITMO University*); *Anton S. Kuprianov* (*Jilin University*); *Thomas Weiss* (*University of Graz*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Yuri S. Kivshar* (*Australian National University*); *Aleksandr Sergeevich Shalin* (*Moscow Institute of Physics and Technology*);

11:10 Advances in Topology Optimization for Integrated Op-
Invited tics and Meta-photonics
Antonio Cala Lesina (*Leibniz University Hannover*);

11:30 Imaging of Vaterite-based Drug Delivery Capsules in
Invited Vitro and in Vivo
Pavel B. Ginzburg (*ITMO University*); *Hani Barhom* (*Tel Aviv University*); *Andrey Machnev* (*Tel Aviv University*); *Andrey Ushkov* (*Tel Aviv University*); *Denis Kolchanov* (*Tel Aviv University*); *Pavel Bezrukov* (*Tel Aviv University*);

11:50 Ultrafast Additive-free Dopamine Detection at
Invited $\mathbf{10^{-8}}$ mM with Integrated Artificial Intelligence Vision Hardware
N. Li (*King Abdullah University of Science and Technology (KAUST)*); *Qizhou Wang* (*King Abdullah University of Science and Technology (KAUST)*); *Z. He* (*King Abdullah University of Science and Technology (KAUST)*); *Arturo Burguete-Lopez* (*King Abdullah University of Science and Technology (KAUST)*); *Andrea Fratalocchi* (*King Abdullah University of Science and Technology (KAUST)*);

12:10 Soft Organic Materials for Photonics
Invited
Rajadurai Chandrasekar (*University of Hyderabad*);

Session 1A7
Organic and Inorganic Optoelectronic Devices 1

Monday AM, May 5, 2025

Room 7 - Capital Suite 4

Organized by Wallace C. H. Choy

Chaired by Tze Chien Sum, Abhishek Kumar Srivastava

8:30 Leading the Future of Next-generation Vivid Displays
Keynote with Nanocrystalline Perovskite Emitters
Tae-Woo Lee (*Seoul National University*);

9:00 Vertically Phase Separated Photomultiplication-type
Invited OPDs with Ultrafast Dynamic Characteristics
Han Young Woo (*Korea University*);

9:20 Strategies for Highly Efficient Organic Photovoltaics for
Invited Indoor Use
Jae Won Shim (*Korea University*);

9:40 Photophysics of Perovskite Nano-emitters
Invited
Tze Chien Sum (*Nanyang Technological University*);

10:00 **Coffee Break**

10:30 High Open-circuit Voltage in Perovskite/Organic Tan-
Invited dem Solar Cells with Multi-functional Hole-selective Layer
Jung Geon Son (*Ulsan National Institute of Science and Technology (UNIST)*); *Shahid Ameen* (*Ulsan National Institute of Science and Technology (UNIST)*); *Bong Soo Kim* (*Ulsan National Institute of Science and Technology (UNIST)*); *Dong Suk Kim* (*Ulsan National Institute of Science and Technology (UNIST)*); *Jin Young Kim* (*Ulsan National Institute of Science and Technology (UNIST)*);

10:50 Green-processable Semiconducting Polymers for Photo-
Invited voltaics
Taiho Park (*Pohang University of Science and Technology (POSTECH)*);

11:10 Morphology Studies of Organic and Perovskite Solar
Invited Cells Using Grazing-incidence Scattering Techniques
Xinhui Lu (*The Chinese University of Hong Kong*);

11:30 Nanoscale Additive Manufacturing for Photonic Anti-
Invited counterfeiting Labels
Ji Tae Kim (*Korea Advanced Institute of Science and Technology (KAIST)*);

11:50 Quantum Rods Based Light-emitting Diodes
Invited
Abhishek Kumar Srivastava (*Hong Kong University of Science and Technology*);

Session 1A8
Terahertz and Mid Infrared Science and Technology

Monday AM, May 5, 2025

Room 8 - Capital Suite 5

Organized by Mauro Fernandes Pereira, Stefan Wabnitz

Chaired by Mauro Fernandes Pereira, Stefan Wabnitz

8:30 Terahertz and Mid Infrared Functionalities and Detection: From Theory to Devices
Mauro Fernandes Pereira (*Khalifa University*); *Humaira Zafar* (*Khalifa University*); *Apostolos Apostolakis* (*Institute of Physics of the Czech Academy of Siences*); *Vladimir L. Vaks* (*ITMO University*);

8:45 Development of Record Devices for MIR Photonics
Humaira Zafar (*Khalifa University*); *Mauro Fernandes Pereira* (*Khalifa University*);

9:00 Metallic Metasurfaces with Zero Reflectivity for Terahertz and Mid Infrared Radiation
Binglei Zhang (*Microsystem and Terahertz Research Center*); *Yang Liu* (*Microsystem and Terahertz Research Center*); *Yi Luo* (*Microsystem and Terahertz Research Center*); *Feodor V. Kusmartsev* (*Loughborough University*); *Anna Kusmartseva* (*Loughborough University*);

9:15 A Widely Tunable MIR Laser for Chemical Kinetics and Environmental Monitoring Applications
Mohammad Khaled Shakfa (*Khalifa University*); *Ali Elkhazraji* (*King Abdullah University of Science and Technology*); *Marco Marangoni* (*Politecnico di Milano*); *Aamir Farooq* (*King Abdullah University of Science and Technology*);

9:30 Silicon-based Racetrack Resonators: Harnessing EIT for Enhanced Near Infrared Sensing
Sarah Shafaay (*American University in Cairo*); *Mohamed A. Swillam* (*American University in Cairo*);

10:30 Invited Airborne THz Spectrometer for Detection of Air Pollutants
Candida Moffa (*Sapienza University of Rome*); *Alessandro Curcio* (*Sapienza University of Rome*); *Camilla Merola* (*Sapienza University of Rome*); *Daniele Francescone* (*Sapienza University of Rome*); *Marco Magi* (*Sapienza University of Rome*); *Massimiliano Coppola* (*Sapienza University of Rome*); *Lucia Giuliano* (*Sapienza University of Rome*); *Mauro Migliorati* (*Sapienza University of Rome*); *Massimo Reverberi* (*Sapienza University of Rome*); *Leonardo Mattiello* (*Sapienza University of Rome*); *Massimo Petrarca* (*Sapienza University of Rome*);

10:50 THz Characterisation of Semiconductors with Different Doping Levels Using a Combined Time-domain Spectrometer/Ellipsometer
Zahra Mazaheri (*Università di Napoli Federico II*); *Can Koral* (*Università della Basilicata*); *Gian Paolo Papari* (*Università di Napoli Federico II*); *Antonello Andreone* (*University of Naples "Federico II"*);

11:05 Recent Progresses of Mid-infrared Solid-state Lasers Directly-pumped by LDs
Jiawei Guo (*Southwest Institute of Technical Physics*); *Xinyang Wu* (*Xinjiang University*); *Jia Cheng* (*Southwest Institute of Technical Physics*); *Xinyu Wang* (*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences*); *Juhong Han* (*Southwest Institute of Technical Physics*); *He Cai* (*Southwest Institute of Technical Physics*); *Dongdong Wang* (*Southwest Institute of Technical Physics*); *Jiao Yang* (*Southwest Institute of Technical Physics*); *Di Song* (*Southwest Institute of Technical Physics*); *Jiaqi Wang* (*Southwest Institute of Technical Physics*); *Shuyan Song* (*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences*); *You Wang* (*Southwest Institute of Technical Physics*);

11:20 Terahertz Mapping to Recover Hidden Layers in Pictorial Materials
Candida Moffa (*Sapienza University of Rome*); *Daniele Francescone* (*Sapienza University of Rome*); *Alessandro Curcio* (*Sapienza University of Rome*); *Anna Candida Felici* (*Sapienza University of Rome*); *Massimo Petrarca* (*Sapienza University of Rome*);

11:35 Directional Couplers for MIR Sensing Applications
Abdullah Al-Ateqi (*Khalifa University*); *Humaira Zafar* (*Khalifa University*); *Mauro Fernandes Pereira* (*Khalifa University*);

Session 1A9a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

Monday AM, May 5, 2025

Room 9 - Capital Suite 6

Chaired by Ibrahim (Abe) M. Elfadel, Montasir Qasymeh, You Wang

8:30 Manipulating Wave-field and Information States in Disordered Scattering Spaces
Jinyan Ma (*Zhejiang University*); *Da Li* (*Zhejiang University*); *Ruifeng Li* (*Zhejiang University*); *Erping Li* (*Zhejiang University*);

8:45 Impact of Shear Waves on the Q-factor of Acoustic Bound States in the Continuum
Iman A. Madkhali (*King Abdullah University of Science and Technology*); *Mohamed Farhat* (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

9:00 An Inverse Modelling Technique Based on Semi-supervised Invertible Neural Network for Microwave Components
Ze-Ming Wu (*Shanghai Jiaotong University*); *Zheng Li* (*Shanghai Jiao Tong University*); *Hai-Biao Chen* (*Shanghai Jiaotong University*); *Xiaochun Li* (*Shanghai Jiao Tong University*); *Jun-Fa Mao* (*Shanghai Jiao Tong University*);

9:15 Backward-wave Gyro-oscillator Based on the Use of a Rectilinear Electron Beam
Ekaterina M. Novak (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*); *Ivan V. Osharin* (*Institute of Applied Physics, RAS*); *Evgeniy S. Semenov* (*Institute of Applied Physics*);

9:30 Study of Stimulus-responsive Superhydrophobic Electromagnetic Shielding Fabrics
Gege Hang (*Xi'an Polytechnic Universit*); *Zhe Liu* (*Xi'an Polytechnic University*);

9:45 A Novel Computational Architecture for the Method of Moments Optimized by Out-of-Order Execution and SIMD
Xiao Jie Lu (*Tongji University*); *Yuan Yang Du* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

10:00 **Coffee Break**

Session 1A9b
Advanced Nummerical Methods in Computational Electromagnetics 1

Monday AM, May 5, 2025

Room 9 - Capital Suite 6

Organized by Mei Song Tong, Gaobiao Xiao

Chaired by Mei Song Tong

10:30 A Direct Domain Decomposition Solver with Multi-level Skeletonization and Higher-order Absorbing Boundary Condition
Jiaqing Lu (*The Ohio State University*); *Jin-Fa Lee* (*The Ohio State University*);

10:45 Inverse Design of Photonic Devices with Statistical Learning-based Global Optimization Algorithms
M. Elsawy (*Université Côte d'Azur*); *A. Gobé* (*Université Côte d'Azur*); *G. Leroy* (*Université Côte d'Azur*); *Stephane Lanteri* (*Cote d'Azur University, Inria, CNRS, LJAD*);

11:00 A Physical-based Perspective for Understanding and Utilizing Spatial Resources of Wireless Channels
Hui Xu (*Southeast University*); *Junwei Wu* (*Southeast University*); *Tie Jun Cui* (*Southeast University*);

11:15 Scattering Center Model for Coated Targets above Dielectric Rough Surfaces by Forward Parametric Modeling Method
Zhengqiu Tian (*Wuhan University*); *Si-Yuan He* (*Wuhan University*); *Zhihao Cai* (*Wuhan University*); *Xiaoyi Wang* (*Wuhan University*);

11:30 A 3-D Large-scale Electromagnetic Simulator with Pseudospectral Time-Domain Method for Scattering and Radar Sounding Applications
Weiliang Li (*Chinese Academy of Sciences, National Space Science Center*); *Yang Lei* (*Chinese Academy of Sciences, National Space Science Center*); *Marco Mastrogiuseppe* (*Link Campus University*); *Maria Carmela Raguso* (*California Institute of Technology*);

11:45 An Efficient Water Quality Assessment Method Based on Multi-sensor Fusion System
Qingmiao Tang (*Shanghai University of Engineering Science*); *Shujia Yan* (*Shanghai University of Engineering Science*); *Chenggang Dai* (*Shanghai University of Engineering Science*); *Xinbo Liu* (*Shanghai Marine Equipment Research Institute*); *Mei Song Tong* (*Tongji University*); *Qiang Chen* (*Shanghai University of Engineering Science*);

Session 1A10
Advancements and Applications of Drone-Borne Synthetic Aperture Radar (SAR) Systems

Monday AM, May 5, 2025

Room 10 - Capital Suite 7

Organized by João Roberto Moreira Neto, Hugo Enrique Hernandez-Figueroa

Chaired by João Roberto Moreira Neto, Hugo Enrique Hernandez-Figueroa

8:30 Invited Compact Multiband Interferometric SAR System for Surface and Sub-surface Target Detection and Tomographic Mapping
Renato Machado (*São José dos Campos*);

8:50 Invited Boreal Forest Belowground Biomass Measurement by Using Drone-borne Synthetic Aperture Radar Tomography
Henrik J. Persson (*Swedish University of Agricultural Sciences*); *João Roberto Moreira* (*Radaz S.A., São José dos Campos*); *Gian C. Oré* (*University of Campinas*); *Ansgar Jörgenfelt* (*Swedish University of Agricultural Sciences*); *Shivam Rawat* (*Swedish University of Agricultural Sciences*); *Rubén Valbuena* (*Swedish University of Agricultural Sciences*); *Eduardo Freitas* (*Radaz S.A., São José dos Campos*); *Christian Wimmer* (*Radaz S.A., São José dos Campos*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas*);

9:10 A UAV Radar System for Reconstructing Vertical Structure of Forests by Single Pass
Zhen Li (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Ping Zhang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhipeng Wu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

9:25 Suppression of Angular Side-lobes in Drone-Borne SAR Tomography
Kostyantyn A. Lukin (*Usikov Institute for Radiophysics and Electronics*); *Juliana A. Goes* (*University of Campinas*); *João Roberto Moreira Neto* (*University of Campinas*); *Hugo E. Hernandez-Figueroa* (*University of Campinas*);

9:40 Non-invasive Exploration of Archaeological Falaj System: L-band SAR Tomography Insights
Luciano Prado de Olivera (*Technology Innovation Institute*); *T. Prabowo* (*Technology Innovation Institute*); *L. S. Bins* (*Technology Innovation Institute*); *João Roberto Moreira Neto* (*University of Campinas*); *M. Almansoori* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

10:00 **Coffee Break**

10:30 Mapping Underground Moisture: Insights from Drone-borne SAR System in UAE
Luciano Prado de Olivera (*Technology Innovation Institute*); *T. Prabowo* (*Technology Innovation Institute*); *L. S. Bins* (*Technology Innovation Institute*); *Gian C. Oré* (*University of Campinas*); *João Roberto Moreira Neto* (*University of Campinas*); *M. Almansoori* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

10:45 Soil Moisture Monitoring for Precision Agriculture via Drone-borne Multi-band Synthetic Aperture Radar
Gian Carlos Oré Huacles (*University of Campinas*); *Armando Marino* (*University of Stirling, Stirling*); *William Kirk* (*Surveyar Ltd*); *Luciano Prado de Olivera* (*Technology Innovation Institute*); *João Roberto Moreira Neto* (*Radaz S.A., São José dos Campos*); *Juliana A. Goes* (*University of Campinas*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*);

11:00 Localization of Buried Objects by P/L/C-band SAR Tomography
Gian Carlos Oré Huacles (*University of Campinas*); *Karin K. De Vicente* (*Superintendence of Technical-Scientific Police*); *Joao Machado* (*Superintendence of Technical-Scientific Police*); *Christian Wimmer* (*Radaz S.A., São José dos Campos*); *Eduardo Freitas* (*Radaz S.A., São José dos Campos*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*);

11:15 Iron Mine Survey Based on Drone-borne Tomographic SAR System
Gian Carlos Oré Huacles (*University of Campinas*); *Daiane Munch* (*Vale Institute of Technology*); *Luiz Antonio Pereira Silva* (*Vale Institute of Technology*); *Bruna Cordeiro* (*Federal University of Ouro Preto*); *João Roberto Moreira Neto* (*University of Campinas*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas*); *Rosa Elvira Correa Pabón* (*Federal University of Ouro Preto*);

11:30 Efficient Control and Data Processing of Drone-borne SAR on Xilinx Kria K26 SoM
Elisson Eric da Silva Andrade (*University of Campinas*); *A. A. Santos* (*University of Campinas*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas (UNICAMP)*);

11:45 Time and Spectral Characteristics of X-band Radar Echoes Reflected from Wind Turbine with Rotating Rotor
Tomasz Karas (*Wroclaw University of Science and Technology*); *Wladyslaw Magiera* (*Wroclaw University of Science and Technology*); *Paweł Kabacik* (*Wrocław University of Science and Technology*); *Grzegorz Jaromi* (*EuroTech*);

Session 1A0
Poster Session 1
Monday AM, May 5, 2025
8:30 AM - 12:30 AM
Room Poster Area

1 Magnon-manipulated Entanglement between Macroscopic Mechanical Oscillator and Mechanical Rotor
Jingyu Liu (*Great Bay University*); *Shirong Lin* (*Great Bay University*);

2 A 1.21-V 0.33-ppm/°C Bandgap Voltage Reference with a Multiple-segment Curvature Compensation Function
Yulin Li (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*);

3 Application of Conductive Plastics for the Manufacture of Horn
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"*); *Nikita S. Maximov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

4 Handling of Addition and Subtraction Singularities in Surface Triangular
Jiaming Yang (*Southwest University of Science and Technology*); *Jin Wang* (*AVIC Chengdu Aircraft Industrial (Group) Co., Ltd.*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

5 Discovery and Analysis of Modeling of High Contrast Magnetic Materials Using Partial Element Equivalent Circuit Method
Xiaoping Li (*Southwest University of Science and Technology*); *Xu Wang* (*DeTooLIC Technology Co., Ltd.*); *Qiusen He* (*Zhejiang University*); *Yin Sun* (*DeTooLIC Technology Co., Ltd.*); *Jun Fan* (*Southwest University of Science and Technology*); *Shufang Li* (*Beijing University of Posts and Telecommunications*); *Qiangming Cai* (*Southwest University of Science and Technology*);

6 Quantum Optical Transition Characteristics of Oxide Semiconductor ZnO in an Infinite Square Well Potential System
Su Ho Lee (*Dong University*); *M. K. Choi* (*Dong-A University*); *He Rie Park* (*Dong-A University*);

7 End-to-end Inverse Design Framework for Visible Broadband Achromatic Metalens
Yushu Zhang (*King Abdullah University of Science and Technology*); *Qizhou Wang* (*King Abdullah University of Science and Technology (KAUST)*); *Arturo Burguete-Lopez* (*King Abdullah University of Science and Technology (KAUST)*); *Sergei Rodionov* (*King Abdullah University of Science and Technology (KAUST)*); *Andrea Fratalocchi* (*King Abdullah University of Science and Technology (KAUST)*);

8 Frequency-domain Interpretation of Time-varying-based Negative Capacitor
Silvio Hrabar (*University of Zagreb*); *Juraj Bartolic* (*University of Zagreb*); *Saša Ilijić* (*University of Zagreb*);

9 Correspondence between Euler Charges and Nodal-line Topology in Euler Semimetals
Wenwen Liu (*The University of Hong Kong*);

10 Coherent Signal DOA Estimation Method Based on Asynchronous Space-time-coding Metasurface
Guanchao Chen (*National University of Defense Technology*); *Xiaolong Su* (*National University of Defense Technology*); *Ziyang Gu* (*National University of Defense Technology*); *Zhangbiao Yang* (*National University of Defense Technology*); *Dong-Fang Guan* (*National University of Defense Technology*); *Zhen Liu* (*National University of Defense Technology*);

11 Possible Basic Idea of Fueled Motor with Hydrogen Fuels Packed in Single Wall Carbonnano Tube Storage and Mechanics
Diyar Bajalan (*Technische Universität Wien*);

12 Deep Learning for Mitigating Turbulence in FSO: Experimental Study with Orbital Angular Momentum Modes
Mariam Al Khateri (*Technology Innovation Institute*); *Ramzil Galiev* (*Technology Innovation Institute*); *Rashed Al Blooshi* (*Technology Innovation Institute*); *Faheem Ahmad* (*Technology Innovation Institute*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

13 An Efficient Optimization Method for Light-guiding Microstructure Design Based on Deep Learning
Jun Jie Yuan (*Tongji University*); *Ya Ming Xie* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

14 Highly Ytterbium-doped Optical Fibers Based on Multicomponent Silicate Glasses for Fiber Lasers and Amplifiers
Denis S. Lipatov (*Institute of Chemistry of High Purity Substances of RAS*); *A. N. Abramov* (*Institute of Chemistry of High Purity Substances of RAS*); *A. S. Lobanov* (*Institute of Chemistry of High Purity Substances of RAS*); *F. V. Afanasyev* (*Institute of Chemistry of High Purity Substances of RAS*); *E. K. Mikhailov* (*Prokhorov General Physics Institute of the Russian Academy of Sciences, Dianov Fiber Optics Research Center*); *T. S. Zaushitsyna* (*Prokhorov General Physics Institute of the Russian Academy of Sciences, Dianov Fiber Optics Research Center*); *A. A. Rybaltovsky* (*Prokhorov General Physics Institute of the Russian Academy of Sciences, Dianov Fiber Optics Research Center*); *M. M. Bubnov* (*Prokhorov General Physics Institute of the Russian Academy of Sciences, Dianov Fiber Optics Research Center*); *Mikhail E. Likhachev* (*Fiber Optics Research Center, Russian Academy of Sciences*);

15 Advanced Multi-mode Microscopy Enabled by Metaoptics
Isma Javed (*Information Technology University of the Punjab*); *Aqib Raza Shah* (*Information Technology University of the Punjab*); *Afzaal Ahmad* (*University of Glasgow*); *Qammer H. Abbassi* (*University of Glasgow*); *Muhammad Zubair* (*University of Glasgow*); *Muhammad Qasim Mehmood* (*Information Technology University (ITU)*);

16 New Bessel-Bessel-Gaussian Beams with High Rotation Speed
Alexey A. Kovalev (*Samara State Aerospace University, Image Processing Systems Institute of the Russian Academy of Science*); *Evgeny G. Abramochkin* (*Lebedev Physical Institute*); *Elena Sergeevna Kozlova* (*Samara National Research University*); *Victor V. Kotlyar* (*NRC Kurchatov Institute*);

17 Neutron Generator Based on Electron Cyclotron Resonance Gasdynamic Ion Source for Multipurpose Operation (GISMO)
Vadim A. Skalyga (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *I. V. Izotov* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Golubev* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Polyakov* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Razin* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *D. M. Smagin* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. S. Vybin* (*Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

18 Development of Improved Gyrotron-based System for CVD Diamond Synthesis
S. A. Bogdanov (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. L. Vikharev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Aktanaev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. M. Gorbachev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. A. Goryachev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *M. V. Kamenskiy* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *M. V. Morozkin* (*Institute of Applied Physics, Russian Academy of Sciences*); *A. A. Orlovskiy* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail D. Proyavin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Dmitry I. Sobolev* (*Institute of Applied Physics, Russian Academy of Sciences*);

19 Terahertz Band-pass and Notch Waveguide Filters
Vladislav Yur'evich Zaslavsky (*Institute of Applied Physics, Russian Academy of Sciences*); *Yu. V. Rodin* (*Institute of Applied Physics, RAS*); *Alexey V. Palitsin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail D. Proyavin* (*Institute of Applied Physics, Russian Academy of Sciences*); *A. A. Orlovskiy* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

20 A Study of Nonreciprocal Passive Intermodulation in RF Coaxial Isolators
Liping Wei (*Southwest Jiaotong University*); *Qiuyan Jin* (*Southwest Jiaotong University*); *Yankai Ma* (*Southwest Jiaotong University*);

21 Wideband Bowtie-inspired Meander Antenna for Millimeter-wave Wireless Back-haul and Versatile Multi-band Applications
Akhtar Khan (*Tongji University*); *Wen Tao Yuan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

22 Utilization of Circular Waveguide Structure for Experimentally Characterizing Dielectric Material Properties
Junas Haidi (*Institut Teknologi Bandung*); *Budi Syihabuddin* (*Institut Teknologi Bandung*); *Hartuti Mistialustina* (*Universitas Sangga Buana*); *Achmad Munir* (*Institut Teknologi Bandung*);

23 Design and Experimental Validation of 2.4 GHz Crossover-free $\mathbf{8 \times 8}$ Butler Matrix
Muhammad Manzil Karama (*Institut Teknologi Bandung*); *Zulfi* (*Institut Teknologi Bandung*); *Rezki Benedikto Renwarin* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

24 Algorithm for Discrete Message Receiving in MIMO Antennas Using a Memory Model
Mikhail Sergeyevich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *Anvar Maratovich Ibragimov* (*National Research University "MPEI"*); *Evgeniy P. Smirnov* (*JSC "VNIIRT"*);

25 Analysis of the Characteristics of the Irregularities of the Junction of the NRD Waveguide Made of Different Materials
V. V. Krutskikh (*National Research University "Moscow Power Engineering Institute"*); *Andrei N. Ushkov* (*National Research University "Moscow Power Engineering Institute"*); *D. S. Chukashov* (*National Research University "Moscow Power Engineering Institute"*); *A. Yu. Trofimov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

26 Tuned Oscillator Yttrium Iron Garnet Resonator
Nikita S. Maximov (*National Research University "Moscow Power Engineering Institute"*); *S. I. Gorbunov* (*National Research University "Moscow Power Engineering Institute"*); *Kirill Sergeyevich Sychev* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *P. M. Vetoshko* (*V.I. Vernadsky Crimean Federal University*); *A. N. Kuzmichev* (*Russian Quantum Center*);

27 Design of a Printed Broadband Antenna Array
Egor Dmitrievich Malev (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*); *B. L. Kogan* (*National Research University "Moscow Power Engineering Institute"*);

28 Cross-shaped DGS Mutual Coupling Mitigation Approach in mmWave MIMO Antenna Array
Raiymbek Nurgali (*Nazarbayev University*); *Jawad Ahmad* (*Nazarbayev University*); *Sultangali Arzykulov* (*Nazarbayev University*); *Mohammad S. Hashmi* (*Indraprastha Institute of Information Technology Delhi*);

29 A Novel Design of a 5.8 GHz Bandpass Filter for RF Energy Harvesting Applications
Ahmed Bakkali (*Abdelmalek Essaadi University*); *Jamal Zbitou* (*Abdelmalek Essaadi University*); *Mohammed El Gibari* (*Lunam Universite, Universite de Nantes*); *Aziz Oukaira* (*Moncton University*); *Samira Khoulji* (*Abdelmalek Essaadi University*);

30 A Bandpass Filter with Improved Isolation Using Split-Ring Resonator
Eugene A. Ogbodo (*University of Hertfordshire*); *Brian Waikya* (*University of Hertfordshire*); *Alpha Mpango* (*University of Hertfordshire*); *Ifeanyi N. Ogbodo* (*University of Hertfordshire*); *Azunka N. Ukala* (*University of Hertfordshire*);

31 Integrated Filtering Antenna Power Divider for 5G Networks: A Co-design Approach to Enhanced Miniaturisation
Eugene A. Ogbodo (*University of Hertfordshire, College Lane*); *Alpha Mpango* (*University of Hertfordshire*); *Azunka N. Ukala* (*University of Hertfordshire, College Lane*);

32 Protocol for Generating Non-Gaussian Quantum Entangled States Using a Quantum Frequency Comb
Hongbin Song (*The Chinese University of Hong Kong*); *Hidehiro Yonezawa* (*Optical Quantum Control Research Team RIKEN Center for Quantum Computing*); *Guofeng Zhang* (*The Hong Kong Polytechnic University*);

33 Research and Design of Programmable High Voltage Pulse Generator for Electrical Discharge Machining
Yue Pan (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Meng Xiang* (*Southwest University of Science and Technology*); *Li Xie* (*Southwest University of Science and Technology*); *Qichao Chen* (*Southwest University of Science and Technology*); *Qiuyue Xu* (*Southwest University of Science and Technology*); *Gaohua Xiong* (*Southwest University of Science and Technology*);

34 A Two-step Isothermal Annealing Method for Preparing Fe-based Nanocrystalline Materials of Fluxgate Sensors
Yu Zhao Wan (*Tongji University*); *Mei Song Tong* (*Tongji University*);

35 Machine Learning Based Implementation of Antenna Beamforming Algorithm
M. L. Liya (*Amrita University*); *Hariharan Balaji* (*Amrita Vishwa Vidyapeetham*); *L. Meenu* (*Amrita Vishwa Vidyapeetham*); *Dhanesh G. Kurup* (*Institut d'Electronique ET de Télécommunications de Rennes IETR, UMR-6164 - Université de Rennes*);

36 Multiband Terahertz Spiral Metasurface for Detection of Malaria with Enhanced Sensitivity
Afzaal Ahmad (*University of Glasgow*); *Muhammad Zubair* (*University of Glasgow*); *Jalil Ur Rehman Kazim* (*University of Glasgow*); *Muhammad Ali Imran* (*University of Glasgow*); *Qammer H. Abbasi* (*University of Glasgow*);

37 Human Vascular Analysis Based on Laser Speckle Contrast Imaging for Dermatology Applications
Aqeel Ur Rehman (*Information Technology University of the Punjab (ITU)*); *Ramna Khalid* (*Information Technology University (ITU) of the Punjab*); *Humberto Cabrera* (*The Abdus Salam International Centre for Theoretical Physics*); *Qammer H. Abbassi* (*University of Glasgow*); *Muhammad Zubair* (*University of Glasgow*); *Muhammad Qasim Mehmood* (*Information Technology University (ITU)*);

38 Wide-angle Metalens for Enhanced Imaging Capabilities
Isma Javed (*Information Technology University of the Punjab*); *Azhar Javed Satti* (*Information Technology University of the Punjab*); *Afzaal Ahmad* (*University of Glasgow*); *Muhammad Zubair* (*University of Glasgow*); *Qammer H. Abbassi* (*University of Glasgow*); *Muhammad Qasim Mehmood* (*Information Technology University (ITU)*);

39 Electro-optic Modulation with Lithium Niobate-based Metasurfaces for Advanced Optical Communication
Ramna Khalid (*Information Technology University (ITU) of the Punjab*); *Muhammad Qasim Mehmood* (*Information Technology University (ITU)*); *Qammer H. Abbassi* (*University of Glasgow*); *Muhammad Zubair* (*University of Glasgow*);

40 Optimizing Achromatic Metalens Designs for High-resolution Pathological Microscopy
Taha Afzal (*Information Technology University of the Punjab (ITU)*); *Sadia Noureen* (*Information Technology University of the Punjab (ITU)*); *Tauseef Tauqeer* (*Information Technology University of the Punjab (ITU)*); *Muhammad Zubair* (*University of Glasgow*); *Qammer H. Abbassi* (*University of Glasgow*); *Muhammad Qasim Mehmood* (*Information Technology University (ITU)*);

41 High-efficiency Achromatic Broadband Bifocal Metalens in the Mid-infrared via Topological Inverse Design
Abdallah M. Ali (*The American University in Cairo*); *Mohamed A. Swillam* (*University of Toronto*);

Session 1P1a
Metasurfaces for Wireless Communications and Sensing 2

Monday PM, May 5, 2025

Room 1 - CH B (A)

Organized by Jorge Ricardo Mejia-Salazar, Jhonattan Córdoba Ramírez
Chaired by Jorge Ricardo Mejia-Salazar, Jhonattan Córdoba Ramírez

13:30 Invited NOMA Wireless Communications System Assisted by Beyond-diagonal RIS
Diana Laura Fernandez Duarte (*National Institute of Telecommunications*); *Victoria Dala Pegorara Souto* (*National Institute of Telecommunications in Brazil*); *Richard Demo Souza* (*Federal University of Santa Catarina*);

13:50 Invited Design, Implementation, and Deployment of Sub-THz Reconfigurable Intelligent Surfaces
Qi Luo (*University of Hertfordshire*); *Yihan Ma* (*University of Hertfordshire*); *Ziwei Zhang* (*Chang'an University*); *Liang Dai* (*Chang'an University*);

14:10 Invited Design of Materials and Devices for Random Light-material Interactions and Their Application in True Random Number Generators
Hocheon Yoo (*Gachon University*);

14:30 Invited AI-driven Optimization Enhances LSPR Device Performance by Integrating Genetic Algorithms and Neural Networks for Advanced Biosensing Applications
F. A. N. De Freitas (*Universidade Federal de Minas Gerais (UFMG)*); *A. V. R. Portes* (*Universidade Federal de Minas Gerais (UFMG)*); *Jhonattan Córdoba Ramírez* (*Universidade Federal de Minas Gerais*);

14:50 Multipole Analysis of Metasurfaces Exhibiting Toroidal Resonances
J. J. Hernández-Sárria (*National Institute of Telecommunications (Inatel)*); *Jéssica Abranches Pinto Ribeiro* (*National Institute of Telecommunications (Inatel)*); *Luciano Leonel Mendez* (*National Institute of Telecommunications*); *Jorge Ricardo Mejia-Salazar* (*National Institute of Telecommunications (Inatel)*);

15:30 **Coffee Break**

Session 1P1b
Deep Learning in Electromagnetics Research 1

Monday PM, May 5, 2025

Room 1 - CH B (A)

Organized by Willie John Padilla, Kebin Fan
Chaired by Kebin Fan

16:00 Inverse Scattering for the Schrödinger Equation Using Automatic Differentiation and Gradient-Based Optimization
Mikhail S. Lytaev (*St. Petersburg Federal Research Center of the Russian Academy of Sciences*);

16:15 Terahertz Spoof Surface Plasmon Polaritons Prediction via Deep Learning
Vahid Najafy (*Tarbiat Modares University*); *Bijan Abbasi-Arand* (*Tarbiat Modarres University*); *Maryam Hesari-Shermeh* (*Tarbiat Modares University*);

16:30 A Novel PPO-based Method for Automatically Designed EBG Structure
Bing-Han Xie (*Shanghai Jiao Tong University*); *Xiaochun Li* (*Shanghai Jiao Tong University*); *Ze-Ming Wu* (*Shanghai Jiaotong University*); *Ken Ning* (*Shenzhen University*);

16:45 Incident Angle Insensitive Metamaterial Absorber for IoT Energy Harvesting: Design, Features, and Potential Enhancements
P. P. Irfana (*National Institute of Technology Calicut*); *K. J. Suja* (*National Institute of Technology Calicut*); *M. S. Arjunan* (*National Institute of Technology Calicut*);

17:00 Physics-informed Neural Networks for Multiphysics Modeling of Integrated Photonics Devices Based on Phase-change Materials
Aleksandr S. Shorokhov (*Samsung Research*);

17:15 Using AI to Improve Electromagnetics Education: Lessons Learned from an Initial Test of AristAI
Yang Shao (*University of Illinois*); *Xu Chen* (*University of Illinois*);

17:30 The Establishment of Shielding Effectiveness Simulation Model Based on the Analysis of Conductive Fiber Arrangement Characteristics
Zhe Liu (*Xi'an Polytechnic University*); *Yichen Yang* (*Xi'an Polytechnic University*); *Gege Hang* (*Xi'an Polytechnic Universit*);

17:45 Invited Machine-learning Assisted Design of Reconfigurable Intelligent Surfaces
A. Wolff (*RPTU Kaiserslautern-Landau*); *L. Mueller* (*RPTU Kaiserslautern-Landau*); *J. Krieger* (*RPTU Kaiserslautern-Landau*); *S. Klingel* (*RPTU Kaiserslautern-Landau*); *Marco Rahm* (*University of Kaiserslautern*);

Session 1P2
Recent Advances in Optical Metasurfaces 1

Monday PM, May 5, 2025

Room 2 - CH B (C&B)

Organized by Cheng Zhang, Fei Ding

Chaired by Fei Ding, Cheng Zhang

13:30 Invited — Turning Earth Abundant Metals Optically Active: From Meta-nanoparticles to Disorder Metasurfaces
Changxu Liu (*University of Exeter*);

13:50 Invited — Polarization-entangled Photon Pair Generation from an Epsilon-near-zero Metasurface
Yuanmu Yang (*Tsinghua University*);

14:10 Invited — Helical Photonics with Resonant Metasurfaces
Kirill Koshelev (*Australian National University*);

14:30 Invited — Trimer Metasurfaces for Highly Sensitive Biomedical Sensors
Mahmoud M. R. Elsawy (*Université Côte d'Azur*); *Hao Wang* (*NYU Langone Health*); *Arash Nemati* (*NYU Langone Health*); *Stephane Lanteri* (*Cote d'Azur University, Inria, CNRS, LJAD*); *Haogang Cai* (*NYU Langone Health*);

14:50 Invited — Light Manipulation via Near-field Coupling Control in Plasmonic Metasurface
Xiaoying Zheng (*Fudan University*); *Yifei Wang* (*Fudan University*); *Qiong He* (*Fudan University*); *Lei Zhou* (*Fudan University*);

15:10 Invited — Single Quantum Emitters with Arbitrarily Polarized Dipole Moments under Ambient Conditions
Juan Xia (*Wuhan University of Science and Technology*); *Jianwei Tang* (*Huazhong University of Science and Technology*); *Qiaoyin Lu* (*Huazhong University of Science and Technology*); *Weihua Guo* (*Huazhong University of Science and Technology*);

15:30 **Coffee Break**

16:00 Invited — Algorithm-driven Design of Multifunctional Metasurfaces
Wei Ma (*Zhejiang University*);

16:20 Invited — Inverse Design for Wavelength and Polarization Multiplexing in Optical Metasurfaces
Bo Xiong (*Zhejiang University*); *Wei Ma* (*Zhejiang University*);

16:40 Metalens with Tilted Structures for High-efficiency Focusing at Large-angle Incidences
Yue Wang (*Nanjing University*); *Chen Chen* (*Nanjing University*); *Shengjie Wu* (*Nanjing University*); *Xin Ye* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Tao Li* (*Nanjing University*);

16:55 On-chip Multiplexed Metasurface for Guided Wave Radiation
Jitao Ji (*Nanjing University*); *Zhizhang Wang* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Tao Li* (*Nanjing University*);

17:10 Metamaterials for Controlling Electromagnetic Waves in Near- and Far-field Domains
Min Li (*Anhui Agriculture University*); *Dashuang Liao* (*Anhui Medical University*); *Zuojia Wang* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*);

17:25 Inverse-design Metalens for Incoherent μLED Emission Coupling
Liming Chen (*Futurewei Technologies*); *Pingfan Wu* (*Futurewei Technologies*);

17:40 Dynamic Control of Second-harmonic Chirality through Lithium Niobate Nonlocal Metasurface
Yiwen Liu (*University of Southern Denmark*); *Chao Meng* (*University of Southern Denmark*); *Fei Ding* (*University of Southern Denmark*); *Sergey I. Bozhevolnyi* (*University of Southern Denmark*);

Session 1P3
Free-Electron-Driven Photonic Platforms

Monday PM, May 5, 2025

Room 3 - CH B (D)

Organized by Xihang Shi, Ido Kaminer

Chaired by Xihang Shi, Sunchao Huang

13:30 Free-space Optical Modulation of Continuous Free-electron Beams
Cruz I. Velasco (*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*);

13:45 Invited — Interaction of Free Electrons and Photons in Photonic Integrated Circuits
Yujia Yang (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *J.-W. Henke* (*Max Planck Institute of Multidisciplinary Sciences*); *A. S. Raja* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *F. J. Kappert* (*Max Planck Institute of Multidisciplinary Sciences*); *G. Huang* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *G. Arend* (*Max Planck Institute of Multidisciplinary Sciences*); *Z. Qiu* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *A. Feist* (*Max Planck Institute of Multidisciplinary Sciences*); *R. N. Wang* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *A. Tusnin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *A. Tikan* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *C. Ropers* (*Max Planck Institute of Multidisciplinary Sciences*); *T. J. Kippenberg* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

14:05 Free Electron Topological Bound State Induced by Twisted Light Beam
Invited
Yiming Pan (*ShanghaiTech University*); *Ruoyu Yin* (*Bar-Ilan University*); *Yongcheng Ding* (*University of the Basque Country UPV/EHU*); *Huaiqiang Wang* (*Nanjing Normal Universit*); *Daniel Podolsky* (*Technion*); *Bin Zhang* (*Shanghai Tech Universit*);

14:25 Free-electron Pumping Surface Plasmon Polariton Amplification
Dongdong Zhang (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Ye Tian* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*);

14:40 Quantum Nanophotonics with Free Electrons
Keynote
F. Javier García de Abajo (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

15:10 Chiral Optical Vortex Emission from the Interactions between Free Electrons with Bound States in the Continuum
Zihan Wang (*Peking University*); *Jing Li* (*Peking University*); *Wu Wen* (*Peking University*); *Haoyu Mo* (*Peking University*); *Qingyao Liang* (*Peking University*); *Yunquan Liu* (*Peking University*);

15:30 **Coffee Break**

16:00 Band Engineering of Multiple-quantum-well for Brighter Scintillation with Low-energy Electron Beam Irradiation
Jing Li (*Peking University*); *Xin Jin* (*Peking University*); *Wu Wen* (*Peking University*); *Haoyu Mo* (*Peking University*); *Qingyao Liang* (*Peking University*); *Yuhan Jiang* (*Peking University*); *Yunquan Liu* (*Peking University*);

16:15 Multicolor X-ray Generation and Manipulation from Free Electron-driven van der Waals Heterostructures
Invited
Sunchao Huang (*University of Electronic Science and Technology of China*); *Ruihuan Duan* (*Nanyang Technological University*); *Nikhil Pramanik* (*Nanyang Technological University*); *Michael Go* (*Nanyang Technological University*); *Chris Boothroyd* (*Nanyang Technological University*); *Zheng Liu* (*Nanyang Technological University*); *Yubing Gong* (*University of Electronic Science and Technology of China*); *Liang Jie Wong* (*Nanyang Technological University*);

16:35 Tunable X-ray Radiation from Quantum Free-electron Radiation
Invited
Xihang Shi (*Solid State Institute and Faculty of Electrical & Computer Engineering*); *Michael Shentcis* (*Solid State Institute and Faculty of Electrical & Computer Engineering*); *Yaniv Kurman* (*Solid State Institute and Faculty of Electrical & Computer Engineering*); *Liang Jie Wong* (*Nanyang Technological University*); *F. Javier García de Abajo* (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Ido Kaminer* (*Solid State Institute and Faculty of Electrical & Computer Engineering*);

16:55 A Tunable and Enhanced Smith-Purcell Radiation in Photonic Crystal Structure
Invited
Ping Zhang (*University of Electronic Science and Technology of China*); *Yixin Peng* (*University of Electronic Science and Technology of China*); *Shengpeng Yang* (*University of Electronic Science and Technology of China (UESTC)*); *Sunchao Huang* (*University of Electronic Science and Technology of China*); *Yuan Zheng* (*University of Electronic Science and Technology of China*); *Shaomeng Wang* (*University of Electronic Science and Technology of China*); *Yubin Gong* (*University of Electronic Science and Technology of China*);

17:15 Cherenkov and Transition Radiations from Hollow Electron Beams
Invited
Daria Yu. Sergeeva (*National Research Nuclear University "MEPhI"*); *Alexey A. Tishchenko* (*National Research Nuclear University "MEPhI"*);

17:35 Free-electron Resonance Transition Radiation via Brewster Randomness
Zheng Gong (*Zhejiang University*); *Xiao Lin* (*Zhejiang University*);

17:50 Abraham-Lorentz Force and Beam Evolution in Compton Backscattering
Dmitrii V. Gavrilenko (*National Research Nuclear University MEPhI*); *Alexey A. Tishchenko* (*National Research Nuclear University MEPhI*);

18:05 Resonant Diffraction Radiation from a Dimer of Particles Immersed in Medium
Daria Yu. Sergeeva (*National Research Nuclear University "MEPhI"*); *Alexey A. Tishchenko* (*National Research Nuclear University "MEPhI"*);

Session 1P4
Topologically Structured Waves

Monday PM, May 5, 2025

Room 4 - Capital Suite 1

Organized by Yijie Shen, Bo Wang

Chaired by Yijie Shen, Bo Wang

13:30 Quantum Topology Takes Shape
Keynote
Andrew Forbes (*University of the Witwatersrand*);

14:00 Towards Customized Control of Optical Skyrmions
Invited
Zhenwei Xie (*Shenzhen University*);

14:20 From Polarization-hologram Entangled State to Quantum Holographic Eraser Using Metasurfaces
Invited
Jensen Li (*University of Exeter*);

14:40 Topology with Spatiotemporally Sculptured Light
Invited
Qiwen Zhan (*University of Shanghai for Science and Technology*);

15:00 Brownian-Bridge Assisted Orbital Angular Momentum Mode Demodulation for Turbulence-resilient Free-space Communication
Ramzil Galiev (*Technology Innovation Institute*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Mariam Al Khateri* (*Technology Innovation Institute*); *Rashed Al Blooshi* (*Technology Innovation Institute*); *Faheem Ahmad* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

15:30 **Coffee Break**

16:00 Invited Pseudospin-mediated Vortex Generation in Dirac-like Photonic Lattices
Daohong Song (*Nankai University*);

16:20 Invited Topological Structured Waves in Material Processing
Allam Srinivasa Rao (*Chiba University*); *Takashige Omatsu* (*Chiba University*);

16:40 Invited Topological Water-wave Structures Manipulating Particles
Bo Wang (*Henan University*); *Zhiyuan Che* (*Fudan University*); *Cheng Cheng* (*Fudan University*); *Caili Tong* (*Henan University*); *Lei Shi* (*Fudan University*); *Yijie Shen* (*Nanyang Technological University*); *Konstantin Y. Bliokh* (*RIKEN*); *Jian Zi* (*Fudan University*);

17:00 Bilayer and Trilayer Plasmonic Twistronics: Skyrmion Bags and Skyrmion Bag Superlattices
Julian Schwab (*University of Stuttgart*); *Alexander Neuhaus* (*University of Duisburg-Essen*); *Pascal Dreher* (*University of Duisburg-Essen*); *Shai Tsesses* (*Technion-Israel Institute of Technology*); *Anant Mantha* (*University of Stuttgart*); *Florian Mangold* (*University of Stuttgart*); *Bettina Frank* (*University of Stuttgart*); *Guy Bartal* (*Technion-Israel Institute of Technology*); *Frank-J. Meyer zu Heringdorf* (*University of Duisburg-Essen*); *Timothy J. Davis* (*University of Stuttgart*); *Harald W. Giessen* (*University of Stuttgart*);

17:15 Invited Spintwistronics: Photonic Bilayer Topological Lattices Tuning Extreme Spin-orbit Interactions
Peng Shi (*Shenzhen University*); *Xinxin Gou* (*Shenzhen University*); *Qiang Zhang* (*Shenzhen University*); *Yijie Shen* (*Nanyang Technological University*); *Xiao-Cong Yuan* (*Shenzhen University*);

17:35 Invited Vortex and Skyrmion Lattices
Xiujuan Zhang (*Nanjing University*);

17:55 Invited Intrinsically Static Three-dimensional Spin Topology of Structured Lights
Peng Shi (*Shenzhen University*);

Session 1P5
Functional Nanomaterials for Optical Sensing and Imaging 2

Monday PM, May 5, 2025

Room 5 - Capital Suite 2

Organized by Pier Paolo Pompa

Chaired by Pier Paolo Pompa

13:30 Invited Light-based Smart Technologies: From Laser Surgery to Enhanced Biosensing
Azhar Zam (*New York University in Abu Dhabi*);

13:50 Shape-memory Photonic Crystal Sensors for Ethanol Detection
Matin S. Ashurov (*Westlake University*); *Pavlos G. Savvidis* (*Westlake University*);

14:05 Two-photon Polymerized Nature-inspired 3D SERS Platforms for Sensitive Low-concentration Detection
Soha Yousuf (*New York University*); *Azhar Zam* (*New York University*);

14:20 Tamm Plasmon Resonance as Optical Fingerprint of Silver/Bacteria Interaction
S. Normani (*Istituto Italiano di Tecnologia*); *P. Bertolotti* (*Istituto Italiano di Tecnologia*); *F. Marangi* (*Istituto Italiano di Tecnologia*); *G. Lanzani* (*Politecnico di Milano*); *F. Scotognella* (*DISAT, Politecnico di Torino*); *Giuseppe Maria Paterno* (*Istituto Italiano di Tecnologia*);

14:35 Invited Atomistic Modeling of the Detection and Identification of Biomolecules by Molecular Plasmonics
Stefano Corni (*University of Padua*);

14:55 Smartphone-integrated YOLOv$_4$-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*);

15:30 **Coffee Break**

16:00 Sensitivity-enhanced Competitive Lateral Flow Immunoassays Using Polycaprolactone Electrospun Stacking Pads: A Novel Approach for Estrous Detection in Whole Blood
Helena Torné-Morató (*Istituto Italiano di Tecnologia*); *Lucia Pesenti* (*Istituto Italiano di Tecnologia*); *V. Tripathi* (*Istituto Italiano di Tecnologia*); *Pier Paolo Pompa* (*Italian Institute of Technology & Zhejiang University*);

16:15 Invited 2D Materials and Imaging: From Immune Interactions to Cell Labeling
Lucia Gemma Delogu (*Khalifa University of Science & Technology*);

16:35 Will There be a New Age for Biosensor Designs as Exemplified for Detection of Viruses in Humans, Plants and Insects
Invited
Subhankar Sahu (*Université de Strasbourg*); *Christophe Ritzenthaler* (*Université de Strasbourg*); *Rabah Boukherroub* (*Univ. Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, UMR 8520-IEM*); *Sabine Szunerits* (*Univ. Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, UMR 8520-IEM*);

16:55 Carbon Dots Interactions with the Immune System: From Imaging to Biomedical Applications
Roberta Cagliani (*Khalifa University of Science & Technology*); *Linda Giro* (*University of Padua*); *Laura Fusco* (*University of Padua*); *Arianna Gazzi* (*University of Padua*); *Francesca Arcudi* (*Northwestern University*); *Maurizio Prato* (*INSTM UdR Trieste, University of Trieste*); *Lucia Gemma Delogu* (*Khalifa University of Science & Technology*);

17:10 Advancing Superconducting Single-photon Detectors by Nanophotonic Strategies
Invited
Cesare Soci (*Nanyanag Technological University*);

17:30 Polymeric Bragg Stacks as Holistic Optical Sensors for Molecular Recognition
Invited
Paola Lova (*University of Genova*);

17:50 Research on Electromagnetic Shielding Performance of MXene-coated Pure Cotton Fabric
Xiuchen Wang (*Xi'an Polytechnic University*); *Zhihui Zhang* (*Xi'an Polytechnic University*); *Yajing Wang* (*Xi'an Polytechnic University*);

Session 1P6
Ultrafast and Nonlinear Nanophotonics 2

Monday PM, May 5, 2025

Room 6 - Capital Suite 3

Organized by Sergey Makarov, Mihail I. Petrov, Andrey A. Bogdanov, Costantino De Angelis

Chaired by Sergey Makarov, Costantino De Angelis

13:30 Addressing Ultrafast Electron Dynamics of Photocurrents Induced by Optical Pulses in Plasmonic Nanogaps
Invited
Javier Aizpurua (*University of the Basque Country UPV/EHU*); *A. G. Borisov* (*Institut des Sciences Moleculaires d'Orsay*);

13:50 Overview of Nonlinear Photonics Platforms at the Telecom C-band
Invited
Ksenia P. Dolgaleva (*University of Ottawa*);

14:10 Giant Nonlinear All-optical Modulation in Halide Perovskite Nanostructures
Sergey Makarov (*ITMO University*);

14:25 Optical Bistability with Record-low Q-factor and Footprint
Invited
Shi-Wei Chu (*National Taiwan University*);

14:45 Nonlinear Generation of Orbital Angular Momentum in Metasurfaces
Invited
L. Coudrat (*Université Paris Cité & CNRS*); *C. Lecasble* (*Université Paris Cité & CNRS*); *R. Que* (*Université Paris Cité & CNRS*); *A. Gerini* (*Université Paris Cité & CNRS*); *M. Morassi* (*Université Paris Saclay & CNRS*); *A. Lemaître* (*Université Paris Saclay & CNRS*); *N. Efremidis* (*University of Crete and Foundation for Research and Technology*); *Aloyse Degiron* (*Université Paris Cité & CNRS*); *Giuseppe Leo* (*CNRS, Université de Paris*);

15:05 Intrinsic Nonlinear Geometric Phase of Second-harmonic Generation in Zincblende Crystal Films and Metasurfaces
Invited
Luca Carletti (*University of Brescia*); *Davide Rocco* (*CNR-INO and University of Brescia*); *Maria Antonietta Vincenti* (*University of Brescia*); *Domenico De Ceglia* (*University of Brescia*); *Costantino De Angelis* (*University of Brescia*);

15:30 **Coffee Break**

16:00 Nonlinear Quantum Optics: From Photonic Chips to the Nanoscale
Invited
Alexander S. Solntsev (*University of Technology Sydney*);

16:20 Quasi-deterministic Single-photon Source at Mid-infrared Frequencies Using a Cascaded Quantum System
Invited
Jake Iles-Smith (*The University of Sheffield*); *Mark Kamper Svendsen* (*Max Planck Institute for the Structure and Dynamics of Matter and Center for Free-Electron Laser Science & Department of Physics*); *Angel Rubio* (*Universidad del Pais Vasco*); *Martijn Wubs* (*Technical University of Denmark*); *Nicolas Stenger* (*Technical University of Denmark*);

16:40 Third Harmonic Generation of Visible Light from Silicon-based High-contrast Nonlocal Metasurfaces Supporting Quasi-bound States in the Continuum
Invited
Paolo Franceschini (*University of Brescia*); *Andrea Tognazzi* (*National Institute of Optics — National Research Council (INO-CNR)*); *Evgenii Menshikov* (*University of Brescia*); *Ivano Alessandri* (*University of Brescia*); *Alfonso C. Cino* (*University of Palermo*); *Domenico De Ceglia* (*University of Brescia*); *Leonid Yu. Beliaev* (*Technical University of Denmark*); *Radu Malureanu* (*Technical University of Denmark*); *Osamu Takayama* (*Technical University of Denmark*); *Andrei V. Lavrinenko* (*Technical University of Denmark*); *Costantino De Angelis* (*University of Brescia*);

17:00 Modelling and Exploiting Concurrent Second- and Third-order Nonlinearities in Nanophotonic Waveguides
Invited
Mohammed F. Saleh (*Heriot-Watt University*); *Simone Lauria* (*Heriot-Watt University*); *Mahmoud Almassri* (*Heriot-Watt University*);

17:20 High-resolution Optical Second-harmonic Spectroscopy in Antiferromagnet Cr_2O_3
Victor V. Pavlov (*Ioffe Institute*);

17:35 Invited Metabricks & Metatricks for Enhancing and Improving Vibrational Spectroscopy and Photocatalysis
Ivano Alessandri (*University of Brescia*);

17:55 Ultrafast All-optical Control of Semiconductor Metastructures: Transient Gratings and Symmetry Breaking
Giulia Crotti (*Politecnico di Milano*); *Andrea Schirato* (*Politecnico di Milano*); *O. Pashina* (*ITMO University*); *Olga N. Sergaeva* (*ITMO University*); *A. Bogdanov* (*University of Brescia*); *Mihail I. Petrov* (*ITMO University*); *C. De Angelis* (*ITMO University*); *Giuseppe Della Valle* (*Politecnico di Milano*);

Session 1P7
Organic and Inorganic Optoelectronic Devices 2

Monday PM, May 5, 2025

Room 7 - Capital Suite 4

Organized by Wallace C. H. Choy

Chaired by Gang Li, Wallace C. H. Choy

13:30 Invited Defect Engineering in Perovskites for Optoelectronic Devices: Use of Perovskite Polytypes
Hobeom Kim (*Gwangju Institute of Science and Technology (GIST)*);

13:50 External Fluorescence Governing the Open-circuit Voltage Dynamics in Organic Solar Cells
Francisco Bernal-Texca (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*); *Jordi Martorell* (*ICFO-Institut de Ciencies Fotoniques*);

14:05 Invited Design Strategies for High Definition and Highly Efficient Quantum Dot Light-emitting Diodes with Deformable Formfactors
Moon Kee Choi (*UNIST*);

14:25 Invited Non-destructive Photopatterning of Electronic Materials
Bong Soo Kim (*Ulsan National Institute of Science and Technology (UNIST)*);

14:45 Tailoring Perovskite Surfaces for Durable and Efficient Light-emitting Diodes
Tae-Hee Han (*Hanyang University*);

15:00 Invited Advancing Organic Solar Cells and Inorganic Perovskite/Organic Tandem Solar Cells Approaching 26%
Gang Li (*Hong Kong Polytechnic University*); *Yu Han* (*The Hong Kong Polytechnic University*); *Jiehao Fu* (*The Hong Kong Polytechnic University*); *Jiaming Huang* (*The Hong Kong Polytechnic University*); *Zhiwei Ren* (*The Hong Kong Polytechnic University*);

15:30 **Coffee Break**

16:00 Invited Atomic-scale Microstructure of Lead Halide Perovskite Thin Films
Mathias Uller Rothmann (*Xianhu Laboratory*);

16:20 Invited Development of Non-fullerene Acceptors for OPV
Yun-Hi Kim (*Gyeongsang National University*);

16:40 Invited Hole Transfer Layer Control for Efficient and Thermally Stable Perovskite Solar Cells
Dong Suk Kim (*Ulsan National Institute of Science and Technology (UNIST)*);

17:00 Invited Pure Blue Emission Halide Perovskite Light Emitting Diodes Based on Single Bromide Composition
Byungha Shin (*KAIST*);

17:20 Invited Direct Optical Lithography of Colloidal Luminescent Nanocrystals with Ligand Engineering
Himchan Cho (*Korea Advanced Institute of Science and Technology (KAIST)*);

17:40 Invited The Treatment of Self-assembled Monolayers for Stable Inverted Perovskite Solar Cells
Feng Yan (*The Hong Kong Polytechnic University*);

18:00 Invited Spacer Structures of Perovskite Nanomaterials for Efficiency and Stability of Light Emtting Diodes
Wallace C. H. Choy (*The University of Hong Kong*);

Session 1P8a
SC4&SC3&SC2: Meeting of Minds for Cross-continental Collaboration in Photonics and Electromagnetics 1

Monday PM, May 5, 2025

Room 8 - Capital Suite 5

Organized by Hugo Enrique Hernandez-Figueroa, Pavel A. Belov, Boon S. Ooi, Sailing He, Andrew Forbes

Chaired by Hugo Enrique Hernandez-Figueroa, Pavel A. Belov

13:30 Wireless Charging for AA Battery with a Curved Receiving Coil
Nikita A. Olekhno (*ITMO University*); *E. D. Demeshko* (*ITMO University*); *A. A. Mineev* (*ITMO University*); *D. A. Chernomorov* (*ITMO University*); *O. I. Burmistrov* (*ITMO University*); *S. S. Ermakov* (*ITMO University*); *Alina D. Rozenblit* (*ITMO University*); *P. S. Seregin* (*ITMO University*); *A. A. Dmitriev* (*ITMO University*);

13:45 Coupling Regimes in Optical Systems with Essential Retardation
Alexey A. Dmitriev (*ITMO University*); *Mikhail V. Rybin* (*ITMO University*);

14:00 Tuneable Photonics Based on Phase Change Materials
Artem D. Sinelnik (*ITMO University*);

14:15 Improving Breast MRI at 1.5 T with Wireless Coils
Viktor M. Puchnin (*ITMO University*); *Alexey P. Slobozhanyuk* (*ITMO University*); *Alena V. Shchelokova* (*ITMO University*);

14:30 Invited Hyperspectral Terahertz Focal-plane Array Based on Plasmonic Photoconductive Nanoantennas
Mona Jarrahi (*University of California-Los Angeles (UCLA)*);

15:30 **Coffee Break**

Session 1P8b
THz Communication System and Devices

Monday PM, May 5, 2025

Room 8 - Capital Suite 5

Organized by Tetsuya Kawanishi

Chaired by Tetsuya Kawanishi

16:00 Keynote — Room Temperature Detection of Incoherent Terahertz Radiation at the Fundamental Limits through Plasmonic Photomixing
Mona Jarrahi (*University of California-Los Angeles (UCLA)*);

16:30 A Multiband Circularly Polarized SIW-horn Antenna for Sub-theraherz Frequencies
David Pouhè (*Reutlingen University of Applied Sciences*); *Umit Ucar* (*Reutlingen University*);

16:45 **8 × 8** Element Circularly Polarized Array Antenna in the 300-GHz Band
Seiji Nishi (*Waseda University*); *Kazuhiko Tamesue* (*Waseda University*); *Toshio Sato* (*Waseda University*); *Takuro Sato* (*Waseda University*); *Tetsuya Kawanishi* (*Waseda University*);

17:00 A THz Si-based Luneburg Lens Multi-beam Antenna
Muhib Ullah (*Zhejiang University*); *Xidong Wu* (*Zhejiang University*);

17:15 On the Design of Beamforming Network-based Multi-beam Antennas for THz Communications
Zulfi (*Institut Teknologi Bandung*); *Nachwan Mufti Adriansyah* (*Telkom University*); *Joko Suryana* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

17:30 Design of Antenna-coupled Electrode Electro-optic Modulator Operating in THz-band for Beyond 5G Wireless Systems
Shunsuke Nakamori (*Mie University*); *Mitsuki Masamoto* (*Mie University*); *Yui Otagaki* (*Mie University*); *Hiroshi Murata* (*Mie University*);

17:45 A Demonstration of a 300-GHz Backhaul Link Using a Lensed Patch Antenna and an OFDM Transceiver
Kazuhiko Tamesue (*Waseda University*); *Seiji Nishi* (*Waseda University*); *Toshio Sato* (*Waseda University*); *Takuro Sato* (*Waseda University*); *Tetsuya Kawanishi* (*Waseda University*);

18:00 Photonics-based 300 GHz Transceiver Using SFP+ Module and UTC-PD
Shintaro Hisatake (*Gifu University*); *Towa Ono* (*Gifu University*); *Kotaro Matsushima* (*Gifu University*); *Shinya Ochi* (*Gifu University*); *Wataru Kumazawa* (*Gifu University*); *Ayumu Yabuki* (*SoftBank Corp.*); *Isao Morohashi* (*National Institute of Information and Communications Technology (NICT)*); *Atsushi Kanno* (*Nagoya Institute of Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*); *Junichi Nakajima* (*SoftBank Corp.*);

18:15 THz Communication System at 2 THz-band Using Optical Comb-based Transmitter: Towards High Bit Rate Transmission
Isao Morohashi (*National Institute of Information and Communications Technology (NICT)*); *Kazuhiro Kobayashi* (*Tokyo Metropolitan University*); *Yoshihisa Irimajiri* (*National Institute of Information and Communications Technology*); *Akira Kawakami* (*National Institute of Information and Communications Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*);

Session 1P9
Advanced Nummerical Methods in Computational Electromagnetics 2

Monday PM, May 5, 2025

Room 9 - Capital Suite 6

Organized by Mei Song Tong, Gaobiao Xiao

Chaired by Mei Song Tong

13:30 Invited — Low-frequency Electromagnetic Scattered Fields of Seabed Buried Metal Targets with the Equivalent Surface Current Method
Xiaoshuai Wang (*Northwestern Polytechnical University*); *Jinhong Wang* (*Northwestern Polytechnical University*); *Binfeng Yang* (*Air Force Engineering University*);

13:50 Study on Universal Approximators for the EFVIE Solution of 3-D Inhomogeneous Dielectric Objects
Jiyuan Wang (*Beijing Institute of Technology*); *Xinyue Lou* (*Beijing Institute of Technology*); *Xiao-Min Pan* (*Beijing Institute of Technology*);

14:05 Crack Detection in Structural Materials Utilizing DGS-based Sensor Systems
Sukrith Sunil (*Amrita Vishwa Vidyapeetham*); *S. K. Sourabh* (*Amrita Vishwa Vidyapeetham*); *Simla Simson* (*Amrita Vishwa Vidyapeetham*); *Adithya Krishna Menon* (*Amrita Vishwa Vidyapeetham*); *M. P. Hariprasad* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

14:20 Constitutive Method for Electromagnetic Negative Refractive Index Lenses Using a Two-dimensional Meander Microstrip-line Unit Cell Structure
Tsutomu Nagayama (*Kagoshima University*); *Josei Mori* (*Kagoshima University*); *Seiji Fukushima* (*Kagoshima University*); *Toshio Watanabe* (*Kagoshima University*);

14:35 Efficient Analysis of Near-field EM Scattering from Complex Targets Coated with Anisotropic Media
Xiaoyi Wang (*Wuhan University*); *Zhengqiu Tian* (*Wuhan University*); *Si-Yuan He* (*Wuhan University*);

14:50 Fully-featured Inverse Design Tool for Si Photonics from Open-source Components
Anton N. Sofronov (*Samsung Research*); *Dina Yakovleva* (*Samsung Research*);

15:05 Spiral Scanning of a Charged Particle Beam
Mikayel Ivanyan (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*);

15:20 Electrical-thermal Co-simulation of Semiconductor Devices Using Discontinuous Galerkin Methods
Tianxiang Song (*Shanghai Jiao Tong University*); *Ping Li* (*University of Electronic Science and Technology of China*); *Liang Chen* (*King Abdullah University of Science and Technology (KAUST)*); *Ming Dong* (*Technology Innovation Institute*);

15:35 **Coffee Break**

16:00 Opimization of Material Parameters for Maximum Electromagnetic Absorption
Salih Nişanci (*Turkish German University*); *Ali Yapar* (*Istanbul Technical University*); *Mohamed Hadidy* (*RheinMain University of Applied Sciences*);

16:15 Invited An Effective Transferable Neural Network Method for Electromagnetic Scattering Problems
Yang Liu (*Institute of Applied Physics and Computational Mathematics*); *Zhequan Shen* (*Beihang University*); *Liyong Zhu* (*Beihang University*);

16:35 Machine Learning-driven Design and Characterization of Integrated Superconducting Plasmonic Metasurfaces
Soham A. Gadre (*University of Glasgow*); *Kaveh Delfanazari* (*University of Glasgow*);

16:50 An Improved Module of Bidirectional Feature Pyramid Network Based on YOLOv11 for Underwater Object Detection
Ziyi Yuan (*Shanghai University of Engineering Science*); *Shujia Yan* (*Shanghai University of Engineering Science*); *Chunyu Yao* (*Evaluating and Examining Center of State-Funded Construction Projects*); *Chenggang Dai* (*Shanghai University of Engineering Science*); *Mei Song Tong* (*Tongji University*); *Fei Wu* (*Shanghai University of Engineering Science*);

17:05 A Novel Design of Silent Speech Recognition System Based on Surface Electromyography Signals
Chenggang Dai (*Shanghai University of Engineering Science*); *Shujia Yan* (*Shanghai University of Engineering Science*); *Mei Song Tong* (*Tongji University*); *Junyou Chen* (*Shanghai Investigation, Design & Research Institute Co., Ltd, China Three Gorges Corporation*);

17:20 On Application of Weyl Formalism to Model the Ordinary and Extraordinary Mode Coupling in a Magnetized Plasma
Egor D. Gospodchikov (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Pavel A. Chuvakin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Alexey A. Balakin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Alexander G. Shalashov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*);

17:35 Triple-band Pass Filter Using Substrate Integrated Waveguides with Open Loop Resonators for Ku/K Band Applications
Pranav Krishnan (*Amrita Vishwa Vidyapeetham*); *Sahithya Kattamuri* (*Amrita Vishwa Vidyapeetham*); *A. P. Praveen* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

17:50 Numerical and Analytical Approaches for the Identification of Synchronous Machines' Higher-order Models Parameters via SSFR Tests
Farid Leguebedj (*National Polytechnic School, ENP*); *Djamel Boukhetala* (*National Polytechnic School, ENP*);

18:05 A Novel Horn Antenna Approach to Detecting the 21 cm Global Signa
Iman O. Farhat (*University of Malta*); *Kristian Zarb Adami* (*University of Oxford*);

Session 1P10
Ocean and Coastal Remote Sensing: The AI Approach

Monday PM, May 5, 2025

Room 10 - Capital Suite 7

Organized by Xiaofeng Li, Xiaofeng Yang

Chaired by Xiaofeng Yang

13:30 An Algorithm for Wind and Wave Association Retrieval from Gaofen-3 by Deep Learning
Mengyu Hao (*Shanghai Ocean University*); *Yuyi Hu* (*Shanghai Ocean University*); *Weizeng Shao* (*Shanghai Ocean University*); *Xingwei Jiang* (*National Satellite Ocean Application Service, Ministry of Natural Resources*);

13:45 Real-time Radio Refractivity Estimation Using the Differentiable Split-step Fourier Parabolic Equation
Mikhail S. Lytaev (*St. Petersburg Federal Research Center of the Russian Academy of Sciences*);

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

14:15 A CNN for Ocean Parameter Retrieval Based on Space-frequency Fusion
Xuan Jin (*National Key Laboratory of Microwave Imaging*); *Yawei Zhao* (*National Key Laboratory of Microwave Imaging*); *Jinsong Chong* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

14:30 A Multi-Features-based Model for Tropical Cyclone Intensity Estimation with Infrared Remote Sensing Observations
Sheng Wang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Guihong Liu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Yang Yu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Wentao Ma* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*);

15:30 **Coffee Break**

16:00 Sea Surface Salinity Retrieval in the Yellow Sea Using a Deep Neural Network
Yidi Wei (*Ocean University of China*); *Qing Xu* (*Ocean University of China*); *Xiaobin Yin* (*Ocean University of China*); *Yan Li* (*Ocean University of China*);

16:15 Dynamical-constrained Training Improves ENSO Prediction Skills
Tao Lian (*Second Institute of Oceanography, Ministry of Natural Resources*);

16:30 A Multi-scale Spatiotemporal Feature Network for Sea Surface Salinity Forecast in the Eastern Tropical Pacific Ocean
Xiaobin Yin (*Ocean University of China*); *Shiji Dong* (*Ocean University of China*); *Yan Li* (*Ocean University of China*);

16:45 CMFS-UNet: A Mamba-UNet Model for Flood Mapping in Bitemporal and Dual-polariziation SAR Imagery
Yuxin Wei (*Shanghai Ocean University*); *Bin Liu* (*Shanghai Ocean University*);

17:00 AI-based Oceanic Internal Waves Detection and Propagation Estimation from Satellite SAR Imagery
Shuai Song (*Key Laboratory of Internet of Smart Earth*); *Yaming Zhao* (*Key Laboratory of Internet of Smart Earth*); *Yang Yu* (*Aerospace Information Research Institute, CAS*); *Xiaofeng Yang* (*Nanjing University*);

17:15 A ConvLSTM Nearshore Water Level Prediction Model with Integrated Attention Mechanism
Yi Guan (*Guangdong Ocean University*); *Tianyu Zhang* (*Guangdong Ocean University*); *Jian Yang* (*Guangdong Ocean University*); *Juzheng Shen* (*Guangdong Ocean University*); *Qin Zhao* (*Guangdong Ocean University*); *Yingbang Huang* (*Guangdong Ocean University*);

Session 1P0
Poster Session for Best Student Poster Award Competition

Monday PM, May 5, 2025
8:30 AM - 12:30 AM
Room Poster Area

1 Defects Engineering in Chalcogen Doped α-Al_2O_3: A Comprehensive Study of Formation Energies, Charge Density, and Electronic Structure
Yimin Liao (*Hong Kong University of Science and Technology (Guangzhou)*); *Chee-Keong Tan* (*Hong Kong University of Science and Technology (Guangzhou)*);

2 An Aberration-free Line Scan Confocal Raman Imager and Type Classification and Distribution Detection of Microplastics
Changwei Jiao (*Zhejiang University*); *Jiaqi Liao* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

3 A Novel Computational Microarchitecture for Large-scale LU Decomposition
Xiao Jie Lu (*Tongji University*); *Yuan Yang Du* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

4 The Underwater Terrain Matching Localization Algorithm Based on 3D Point Cloud
Zhen Xu (*Beijing University of Posts and Telecommunications*); *Xin Peng* (*Beijing University of Posts and Telecommunications*);

5 Efficient Metamaterial Synthesis Using Iterative Refinement and Content-based Filtering
Ismail Abiola Shittu (*Khalifa University*); *Mohamed A. Abou-Khousa* (*Khalifa University*); *Ibrahim (Abe) M. Elfadel* (*Khalifa University*);

6 Tunable Acoustic Superscattering
Long Sun (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

7 Bio-inspired Fractal Antireflective Microwave Metasurface Structures
Aneena Jaison (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

8 Hydrogen in SWNT for Comparison Motors with Less Emission
Diyar Bajalan (*Technische Universität Wien*);

9 A Novel Method of Sensing Area Differentiation for Mechanoluminescent Optical Fibers
Zhi Chong Wan (*Tongji University*); *Guochun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

10 An Efficient Acquisition Method of Multiple LED Colors Based on Fiber-optic Spectrometer
Zhi Chong Wan (*Tongji University*); *Guochun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

11 Studying the Carrier Dynamics and Optical Properties of Pyramid-shaped InGaN/GaN Micro-light-emitting Diodes (μ-LEDs)
Fatimah Alreshidi (*King Abdullah University of Science and Technology (KAUST)*); *Hadeel A. Alamoudi* (*King Abdullah University of Science and Technology (KAUST)*); *Noémie Bonnet* (*Delmic B.V.*); *Toon Coenen* (*Delmic B.V.*); *Wei Guo* (*Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

12 A Miniaturized Monopole Ultra-wideband Antenna with Band-Notched Filter for Positioning Applications
Jing Jing Cao (*Tongji University*); *Ajay K. Poddar* (*Synergy Microwave Corporation*); *Ulrich L. Rohde* (*Synergy Microwave Corporation*); *Mei Song Tong* (*Tongji University*);

13 Novel Compact Filter-antenna Design for Modern Wireless Communication Systems
Feras Habib Rammah (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

14 Design of Chebyshev's Bandpass Interdigital Filter for Modern Wireless Communication Systems
Feras Habib Rammah (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

15 Constrained Stochastic Non-convex Optimization Algorithm for Machine Learning Problems in Electromagnetic Signal Processing
Basil M. Idrees (*Indian Institute of Technology Kanpur*); *Ketan Rajawat* (*Indian Institute of Technology Kanpur*);

16 Design of Optical Fiber Ratiometric Fluorescence Sensor for the Detection of Quinolone Antibiotics
Wenchao Liang (*Northeastern University*); *Yanan Zhang* (*Northeastern University*); *Yong Zhao* (*Northeastern University*); *Xuegang Li* (*Northeastern University*); *Lu Cai* (*Northeastern University*);

17 Electrical and Optical Characteristic of ZnO-based Nanoparticles in UV Region
Zeynab Rahmani (*Urmia University*); *Khosro Mabhouti* (*Urmia University*); *P. Norouzzadeh* (*Urmia University*);

18 Electrodynamic Study of High-selective Three-dimensional Bragg Resonators for Spatially-extended Free-electron Masers
Ekaterina D. Egorova (*Institute of Applied Physics, RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *D. I. Sobolev* (*Institute of Applied Physics RAS*); *Alexander A. Vikharev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

19 Passive Intermodulation Reflectometry for the Diagnostics of Electrical Connectors
Armand Wils (*EDF Lab Les Renardières*); *Kévin Guilloy* (*EDF Lab Les Renardières*);

20 In Vivo Monitoring of Tumor Vasculature Using Optoacoustic Microscopy: Effects of Axitinib and Alofanib
Anna M. Glyavina (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Ksenia Akhmedzhanova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexey Kurnikov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Yulia Khochenkova* (*N.N. Blokhin National Medical Research Center of Oncology*); *Dmitry Khochenkov* (*N.N. Blokhin National Medical Research Center of Oncology*); *Ilya Turchin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Pavel Subochev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Anna G. Orlova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

21 Photonic Crystal-based Biosensor for Bacteria Detection in Water
Abdellah Djamaa (*University Frères Mentouri*); *Ahlem Benmerkhi* (*University Frères Mentouri*); *Mohamed Bouchemat* (*Constantine Mentouri University*);

22 Nano-pressure Sensor Using High Quality Based on Photonic Crystal Ring Resonator
Fatima Zohra Siabah (*University Mentouri*); *Faiza Bounaas* (*University of Mentouri Brothers Constantine 1*);

23 Effect of Cu and Cr Dopig on Optical Parameters of NiO
Farzaneh Asaldoust (*Urmia University*); *Khosro Mabhouti* (*Urmia University*); *Akbar Jafari* (*Urmia University*); *Maryam Taleb-Abbasi* (*University of Tabriz*);

Session 1P11
Oral Presentation for Best Student Poster Award Competition

Monday PM, May 5, 2025

Room 11 - Capital Suite 8

Chaired by Kazuya Kobayashi, Sailing He

13:30 Defects Engineering in Chalcogen Doped α-Al_2O_3: A Comprehensive Study of Formation Energies, Charge Density, and Electronic Structure
Yimin Liao (*Hong Kong University of Science and Technology (Guangzhou)*); *Chee-Keong Tan* (*Hong Kong University of Science and Technology (Guangzhou)*);

13:33 An Aberration-free Line Scan Confocal Raman Imager and Type Classification and Distribution Detection of Microplastics
Changwei Jiao (*Zhejiang University*); *Jiaqi Liao* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

13:36 A Novel Computational Microarchitecture for Large-scale LU Decomposition
Xiao Jie Lu (*Tongji University*); *Yuan Yang Du* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

13:39 The Underwater Terrain Matching Localization Algorithm Based on 3D Point Cloud
Zhen Xu (*Beijing University of Posts and Telecommunications*); *Xin Peng* (*Beijing University of Posts and Telecommunications*);

13:42 Efficient Metamaterial Synthesis Using Iterative Refinement and Content-based Filtering
Ismail Abiola Shittu (*Khalifa University*); *Mohamed A. Abou-Khousa* (*Khalifa University*); *Ibrahim (Abe) M. Elfadel* (*Khalifa University*);

13:45 Tunable Acoustic Superscattering
Long Sun (*King Abdullah University of Science and Technology (KAUST)*); *Ying Wu* (*King Abdullah University of Science and Technology (KAUST)*);

13:48 Bio-inspired Fractal Antireflective Microwave Metasurface Structures
Aneena Jaison (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

13:51 Hydrogen in SWNT for Comparison Motors with Less Emission
Diyar Bajalan (*Technische Universität Wien*);

13:54 A Novel Method of Sensing Area Differentiation for Mechanoluminescent Optical Fibers
Zhi Chong Wan (*Tongji University*); *Guochun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

13:57 An Efficient Acquisition Method of Multiple LED Colors Based on Fiber-optic Spectrometer
Zhi Chong Wan (*Tongji University*); *Guochun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

14:00 Studying the Carrier Dynamics and Optical Properties of Pyramid-shaped InGaN/GaN Micro-light-emitting Diodes (μ-LEDs)
Fatimah Alreshidi (*King Abdullah University of Science and Technology (KAUST)*); *Hadeel A. Alamoudi* (*King Abdullah University of Science and Technology (KAUST)*); *Noémie Bonnet* (*Delmic B.V.*); *Toon Coenen* (*Delmic B.V.*); *Wei Guo* (*Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

14:03 A Miniaturized Monopole Ultra-wideband Antenna with Band-Notched Filter for Positioning Applications
Jing Jing Cao (*Tongji University*); *Ajay K. Poddar* (*Synergy Microwave Corporation*); *Ulrich L. Rohde* (*Synergy Microwave Corporation*); *Mei Song Tong* (*Tongji University*);

14:06 Novel Compact Filter-antenna Design for Modern Wireless Communication Systems
Feras Habib Rammah (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

14:09 Design of Chebyshev's Bandpass Interdigital Filter for Modern Wireless Communication Systems
Feras Habib Rammah (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

14:12 Constrained Stochastic Non-convex Optimization Algorithm for Machine Learning Problems in Electromagnetic Signal Processing
Basil M. Idrees (*Indian Institute of Technology Kanpur*); *Ketan Rajawat* (*Indian Institute of Technology Kanpur*);

14:15 Design of Optical Fiber Ratiometric Fluorescence Sensor for the Detection of Quinolone Antibiotics
Wenchao Liang (*Northeastern University*); *Yanan Zhang* (*Northeastern University*); *Yong Zhao* (*Northeastern University*); *Xuegang Li* (*Northeastern University*); *Lu Cai* (*Northeastern University*);

14:18 Electrical and Optical Characteristic of ZnO-based Nanoparticles in UV Region
Zeynab Rahmani (*Urmia University*); *Khosro Mabhouti* (*Urmia University*); *P. Norouzzadeh* (*Urmia University*);

14:21 Electrodynamic Study of High-selective Three-dimensional Bragg Resonators for Spatially-extended Free-electron Masers
Ekaterina D. Egorova (*Institute of Applied Physics, RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *D. I. Sobolev* (*Institute of Applied Physics RAS*); *Alexander A. Vikharev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

14:24 Passive Intermodulation Reflectometry for the Diagnostics of Electrical Connectors
Armand Wils (*EDF Lab Les Renardières*); *Kévin Guilloy* (*EDF Lab Les Renardières*);

14:27 In Vivo Monitoring of Tumor Vasculature Using Optoacoustic Microscopy: Effects of Axitinib and Alofanib
Anna M. Glyavina (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Ksenia Akhmedzhanova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexey Kurnikov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Yulia Khochenkova* (*N.N. Blokhin National Medical Research Center of Oncology*); *Dmitry Khochenkov* (*N.N. Blokhin National Medical Research Center of Oncology*); *Ilya Turchin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Pavel Subochev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Anna G. Orlova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

14:30 Photonic Crystal-based Biosensor for Bacteria Detection in Water
Abdellah Djamaa (*University Frères Mentouri*); *Ahlem Benmerkhi* (*University Frères Mentouri*); *Mohamed Bouchemat* (*Constantine Mentouri University*);

14:33 Nano-pressure Sensor Using High Quality Based on Photonic Crystal Ring Resonator
Fatima Zohra Siabah (*University Mentouri*); *Faiza Bounaas* (*University of Mentouri Brothers Constantine 1*);

14:36 Effect of Cu and Cr Dopig on Optical Parameters of NiO
Farzaneh Asaldoust (*Urmia University*); *Khosro Mabhouti* (*Urmia University*); *Akbar Jafari* (*Urmia University*); *Maryam Taleb-Abbasi* (*University of Tabriz*);

Session 2A1
Chiral Metaphotonics 1

Tuesday AM, May 6, 2025

Room 1 - CH B (A)

Organized by Maxim V. Gorkunov, Yuri S. Kivshar

Chaired by Maxim V. Gorkunov, Yuri S. Kivshar

8:30 Invited Maximally Chiral BIC Metasurfaces: From Tailored Chirality to Nonlinear Polaritonics
Andreas Tittl (*Ludwig-Maximilians-Universität München*);

8:50 Invited High-Q Chiral Perfect Absorbers in the Visible Region: Two Related But Different Approaches
Young Chul Jun (*Ulsan National Institute of Science and Technology*);

9:10 Invited Design and Applications of Chiral Quasi-bound States in the Continuum
Maxim V. Gorkunov (*Shubnikov Institute of Crystallography, NRC "Kurchatov Institute"*);

9:30 Out-of-plane Symmetry Breaking by Substrate for Maximum Optical Chirality
Alexander Antonov (*Ludwig-Maximilians-University of Munich*); *Maxim V. Gorkunov* (*Shubnikov Institute of Crystallography, NRC "Kurchatov Institute"*); *Alena V. Mamonova* (*Shubnikov Institute of Crystallography, NRC "Kurchatov Institute"*); *Egor A. Muljarov* (*Cardiff University*); *Andreas Tittl* (*Ludwig-Maximilians-Universität München*); *Yuri S. Kivshar* (*Australian National University*);

9:45 Chiral Luminescence and Harmonic Generation by Planar Dielectric Structures with Mirror Symmetry Broken by Substrate
Alena V. Mamonova (*Shubnikov Institute of Crystallography, NRC "Kurchatov Institute"*); *Maxim V. Gorkunov* (*Shubnikov Institute of Crystallography, NRC "Kurchatov Institute"*);

10:00 **Coffee Break**

10:30 Invited Local Phase Modulation Based on Planar Chiral Metaatoms and Its Applications
Chen Chen (*Nanjing University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

10:50 Invited Structured Freestanding Membranes for Circular Polarization Control
Kuniaki Konishi (*The University of Tokyo*);

11:10 Invited Laser-Induced Graphene for Terahertz Metasurface Applications
Xudong Wu (*Beijing Institute of Technology*); *Bowen Deng* (*Beijing Institute of Technology*); *Zongyuan Wang* (*Beijing Institute of Technology*); *Bin Hu* (*Beijing Institute of Technology*);

11:30 Invited Dynamic Light Manipulation by Geometric Phase Metasurface Incorporated to Tamm Plasmon Polariton Structure
Rashid Gelmedinovich Bikbaev (*Kirensky Institute of Physics, Federal Research Center-Krasnoyarsk Scientific Center, Siberian Branch Russian Academy of Science*); *Yuri V. Konov* (*Kirensky Institute of Physics, Federal Research Center-Krasnoyarsk Scientific Center, Siberian Branch Russian Academy of Science*); *Dmitrii A. Pykhtin* (*Kirensky Institute of Physics, Federal Research Center-Krasnoyarsk Scientific Center, Siberian Branch Russian Academy of Science*); *Ivan Vladimirovich Timofeev* (*Kirensky Institute of Physics, Federal Research Center KSC SB RAS*);

11:50 Pure Polarization States with Zero-point Ellipticity in Supramolecular Chiral Metamaterial with Dielectric Losses
P. Rishin Chandran (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

Session 2A2a
Singular Optics in Nanophotonics and Metasurfaces

Tuesday AM, May 6, 2025

Room 2 - CH B (C&B)

Organized by Cheng-Wei Qiu, Jincheng Ni

Chaired by Jincheng Ni

8:30 Invited Geometric Phase-driven Scattering Evolutions
Wei Liu (*National University of Defense Technology*);

8:50 Invited Self-assembly Active Nanophotonics
Jiangang Feng (*University of Science and Technology of China*);

9:10 Uncovering the Chiral Source in Resonant Nanostructures
Weijin Chen (*Tongji University*);

9:25 Invited Nano-kirigami with Controlled Plastic, Elastic and Hysteretic Deformations
Zhiguang Liu (*University of Science and Technology of China*);

9:45 Invited Momentum-space Topological Phase Singularities in Photonic Bands
Jincheng Ni (*University of Science and Technology of China*);

10:05 **Coffee Break**

10:30 Exploiting Phase Singularities in Metasurfaces Design
Mirko Barbuto (*ROMA TRE University*); *Alessio Monti* (*ROMA TRE University*); *Stefano Vellucci* (*Niccolò Cusano University*); *Andrea Alù* (*The City University of New York*); *Filiberto Bilotti* (*ROMA TRE University*); *Alessandro Toscano* (*ROMA TRE University*);

10:45 Enhanced Sensing by Coherent Perfect Absorber Laser Points of Non-Hermitian Systems
Minye Yang (*Xi'an Jiaotong University*); *Zhilu Ye* (*Xi'an Jiaotong University*); *Ming Liu* (*Xi'an Jiaotong University*);

Session 2A2b
3D Metamaterials for Effective Radar Absorption

Tuesday AM, May 6, 2025

Room 2 - CH B (C&B)

Organized by Daniel Choi

Chaired by Daniel Choi

11:00 Fabrication and Characterization of the Tilted-angle Honeycomb Structure Coated with the Nanocomposite Films of Fe_3O_4 Nanoclusters for Radar Absorption
Hammad Younes (*Khalifa University of Science and Technology*); *Ru Li* (*Khalifa University of Science and Technology*); *Sang-Eui Lee* (*Inha University*); *Young Keun Kim* (*Korea University*); *Daniel Choi* (*Khalifa University of Science and Technology*);

11:15 Thick Carbon Nanotube-based Flexible Composites for Radar Absorbing Applications
Syed Mohammed Sajl (*Khalifa University of Science & Technology*); *Amarsingh Bhabu Kanagaraj* (*Khalifa University of Science & Technology*); *Daniel Choi* (*Khalifa University*);

11:30 Development of 3D Metamaterials Fabricated by 3D Printing Processes for Radar Absorption
Mariam Al Mansoori (*Khalifa University of Science and Technology*); *Kinal Kim* (*Inha University*); *Sang-Eui Lee* (*Inha University*); *Daniel Choi* (*Khalifa University of Science and Technology*);

11:45 Deep Learning-driven Inverse Design of TPMS Metamaterials for Phononic, Acoustic, and Photonic Applications
Dong-Wook Lee (*Technology Innovation Institute*); *Rashid K. Abu Al-rub* (*Khalifa University*);

Session 2A3
Thermal Radiation: Principles, Progress, and Potentials 1

Tuesday AM, May 6, 2025

Room 3 - CH B (D)

Organized by Bai Song, Kezhang Shi

Chaired by Bai Song, Kezhang Shi

8:30 Invited Materials Design Principle for Mid-IR Electrochromic Polymer Metasurfaces
Po-Chun Hsu (*University of Chicago*);

8:50 Thermal Management of Semiconductor Optoelectronics
Invited Using Radiative Cooling
Qiaoqiang Gan (*King Abdullah University of Science and Technology (KAUST)*);

9:10 Nanoscale Radiative Heat Transfer in Non-reciprocal
Invited Systems
Svend-Age Biehs (*Carl von Ossietzky Universitat*);

9:30 Electrochromic Materials for Visible and Near Infrared
Invited Light Modulation
Rui-Tao Wen (*Southern University of Science and Technology*);

10:00 **Coffee Break**

10:30 Manipulated Near-field Radiative Heat Transfer between
Invited Nanoparticles Based on Acoustic Phonon Polaritons
Ceji Fu (*Peking University*); *Shuo Chen* (*Peking University*); *Xiaohu Wu* (*Shandong Institute of Advanced Technology*);

10:50 Design of Materials for Thermal Radiation Regulation
Invited and Their Applications in Energy Savings
Yucan Peng (*Peking University*);

11:10 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* (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*);

11:30 Smart Radiative Thermal Management Metadevices
Invited
Yang Li (*Zhejiang University*); *Zhuoyuan Zhang* (*The Hong Kong University of Science and Technology*); *Keqiao Li* (*The Hong Kong University of Science and Technology*); *Baoling Huang* (*The Hongkong University of Science and Technology*);

Session 2A4a
Ultrafast and Nonlinear Nanophotonics 3

Tuesday AM, May 6, 2025

Room 4 - Capital Suite 1

Organized by Sergey Makarov, Mihail I. Petrov, Andrey A. Bogdanov, Costantino De Angelis

Chaired by Sergey Makarov, Mihail I. Petrov

8:30 Transition Metal Dichalcogenides for High-index
Invited Nanophotonics, Nonlinear Optics, and Strong Light-matter Coupling
Timur O. Shegai (*Chalmers University of Technology*);

8:50 Optomechanics with Light-matter Bose-Einstein Con-
Invited densates
Anton V. Zasedatelev (*Aalto University School of Science*);

9:10 Ultracompact Nonlinear Platforms Based on van der
Invited Waals Semiconductors for Classical and Quantum States of Light
Chiara Trovatello (*Politecnico di Milano*);

9:30 Non-linear Optical Mapping of Twist Angle in Two-dimensional Transition Metal Dichalcogenide Heterobilayers
Sotiris Psilodimitrakopoulos (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *Leonidas Mouchliadis* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *George Miltos Maragkakis* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *George Kourmoulakis* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *Andreas Lemonis* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *George Kioseoglou* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas*); *Emmanuel Stratakis* (*Institute of Electronic Structure and Laser, Foundation for Research and Technology (FORTH)*);

9:45 Waveguide-integrated 2D Materials for Efficient and Ultrafast All-optical Modulation
Haitao Chen (*National University of Defense Technology*); *Hongyuan Cao* (*Zhejiang University*); *Qingwei Zhou* (*National University of Defense Technology*); *Daoxin Dai* (*Zhejiang University*);

10:00 **Coffee Break**

Session 2A4b
Photonic Resonances and Bound States in the Continuum

Tuesday AM, May 6, 2025

Room 4 - Capital Suite 1

Organized by Emiliano Rezende Martins

Chaired by Emiliano Rezende Martins

10:30 Resonant Integrated Metal-dielectric-metal Structures for Semi-guided Waves
Evgeni A. Bezus (*Image Processing Systems Institute of the Russian Academy of Sciences*); *A. I. Kashapov* (*Image Processing Systems Institute, NRC "Kurchatov Institute" and Samara National Research University*); *Dmitry A. Bykov* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Leonid L. Doskolovich* (*Image Processing Systems Institute, NRC "Kurchatov Institute" and Samara National Research University*);

10:45 Invited Extending the Spatial Bandwidth Product of Quadratic Metalens through Fourier Ptychographic Microscopic Imaging
Zihao Zhao (*Sun Yat-sen University*); *Haowen Liang* (*Sun Yat-sen University*);

11:05 Finding the Number of Parameters Required to Obtain a Bound State in the Continuum
Dmitry A. Bykov (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *A. A. Mingazov* (*Image Processing Systems Institute, NRC "Kurchatov Institute*); *E. A. Bezus* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Leonid L. Doskolovich* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*);

11:20 Invited Robust Photonic Resonances and Bound States in the Continuum
Emiliano Rezende Martins (*University of São Paulo*);

11:40 All-optical Computation of the Divergence Operator by Layered Metal-dielectric Structure
Artem I. Kashapov (*Image Processing Systems Institute, NRC "Kurchatov Institute" and Samara National Research University*); *Evgeni A. Bezus* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Dmitry A. Bykov* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Leonid L. Doskolovich* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*);

Session 2A5a
Advances in Optical Sensing for Sustainability

Tuesday AM, May 6, 2025

Room 5 - Capital Suite 2

Chaired by Hartmut Hillmer

8:30 Invited Novel Photonic MEMS Smart Glass — Huge Energy Savings in Buildings and Personalized Lighting
Hartmut Hillmer (*University of Kassel*); *Mustaqim Siddi Que Iskhandar* (*Kassel University*); *Md Kamrul Hasan* (*Kassel University*); *Shilby Baby* (*Nanoscale Glasstec GmbH*); *Jiahao Chen* (*Kassel University*); *Muhammad Hasnain Qasim* (*Kassel University*); *Dennis Löber* (*Kassel University*); *Steffen Liebermann* (*Kassel University*); *Shujie Liu* (*Kassel University*); *Philipp Kästner* (*Kassel University*); *Roland Donatiello* (*Kassel University*); *Guilin Xu* (*Nanoscale Glasstec GmbH*);

8:50 Dynamic Characterization of MEMS Smart Glass: Amplitude Modulation Responses and Switching Times
Eslam Farrag (*Kassel University*); *Steffen Liebermann* (*Kassel University*); *Rahaf Albdour* (*Kassel University*); *Xiaohui Yang* (*Kassel University*); *Philipp Kästner* (*Kassel University*); *Mustaqim Siddi Que Iskhandar* (*Kassel University*); *Md Kamrul Hasan* (*Kassel University*); *Shilby Baby* (*Nanoscale Glasstec GmbH*); *Shujie Liu* (*Kassel University*); *Jiahao Chen* (*Kassel University*); *Muhammad Hasnain Qasim* (*Kassel University*); *Dennis Löber* (*Kassel University*); *Roland Donatiello* (*Kassel University*); *Guilin Xu* (*Nanoscale Glasstec GmbH*); *Hartmut Hillmer* (*University of Kassel*);

9:05 Energy Consumption and Energy Saving of MEMS Smart Glass for Personalized Light Steering Based on User Actions and Real Weather Data
Md Kamrul Hasan (*Kassel University*); *Shilby Baby* (*Nanoscale Glasstec GmbH*); *Mustaqim Siddi Que Iskhandar* (*Kassel University*); *Steffen Liebermann* (*Kassel University*); *Jiahao Chen* (*Kassel University*); *Muhammad Hasnain Qasim* (*Kassel University*); *Dennis Löber* (*Kassel University*); *Guilin Xu* (*Nanoscale Glasstec GmbH*); *Hartmut Hillmer* (*University of Kassel*);

9:20 Infrastructure Strain Sensing Interrogated by Dual-comb Fiber Laser Spectroscopy
Hani J. Kbashi (*Aston University*); *Alberto R. Cuevas* (*Aston University*); *Sergey V. Sergeyev* (*Aston University*);

9:35 Geometrical Optimization for Capacitive Proximity Sensor through Numerical Evaluation with Interdigitated Electrodes
Zih-Yu Chen (*National Tsing Hua University*); *Cheng-Yao Lo* (*National Tsing Hua University*);

10:00 **Coffee Break**

Session 2A5b
Optical Sensors: From Theory to Applications

Tuesday AM, May 6, 2025

Room 5 - Capital Suite 2

Organized by Cees Ronda

Chaired by Hartmut Hillmer

10:30 Design and Benchmarking of a Novel Prototype for Vibration Displacement Measurement from Sub-micron to Micron Based on Laser Self-mixing Interference
Yuanfu Tan (*The Chinese University of Hong Kong*); *Wei-Hsin Liao* (*The Chinese University of Hong Kong*); *Hay Wong* (*University of Liverpool*);

10:45 An Analog Front-end Circuit with Walk Error Compensation for 4D LiDAR Imaging Sensors
Jianping Guo (*Fudan University*); *Xiaoyang Zeng* (*Fudan University*); *Wenhong Li* (*Fudan University*); *Mingyu Wang* (*Fudan University*);

11:00 Two-dimensional Curved Diffraction Lens-grating CDLG to Compensate for a Set of Wavefront Aberrations
Pavel A. Khorin (*Samara National Research University*); *A. P. Dzyuba* (*Samara National Research University*); *Svetlana Nikolaevna Khonina* (*Samara National Research University*);

11:15 Propagation/Leakage Transition of Fiber Cladding Modes as an Exceptional Point
Eugeny D. Chubchev (*Lomonosov Moscow State University*); *Egor I. Dolzhenko* (*Kotelnikov Institute of Radioengineering and Electronics of Russian Academy of Sciences*); *Kirill A. Tomyshev* (*Kotel'nikov Institute of Radio Engineering and Electronics of RAS*); *Igor A. Nechepurenko* (*Ferdinand-Braun-Institut (FBH)*); *Alexander V. Dorofeenko* (*Lomonosov Moscow State University*); *Oleg V. Butov* (*Kotelnikov Institute of Radioengineering and Electronics of RAS*);

11:30 Optical Gas Sensors: Optimization, Fabrication and Data Processing
Alexander V. Dorofeenko (*Lomonosov Moscow State University*); *Eugeny D. Chubchev* (*Dukhov Research Institute of Automatics*); *Alexander V. Baryshev* (*Dukhov Research Institute of Automatics*); *Daria P. Kulikova* (*Lomonosov Moscow State University*); *Ilya A. Rodionov* (*Bauman Moscow State Technical University*); *Aleksandr S. Baburin* (*BMSTU*); *Evgeniy S. Lotkov* (*Lomonosov Moscow State University*);

11:45 Luminescence Nanothermometry and High-contrast Multi-surface Imaging of Latent Fingerprints Using Nanophosphors
Hendrik C. Swart (*University of the Free State*); *Sumedha Tamboli* (*University of the Free State*); *Govind B. Nair* (*University of the Free State*);

Session 2A6
Thermal Photonics: Fundamental Physics and Application 1

Tuesday AM, May 6, 2025

Room 6 - Capital Suite 3

Organized by Wei Li, Qiaoqiang Gan, Longnan Li

Chaired by Qiaoqiang Gan

8:30 Invited Optofluidic Metasurfaces with Dual Functionalities for Energy-passive Cooling and Water Harvesting
Tarik Bourouina (*Université Gustave Eiffel*);

8:50 Invited Solid-state Ionic Thermoelectrics for Photothermal Sensing
Gongze Liu (*The Hong Kong University of Science and Technology*); *Baoling Huang* (*The Hongkong University of Science and Technology*);

9:10 Invited Microprism Optics for Energy Saving and Production
Sun-Kyung Kim (*Kyung Hee University*);

9:30 Invited Ultrabroadband Directional Thermal Emission
Ziwei Fan (*Texas A&M University*); *Taeseung Hwang* (*Texas A&M University*); *Sam Lin* (*Texas A&M University*); *Y. Chen* (*Texas A&M University*); *Zijing Wong* (*Eastern Institute of Technology*);

9:50 Invited Unlocking the Potentials of Tunable Infrared Emissivity with Semiconductor Quantum Dots
Yu Gu (*Nanjing University of Science and Technology*); *Haixiao Xu* (*Southeast University*); *Zhi Li* (*Southeast University*);

10:10 **Coffee Break**

10:30 Invited Functional Nonreciprocal Thermal Radiation Based on Magneto-optical, Phase-change Materials, and Beyond
Kezhang Shi (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

10:50 Invited Broadband Active Metasurfaces by Reversible Metal Electrodeposition
Po-Chun Hsu (*University of Chicago*);

11:10 Invited Effect of Directional Emissivity on Radiative Heat Transfer with Obstacles
Yufei Yan (*Université Gustave Eiffel, CNRS, ESYCOM*); *Kirollos Matta* (*Université Gustave Eiffel, CNRS, ESYCOM*); *Armande Herve* (*Université Gustave Eiffel, CNRS, ESYCOM*); *Tarik Bourouina* (*Université Paris-Est*); *Elyes Nefzaoui* (*University Gustave Eiffel*);

11:30 Free-form Metamaterial Design for Thermal Camouflage Guided by Conditional Diffusion Model
Jiang Guo (*The University of Tokyo*);

11:45 Invited Confining Energy at the Nanoscale and Its Applications
Wenxin Wang (*Harbin Engineering University*); *Jiang Hu* (*Harbin Engineering University*); *Jiazhi Yuan* (*Harbin Engineering University*); *Yiqun Zhang* (*Harbin Engineering University*); *Yan Zheng* (*Harbin Engineering University*);

12:05 Radiative Cooling for Sky-facing LED Streetlights
Saichao Dang (*King Abdullah University of Science and Technology*); *Hasan H. Almahfoudh* (*King Abdullah University of Science and Technology*); *Qiaoqiang Gan* (*King Abdullah University of Science and Technology (KAUST)*);

Session 2A7
Semiconductor Optoelectronics 1

Tuesday AM, May 6, 2025

Room 7 - Capital Suite 4

Organized by Iman S. Roqan, Vijay Kumar Gudelli

Chaired by Iman S. Roqan, Vijay Kumar Gudelli

8:30 Development of a Monolithic Blue Photonic Crystal Surface-emitting Laser with a Circularly Polarized Emission
Invited
Chia-Yen Huang (*National Yang Ming Chiao Tung University*); *Wen-Hsuan Hsieh* (*National Yang Ming Chiao Tung University*); *Yong-Wei Lai* (*National Yang Ming Chiao Tung University*); *Po-Young Chang* (*National Yang Ming Chiao Tung University*); *Tien-Chang Lu* (*National Yang Ming Chiao Tung University*);

8:50 Raman Scattering Imaging and Analyses of Phonon Transport in Heterostructures
Invited
Yoshihiro Ishitani (*Chiba University*); *Thee Ei Khaing Shwe* (*Chiba University*); *Masaya Chizaki* (*Chiba University*); *Daisuke Iida* (*King Abdullah University of Science and Technology (KAUST)*); *Yuki Kikuchi* (*Chiba University*); *Yusuke Ishii* (*Chiba University*); *Bei Ma* (*Chiba University*); *Mohammed Najmi* (*King Abdullah University of Science and Technology (KAUST)*); *Kazuhiro Ohkawa* (*King Abdullah University of Science and Technology (KAUST)*);

9:10 Growth-related Challenges of Nitride Semiconductors in Manufacturing Optoelectronic and Electronic Devices
Invited
Mike Leszczynski (*Institute of High Pressure Physics PAS*); *Ewa Grzanka* (*Institute of High Pressure Physics PAS*); *Robert Czernecki* (*Institute of High Pressure Physics PAS*);

9:30 High-performance UVB and Far-UVC LEDs on Sapphire Aiming for Inactivation of Viruses and Bacteria
Invited
Muhammad Ajmal Khan (*Riken Cluster for Pioneering Research (CPR)*); *Mitsuhiro Muta* (*Nippon Tungsten Co., Ltd.*); *Hiromitsu Sakai* (*Shin-Etsu Chemical Co., Ltd.*); *Yukio Kashima* (*Riken Cluster for Pioneering Research (CPR)*); *Hiroyuki Yaguchi* (*Saitama University*); *Yasushi Iwaisako* (*Nippon Tungsten Co., Ltd.*); *Hideki Hirayama* (*Riken Cluster for Pioneering Research (CPR)*);

10:00 **Coffee Break**

10:30 Carrier Dynamics of Orange/Red In-rich InGaN Double-quantum Wells LED Hybridized by Blue InGaN Single Quantum Well
Hadeel A. Alamoudi (*King Abdullah University of Science and Technology (KAUST)*); *Nuaman M. Kutty* (*King Abdullah University of Science and Technology (KAUST)*); *Fatimah Alreshidi* (*King Abdullah University of Science and Technology (KAUST)*); *Daisuke Iida* (*King Abdullah University of Science and Technology*); *Kishor Upadhyaya* (*King Abdullah University of Science and Technology (KAUST)*); *Kazuhiro Ohkawa* (*King Abdullah University of Science and Technology (KAUST)*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

10:45 Plasmon Coupling in Metal Nanoparticle Assemblies and Enhanced Optoelectronic Responses for Graphene Oxide-metal Nanoparticles
Invited
Bala Murali Krishna Mariserla (*IIT Jodhpur*);

11:05 Orientation Dependent Optical Behavior of Unintentionally Doped and Sn Doped β-Ga_2O_3 Substrates
Kishor Upadhyaya (*King Abdullah University of Science and Technology (KAUST)*); *Hadeel A. Alamoudi* (*King Abdullah University of Science and Technology (KAUST)*); *Vijay Kumar Gudelli* (*King Abdullah University of Science and Technology (KAUST)*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

11:20 Nanostructured Hybrid Thin Films for Photons and Pollutants Concentration and Photocatalysis
Andrea Lanfranchi (*University of Genova*); *Vincenzo Spinoso* (*University of Florence*); *Alejandro Martinez-Bueno* (*University of Florence*); *Valeria d'Agostino* (*University of Naples Federico II*); *Simone Bertucci* (*Adolphe Merkel Institute*); *Paola Lova* (*University of Genova*);

11:35 Use of Si Nanoparticles to Improve Performance of Solar Cells by Photon Downshifting
Ammar Nayfeh (*Khalifa University*);

11:50 Low Dark Count Rate Backside-illuminated Ge-on-Si Single Photon Avalanche Diode
Liyu Liu (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Yu Chang* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Yin Fei* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Qiao Kai* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Xing Wang* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*);

Session 2A8a
Millimeter and Sub MM-waves On-chip/Off-chip Antennas

Tuesday AM, May 6, 2025
Room 8 - Capital Suite 5
Organized by Mihai Sanduleanu, Nazar Thamer Ali
Chaired by Mihai Sanduleanu, Nazar Thamer Ali

8:30 Modelling and Analysis of Electron Tunnelling in Carbon Nanotube-based Rectifying Antennas
Ahmed Hassan (*Khalifa University of Science and Technology*); *Mihai Sanduleanu* (*Khalifa University of Science and Technology*);

8:45 On-chip Antenna for a Sub mm-Waves, 160 GHz, Vital Signs Monitoring IC, in 22 nm CMOS FDSOI
Lama Kadoura (*Wayne State University*); *Mohammed Ismail* (*Wayne State University*); *Mihai Sanduleanu* (*Khalifa University of Science and Technology*);

9:00 Characterization of Carbon Nanotube Rectennas for Solar Energy Harvesting
Ahmed Mahdy Yassin Hassan (*Khalifa University of Science and Technology*); *Mihai Sanduleanu* (*Khalifa University of Science and Technology*);

9:15 Multi-slots Loaded Planar Antenna for Wideband Millimeter-wave Applications
Saad Hassan Kiani (*Universiti Teknikal Malaysia Melaka*); *Umair Rafique* (*University of Oulu*); *Hisham Khalil* (*The University of Lahore*); *Shobit Agarwal* (*University of Naples Federico II*); *Syed Muzahir Abbas* (*Macquarie University*);

9:30 Metasurface-based Aperture-coupled Antenna for Millimeter-wave Applications
Umair Rafique (*University of Oulu*); *Syed Muzahir Abbas* (*Macquarie University*); *Hisham Khalil* (*The University of Lahore*); *Hijab Zahra* (*Macquarie University*); *Shobit Agarwal* (*University of Naples Federico II*);

9:45 The Design of Two and Four-port MIMO Antennas at 28 GHz with Isolation Enrichment for 5G Communication
Ravi Kumar Goyal (*Engineering College Ajmer*); *Uma Shankar Modani* (*Engineering College Ajmer*);

10:00 **Coffee Break**

Session 2A8b
Advanced Antennas and Arrays for Wireless Communications

Tuesday AM, May 6, 2025

Room 8 - Capital Suite 5

Organized by Sen Yan, Yan Wang

Chaired by Sen Yan

10:30 Sub-terahertz 2-D Beam Scanning SSPP Leaky-wave Antenna Based on Copper Additive Manufacturing
Yuanxi Cao (*Xi'an Jiaotong University*); *Sen Yan* (*Xi'an Jiaotong University*);

10:45 A Two-dimensional Scanning Antenna Based on Metamaterial Luneburg Lens in Terahertz Band
Zhaoqi Bian (*Xi'an Jiaotong University*); *Yuanxi Cao* (*Xi'an Jiaotong University*); *Sen Yan* (*Xi'an Jiaotong University*);

11:00 Dual-band π-shaped Printed Monopole Antenna with Isolating Stub for 3G and 5G Applications
Mohamed S. Soliman (*Taif University*);

11:15 On the Possibility of Realizing an Efficient Small Monopole
Elizabeth Dagan (*Merchavim Institute of R&D in Negev*); *Dor Ohana* (*Department of EE, Sami Shamoon Collage of Engineering*); *Motti Haridim* (*HIT — Holon Institute Technology*);

11:30 Genetically Designed Wire-bundle Antenna with Broadband Supergain
Dmytro Vovchuk (*Riga Technical University*); *Gilad Uziel* (*Tel Aviv University*); *Andrey Machnev* (*Tel Aviv University*); *Jurgis Porins* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Pavel Ginzburg* (*Tel Aviv University*);

11:45 Field and Phase Analysis in Printed Passive RFID Tag for Sensor Application
Sajeer Aiswarya (*Amrita Vishwa Vidyapeetham*); *L. Meenu* (*Amrita Vishwa Vidyapeetham*); *K. A. Unnikrishna Menon* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

12:00 Microstrip Resonator Assisted Sensor for Blood Glucose Detection
Karthik Nair (*Amrita Vishwa Vidyapeetham*); *Abhishek Aher* (*Amrita Vishwa Vidyapeetham*); *Sruthi Balakrishnan P* (*Amrita Vishwa Vidyapeetham*); *Rithin Ranjith* (*Amrita Vishwa Vidyapeetham*); *Balakrishnan Shankar* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

12:15 A Low-profile UWB High-gain Antenna Design for Airborne Detection Applications
Xu Yan (*Xi'an Jiaotong University*); *Fei Yang* (*Xi'an Jiaotong University*); *Anxue Zhang* (*Xi'an Jiaotong University*);

Session 2A9
Surface Integral and Boundary Element Methods: Fundamentals and Applications

Tuesday AM, May 6, 2025

Room 9 - Capital Suite 6

Organized by Olivier J. F. Martin, Ulrich Hohenester

Chaired by Olivier J. F. Martin, Ulrich Hohenester

8:30 Invited Coupling Boundary Element Methods with Electronic Structure Calculations to Model Molecular Nanoplasmonics: From Hot-carrier Catalysis to Plexcitons
Stefano Corni (*University of Padua*);

8:50 Invited Modelling the Spill-out Effect from a Metallic Nanosphere: A Boundary-based Approach
Xuezhi Zheng (*KU Leuven*); *Guy A. E. Vandenbosch* (*KU Leuven*);

9:10 Modeling Complex Atomic Structures with the Surface Integral Equation Method
Parmenion Mavrikakis (*Ecole Polytechnique Federale de Lausanne*); *N. Brosseau-Habert* (*FEMTO-ST Institute*); *M. Devel* (*FEMTO-ST Institute*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

9:25 Invited A Computational Maxwell Solver for Nonlocal Feibelman Parameters in Plasmonics
Ulrich Hohenester (*University of Graz*); *L. Huber* (*University of Graz*);

9:45 Decoupled-source Surface Integral Equations for Low-frequency Electromagnetic Modeling of Homogeneous Penetrable Objects
Wen Tao Yuan (*Tongji University*); *Mei Song Tong* (*Tongji University*);

10:00 **Coffee Break**

10:30 Invited Simulation of the Interaction between Free Electrons and Nanosscale Optical Fields
F. Javier García de Abajo (*ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology*);

10:50 Keynote SIE for the Vector-scalar Potential Formulation: An Overview
A. A. Abdrabou (*Purdue University*); *Z. K. Jia* (*Purdue University*); *Boyuan Zhang* (*Purdue University*); *Luis J. Gomez* (*Purdue University*); *Thomas E. Roth* (*Purdue University*); *Weng Cho Chew* (*Purdue University*);

11:20 Invited Collecting Big Data by 3D EM Simulation: Needs, Challenges, Solutions, and Limits
Branko M. Kolundzija (*University of Belgrade*);

11:40 Invited Non-local Effects in the Interaction of a Quantum Emitter and a Plasmonic Nanoantenna
Javier Aizpurua (*University of the Basque Country UPV/EHU*); *Antton Babaze* (*Materials Physics Center CSIC-UPV/EHU*); *Ruben Esteban* (*Donostia International Physics Center DIPC*); *A. G. Borisov* (*Institut des Sciences Moleculaires d'Orsay*);

12:00 A Time-domain Thin-sheet Integral Equation Solver for Simulation of Two-dimensional Dispersive Media
Sebastian Celis Sierra (*King Abdullah University of Science and Technology (KAUST)*); *Meruyert Khamitova* (*King Abdullah University of Science and Technology (KAUST)*); *Ran Zhao* (*University of Electronic Science and Technology of China*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST)*);

12:15 Invited Surface Integral Equation Method for the Modes Analysis of Plasmonic Nanostructures
Olivier J. F. Martin (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

Session 2A10a
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Tuesday AM, May 6, 2025

Room 10 - Capital Suite 7

Chaired by Saibun Tjuatja, Hugo Enrique Hernandez-Figueroa, Simon H. Yueh

8:30 Ship Detection in the Harbor for SAR Images Based on Superpixel and Contextual Features
Yongchao Cheng (*Northwestern Polytechnical University*); *Chun Liu* (*Northwestern Polytechnical University*); *S. Liu* (*Northwestern Polytechnical University*);

8:45 AI-based Sea Surface Wind Direction Retrieval from SAR Imagery
Hongyu Yang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*);

9:00 ASPE-net: An Adaptive Structural Parameters Estimation Net for SAR under Motion Errors
Yue Song (*University of Electronic Science and Technology of China*); *Wei Pu* (*University of Electronic Science and Technology of China*); *Junjie Wu* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*);

9:15 Bistatic SAR Image Fusion Based on NSCT
Zijian Zhang (*University of Electronic Science and Tech of China*); *Yue Song* (*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*);

9:30 Localization of Beaver Burrows by P-band SAR Tomography
Gian Carlos Oré Huacles (*University of Campinas*); *William Kirk* (*Surveyar Ltd*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas*);

9:45 Advancing TDR Technique for Oil Leakage Detection
Hao-Ruei Jhan (*National Yang Ming Chiao Tung University*); *Farizal Hakiki* (*National Yang Ming Chiao Tung University*); *Chih-Ping Lin* (*National Yang Ming Chiao Tung University*);

10:00 **Coffee Break**

Session 2A10b
Remote Sensing of Water and Energy Cycle

Tuesday AM, May 6, 2025

Room 10 - Capital Suite 7

Organized by Rajat Bindlish

Chaired by Rajat Bindlish

10:30 Monitoring Reservoir Water Storage Levels Using Spaceborne GNSS-R Systems' Level-1 Observations
Mohammad Al-Khaldi (*The Ohio State University*); *Joel T. Johnson* (*The Ohio State University*); *Steven K. Chan* (*NASA Jet Propulsion Laboratory, California Institute of Technology*); *George Hajj* (*NASA Jet Propulsion Laboratory, California Institute of Technology*);

10:45 Algorithm Improvement for the NASA Soil Moisture Active Passive Mission during the Third Extension Phase from 2024–2026
Simon H. Yueh (*California Institute of Technology*); *Mario Julian Chaubell* (*California Institute of Technology*); *Xiaolan Xu* (*California Institute of Technology*); *Huanting Huang* (*California Institute of Technology*); *Tianlin Wang* (*California Institute of Technology*); *Akiko Hayashi* (*California Institute of Technology*); *Dara Entekhabi* (*Massachusetts Institute of Technology*); *Rajat Bindlish* (*National Aeronautics and Space Administration*); *Andreas Colliander* (*California Institute of Technology*); *Narendra Narayan Das* (*Michigan State University*);

11:00 L-band Radar Backscattering of Vegetation Using Fast Hybrid Multiple Scattering Theory Method (FHMSTM) of Full Wave Simulations
Tien-Hao Liao (*National Taipei University of Technology*); *Haokui Xu* (*University of Michigan*); *Jongwoo Jeong* (*University of Michigan*); *Zhenming Huang* (*University of Michigan*); *Yunwei Han* (*University of Michigan*); *Leung Tsang* (*University of Michigan*);

11:15 Land Agriculture Information System: A Coupled Hydrology and Crop Modeling Framework for Agriculture
Rajat Bindlish (*NASA's Goddard Space Flight Center*); *Pang-Wei Liu* (*NASA's Goddard Space Flight Center*); *Jessica Erlingis* (*NASA's Goddard Space Flight Center*); *Meijian Yang* (*Columbia University*); *Shahryar Ahmad* (*NASA's Goddard Space Flight Center*); *James Geiger* (*NASA's Goddard Space Flight Center*); *Luke Monhollon* (*Columbia University*); *Sujay Kumar* (*NASA's Goddard Space Flight Center*); *Alex C. Ruane* (*Columbia University*); *Zhengwei Yang* (*National Agricultural Statistics Service*); *Gary Feng* (*Genetics and Sustainable Agricultural Research Unit*); *Yanbo Huang* (*Genetics and Sustainable Agricultural Research Unit*);

11:30 On The Strengths and Weaknesses of GNSS-R Systems for Sensing Soil Moisture Dynamics: A Case Study Using Commercial SmallSats
Mohammad Al-Khaldi (*The Ohio State University*); *Joel T. Johnson* (*The Ohio State University*); *Dustin Horton* (*The Ohio State University*); *Darren S. McKague* (*University of Michigan*); *Rajat Bindlish* (*NASA's Goddard Space Flight Center*); *Dorina Twigg* (*University of Michigan*); *Anthony Russel* (*University of Michigan*); *Jeonghwan Park* (*NASA Goddard Space Flight Center*);

11:45 Comparative Analysis of Application of Inverse Laplace Transform for Estimation of Water Content in Sludge by Time-domain NMR
Cengiz Okay (*Marmara University*); *Selda M. Hocaoglu* (*Climate Change and Life Sciences*); *Hande Gulcan* (*Climate Change and Life Sciences*); *Irfan Basturk* (*Climate Change and Life Sciences*); *"cSebnem Aynur* (*Climate Change and Life Sciences*); *Georgy V. Mozzhukhin* (*Gebze Technical University*); *Pavel Kupriyanov* (*Gebze Technical University*); *Galina S. Kupriyanova* (*Immanuel Kant Baltic Federal University*); *Ivan G. Mershiev* (*Baltic Federal University by Immanuel Kant*); *Bulat Rameev* (*Gebze Technical University*);

12:00 Remote RF Sensing System for Detection of Explosives by ^{14}N NQR Technique in Large-volume Checkpoints
Georgy V. Mozzhukhin (*Gebze Technical University*); *Pavel Kupriyanov* (*Gebze Technical University*); *Eren Doğan* (*Gebze Technical University*); *Cengiz Okay* (*Marmara University*); *Hacer Ipek* (*Gebze Technical University*); *Bektaş Çolak* (*Gebze Technical University*); *Sinan Kazan* (*Gebze Technical University*); *Maksut Maksutoğlu* (*Gebze Technical University*); *N. Güneş Saribaş* (*Gebze Technical University*); *Bulat Rameev* (*Gebze Technical University*);

Session 2A0
Poster Session 2

Tuesday AM, May 6, 2025
13:30 PM - 18:30 PM
Room Poster Area

1 Einstein Box: The Photon-in-a-box Description Using the Four-vector Formalism
Manuel Fiolhais (*University of Coimbra*);

2 A Curvature-compensated Based on Subthreshold MOSFETs Low-power Bandgap Reference
Yuhang Xia (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*);

3 A Fast Algorithm for Scattering Analysis of Multiple Moving Objects by a Tailored MLFMA and CRWG Basis Functions
Yu-Rui Jia (*Southwest University of Science and Technology*); *Yuan Zhang* (*University of Electronic Science and Technology of China*); *Tao Liu* (*Sichuan Jiuzhou Electric Group Co., Ltd.*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

4 A Direct Solver with GPU Parallel Acceleration Block LU Decomposition for Electromagnetic Scattering/Radiation Problems
Haonan He (*Southwest University of Science and Technology*); *Jin Wang* (*AVIC Chengdu Aircraft Industrial (Group) Co., Ltd.*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Zhi-Hao Deng* (*Southwest University of Science and Technology*); *Jiaming Yang* (*Southwest University of Science and Technology*); *Weiyu Xia* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *"nobreakspace* (); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

5 A Comparative Study of Different Magnetic Gap Modeling Methods Based on PEEC
Qiwen Yan (*Southwest University of Science and Technology*); *Xiaoping Li* (*Southwest University of Science and Technology*); *Xu Wang* (*DeTooLIC Technology Co., Ltd.*); *Qiusen He* (*Zhejiang University*); *Yin Sun* (*DeTooLIC Technology Co., Ltd.*); *Jun Fan* (*Southwest University of Science and Technology*); *Shufang Li* (*Beijing University of Posts and Telecommunications*); *Qiangming Cai* (*Southwest University of Science and Technology*);

6 Non-periodic Bursts Scheme in Radar Pulse Train for UAV Drone Detection by Multi-function Radar
Paweł Kabacik (*Wrocław University of Science and Technology*); *Pawel Biernacki* (*Wroclaw University of Technology*); *S. Gmyrek* (*Wroclaw University of Technology*); *D. Sysak* (*Wroclaw University of Technology*);

7 Nanoimprinted Quantum Dot Topological Laser with Multiple Corner States
Qiang Zhang (*Shenzhen University*); *Rui Duan* (*University of Macau*); *Baile Zhang* (*Nanyang Technological University*); *Handong Sun* (*University of Macau*);

8 Impact of Substrate in All-dielectric Metasurfaces for Generalized Brewster Effect and Photonic Spin-hall Effect in Terahertz Wave
Junqing Shi (*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)*);

9 Study of a Gas Discharge Supported by 69 μm NovoFEL Radiation
A. P. Veselov (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Sidorov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Vodopyanov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Vitaliy V. Kubarev* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*); *O. A. Shevchenko* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*); *Ya. I. Gorbachev* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*);

10 High-harmonic THz Gyrotron Based on Excitation of a Surface Plasmon Polariton Wave
Vasiliy V. Gerasimov (*Budker Institute of Nuclear Physics SB RAS*); *Valeria D. Kukotenko* (*Budker Institute of Nuclear Physics SB RAS*); *Ekaterina M. Novak* (*Institute of Applied Physics RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*);

11 Research on a 3D Fiber Bragg Grating Accelerometer with Miniature and Integrated Structure Based on Composite Circular Hinge
Lina Yue (*Wuhan University of Technology*); *Jinding Guo* (*Wuhan University of Technology*); *Qiuming Nan* (*Wuhan University of Technology*); *Ai Zhou* (*Wuhan University of Technology*); *Juntao Wang* (*Wuhan University of Technology*); *Sheng Li* (*Wuhan University of Technology*);

12 Targeting 100 Gbps Inter-satellite Links: Mm-wave vs Free Space Optics
Xavier Artiga (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC/CERCA)*);

13 Stimulated Brillouin Scattering Based Microwave Signal Generation and Frequency Down Conversion
Sha Zhu (*Beijing University of Technology*); *Linwei Jin* (*Beijing University of Technology*); *Kunpeng Zhai* (*Institute of Semiconductors, Chinese Academy of Sciences*); *Ninghua Zhu* (*Institute of Semiconductors, Chinese Academy of Sciences*); *Edwin Yue-Bun Pun* (*City University of Hong Kong*);

14 High-precision In-situ Sensor for Dissolved Methane Isotope ($\boldsymbol{\delta^{13}}$C) Measurement in the Deep Sea Based on Off-axis Integrated Cavity Output Spectroscopy
Mingsi Gu (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*); *Kun Liu* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*); *Xiaoming Gao* (*Anhui Institutes of Physical Science, Chinese Academy of Sciences*);

15 Experimental Observation of Spin-orbit Conversion in a Vector Optical Vortex
Vladislav Dmitrievich Zaitsev (*Samara National Research University*); *Sergey S. Stafeev* (*NRC Kurchatov Institute*); *Victor V. Kotlyar* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS*);

16 Fiber Optical Sensors Solutions for Concrete Construction Structural Health Monitoring
Nauris Silkans (*Riga Technical University*); *Janis Braunfelds* (*Riga Technical University*); *Ugis Senkans* (*Riga Technical University*); *Martins Suta* (*Riga Technical University*); *Gregor Fischer* (*Technical University of Denmark*); *Sandis Spolitis* (*Riga Technical University*);

17 The Theory of a Gyrotron with an Arbitrary Resonator Cross-section and Fixed Axial Field Structure
Andrey A. Ananichev (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey S. Zuev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey Pavlovich Fokin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

18 High-voltage Pulse Power Supplies for Powerful Sub-THz/THz Gyrotrons
Boris Z. Movshevich (*Institute of Applied Physics of the RAS*); *Andrey A. Ananichev* (*Institute of Applied Physics of the RAS*); *Mikhail Yu. Glyavin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

19 Design of W-band Sub-gigawatt Power Level Relativistic Gyrotron for High-gradient Accelerator Applications
Vladislav Yur'evich Zaslavsky (*Institute of Applied Physics, Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *K. A. Leshcheva* (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladimir N. Manuilov* (*Institute of Applied Physics RAS*); *Andrey V. Arzhannikov* (*Budker Institute of Nuclear Physics RAS*); *D. A. Nikiforov* (*Budker Institute of Nuclear Physics, Russian Academy of Sciences*); *A. E. Levichev* (*Budker Institute of Nuclear Physics, Russian Academy of Sciences*); *Stanislav L. Sinitsky* (*Budker Institute of Nuclear Physics Russian Academy of Sciences*);

20 Analysis Methodology on Interference Impact of Fixed Service on 5G in 6 GHz Frequency Band
Guntis Ancans (*Riga Technical University*); *Arnis Ancans* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

21 A Novel Low-cost Resonant Cavity Sensor for Detection of Directional Displacements
Yu Kun Liu (*Tongji University*); *Yaming Xie* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

22 FDTD Analysis of Rice with Food Cover for Uniform Heating in Microwave Oven
Gai Tokoro (*National Institute of Technology, Kisarazu College*); *Rin Satoh* (*National Institute of Technology, Kisarazu College*); *Hiroto Jujo* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Satoko Iida* (*National Institute of Technology, Kisarazu College*);

23 A Wide Band Slot Filter Antenna with Gain Enhancement
Tong Li Yuan (*Southwest University of Science and Technology*); *Chao Zou* (*Southwest University of Science and Technology*); *Tong Su* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*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*);

24 Hybrid Mirror Antenna Simulation
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"*); *Nikita S. Maximov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Anton A. Novikov* (*National Research University "Moscow Power Engineering Institute"*);

25 A Low Profile Shared-aperture Omnidirectional Vertical Polarization Antenna
Haonan Huang (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Meiying Li* (*Southwest University of Science and Technology*); *Chao Zou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

26 Optimization of Geometric Structure of an Extended Antenna Field
Alexey Mikhailovich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *S. V. Orobchenko* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

27 Directional Antenna Element Design for Emitting UWB Signals
Vitaliy Vladislavovich Trubetskoy (*Moscow Technical University of Communications and Informatics (MTUCI)*); *A. M. Ignatov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *R. G. Riazantsev* (*National Research University "Moscow Power Engineering Institute"*);

28 Enhancing NFC Reader Communication Range with Retransmission Coils
Yulia Grigorovich (*ITMO University*); *Ildar Yusupov* (*ITMO University*); *Anton Kharchevskii* (*Tel Aviv University*); *Mikhail Udrov* (*ITMO University*);

29 A Novel Miniature Circular Eye-inspired UHF RFID Tag Antenna Design
Zakaria Errachidi (*Abdelmalek Essaadi University*); *Jamal Zbitou* (*Abdelmalek Essaadi University*); *Mohammed El Gibari* (*Nantes University/IETR*); *Mohammad Mashagbeh* (*University of Jordan*); *Noha Chahboun* (*Abdelmalek Essaadi University*);

30 An Anti-jamming Beamforming Method Based on Time-modulated Digital Coding Metasurface
Dong-Fang Guan (*National University of Defense Technology*); *Ziyang Gu* (*National University of Defense Technology*); *Yusheng Yang* (*National University of Defense Technology*); *Shijian Yu* (*National University of Defense Technology*); *Guanchao Chen* (*National University of Defense Technology*); *Zhangbiao Yang* (*National University of Defense Technology*);

31 Synergistic Mechatronics Antenna Design for Optimised Vehicle-to-Vehicle Communication in Future Intelligent Transport Networks
Ahtsham UI Haq (*University of Hertfordshire*); *Eugene A. Ogbodo* (*University of Hertfordshire, College Lane*); *Azunka N. Ukala* (*University of Hertfordshire, College Lane*);

32 Radar Sensing with Harmonic Detection Tags
Bo-Jie Li (*National Taipei University of Technology*); *Guan-Yu Chen* (*National Taipei University of Technology*); *Wei-Chen Cheng* (*National Taipei University of Technology*); *Hung-Kai Liao* (*National Taipei University of Technology*); *Jwo-Shiun Sun* (*National Taipei University of Technology*);

33 Deep Learning Based Approach for Realtime Drone Detection and Classification
Anuj Abraham (*Technology Innovation Institute*); *Santosh Sanjeev* (*Technology Innovation Institute*); *Sultan Abughazal* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

34 Atmospheric Influence on Quantum Key Distribution on the Earth-space Channel in the Subterahertz Frequency Range
Ilya V. Lesnov (*Institute of Applied Physics of the RAS*); *Vyacheslav F. Vdovin* (*Institute of Applied Physics of the RAS*); *Maria V. Efimova* (*Institute of Applied Physics of the RAS*);

35 Research on Permanent Magnet Synchronous Motor Control Based on Improved Genetic Optimization Fuzzy PI Algorithm
Gaohua Xiong (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Huanfa Yi* (*Southwest University of Science and Technology*); *Yang Li Liu* (*Southwest University of Science and Technology*); *Yue Pan* (*Southwest University of Science and Technology*);

36 Modeling and Design of a Floating-point Reciprocal Solver Circuit Combining Lookup Tables and Newton's Iteration Method
Bo Wang (*Tongji University*); *Yuan Yang Du* (*Tongji University*); *Yu Zhao Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

37 A Variable On-time Buck Converter with High Efficiency and Fast Transient Response
Wei Wang (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Xiaolong Chen* (*Southwest Jiaotong University*);

38 An Improved Multiple Weighted Adaptive Kalman — Genetic Algorithm for Online State of Charge Estimation of Lithium-ion Batteries
Gang Long (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*);

39 A Silicon-based MmW Power Amplifier Integrated with a Digital Power Detection Loop for Power Efficiency Enhancement
Guangqiang Liu (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Yanan Bao* (*Jincheng Research Institute of Opto-mechatronics Industry*); *Xuanbin Jiang* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Zhihong Lin* (*Guangzhou University*);

40 Design of BPF Using $\lambda/4$ Type CRLH-TL Resonators with Controllable Attenuation Poles by Applying Tap-coupling Method
Hiroto Jujo (*National Institute of Technology, Kisarazu College*); *Rin Satoh* (*National Institute of Technology, Kisarazu College*); *Gai Tokoro* (*National Institute of Technology, Kisarazu College*); *Ibuki Hosaka* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Satoko Iida* (*National Institute of Technology, Kisarazu College*);

41 Rainfall Variability in Saudi Arabia: A Case Study of Solar and Atmospheric Influences in Gizan Region
Hadeel A. Alamoudi (*King Abdulaziz University*); *Abdullrahman H. Maghrabi* (*King Abdulaziz City for Science and Technology*); *Aied S. Alruhaili* (*King Abdulaziz University*);

Session 2P1
Deep Learning in Electromagnetics Research 2

Tuesday PM, May 6, 2025

Room 1 - CH B (A)

Organized by Willie John Padilla, Kebin Fan

Chaired by Kebin Fan

13:30 Invited Towards Chiral Light-matter Interactions with Machine-learning-optimized Nano-photonic Metasurface
Arash Rahimi-Iman (*Justus-Liebig-Universität Gießen*);

13:50 Genetically Designed Metamaterials for Scattering Control
Pavel Ginzburg (*Tel Aviv University*); *Dmytro Vovchuk* (*Riga Technical University*); *Anna Mikhailovskaya* (*Tel Aviv University*); *Konstantin Grotov* (*Tel Aviv University*); *Mikhail Tsukerman* (*Tel Aviv University*); *Denis Kolchanov* (*Tel Aviv University*); *Dmitry Dobrykh* (*Tel Aviv University*); *Sergey Geyman* (*ITMO University*); *Mykola Khobzei* (*Information Security Yuriy Fedkovych Chernivtsi National University*); *Vladyslav Tkach* (*Yuriy Fedkovych Chernivtsi National University*); *Toms Salgals* (*Riga Technical University*); *Natalja Muračova* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

14:05 Invited Efficient Deep Learning Methodology for Large-scale Metalens
Arthur Clini De Souza (*Université Côte d'Azur, Inria, CNRS, LJAD*); *Stephane Lanteri* (*Inria Research Center at Cote d'Azur University*); *Hugo Enrique Hernandez-Figueroa* (*University of Campinas*); *Marco Abbarchi* (*Aix Marseille University, University de Toulon*); *Badre Kerzabi* (*Solnil, 95 Rue de la République*); *Mahmoud Elsawy* (*Inria Research Center at Cote d'Azur University*);

14:25 Radio Frequency Spectrogram-based Anomaly Detection
Ammar Battah (*Technology Innovation Institute*); *Santosh Sanjeev* (*Technology Innovation Institute*); *Sultan Abughazal* (*Technology Innovation Institute*); *Jaeden Amero* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14:40 Improving OCR by Integrating Image Denoising and LLM-based Text Refinement
Santosh Sanjeev (*Technology Innovation Institute*); *David Martinez* (*Technology Innovation Institute*); *Sultan Abughazal* (*Technology Innovation Institute*); *Ammar Battah* (*Technology Innovation Institute*); *Ali Yaqoob* (*Technology Innovation Institute*); *Islem Yahi* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14:55 Invited Hybrid Framework for Inverse Design of Large-scale Metaphotonic Devices
Reza Marzban (*Georgia Institute of Technology*); *Hamed Abiri* (*Georgia Institute of Technology*); *Ali Adibi* (*Georgia Institute of Technology*);

15:30 **Coffee Break**

16:00 Invited Wafer-scale, Aperiodic Inverse Design with Millions Scale Structures Datasets: Fundamentals and Applications
Sergei Rodionov (*King Abdullah University of Science and Technology (KAUST)*); *Qizhou Wang* (*King Abdullah University of Science and Technology (KAUST)*); *Arturo Burguete Lopez* (*King Abdullah University of Science and Technology (KAUST)*); *Andrea Fratalocchi* (*King Abdullah University of Science and Technology (KAUST)*);

16:20 Two-stage Deep Learning Based Landmine Detection in Ground Penetrating Radar Scans
Sultan Abughazal (*Technology Innovation Institute*); *Santiago Morales* (*Technology Innovation Institute*); *Oginne Lapuz* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

16:35 Invited Three Intelligent Metasurface Designs: Forward Prediction, Inverse Design, and Spectral Correlation
Chao Qian (*Zhejiang University*);

16:55 AI-enabled Based Inverse Design of Active and Passive Devices Co-designed for End-to-end RF/THz ICs
Kaushik Sengupta (*Princeton University*);

17:10 A Differentiable Solver for Scattering on Axially Symmetric Particles
Vladimir Igoshin (*ITMO University*); *Alexey Yu. Kokhanovskiy* (*ITMO University*); *Mihail I. Petrov* (*ITMO University*);

Session 2P2a
Interplay between Metasurfaces and Artificial Intelligence

Tuesday PM, May 6, 2025

Room 2 - CH B (C&B)

Organized by Chao Qian, Aydogan Ozcan

Chaired by Chao Qian

13:30 Accelerating Cross-scenario Metasurface Adaptability with Plug-and-play Kernel
Nanxuan Wu (*Zhejiang University*); *Chao Qian* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*);

13:45 Intelligent Adaptive Metasurfaces
Chao Qian (*Zhejiang University*);

14:00 Direct Electromagnetic Information Processing with Planar Diffractive Neural Network
Ze Gu (*Southeast University*); *Qian Ma* (*Southeast University*); *Tie Jun Cui* (*Southeast University*);

14:15 Driving Deep Learning-based Metasurface Design with Kramers-Kronig Relations
Guangfeng You (*Zhejiang University*); *Chao Qian* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*);

14:30 An Inverse Design Wavelength Demultiplexer for On-chip Photoluminescence Sorting in TMDC Heterostructures
Anastasiia Zalogina (*University of Technology Sydney*); *Chi Li* (*Monash University*); *Ivan Zhigulin* (*University of Technology Sydney*); *Hossein Alijani* (*University of Technology Sydney*); *Hugo Charlton* (*University of Technology Sydney*); *Nathan Coste* (*University of Technology Sydney*); *Haoran Ren* (*Monash University*); *Igor Aharonovich* (*University of Technology Sydney*);

14:45 Invited Metasurface-enabled All-Optical Differentiators
Cheng Zhang (*Huazhong University of Science and Technology*);

15:30 **Coffee Break**

Session 2P2b
Advancing Metamaterials: From Research to Applications

Tuesday PM, May 6, 2025

Room 2 - CH B (C&B)

Organized by Chun-Yu Lu, Tadzio Levato

Chaired by Xiaofei Xiao, Shih-Wen Chen

16:00 Invited Advanced Planar Lenses for Super-focusing Spot Generation from UV to Visible Light via Topology Optimization
Tsung Sheng Kao (*National Yang Ming Chiao Tung University*);

16:20 Multi-functional Lasing from Structures of Lepidoptera
Shih-Wen Chen (*National Taipei University of Technology*); *Ja-Hon Lin* (*National Taipei University of Technology*); *Tzu-Chau Lin* (*National Central University*);

16:35 Circular Polarizer Based on Metamaterial Spiral Planar Structure
Fatima Ghulam Kakepoto (*Zhejiang Normal University*); *Shihua Huang* (*Zhejiang Normal University*); *Farman Ali Mangi* (*Shah Abdul Latif University Khairpur*); *Syed Muzahir Abbas* (*Macquarie University*);

16:50 Extraordinarily Transparent Compact Metallic Metamaterials
Xiaofei Xiao (*Technology Innovation Institute*);

17:05 Study of Magnetoelectric Elements Characteristics for Magnetoelectric Synchronous Generator
Vasilii A. Misilin (*Yaroslav-the-Wise Novgorod State University*); *Viktor A. Kiselev* (*Yaroslav-the-Wise Novgorod State University*); *Alena R. Petrova* (*Novgorod State University*); *Aleksandr A. Rak* (*Novgorod State University*); *Evgeny V. Kuzmin* (*Novgorod State University*); *Roman V. Petrov* (*Novgorod State University*);

17:20 Exceptional Point of a Non-Hermitian Terahertz Metasurface for Controllable Polarization Transmission
Febina Sherin M (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

17:35 Numerical Investigation of Hollow Fiber Optic for Pressure Sensing
Mahra Almheiri (*Technology Innovation Institute*); *Montasir Qasymeh* (*Abu Dhabi University*); *Tadzio Levato* (*Technology Innovation Institute*);

17:50 High-speed Photodetectors and Electrically Tunable Phase Shifters Using Integrated 2D Materials
Srinivasa Reddy Tamalampudi (*New York University — Abu Dhabi*); *Ghada Dushaq* (*New York University — Abu Dhabi*); *Mahmoud Rasras* (*New York University — Abu Dhabi*);

18:05 Neural Network-enhanced Spectral Density Analysis for Advanced Metamaterial Applications
Chun-Yu Lu (*Technology Innovation Institute*); *Md. Mahfuzur Rahman* (*Jashore University of Science and Technology*); *Shih-Wen Chen* (*National Taipei University of Technology*);

Session 2P3a
Thermal Radiation: Principles, Progress, and Potentials 2

Tuesday PM, May 6, 2025

Room 3 - CH B (D)

Organized by Bai Song, Kezhang Shi

Chaired by Bai Song, Kezhang Shi

13:30 Invited — Radiant Heat Transfer: From Local Mode to Non-local Mode
Cheng-Long Zhou (*Harbin Institute of Technology*); *Chu-Jun Yu* (*Harbin Institute of Technology*); *Hongliang Yi* (*Harbin Institute of Technology*);

13:50 — Isotope Effect on Radiative Thermal Transport: From Two-body to Many-body
Lanyi Xie (*Peking University*); *Bai Song* (*Peking University*);

14:05 — Materials Informatics Design of Thermal Metamaterials
Run Hu (*Huazhong University of Science and Technology*); *Zihe Chen* (*Huazhong University of Science and Technology*);

14:20 — Vertical Radiative Cooling System with Lubricated Surface for Passive Atmospheric Water Harvesting
Shakeel Ahmad (*King Abdullah University of Science and Technology*); *Murali Gedda* (*King Abdullah University of Science and Technology*); *Qiaoqiang Gan* (*King Abdullah University of Science and Technology (KAUST)*);

14:35 — Experimental Study of Thermal Emission by Subwavelength Apertures
Kyriaki Kontou (*Centre for Energy and Thermal Sciences of Lyon (CETHIL), CNRS, INSA Lyon*); *Olivier Merchiers* (*Université de Lyon, CNRS, INSA-Lyon, Universite Claude Bernard Lyon 1*); *Pierre-Olivier Chapuis* (*CNRS, National Institute of Applied Physics (INSA) Lyon*);

15:30 **Coffee Break**

Session 2P3b
Tunable Photonics

Tuesday PM, May 6, 2025

Room 3 - CH B (D)

Organized by Mikhail V. Rybin, Daniil Litvinov

Chaired by Mikhail V. Rybin

16:00 — Non-Hermitian Physics in Cavity Magnonics Systems via Phase Engineering
Xin Huang (*Great Bay University*); *Shirong Lin* (*Great Bay University*);

16:15 Invited — All-optically Reconfigurable Nonlinear Metasurfaces
Costantino De Angelis (*University of Brescia*);

16:35 Invited — Semiconductor Platforms for Nonlinear and Tunable Optical Metasurfaces
L. Coudrat (*Université Paris Cité & CNRS*); *Giorgio Guercio* (*Université Paris Cité*); *R. Que* (*Université Paris Cité & CNRS*); *A. Gerini* (*Université Paris Cité & CNRS*); *M. Morassi* (*Université Paris Saclay & CNRS*); *A. Lemaître* (*Université Paris Saclay & CNRS*); *Jean-Michel Gerard* (*CEA/INAC/SP2M*); *Costantino De Angelis* (*University of Brescia*); *Giuseppe Della Valle* (*Politecnico di Milano*); *Aloyse Degiron* (*Université Paris Cité & CNRS*); *Giuseppe Leo* (*CNRS, Université de Paris*);

16:55 Invited — Active Materials-enabled Metasurfaces with Tunable Properties
Jin Hui Shi (*Harbin Engineering University*); *Zheng Zhu* (*Harbin Engineering University*); *Yuxiang Li* (*Harbin Engineering University*); *Chunying Guan* (*Harbin Engineering University*);

17:15 — Factors Influencing the Results of Non-destructive Verification of Intermediate States in Ge-Sb-Te Thin Films
Mariya Evgenievna Fedyanina (*National Research University of Electronic Technology*); *Victoria Borisovna Pestova* (*National Research University of Electronic Technology*); *Alexey Anatolyevich Sherchenkov* (*National Research University of Electronic Technology*); *Dmitry Lvovich Goroshko* (*Institute of Automation and Control Processes Far Eastern Branch, Russian Academy of Science*); *Yuri Vladimirovich Vorobyov* (*National Research University of Electronic Technology*); *Evgeny Pavlovich Kitsyuk* (*Scientific-Manufacturing Complex "Technological Centre"*); *Petr Ivanovich Lazarenko* (*National Research University of Electronic Technology*);

17:30 Invited — Reconfigurable Meta-optics Based on Phase-change Materials
Mikhail Y. Shalaginov (*Massachusetts Institute of Technology*);

17:50 — Active Nanophotonic Structures Based on Atomically Thin Semiconductors
Alexey Ustinov (*Friedrich Schiller University Jena*); *Duk-Yong Choi* (*Australian National University*); *Angela Barreda* (*University Carlos III of Madrid*); *Giancarlo Soavi* (*Friedrich-Schiller-Universitat Jena*); *Thomas Pertsch* (*Friedrich-Schiller-Universitat*); *Isabelle Staude* (*Australian National University*);

Session 2P4
Bound States in the Continuum and Non-local Flat Optics

Tuesday PM, May 6, 2025

Room 4 - Capital Suite 1

Organized by Dezhuan Han, Wenzhe Liu

Chaired by Wenzhe Liu

13:30 BIC-based Approach to Polarisation Independent Metasurfaces
Aleksandra A. Kutuzova (*ITMO University*); *Sergei V. Li* (*Zhejiang University*); *Binze Ma* (*Zhejiang University*); *Qiang Li* (*Zhejiang University*); *Mikhail V. Rybin* (*ITMO University*);

13:45 Nonlocality-induced Photonic Multiverse
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*); *Ru-Wen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*); *C. T. Chan* (*Hong Kong University of Science and Technology*); *Yun Lai* (*Nanjing University*);

14:05 Inherent Spin-orbit Locking in Topological Bound State
Invited in the Continuum Lasing
Jiajun Wang (*Fudan University*); *Lei Shi* (*Fudan University*); *Yuri S. Kivshar* (*Australian National University*); *Jian Zi* (*Fudan University*);

14:25 Recent Advances in Resonant Metaphotonics
Invited
Yuri S. Kivshar (*Australian National University*);

14:45 Advanced Nanostructured Metasurfaces
Invited
Haoran Ren (*Monash University*);

15:05 Bound States in the Continuum and Lattice Resonances
Invited in Dipole Lattices
Ilia Igorevich Karavaev (*ITMO University*); *Andrey A. Bogdanov* (*Harbin Engineering University*);

15:30 **Coffee Break**

16:00 Electrically Tunable Optical Metasurfaces Based on
Invited MEMS Mirrors
Fei Ding (*University of Southern Denmark*);

16:20 Super-bound States in the Continuum: Parametric De-
Invited pendence and Efficient Computation
Nan Zhang (*City University of Hong Kong*); *Ya Yan Lu* (*City University of Hong Kong*);

16:40 Janus Bound States in the Continuum with Asymmetric
Invited Topological Charges
Meng Kang (*Hong Kong University of Science and Technology*); *Meng Xiao* (*Wuhan University*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

17:00 Nanoscale Dynamic Light Control Based on Bound
Invited States in the Continuums
Yifei Mao (*Shanghai Jiao Tong University*);

17:20 Observation of Bloch Flatbands and Localized States in
Invited Moiré Bilayer Grating
Qinyu Jing (*Fudan University*); *Zhiyuan Che* (*Fudan University*); *Shaohu Chen* (*Fudan University*); *Tongtong Xue* (*Beijing Institute of Technology*); *Jiajun Wang* (*Fudan University*); *Wenzhe Liu* (*Fudan University*); *Yunyun Dai* (*Beijing Institute of Technology*); *Lei Shi* (*Fudan University*); *Jian Zi* (*Fudan University*);

17:40 Manipulating Quasi-bound States in Continuum Using Symmetry-breaking Metasurface
Faizan Faraz (*Zhejiang University*); *Jiwei Zhao* (*Zhejiang University*); *Huan Lu* (*Zhejiang University*); *Rongrong Zhu* (*Zhejiang University*); *Bin Zheng* (*Zhejiang University*);

Session 2P5
Optical Fiber Sensors for Medical and Industrial Applications

Tuesday PM, May 6, 2025

Room 5 - Capital Suite 2

Organized by Antonello Cutolo

Chaired by Antonello Cutolo

13:30 Fiber Coupled Tuneable Photonic Devices Based on
Invited Plasmonic Photo-thermal Effects for Biomedical Applications
Antonio D'Alessandro (*Sapienza University of Rome*); *Carlo Santini* (*Sapienza University of Rome*); *Maria Laura Sforza* (*Sapienza University of Rome*); *Federica Zaccagnini* (*Sapienza University of Rome*); *Francesca Petronella* (*Institute of Crystallography CNR-IC*); *Luciano De Sio* (*Sapienza University of Rome*);

13:50 Micro- to Sub-50 nm Patterning: Innovative Structur-
Invited ing Technologies for Nonplanar Optical Fibers and Nanofibers
Antonio Balena (*Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia*); *Marianna D'Amato* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*); *Muhammad Fayyaz Kashif* (*Università degli Studi di Napoli Federico II*); *Chengjie Ding* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*); *Lucien Belzane* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*); *Althea Housset* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*); *Hanna Le Jeannic* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*); *Massimo De Vittorio* (*Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia*); *Ferruccio Pisanello* (*Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia*); *Alberto Bramati* (*Sorbonne University, CNRS, ENS-PSL University, Collège de France*);

14:10 Shutdown-free System for Integral Field Analysis and Calibration of Measurement Chains via Optical TIs for Renewable Energy Systems
Josemir Coelho Santos (*University of São Paulo*);

14:25 High-resolution AWGs
Gabriella Cincotti (*University Roma Tre*);

14:40 Real-time Phase-OTDR Signal Processing on FPGA for Enhanced Fiber Optic Sensing
M. Hamza Öncüer (*Insigma Engineering*); *Rüstem Ağaoğlu* (*Insigma Engineering*); *Ibrahim Ölçer* (*Insigma Engineering*); *Fatih Üstüner* (*Istanbul Ticaret University*);

14:55 Optical Fiber Sensors for Safety and Security: Trans-
Invited portations, Production Plants and Environment
Armando Laudati (*Optosmart srl*); *Salvatore Cozzolino* (*Optosmart srl*); *Carlo Giannini* (*Optosmart srl*); *Michele Giordano* (*Institute for Polymers, Composites and Biomaterials (CNR)*); *Andrea Cusano* (*University of Sannio*); *Giovanni Breglio* (*Optosmart srl*);

15:15 Optical Fiber Based Devices: From Biosensing to Ultra-
Invited sound Applications
Barbara Rossi (*University of Naples Federico II*); *Martino Giaquinto* (*University of Sannio*); *Maria Alessandra Cutolo* (*University of Sannio*); *Andrea Cusano* (*University of Sannio*); *Giovanni Breglio* (*University of Naples Federico II*);

15:35 **Coffee Break**

16:00 Innovative Ferromagnetic Microfiber Composites for Advanced Electromagnetic Shielding: Applications in Microwave Electronics and Next-generation Antenna Design
Azim Uddin (*Shaoxing JAR Innovation Center Co., Ltd.*); *Remo Proietti Zaccaria* (*Italian Institute of Technology*); *Jianping Zhang* (*Shaoxing JAR Innovation Center Co., Ltd.*);

16:15 Point of Care Analysis: A Reachable Goal with Surface
Invited Plasmon Resonance in Polymer Optical Fibers
Luigi Zeni (*University of Campania L. Vanvitelli*);

16:35 Metasurface-enhanced Lab-on-Fiber Optrodes as Valu-
Invited able Platforms for Point-of-Care Optical Biosensing
Marco Consales (*University of Sannio*); *Patrizio Vaiano* (*University of Sannio*); *A. M. Cusano* (*Centro Regionale Information Communication Technology*); *Maria Principe* (*University of Sannio*); *S. Ucci* (*Centro Regionale Information Communication Technology*); *G. Quero* (*University of Molise*); *S. Spaziani* (*Centro Regionale Information Communication Technology*); *G. M. Berruti* (*University of Sannio*); *A. Micco* (*Centro Regionale Information Communication Technology*); *Andrea Cusano* (*University of Sannio*);

16:55 Non-Hermitian Hamiltonians for High-sensitivity Fiber Optic Gyroscopes
Martino De Carlo (*Politecnico di Bari*); *Francesco De Leonardis* (*Politecnico di Bari*); *Vittorio M. N. Passaro* (*Politecnico di Bari*);

17:10 New Perspectives in Photonic Integrated Biosensors
Invited Based on Dielectric and Plasmonic Metasurfaces
Vito Mocella (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *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*); *Bruno Miranda* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Aida Seifalinezhad Mamaghani* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Karen Caicedo* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Ivo Rendina* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*);

17:30 Poly(3,4-propylenedioxythiophene) Modified Glassy Carbon Electrode for Trace Determination of Diclofenac Sodium in Aqueous Environments
Thabo J. Mahlaka (*University of South Africa, Florida Science Campus*); *Unathi T. Sidwaba* (*University of South Africa, Florida Science Campus*); *Titus A. M. Msagati* (*University of South Africa, Florida Science Campus*);

17:45 Single Photon Detection for Fast Virus Detection
Abolfazl Bahrampour (*Sharif University of Technology*);

18:00 How Distributed Optical Fiber Sensors Can Change Earthquake Studies: A Case Study
Abolfazl Bahrampour (*Sharif University of Technology*);

Session 2P6a
Manipulation, Detection and Application in Optical Spatial and Temporal Modulation Systems

Tuesday PM, May 6, 2025

Room 6 - Capital Suite 3

Organized by Atsushi Kanno

Chaired by Atsushi Kanno

13:30 Terahertz Structured Light Based on Nonlinear Effect
Katsuhiko Miyamoto (*Chiba University*);

13:45 Frequency Stabilized sub-Terahertz Wave Parametric Generation Using Spectral Drill Cavity
Shin'ichiro Hayashi (*National Institute of Information and Communications Technology*); *Seigo Ohno* (*Tohoku University*); *Katsuhiko Miyamoto* (*Chiba University*); *Kouji Nawata* (*Tohoku Institute of Technology Sendai*); *Yoshiharu Urata* (*PHLUXi, Inc.*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*);

14:00 Topological Nature Projected from Focusing Optical System to Terahertz Beam
Seigo Ohno (*Tohoku University*); *Hiroaki Iwase* (*Tohoku University*); *Hiroaki Shirasaka* (*Tohoku University*);

14:15 Spatial Modal Dispersion Modulation Technique in Multi-mode Optical Fiber Systems
Atsushi Kanno (*Nagoya Institute of Technology*); *Ryotaro Yamashita* (*Nagoya Institute of Technology*);

14:30 Electrically Controlled Reflectance Modulation Utilizing ENZ Materials near 1550 nm Wavelength
Shakti Pada Mahato (*Indian Institute of Technology Roorkee*); *Vipul Rastogi* (*Indian Institute of Technology Roorkee*);

14:45 5G Frequency Band Wireless Signal Detection Using Optical Phase Modulator and Optical Fiber Dispersion Effect
Yamato Fujikata (*Mie University*); *Naoki Ueda* (*Mie University*); *Yui Otagaki* (*Mie University*); *Hiroshi Murata* (*Mie University*);

15:30 **Coffee Break**

Session 2P6b
Thermal Photonics: Fundamental Physics and Application 2

Tuesday PM, May 6, 2025

Room 6 - Capital Suite 3

Organized by Wei Li, Qiaoqiang Gan, Longnan Li
Chaired by Qiaoqiang Gan

16:00 Photonic Structures for Radiative Cooling in Energy and Sustainability Applications (Invited)
Aikifa Raza (*Khalifa University of Science and Technology*); *Tiejun Zhang* (*Khalifa University of Science and Technology*);

16:20 Switchable Radiative Cooling and Solar Heating for Sustainable Thermal Management (Invited)
Seung Hwan Ko (*Seoul National University*); *Youngju Jung* (*Seoul National University*);

16:40 Dual-mode Radiative Thermal Management Materials and Devices (Invited)
Rujun Ma (*Nankai University*);

17:00 The Use of Thermoregulation in Nature (Invited)
Young Min Song (*Gwangju Institute of Science and Technology*);

17:20 Kirchhoff's Laws of Thermal Radiation for Complex, Nonreciprocal, and Time-varying Metamaterials (Invited)
Sander A. Mann (*University of Amsterdam*);

17:40 Optical Information Encryption Based on Thermal Radiation Manipulation (Invited)
Dongliang Zhao (*Southeast University*);

18:00 Thermal Nonreciprocity Barely Improves Radiative Cooling
Zihe Chen (*Huazhong University of Science and Technology*); *Run Hu* (*Huazhong University of Science and Technology*);

Session 2P7a
Semiconductor Optoelectronics 2

Tuesday PM, May 6, 2025

Room 7 - Capital Suite 4

Organized by Iman S. Roqan, Vijay Kumar Gudelli
Chaired by Iman S. Roqan, Vijay Kumar Gudelli

13:30 Opportunities and Challenges for Characterizing Optoelectronic and Plasmonic Materials with Advanced Electron Microscopy (Invited)
Dalaver H. Anjum (*Khalifa University*); *Emad Nafez Mustafa* (*Khalifa University*); *Humaira Zafar* (*Khalifa University*); *Ammar Nayfeh* (*Khalifa University*); *Mauro Fernandes Pereira* (*Khalifa University*);

13:50 Optoelectronic Devices Based on GaP (NAs) on Silicon
Liliia N. Dvoretckaia (*Alferov University*); *A. M. Mozharov* (*Alferov University*); *V. S. Volosatova* (*Alferov University*); *E. I. Moiseev* (*National Research University*); *A. K. Kaveev* (*Alferov University*); *V. V. Fedorov* (*Alferov University*); *I. S. Mukhin* (*Alferov University*);

14:05 Passive Cooling Strategies for Solar Panels in Hot Climates (Invited)
Qiaoqiang Gan (*King Abdullah University of Science and Technology (KAUST)*);

14:25 Performance Enhancement of $CH_3NH_3PbBr_3$ Based Perovskite Solar Cells with ZnO Buffer Layer
Deepak Kumar Jarwal (*Pandit Deendayal Energy University*); *Ashwini Kumar Mishra* (*Pandit Deendayal Energy University*); *Rahul Kumar* (*Institute of Infrastructure Technology Research and Management*); *Gopal Rawat* (*National Institute of Technology*);

14:40 Streamlined Fabrication of a Cost-effective and Durable Hygroscopic Composite for Evaporative Cooling of Solar Panels
Huangyu Fang (*King Abdullah University of Science and Technology*); *Saichao Dang* (*King Abdullah University of Science and Technology*); *Prasanth Kumar* (*King Abdullah University of Science and Technology*); *Qiaoqiang Gan* (*King Abdullah University of Science and Technology (KAUST)*);

14:55 Enhanced Photoelectrochemical Water Splitting Using 2D Material-semiconductor Hybrid Systems for Solar-to-Hydrogen Energy Conversion
Sridharan Balu (*National Taipei University of Technology*); *Thomas Chung-Kuang Yang* (*National Taipei University of Technology*);

15:10 Enhancing Vertical Solar Panel Performance with Radiative Cooling
Shakeel Ahmad (*King Abdullah University of Science and Technology*); *Murali Gedda* (*King Abdullah University of Science and Technology*); *Saichao Dang* (*King Abdullah University of Science and Technology*); *Qiaoqiang Gan* (*King Abdullah University of Science and Technology (KAUST)*);

15:30 **Coffee Break**

Session 2P7b
Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

Tuesday PM, May 6, 2025

Room 7 - Capital Suite 4

Chaired by Iman S. Roqan, Atsushi Kanno, Sailing He

16:00 Advanced Optical Properties of InGaN/GaN LED Structures Affected by Large V-pits
Fatimah Alreshidi (*King Abdullah University of Science and Technology (KAUST)*); *Hadeel A. Alamoudi* (*King Abdullah University of Science and Technology (KAUST)*); *Lih-Ren Chen* (*National Yang Ming Chiao Tung University*); *Tien-Chang Lu* (*National Yang Ming Chiao Tung University*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

16:15 Optical Skyrmions of Vortex Darkness
Nilo Mata-Cervera (*Nanyang Technological University*); *Deepak K. Sharma* (*Agency for Science, Technology and Research (A*STAR)*); *Yijie Shen* (*Nanyang Technological University*); *Ramon Paniagua-Dominguez* (*Agency for Science, Technology and Research*); *Miguel Angel Porras* (*Universidad Politecnica de Madrid*);

16:30 Programmable Nanophotonic Matrix Based on Phase Change Materials for Spectral Detection and Imaging
Zhi Zhang (*Zhejiang University*); *Zijian Lin* (*Zhejiang University*); *Tingbiao Guo* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

16:45 Ultrathin Hybrid Phononic-dielectric Metasurface for Broadband Long-wave-IR Photodetector
Tao Cheng (*Shandong University*); *Huanhuan Zhao* (*Shandong University*); *Linhua Liu* (*Shandong University*); *Jia-Yue Yang* (*Shandong University*);

17:00 Versatile Thermosensitive Polymer-stabilized Liquid Crystal Smart Windows without Alignment Layers
Min Han Lu (*National Yang Ming Chiao Tung University*); *Wei Lee* (*National Yang Ming Chiao Tung University*);

17:15 Effects of Extreme Downscaling on Micro Fabry-Perot Spectral Responses and Resonant Mode Profiles
Ahmed Mahrous (*Université Gustave Eiffel*); *Mohamed Nabil* (*Ain-Shams University*); *Mazen Erfan* (*Si-Ware Systems*); *Yasser M. Sabry* (*Si-Ware Systems*); *Diaa Khalil* (*Si-Ware Systems*); *Tarik Bourouina* (*Université Gustave Eiffel*);

Session 2P8a
The Classical and Quantum Theory of Electromagnetic Fields

Tuesday PM, May 6, 2025

Room 8 - Capital Suite 5

Organized by Mohammad Sajjad Mirmoosa

Chaired by Mohammad Sajjad Mirmoosa

13:30 Invited From Negative-impedance Elements to Electromagnetics of 'Active Negative Materials'
Silvio Hrabar (*University of Zagreb*);

13:50 Interpreting the Evolution of Electromagnetic Sources in Homogeneous Fields via Lorentz Transformations
Ivanina Ilieva (*Karlsruhe Institute of Technology*); *Ivan Fernandez-Corbaton* (*Karlsruhe Institute of Technology*);

14:05 Superluminal Spot as a Source of Supershort Flashes of Coherent Radiation
Alexandra I. Baranova (*National Research Nuclear University "MEPhI"*); *Alexey A. Tishchenko* (*National Research Nuclear University "MEPhI"*);

14:20 Invited Nanoscale Radiative Heat Transfer in Nonlocal and Topological Systems
Svend-Age Biehs (*Carl von Ossietzky Universitat*);

14:40 Invited Quantum Coherence Uncertainty of Optical Fields
M. Hanhisalo (*University of Eastern Finland*); *Mohammad Sajjad Mirmoosa* (*University of Eastern Finland*); *Tero Setälä* (*University of Eastern Finland*); *Ł. Rudnicki* (*University of Eastern Finland*); *Andreas Norrman* (*University of Eastern Finland*);

15:00 Invited Imitating a Material Response through DC-biased Spatiotemporal Modulation
Grigorii A. Ptitcyn (*University of Pennsylvania*); *Diego Martinez Solís* (*Universidade de Vigo*); *Mohammad Sajjad Mirmoosa* (*University of Eastern Finland*); *Nader Engheta* (*University of Pennsylvania*);

15:30 **Coffee Break**

Session 2P8b
Quantum Information Processing and Devices

Tuesday PM, May 6, 2025

Room 8 - Capital Suite 5

Organized by Hai-Zhi Song, Guangwei Deng

Chaired by Hai-Zhi Song, Guangwei Deng

16:00 Hybrid Magnetic Systems for Quantum Frequency Conversion
Maksut Maksutoğlu (*Gebze Technical University*); *Erdem Demirci* (*Gebze Technical University*); *Eren Doğan* (*Gebze Technical University*); *Sinan Kazan* (*Gebze Technical University*); *Ibrahim S. Ünver* (*Gebze Technical University*); *Farkhad Zaynullin* (*Gebze Technical University*); *Talha Bozkurt* (*Gebze Technical University*); *Hacer Ipek* (*Gebze Technical University*); *N. Güneş Saribaş* (*Gebze Technical University*); *Hasan Pişkin* (*Alanya University*); *Fikret Yildiz* (*Gebze Technical University*); *Georgy Mozzhukhin* (*Gebze Technical University*); *Bulat Rameev* (*Gebze Technical University*);

16:15 Invited Inverted Split-ring Resonator with Varactor Tuning for Controlling the Photon-magnon Coupling in Quantum Magnonic Systems
Aleksey A. Girich (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*); *Sergey V. Nedukh* (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*); *Sergey Yu. Polevoy* (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*); *A. S. Vakula* (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*); *K. Yu. Sova* (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*); *Bulat Rameev* (*Gebze Technical University*); *Sergey I. Tarapov* (*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*);

16:35 Invited Magnon-Erbium-Ion Hybrids for Quantum Frequency Conversion
Aliya Galimova (*Kazan State Power Engineering University*); *Hasan Pişkin* (*Alanya University*); *Faik Mikailzade* (*Gebze Technical University*); *Rustem Khusnutdinov* (*Kazan State Power Engineering University*); *Sergey A. Moiseev* (*Kazan National Research Technical University*); *Bulat Rameev* (*Gebze Technical University*);

16:55 Invited Suppressing Chaos with Mixed Superconducting Qubit Devices
Ben Blain (*Technology Innovation Institute*); *Giampiero Marchegiani* (*Technology Innovation Institute*); *Luigi Amico* (*Technology Innovation Institute*); *Gianluigi Catelani* (*Technology Innovation Institute*);

17:15 Invited Microwave Coherent Storage Based on the Long Lifetime Cavity Electromechanical System
Tie-Fu Li (*Tsinghua University*);

17:35 Advantage of High-dimensional LOCC in Entanglement Detection
Wenbo Xing (*University of Electronic Science and Technology of China*);

17:50 Invited Hybrid Integration of Solid-state Quantum Emitters for Enhanced Performance
Jianwei Tang (*Huazhong University of Science and Technology*);

18:10 Invited Single-molecule-scale Magnetic Resonance with Solid Spin Quantum Sensors
Qi Zhang (*Zhejiang University*);

Session 2P9
High Power Sub-THz and THz Waves: Sources and Applications

Tuesday PM, May 6, 2025

Room 9 - Capital Suite 6

Organized by Mikhail Yu. Glyavin, Nikolai Yu. Peskov

Chaired by Mikhail Yu. Glyavin, Nikolai Yu. Peskov

13:30 Gyrotrons on the Way to High Power Sub-THz/THz Radiation Sources
Grigory G. Denisov (*Institute of Applied Physics, Russian Academy of Sciences*); *Evgeniy M. Tai* (*Institute of Applied Physics of the RAS*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

13:45 First Experiments on a Demountable Prototype of a MW Level 230 GHz Gyrotron
Andrey A. Ananichev (*Institute of Applied Physics of the RAS*); *A. V. Chirkov* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Grigory G. Denisov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Andrey Pavlovich Fokin* (*Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. Yu. Kornishin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey N. Kuftin* (*Institute of Applied Physics of the RAS*); *A. G. Litvak* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Vladimir N. Manuilov* (*Institute of Applied Physics RAS*); *L. G. Popov* (*GYCOM Ltd.*); *E. A. Soluyanova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Evgeniy M. Tai* (*Institute of Applied Physics of the RAS*);

14:00 Frequency-tunable Gyrotron with External Reflections: Design of an Experiment and Problem of Mode Competition
Daniil V. Lazarev (*A.V. Gaponov-Grekhov Institute of Applied Physics, RAS*); *Yuriy K. Kalynov* (*Institute of Applied Physics, RAS*); *Ivan V. Osharin* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*); *Evgeniy S. Semenov* (*Institute of Applied Physics*);

14:15 Cyclotron-resonant Modulator of High-power Ka-band Radiation
Sergey V. Samsonov (*Institute of Applied Physics, Russian Academy of Sciences*); *Irina V. Zotova* (*Institute of Applied Physics, RAS*); *Alexander S. Sergeev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladislav Yur'evich Zaslavsky* (*Institute of Applied Physics, Russian Academy of Sciences*); *Naum S. Ginzburg* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

14:30 Design of a Helix SWS with Coupler for Compact Ka-band Space TWT
Vaishali (*Banasthali Vidyapith*); *A. Mercy Latha* (*Central Electronics Engineering Research Institute (CEERI)*); *Meenu Kaushik* (*CSIR-Central Electronics Engineering Research Institute (CEERI)*); *Vishant Gahlaut* (*Banasthali University*);

14:45 Catching of the Space Charge in Gyrotron Electron Guns with Cusp Magnetic Field
Vladimir N. Manuilov (*Institute of Applied Physics RAS*); *Yu. K. Kalynov* (*Institute of Applied Physics RAS*);

15:00 Experimental Investigations of Multi-frequency Operation Regimes of a High-current Relativistic Gyrotron with Elongated Interaction Space
Alexander Nikolaevich Leontyev (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Edward Bulatovich Abubakirov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey Nikolaevich Denisenko* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Naum Samuilovich Ginzburg* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Roman Markovich Rozental* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Irina Valerievna Zotova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

15:15 A New Approach for Multicharged Ion Beams Production for the Heavy Ion Accelerator Facility
Vadim A. Skalyga (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *I. V. Izotov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Golubev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Polyakov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Razin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *D. M. Smagin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. S. Vybin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *L. T. Sun* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *H. Y. Zhao* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *Y. T. Lu* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *Junjie Zhang* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *Bo Zhang* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *Jibo Li* (*Institute of Modern Physics of the Chinese Academy of Sciences*); *Jindou Ma* (*Institute of Modern Physics of the Chinese Academy of Sciences*);

15:30 **Coffee Break**

16:00 Multi-periodic 1D and 2D Slow-wave Structures for Surface-wave Oscillators with Transverse Radiation Output
Ekaterina D. Egorova (*Institute of Applied Physics, RAS*); *Naum S. Ginzburg* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, RAS*); *Andrey Mihailovich Malkin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander S. Sergeev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladislav Yur'evich Zaslavsky* (*Institute of Applied Physics, Russian Academy of Sciences*);

16:15 Project of Mutligigawatt Power W-band Free Electron Maser with 3D Distributed Feedback Driven by Large-size Sheet Electron Beam
Nikolai Yu. Peskov (*Institute of Applied Physics, Russian Academy of Sciences*); *Ekaterina D. Egorova* (*Institute of Applied Physics, RAS*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*); *Ksenia A. Leshcheva* (*Institute of Applied Physics, RAS*); *Alexander A. Vikharev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Naum Samuilovich Ginzburg* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey V. Arzhannikov* (*Budker Institute of Nuclear Physics RAS*); *Evgeny S. Sandalov* (*Budker Institute of Nuclear Physics RAS*); *Denis A. Samtsov* (*Budker Institute of Nuclear Physics RAS*); *Stanislav L. Sinitsky* (*Budker Institute of Nuclear Physics Russian Academy of Sciences*);

16:30 Production of High-power Sub-THz Radiation in Oversized Surface-wave Oscillators Using 2D Feedback
Naum Samuilovich Ginzburg (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*); *Andrey Mihailovich Malkin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Edward Bulatovich Abubakirov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey Nikolaevich Denisenko* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail D. Proyavin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

16:45 High-power Terahertz Band Relativistic Surface-wave Oscillator with Two-dimensional Periodic Planar Grating Energized by Explosive Emission Sheet Electron Beams
Vladislav Yur'evich Zaslavsky (*Institute of Applied Physics, Russian Academy of Sciences*); *Yu. V. Rodin* (*Institute of Applied Physics, Russian Academy of Sciences*); *M. B. Goykhman* (*Institute of Applied Physics, Russian Academy of Sciences*); *A. V. Gromov* (*Institute of Applied Physics, Russian Academy of Sciences*); *A. N. Panin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladimir V. Parshin* (*Institute of Applied Physics, Russian Academy of Sciences*); *D. R. Gulyovsky* (*Institute of Applied Physics, Russian Academy of Sciences*); *Ilya V. Zheleznov* (*Institute of Applied Physics, RAS*); *Mikhail D. Proyavin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexey V. Palitsin* (*Institute of Applied Physics, Russian Academy of Sciences*);

17:00 High-gradient Sub-THz Accelerating Structures Powered by Cherenkov Superradiance Pulses
Alexander A. Vikharev (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Irina V. Zotova* (*Institute of Applied Physics, RAS*); *A. E. Fedotov* (*Institute of Applied Physics, RAS*); *M. I. Yalandin* (*Institute of Electrophysics, UB RAS*);

17:15 Evaluating the Impact of Plant Species on Outdoor Wireless Communication by Analyzing Plant Material Characteristics
L. Meenu (*Amrita Vishwa Vidyapeetham*); *Sajeer Aiswarya* (*Amrita Vishwa Vidyapeetham*); *K. A. Unnikrishna Menon* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

17:30 Features of Gas Breakdown by Short Pulses of THz Radiation
A. P. Veselov (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Sidorov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Vodopyanov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Vitaliy V. Kubarev* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*); *O. A. Shevchenko* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*); *Ya. I. Gorbachev* (*Budker Institute of Nuclear Physics, Russian Academy of Science, Siberian Branch*);

17:45 Quasi-analytical Theory of Two-wave Implementation of Gyro-BWO with Zigzag Quasi-optical Microwave System
Ekaterina M. Novak (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*); *Sergey V. Samsonov* (*A. V. Gaponov-Grekhov Institute of Applied Physics, Russian Academy of Sciences*); *Andrei V. Savilov* (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*);

Session 2P10
Remote Sensing of Water and Energy Cycles

Tuesday PM, May 6, 2025

Room 10 - Capital Suite 7

Organized by Hui Lu, Jiancheng Shi

Chaired by Hui Lu, Jiancheng Shi

13:30 Overview of the Global LAnd Surface Satellite (GLASS) ET and Soil Moisture Products
Shunlin Liang (*The University of Hong Kong*); *Yunjun Yao* (*Beijing Normal University*); *Yufang Zhang* (*Northwestern Polytechnical University*);

13:45 Quantitative Precipitation Estimation and Prediction Using Geostationary Satellite Observations and a Lifelong Learning Scheme
Haonan Chen (*Colorado State University*);

14:00 Generation of Hourly, 0.01°, All-weather Hemispherical Land Surface Temperature over Qinghai-Tibetan Plateau Based on Geostationary and Polar-orbiting Satellite Data
Hua Li (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Qiang Na* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Biao Cao* (*Beijing Normal University*); *Qinhuo Liu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

14:15 Multi-frequency Observation of Soil Moisture and Vegetation Optical Depth from Space
Tianjie Zhao (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhiqing Peng* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Lu Hu* (*Nanjing University*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*);

14:30 The Importance of the Initial Spatial Resolution in Soil Moisture Map Downscaling
Jingyao Zheng (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Nemesio Rodriguez-Fernandez* (*CESBIO*); *Tianjie Zhao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*);

14:45 A Spatio-temporal Seamless Daily Soil Moisture Product Derived from SMOS L-band Observations Spanning over a Decade
Yu Bai (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Li Jia* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Tianjie Zhao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhiqing Peng* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*);

15:00 Modeling and Satellite Observations on Water Cycle over the Tibet Plateau
Jiancheng Shi (*National Space Science Center, Chinese Academy of Sciences*);

15:30 **Coffee Break**

16:00 Advancing Cloud Classification over the Tibetan Plateau: A New Algorithm Reveals Seasonal and Diurnal Variations
Husi Letu (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Fangling Bao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Ri Xu* (*University of Gothenburg*); *Deliang Chen* (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*); *Tandong Yao* (*Tsinghua University*); *Lesi Wei* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Chong Shi* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*);

16:15 Rebuild of Liquid Cloud Profiles Based on an Analytical Cloud Profiling Model
Huazhe Shang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Husi Letu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Lesi Wei* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Run Ma* (*Sichuan University of Science & Engineering*); *Yutong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Zhaoxin Cai* (*Meteorological Bureau of Shanxi Province*); *Shuai Yin* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Chong Shi* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

16:30 Quantitative Precipitation Estimation in the Nam Co Basin with X-band Dual-polarization Weather Radar
Yingying Chen (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*); *Run Han* (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*); *Xiaoyan Ling* (*Institute of Tibetan Plateau Research, Chinese Academy of Sciences*); *Kun Yang* (*Tsinghua University*);

16:45 Spatiotemporal Super-resolution of Weather Radar Observations Using Bidirectional Deformable Convolutional LSTM
Yonghua Zhang (*Guangdong Meteorological Service Center*); *Jianxing Wu* (*Pearl River Comprehensive Technology Center of Pearl Water Resources Commission, MWR*); *Yi Zhang* (*Guangzhou Meteorological Integrated Security Center*); *Ping Zhu* (*Guangdong Meteorological Service Center*); *Haonan Chen* (*Colorado State University*); *Ping Shen* (*Guangdong Emergency Early Warning Release Center*); *Zhecheng Wu* (*China Datacom Corporation Limited*);

17:00 A Fusion Method for High Spatial-temporal Resolution Total Precipitable Water in All-weather Condition over the Tibet Plateau Based on Multi-source Satellites Remote Sensing Data
Dabin Ji (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Qixiang Sun* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Husi Letu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*);

17:15 High Resolution Soil Moisture Data Derived from UAV-based Radiometer Observations
Hui Lu (*Tsinghua University*);

17:30 Enhanced Cloud Water Path Estimation Utilizing Geostationary Satellite Infrared Data
Gegen Tana (*National Space Science Center, Chinese Academy of Sciences*); *Lesi Wei* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Huazhe Shang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jian Xu* (*National Space Science Center, Chinese Academy of Sciences*); *Dabin Ji* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jiancheng Shi* (*National Space Science Center, Chinese Academy of Sciences*); *Husi Letu* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Chong Shi* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

17:45 An Integrated Multi-scale Soil Moisture and Temperature Observatory on the Tibetan Plateau
Lixin Dong (*Key Laboratory of Radiometric Calibration and Validation for Environmental Satellites*); *Lizheng Wang* (*Chang'an University*); *Shihao Tang* (*National Satellite Meteorological Center, CMA*); *Lin Chen* (*Key Laboratory of Radiometric Calibration and Validation for Environmental Satellites*); *Na Xu* (*Key Laboratory of Radiometric Calibration and Validation for Environmental Satellites*);

Session 2P0
Poster Session 3

Tuesday PM, May 6, 2025
8:30 AM - 12:30 AM
Room Poster Area

1 Gaussian Quasi-monochromatic Light Beam Scattering on a Photonic Crystal Slab
Daria Yu. Sergeeva (*National Research Nuclear University "MEPhI"*); *I. V. Bekrenev* (*National Research Nuclear University "MEPhI"*);

2 SiC Multi-level Trench P-type Well JBS Diode
Jiteng Yang (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*);

3 Study on Shielding Effect of Brushless Motor Chassis
Renjun Pan (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Quanfeng Jiang* (*Southwest University of Science and Technology*); *Jun Bo Li* (*Southwest University of Science and Technology*); *Junhao Shi* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*);

4 A Hybrid Fast Algorithm for Electromagnetic Interference Modeling in Complex Electromagnetic Environment
Weiyu Xia (*Southwest University of Science and Technology*); *Zi-Qiang Wu* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

5 Meteorological Station for Measuring the Evaporation Wave Duct
Alexey Mikhailovich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *R. S. Yemelyanov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

6 Unveiling Spin-orbital Angular Momentum Locking in Photonic Dirac Vortex Cavities
Haitao Li (*The Hong Kong University of Science and Technology (Guangzhou)*); *Xiaoxiao Wu* (*The Hong Kong University of Science and Technology (Guangzhou)*);

7 Modeling an Antenna for Orthosis
Shu Ya Zan (*Henan University of Science and Technology*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

8 Dual-layer Planar Spiral-shaped Metamaterial Structure for Circular Polarization
Huma (*Shah Abdul Latif University Khairpur*); *Farman Ali Mangi* (*Shah Abdul Latif University Khairpur*); *Fatima Ghulam Kakepoto* (*Zhejiang Normal University*); *Umair Rafique* (*University of Oulu*); *Syed Muzahir Abbas* (*Macquarie University*);

9 Suppression of Laser Spark Propagation by Noble Gas Jet for EUV Lithography Application
A. P. Veselov (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Sidorov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Vodopyanov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *E. I. Preobrazhensky* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

10 Sub-terahertz Gyrotrons Based on Cavities with Mode Selective Elements
Ilya V. Bandurkin (*Institute of Applied Physics RAS*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey Pavlovich Fokin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Yuriy K. Kalynov* (*Institute of Applied Physics, RAS*); *Ivan V. Osharin* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*A. V. Gaponov-Grekhov Institute of Applied Physics, RAS*);

11 Fabrication of On-chip Based WGM Toroidal Microresonators Using Si Lithography and CO_2 Laser Techniques
Deniss Zurikovs (*Riga Technical University*); *Ints Murans* (*Riga Technical University*); *Dilan Enrique Ortiz Blanco* (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Janis Alnis* (*University of Latvia*); *Toms Salgals* (*Riga Technical University*); *Sergejs Marinins* (*Riga Technical University*); *Mareks Parfjonovs* (*Riga Technical University*); *Ilze Andersone* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

12 Preparation and Performance Study on SiO_2 Micro-nano Composite Film Structure for Daytime Radiative Cooling
Changhai Li (*Fudan University*); *Xiaojie Sun* (*Fudan University*); *Yuting Yang* (*Fudan University*); *Baojian Liu* (*Fudan University*); *Haotian Zhang* (*Fudan University*); *Rong He* (*Fudan University*); *Rongjun Zhang* (*Fudan University*); *Yu-Xiang Zheng* (*Fudan University*); *Songyou Wang* (*Fudan University*); *Liangyao Chen* (*Fudan University*);

13 Microwave Photonics-based Reflectometry for PCB Defect Detection
Yiling Guo (*Hong Kong Polytechnic University*); *Menglin L. N. Chen* (*The Hong Kong Polytechnic University*); *Mingtuan Lin* (*National University of Defense Technology*);

15 Poincare Beam Spirality at a Sharp Focus
Vladislav D. Zaitsev (*Samara National Research University*); *Sergey S. Stafeev* (*NRC Kurchatov Institute*); *Victor V. Kotlyar* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS*);

16 Mechanical Strain Monitoring Using Filter-based Fiber Bragg Grating Interrogator
Andis Supe (*Riga Technical University*); *Ugis Senkans* (*Riga Technical University*); *Deniss Zurikovs* (*Riga Technical University*); *Nauris Silkans* (*Riga Technical University*); *Janis Braunfelds* (*Riga Technical University*);

17 Gyrotrons as Stable Sources of Radiation for Frequency Locking
Andrey A. Ananichev (*Institute of Applied Physics of the RAS*); *A. V. Chirkov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Grigory G. Denisov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Andrey Pavlovich Fokin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *German Yu. Golubiatnikov* (*Institute of Applied Physics of the RAS*); *S. Yu. Kornishin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Andrey N. Kuftin* (*Institute of Applied Physics of the RAS*); *A. G. Litvak* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Vladimir N. Manuilov* (*Institute of Applied Physics RAS*); *Boris Z. Movshevich* (*Institute of Applied Physics of the RAS*); *Yu. V. Novozhilova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *L. G. Popov* (*GYCOM Ltd.*); *E. A. Soluyanova* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Evgeniy M. Tai* (*Institute of Applied Physics of the RAS*);

18 Development of a Gyrotron Circuit Based on a Photonic Structure with a Triangular Trajectory of an Operating Wave Beam
Ekaterina M. Novak (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*);

19 Behavioral Model Based on Meta-learning for Multistate Wireless Power Amplifier
Meng Zhou (*Beijing University of Posts and Telecommunications*); *X. Hu* (*Beijing University of Posts and Telecommunications*); *B. Y. Li* (*Beijing University of Posts and Telecommunications*); *X. R. Wang* (*Beijing University of Posts and Telecommunications*); *X. W. Meng* (*Beijing University of Posts and Telecommunications*); *W. D. Wang* (*Beijing University of Posts and Telecommunications*);

20 A 6-element Multi-resonator Sensor for Touching Detection Based on Chipless RFID Technology
Yu Chun He (*Tongji University*); *Hao Zheng Lu* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

21 A Novel RFID Temperature Sensor Integrated with Reconfigurable Encoding Structure
Yaming Xie (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

22 Improving 5G/B5G Network Performance with RFID-enabled Resource Management Systems
Stella Ndidi Arinze (*Enugu State University of Science and Technology*); *Halima Ibrahim Kure* (*University of East London*); *Augustine O. Nwajana* (*University of Greenwich*);

23 Ultra-wideband Planar Tightly Coupled Dipole Antenna Array with 3 : 1 Bandwidth
Chao Zou (*Southwest University of Science and Technology*); *Yuan Zhang* (*University of Electronic Science and Technology of China*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Tong Su* (*Southwest University of Science and Technology*); *Haonan Huang* (*Southwest University of Science and Technology*); *Liping Wang* (*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*);

24 A Miniaturized Low-profile Ultra-wideband Omnidirectional Vertical Polarization Antenna
Liping Wang (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Haonan Huang* (*Southwest University of Science and Technology*); *Renjun Pan* (*Southwest University of Science and Technology*); *Jun Bo Li* (*Southwest University of Science and Technology*); *Chao Zhou* (*Southwest University of Science and Technology*); *Yu-Rui Jia* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

25 A Multilayer Low-pass Frequency Selective Surface with Wide Stopband
Haonan Huang (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Meiying Li* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

26 Finding Areas of Greatest Influence on Side Lobes Level in Radiation Pattern in Antenna Array
Alexey Mikhailovich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

27 Director Patch Antenna Design for Emitting UWB Signals for Local Navigation System
Vitaliy Vladislavovich Trubetskoy (*Moscow Technical University of Communications and Informatics (MTUCI)*); *A. M. Ignatov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *R. G. Riazantsev* (*National Research University "Moscow Power Engineering Institute"*);

28 Design of One-to-two and One-to-four Filtering Power Dividers Based on Substrate Integrated Waveguide
Zhilin He (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*);

29 A Novel Design and Optimization of a Multi-section Coupler for Microwave Radar Systems
Mohamed Guermal (*Abdelmalek Essaadi University*); *Jamal Zbitou* (*Abdelmalek Essaadi University*); *Mohammed El Gibari* (*Nantes University/IETR*); *Fouad Aytouna* (*Abdelmalek Essaadi University*); *Aziz Oukaira* (*Moncton University of Canada*); *Ahmed Lakhssassi* (*University of Quebec*);

30 Metal-artifacts Reduction in Synchrotron Monochromatic x-ray Computed Tomography
Koki Kato (*Yamagata University*); *Keishi Araki* (*Yamagata University*); *Tsuyoshi Ouchi* (*Yamagata University*); *Tetsuya Yuasa* (*Yamagata University*);

31 FENGYUN-4A Advanced Geosynchronous Radiation Imager Layered Precipitable Water Vapor Products' Comprehensive Evaluation Based on Quality Control System
Yong Zhang (*National Satellite Meteorological Center, China Meteorological Administration*);

32 Classification of Muscle Fatigue Using Surface Electromyography Signals Based on ICEEMDAN-GRU
Qicao Chen (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Li Wu* (*Southwest University of Science and Technology*); *Qi Qi* (*Southwest University of Science and Technology*); *Changzheng Ling* (*Southwest University of Science and Technology*); *Yue Pan* (*Southwest University of Science and Technology*); *Yuchen Zhang* (*Southwest University of Science and Technology*);

33 A Novel Design of Multi-level Storage Architecture and Scratch-pad Memory Management Module for Dedicated Scientific Computing Architecture
Xiao Jie Lu (*Tongji University*); *Yuan Yang Du* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

34 In Situ Infrared Spectroscopic Evidence of Enhanced Electrochemical CO_2 Reduction on $AuFe_1$
Xinyi Shen (*University of Science and Technology of China*); *Xiaokang Liu* (*University of Science and Technology of China*); *Sicong Wang* (*University of Science and Technology of China*); *Tao Chen* (*University of Science and Technology of China*); *Wei Zhang* (*University of Science and Technology of China*); *Linlin Cao* (*University of Science and Technology of China*); *Tao Ding* (*University of Science and Technology of China*); *Yue Lin* (*University of Science and Technology of China*); *Dong Liu* (*University of Science and Technology of China*); *Lan Wang* (*University of Science and Technology of China*); *Tao Yao* (*University of Science and Technology of China*);

35 Design and Implementation of a Low Harmonic Distortion Piezoelectric Ceramic Power Amplifier Based on Wide-bandgap GaN Devices
Chunxi Jiang (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Yangli Liu* (*Southwest University of Science and Technology*); *Yuting Xu* (*Southwest University of Science and Technology*); *Tong Zheng* (*Southwest University of Science and Technology*); *Qifeng Wu* (*Southwest University of Science and Technology*); *Gang Long* (*Southwest University of Science and Technology*);

36 Invisible Connections: Enhancing Homelessness Support through Technological Advances Amidst Pandemic Constraints – A Design and Statistical Study
Eddy Semayobe (*University of Hertfordshire*); *Catherine C. Ukala* (*University of Hertfordshire*); *Eugene A. Ogbodo* (*University of Hertfordshire*); *Azunka N. Ukala* (*University of Hertfordshire*);

37 High Q-factor Fano Resonant Microwave Metasurface for Enhanced Dielectric Sensing Applications
Aleena Antony (*National Institute of Technology Calicut*); *M. P. Pranaw* (*National Institute of Technology Calicut*); *Debabrata Kalita* (*National Institute of Technology Calicut*); *Isac Antony Babu Vazhappilly* (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

38 Left-hand Circularly Polarized Five-element Patch Antenna Array for Satellite Communication Systems
Mikhail Sergeyevich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *Feras Habib Rammah* (*National Research University "Moscow Power Engineering Institute"*); *A. A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

39 Modeling Light-tissue Interactions in Finger Phantom Using Near Infrared and Mid Infrared Spectroscopy Based on Non-invasive Glucose Monitoring
Sai Kalyan Rebba Yagna (*Amrita Vishwa Vidyapeetham*); *L. Meenu* (*Amrita Vishwa Vidyapeetham*); *Sajeer Aiswarya* (*Amrita Vishwa Vidyapeetham*); *Vinodini Ramesh Maneesha* (*Amrita Vishwa Vidyapeetham*);

40 Hidden Chua-circuit Design and It's Real-time Application
Vivek Bhatt (*National Institute of Technology Manipur*); *Ashish Ranjan* (*National Institute of Technology Manipur*);

41 Author's Conception of Fractal Elements, Detector, Sensors, Fractal Radio Devices (Fractal Metasurfaces, Fractal Reconfigurable Intelligent Surfaces), and Fractal Radio Systems
Alexander Alekseevich Potapov (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences*);

Session 3A1
Chiral Metaphotonics 2

Wednesday AM, May 7, 2025
Room 1 - CH B (A)

Organized by Maxim V. Gorkunov, Yuri S. Kivshar
Chaired by Maxim V. Gorkunov, Yuri S. Kivshar

8:30 Invited Mirrors, Cavities, and Analytical Results for Chiral Polaritonics
Denis G. Baranov (*Chalmers University of Technology*);

9:10 Invited Chiral Light in Twisted Resonators
Sergey A. Dyakov (*Skolkovo Institute of Science and Technology*); *I. A. Smagin* (*Skolkovo Institute of Science and Technology*); *N. S. Salakhova* (*Skolkovo Institute of Science and Technology*); *I. M. Fradin* (*Skolkovo Institute of Science and Technology*); *Nikolay A. Gippius* (*Skolkovo Institute of Science and Technology*);

9:30 Chiral Optical Cavities Using Metasurfaces of Highly Electromagnetically Chiral Scatterers
Lukas Rebholz (*Karlsruhe Institute of Technology*); *Carsten Rockstuhl* (*Karlsruhe Institute of Technology*); *Ivan Fernandez-Corbaton* (*Karlsruhe Institute of Technology*);

9:45 Generation of Twisted Electromagnetic Beam with Angular Momentum upon Reflection from Magnetized Plasma
E. D. Gospodchikov (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Alexander G. Shalashov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*);

10:00 **Coffee Break**

10:30 Spectral Features of a Microcavity with a Chiral Liquid
Invited Crystal Layer with Tangential-conical Boundary Conditions
Pavel S. Pankin (*Harbin Engineering University*);

10:50 High-Q Dielectric Metasurfaces for Biosensing and Op-
Invited tical Chirality in the Deep-UV
Bo-Ray Lee (*National Yang Ming Chiao Tung University*); *Shang Jie Shen* (*National Yang Ming Chiao Tung University*); *Yao-Wei Huang* (*National Yang Ming Chiao Tung University*); *Yuri S. Kivshar* (*Australian National University*); *Ming Lun Tseng* (*National Yang Ming Chiao Tung University*);

11:10 All-dielectric Mid-infrared Metasurfaces for Enhanced
Invited Linear and Chiral Spectroscopy
Ivan S. Sinev (*Ecole Polytechnique Federale de Lausanne*); *Felix Ulrich Richter* (*Ecole Polytechnique Federale de Lausanne*); *Ivan Toftul* (*Australian National University*); *Nikita Glebov* (*Ecole Polytechnique Federale de Lausanne*); *Kirill L. Koshelev* (*Australian National University*); *Longfang Ye* (*Xiamen University*); *Ming Lun Tseng* (*National Yang Ming Chiao Tung University*); *Yuri S. Kivshar* (*Australian National University*); *Hatice Altug* (*Institute of Bioengineering, Ecole Polytechnique Federale de Lausanne*);

11:30 Transition Radiation from a Spiral Phase Plate
Fedor Kiselev (*National Research Nuclear University "MEPhI"*); *Daria Yu. Sergeeva* (*National Research Nuclear University "MEPhI"*);

11:45 Ultrafast Molecular Chirality: A Topological Connection
Invited
Olga Smirnova (*Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy*);

Session 3A2
Recent Advances in Optical Metasurfaces 2

Wednesday AM, May 7, 2025

Room 2 - CH B (C&B)

Organized by Cheng Zhang, Fei Ding

Chaired by Fei Ding, Cheng Zhang

8:30 Metasurfaces for Imaging, Sensing and Display
Keynote
Junsuk Rho (*Pohang University of Science and Technology (POSTECH)*);

9:00 Enhanced Optical Absorption through Nanocavity
Invited Structures: Advancements in Photonic Applications
Murali Gedda (*King Abdullah University of Science and Technology*); *Haomin Song* (*King Abdullah University of Science and Technology*); *Anil Reddy Pininti* (*King Abdullah University of Science and Technology*); *Omar Alkhazragi* (*King Abdullah University of Science and Technology (KAUST)*); *Hendrik Faber* (*King Abdullah University of Science and Technology*); *Xiaoguang Tu* (*Marvell Semiconductor Pte Ltd.*); *Husam N. Alshareef* (*King Abdullah University of Science and Technology*); *Stefaan De Wolf* (*King Abdullah University of Science and Technology*); *Boon S. Ooi* (*King Abdullah University of Science and Technology*); *Thomas D. Anthopoulos* (*King Abdullah University of Science and Technology*); *Qiaoqiang Gan* (*King Abdullah University of Science and Technology (KAUST)*);

9:20 Nonlinear Infrared Imaging by Employing Four-wave
Invited Mixing on Silicon Individual Resonators and Metasurfaces
Ze Zheng (*Nottingham Trent University*); *Gabriel Sanderson* (*Nottingham Trent University*); *Cuifeng Ying* (*Nottingham Trent University*); *Lei Xu* (*Nottingham Trent University*); *Mohsen Rahmani* (*Nottingham Trent University*);

9:40 Optical Metasurfaces for Continuous Cell Monitoring,
Invited Molecular Diagnostics, and 3D Biomedical Imaging
Inki Kim (*Sungkyunkwan University (SKKU)*);

10:00 **Coffee Break**

10:30 Meta-waveguide Photocurrent Detection of Valley-
Invited selective Emission
Haoran Ren (*Monash University*);

10:50 MEMS Tunable Meta-optics for High-efficiency Dy-
Invited namic Light Field Manipulation
Chao Meng (*University of Southern Denmark*); *Paul Conrad Vaagen Thrane* (*University of Southern Denmark*); *Fei Ding* (*University of Southern Denmark*); *Sergey I. Bozhevolnyi* (*University of Southern Denmark*);

11:10 Deep Subwavelength Scale Programmable Metasurface
Invited Colour Routers
Cheng Chi (*Beijing Institute of Technology*);

11:30 Transparent Matte Surfaces: Concept and Applications
Invited
Hongchen Chu (*Nanjing University*); *Xiang Xiong* (*Nanjing University*); *Ru-Wen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*); *Yun Lai* (*Nanjing University*);

11:50 High-performance Achromatic Flat Lens
Invited
Jingen Lin (*Sun Yat-Sen University*); *Jinbei Chen* (*Sun Yat-Sen University*); *Haowen Liang* (*Sun Yat-Sen University*); *Juntao Li* (*Sun Yat-Sen University*);

Session 3A3a
Additive Manufacturing of Photonic Devices

Wednesday AM, May 7, 2025

Room 3 - CH B (D)

Organized by Haider Butt, Rashid K. Abu Al-rub

Chaired by Haider Butt

8:30 Multimaterial 3D Printing of Multifunctional Contact Lenses
Muhammed Hisham (*Khalifa University*); *Sungmun Lee* (*Khalifa University*); *Haider Butt* (*Khalifa University of Science and Technology*);

8:45 Additive Manufacturing of Nanocomposite Contact Lenses
Said El Turk (*Khalifa University of Science and Technology*); *Haider Butt* (*Khalifa University of Science and Technology*);

9:00 3D Printed Multi-material Optical Sensor for Simultaneous Detection of Temperature and UV Radiation
Dileep Chekkaramkodi (*Khalifa University of Science and Technology*); *Andreas Schiffer* (*Khalifa University of Science and Technology*); *Haider Butt* (*Khalifa University of Science and Technology*);

9:15 Natural Pigments in Contact Lenses as Multifunctional Additives
C. Muhammed Shebeeb (*Khalifa University*); *Sanjana Chandran* (*Khalifa University*); *Abdulrahim Sajini* (*Khalifa University*); *Yarjan Abdul Samad* (*Khalifa University of Science and Technology*); *Haider Butt* (*Khalifa University of Science and Technology*);

9:30 One-step Fabrication of Holographic Fresnel Lenses for Optical Sensing via Vat Photopolymerization
Murad Ali (*Khalifa University of Science and Technology*); *Haider Butt* (*Khalifa University of Science and Technology*);

10:00 **Coffee Break**

Session 3A3b
Advanced Photonic Technologies for Spectroscopic Applications 2

Wednesday AM, May 7, 2025

Room 3 - CH B (D)

Organized by Simone Borri, Weixiong Zhao, Wei Dong Chen

Chaired by Weixiong Zhao

10:30 Invited Precise and Sensitive Cavity-enhanced Spectroscopy for Gas Analysis
Jin Wang (*University of Science and Technology of China*); *Yan Tan* (*University of Science and Technology of China*); *Yan-Dong Tan* (*University of Science and Technology of China*); *Cun-Feng Cheng* (*University of Science and Technology of China*); *Shui-Ming Hu* (*University of Science and Technology of China*);

10:50 Invited Cavity Enhanced Absorption Spectroscopy for High Precision Measurement of Greenhouse Gases
Kun Liu (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*); *Xiaoming Gao* (*Anhui Institutes of Physical Science, Chinese Academy of Sciences*);

11:10 Invited Miniaturized Optofluidic Spectrometers for Widespread Screening Applications
Pietro Malara (*Istituto Nazionale di Ottica (INO)*); *Saverio Avino* (*Istituto Nazionale di Ottica (INO)*); *Antonio Giorgini* (*Istituto Nazionale di Ottica (INO)*); *Gianluca Gagliardi* (*CNR, Istituto Nazionale di Ottica (INO)*);

11:30 Carbon Dioxide Sensing Based on Off-axis Integrated Cavity Absorption Spectroscopy Combined with the Informer and Multilayer Perceptron Models
Kehao Zhang (*Nanchang Hangkong University*); *Tao Wu* (*Nanchang Hangkong University*); *Linlin Shen* (*Shezhen University*); *Qiang Wu* (*Northumbria University*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*); *Xingdao He* (*Nanchang Hangkong University*);

11:45 Two-channel Sensing of NO_2 and Particulate Matter (PM)
Gaoxuan Wang (*Universite du Littoral Cote d'Opale*); *Lingshuo Meng* (*Université du Littoral Côte d'Opale*); *Benjamin Hanoune* (*Universite de Lille1*); *Suzanne Crumeyrolle* (*Université de Lille1*); *Qian Gou* (*Chongqing University*); *Wei Dong Chen* (*Université du Littoral Côte d'Opale*);

12:00 Sensing and Analysis of Atmospheric Aerosols Using Novel Compact Cavity Enhanced Extinction Spectrometer
Salma Jose (*National Institute of Technology Calicut*); *Dhilbar Muhammed* (*National Institute of Technology Calicut*); *M. K. Ravi Varma* (*National Institute of Technology Calicut*);

Session 3A4
Multimode Nonlinear Photonics

Wednesday AM, May 7, 2025

Room 4 - Capital Suite 1

Organized by Stefan Wabnitz, Mauro Fernandes Pereira

Chaired by Stefan Wabnitz, Mauro Fernandes Pereira

8:30 Temporal Self-organization, Coherence Memory and Amnesia in a Seeded Mamyshev Oscillator
Bo Cao (*Tsinghua University*); *Chengying Bao* (*Tsinghua University*); *Changxi Yang* (*Tsinghua University*);

8:45 Invited Multimode Fiber Raman Lasers with Transverse Mode Selection by Regular and Random RI Structures
Sergey A. Babin (*Institute of Automation and Electrometry SB RAS*); *A. G. Kuznetsov* (*Institute of Automation and Electrometry SB RAS*); *Zhibzema E. Munkueva* (*Institute of Automation and Electrometry of the SB RAS*); *Alexandr V. Dostovalov* (*Institute of Automation and Electrometry SB RAS*);

9:05 Keynote Optical Thermodynamics of Photonic Nonlinear Multimode Systems
Demetrios Christodoulides (*University of Southern California*);

9:35 Spatial Instability of Fundamental Mode in Step-index Multimode Fiber
S. Boni (*Sapienza University of Rome*); *A. Ciorra* (*Sapienza University of Rome*); *W. A. Gemechu* (*Sapienza University of Rome*); *A. Sparapani* (*Sapienza University of Rome*); *Fabio Mangini* (*"La Sapienza" University of Rome*); *M. Ferraro* (*University of Calabria*); *Y. Sun* (*Universite Libre de Bruxelles*); *M. Gervaziev* (*Novosibirsk State University*); *D. Kharenko* (*Novosibirsk State University*); *S. Babin* (*Novosibirsk State University*); *Stefan Wabnitz* (*Sapienza University of Rome*);

10:00 **Coffee Break**

10:30 Invited Characterization of Nonlinear Dynamics in Multimode Fibers
Goëry Genty (*Tampere University*); *Jiaqi Li* (*Tampere University*); *Piotr Ryczkowski* (*Tampere University of Technology*);

10:50 Invited Light-by-light Reconfiguration in Optical Fibres
Kunhao Ji (*University of Southampton*); *David J. Richardson* (*University of Southampton*); *Stefan Wabnitz* (*Sapienza University of Rome*); *Massimiliano Guasoni* (*University of Southampton*);

11:10 Hybrid Distributed/Modal Approach to Description of Rear-earth Fiber Lasers
Dmitry K. Vysokikh (*Dukhov Research Institute of Automatics*); *Alexander V. Dorofeenko* (*Institute for Theoretical and Applied Electromagnetics, RAS*); *A. P. Bazakutsa* (*Kotelnikov Institute of Radioengineering and Electronics of RAS*); *O. V. Butov* (*Kotelnikov Institute of Radioengineering and Electronics of RAS*);

11:25 Nonlinear Dependence of Radiation Line Width on Pumping in Phonon Lasers
Artem Ramazanovich Mukhamedyanov (*Dukhov Research Institute of Automatics (VNIIA)*); *Alexander A. Zyablovsky* (*Dukhov Research Institute of Automatics (VNIIA)*); *E. S. Andrianov* (*Dukhov Research Institute of Automatics (VNIIA)*);

Session 3A5
Optical Spectroscopy of Two-dimensional Materials and Heterostructures

Wednesday AM, May 7, 2025

Room 5 - Capital Suite 2

Organized by Hui Zhao, Yongsheng Wang

Chaired by Chunxiang Xu, Xiulai Xu

8:30 Invited Chiroptical Spectroscopy of Two-dimensional Heterostructures and Its Interaction with Plasmonic Nanocavity
Xiulai Xu (*Peking University*);

8:50 Engineering Exciton Photoluminescence in Microdisk Resonators Based on All-TMDC Double Heterostructures
P. A. Alekseev (*Ioffe Institute*); *I. A. Milekhin* (*Ioffe Institute*); *K. A. Gasnikova* (*Ioffe Institute*); *I. A. Eliseyev* (*Ioffe Institute*); *V. Yu. Davydov* (*Ioffe Institute*); *Andrey A. Bogdanov* (*Harbin Engineering University*); *Vasily Kravtsov* (*ITMO University*); *A. O. Mikhin* (*ITMO University*); *Bogdan R. Borodin* (*Ioffe Institute*); *Alexander G. Milekhin* (*Rzhanov Institute of Semiconductor Physics, Russian Academy of Science*);

9:05 Invited Plasmon Polariton Enhanced Optoelectrical Response of Graphene Heterostructures
Weiwei Luo (*Nankai University*); *Wei Cai* (*Nankai University*); *Jingjun Xu* (*Nankai University*);

9:25 Invited Transient Absorption Microscopy of Two-dimensional Semiconductors
Hui Zhao (*University of Kansas*); *Yongsheng Wang* (*Beijing Jiaotong University*); *Dawei He* (*Beijing Jiaotong University*);

10:00 **Coffee Break**

10:30 Microdisc Lasers HgCdTe-based Structures for Operating at 20–25 μm Range under Watt-level Optical Pumping
Sergey V. Morozov (*Institute for Physics of Microstructures of RAS*); *K. A. Mazhukina* (*Institute for Physics of Microstructures of RAS*); *A. A. Yantser* (*Institute for Physics of Microstructures of RAS*); *A. A. Razova* (*Institute for Physics of Microstructures of RAS*); *V. V. Utochkin* (*Institute for Physics of Microstructures of RAS*); *M. A. Fadeev* (*Institute for Physics of Microstructures of RAS*); *Vladimir V. Rumyantsev* (*Institute for Physics of Microstructures of RAS*); *Alexander A. Dubinov* (*Institute for Physics of Microstructures of RAS*); *V. Ya. Aleshkin* (*Institute for Physics of Microstructures of RAS*); *D. V. Shengurov* (*Institute for Physics of Microstructures of RAS*); *N. S. Gusev* (*Institute for Physics of Microstructures of RAS*); *E. E. Morozova* (*Institute for Physics of Microstructures of RAS*); *V. I. Gavrilenko* (*Institute for Physics of Microstructures of RAS*);

10:45 Ultrafast Spectra for Low-dimensional Interface Detection
Invited
Chunxiang Xu (*Southeast University*); *Qiannan Cui* (*Southeast University*); *He Zhang* (*Southeast University*); *Feiyang Hou* (*Southeast University*);

11:05 Effect of Ground-state Charge Transfer in van der Waals Heterostructures
Invited
Yongsheng Wang (*Beijing Jiaotong University*); *Dawei He* (*Beijing Jiaotong University*); *Hui Zhao* (*Beijing Jiaotong University*);

11:25 Stacking Dependent Optical Properties of MoS_2-WS_2 Heterostructures: The First Principles Study
Vijay Kumar Gudelli (*King Abdullah University of Science and Technology (KAUST)*); *B. Ravina* (*King Abdullah University of Science and Technology (KAUST)*); *Bala Murali Krishna Mariserla* (*IIT Jodhpur*); *S. Appalakondiah* (*Pondicherry University*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

11:40 Interlayer Charge Transfer in Two-dimensional Alloy Heterostructures
Invited
Dawei He (*Beijing Jiaotong University*); *Yongsheng Wang* (*Beijing Jiaotong University*); *Hui Zhao* (*Beijing Jiaotong University*);

Session 3A6
Complicated Systems in Photonics and Other Waves

Wednesday AM, May 7, 2025

Room 6 - Capital Suite 3

Organized by Feng Li, Huanyang Chen

Chaired by Feng Li, Chao Qian

8:30 Broadband Nonlinear Optical Structures on Chips
Invited
Chunyu Huang (*Nanjing University of Aeronautics and Astronautics*); *Yu Luo* (*Nanjing University of Aeronautics and Astronautics*); *Hui Liu* (*Nanjing University*); *Haoyun Yu* (*Nanjing University*);

8:50 Water-wave Superscattering
Invited
Chao Qian (*Zhejiang University*);

9:10 Topological Manipulations on Photonic Chips
Invited
Wange Song (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Shuang Zhang* (*The University of Hong Kong*); *Tao Li* (*Nanjing University*);

9:30 Simple Diffractive Grating for Generating Water-wave Spatiotemporal Vortex Pulses
Invited
Zhiyuan Che (*Fudan University*); *Wenzhe Liu* (*Fudan University*); *Junyi Ye* (*Fudan University*); *Lei Shi* (*Fudan University*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*); *Jian Zi* (*Fudan University*);

10:00 **Coffee Break**

10:30 Wave Chaotic Dynamics in Optical Microcavities in Curved Space
Invited
Yechun Ding (*Xi'an Jiaotong Unviersity*); *Yongsheng Wang* (*Xi'an Jiaotong Unviersity*); *Wei Lin* (*Xi'an Jiaotong University*); *Feng Li* (*Xi'an Jiaotong University*);

10:50 Transformation Non-Hermitian Skin Effect
Invited
Wen Xiao (*Xiamen University*); *Shan Zhu* (*Xiamen University*); *Huanyang Chen* (*Xiamen University*);

11:10 Optical Frequency Comb-based Photonic Millimeter-wave Chaos Generation for High-capacity Wireless Networks
M. Baskaran (*Sri Sairam Engineering College*); *K. Jeyapiriya* (*Sri Sairam Engineering College*);

11:25 Vortex Interaction with Metamaterials
Qilin Duan (*Xiamen University*); *Linkang Han* (*Xiamen University*); *Huanyang Chen* (*Xiamen University*);

Session 3A7
Lasers in Life Sciences: From 3D Bio Printing to Sensing

Wednesday AM, May 7, 2025

Room 7 - Capital Suite 4

Organized by Maria De Fatima Fonseca Domingues, Anna Maria Pappa

Chaired by Anna Maria Pappa

8:30 Multiphoton Printing for Adaptive Smart Materials
Invited
Maria Farsari (*IESL-FORTH*);

8:50 3D Printed Smart Contact Lenses
Invited
Haider Butt (*Khalifa University of Science and Technology*);

9:10 Pulsed Laser Fabrication and Diagnostics for Tissue Enginnering Apllications
Invited
Emmanuel Stratakis (*Foundation for Research and Technology (FORTH)*);

9:30 Polymer Nanoparticles as Photoactive Transducers to Control Cellular Metabolism
Invited
Maria Rosa Antognazza (*Italian Institute of Technology*);

10:00 **Coffee Break**

10:30 Optical Fiber Biosensors Based on Semi-randomized Interferometry: Towards Multifunctional Detection Probes
Invited
Daniele Tosi (*Nazarbayev University*);

10:50 Single-molecule Detection via Plastic Optical Fiber Biosensors
Invited
Nunzio Cennamo (*University of Campania Luigi Vanvitelli*);

11:10 Hydrogel-based Optical Fiber Sensors with Integrated Gold Nanoparticles for Diabetes Management
Israr Ahmed (*Khalifa University of Science and Technology*); *Yarjan Abdul Samad* (*Khalifa University of Science and Technology*); *Haider Butt* (*Khalifa University of Science and Technology*);

11:25 Investigation of Extracellular Vesicle Deposition on Tapered Optical Fibers and Light Transmission Analysis
Natsnet Bereket Tecle (*Khalifa University of Science and Technology*); *Sagar Arya* (*Khalifa University of Science and Technology*); *Anna Maria Pappa* (*Khalifa Universe of Science and Technology*); *Maria De Fatima Fonseca Domingues* (*Khalifa Universe of Science and Technology*);

Session 3A8
Nanophotonics with Solid-state Quantum Emitters

Wednesday AM, May 7, 2025

Room 8 - Capital Suite 5

Organized by Jianwei Tang, Xuewen Chen

Chaired by Jianwei Tang

8:30 Invited Non-trivial Light-matter Interactions in High-Q 2D Material Nanocavities
Chenjiang Qian (*Institute of Physics, Chinese Academy of Sciences*); *V. Villafañe* (*Technische Universität München*); *P. Soubelet* (*Technische Universität München*); *A. V. Stier* (*Technische Universität München*); *J. J. Finley* (*Technische Universität München*);

8:50 Invited Light-matter Interactions in the One-dimensional Optomechanical Cavity
Guangwei Deng (*University of Electronic Science and Technology of China*);

9:10 Invited Shaping Single-photon Emission with Emitter-coupled Metasurfaces
Fei Ding (*University of Southern Denmark*);

9:30 Invited Quantum Emitters and Their Application in Quantum Detection
Hai-Zhi Song (*Southwest Institute of Technical Physics & UESTC*); *Jing Qiu* (*Southwest Institute of Technical Physics*); *Mochou Yang* (*Southwest Institute of Technical Physics*); *Beitong Cheng* (*Southwest Institute of Technical Physics*); *Si Shen* (*University of Electronic Science and Technology*); *Shihai Wei* (*University of Electronic Science and Technology of China*); *Bo Jing* (*Southwest Jiaotong University*);

10:00 **Coffee Break**

10:30 Keynote Nanoplasmonic Architectures for Quantum Nanophotonics at Ambient Temperatures
Ortwin Hess (*Trinity College Dublin*);

11:00 Invited Control of Quantum Dot Emission with Brillouin Zone Folding Metasurfaces
Young Chul Jun (*Ulsan National Institute of Science and Technology*);

11:20 Invited Cavity-enhanced Superfluorescence in Perovskite Microcavities
Changchang Huang (*Huazhong University of Science and Technology*); *Wei Xie* (*East China Normal University*); *Weihang Zhou* (*Huazhong University of Science and Technology*);

11:40 Invited Identical Photons and Solid-state Qubits in GaAs Quantum Dots
Liang Zhai (*University of Electronic Science and Technology of China*);

12:00 Invited Directional Excitation in Chiral Waveguide Quantum Optics
Hamidreza Siampour (*Queen's University Belfast*);

Session 3A9a
Advanced Techniques in Computational Electromagnetics

Wednesday AM, May 7, 2025

Room 9 - Capital Suite 6

Organized by Vladimir Okhmatovski, Hakan Bagci

Chaired by Vladimir Okhmatovski, Hakan Bagci

8:30 Characteristic Mode Analysis of Composite Nanostructures Using Coupled Volume Integral and Hydrodynamic Equations
Meruyert Khamitova (*King Abdullah University of Science and Technology (KAUST)*); *Ran Zhao* (*University of Electronic Science and Technology of China*); *Doolos Aibek Uulu* (*Light Academy College of Engineering*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST)*);

8:45 A Hybrid Multiple Scattering Approach Utilizing Vector Cylindrical Wave Expansions for Closely Spaced Elongated Scatterers Distributed in a Layer
Shurun Tan (*Zhejiang University*); *Haifeng Zheng* (*Zhejiang University*);

9:00 Self-consistent Modeling of Coupled Maxwell-rate Equations with the Finite-Difference Time-Domain Method
Parmenion Mavrikakis (*Ecole Polytechnique Federale de Lausanne*); *S. Athanasiou* (*Ecole Polytechnique Federale de Lausanne*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

9:15 Heteregenous Tolerances in H-LU Decomposition of Integral Equations
Omid Babazadeh (*University of Manitoba*); *Jin Hu* (*University of Southern California*); *Emrah Sever* (*Aselsan*); *Ian Jeffrey* (*University of Manitoba*); *Constantine Sideris* (*University of Southern California*); *Vladimir Okhmatovski* (*University of Manitoba*);

9:30 Fast Calculations of Band Diagram for Complex Topological Structure Using Multiple Scattering Theory
Tien-Hao Liao (*National Taipei University of Technology*); *Rouxing Gao* (*University of Michigan*); *Zhenming Huang* (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Shurun Tan* (*Zhejiang University*);

9:45 Adaptive Refinement and Efficient Accuracy Evaluation for Surface Integral Equations in Electromagnetic Analysis
Haojie Cao (*University of Electronic Science and Technology of China*); *Ran Zhao* (*University of Electronic Science and Technology of China*); *Jun Hu* (*University of Electronic Science and Technology of China*);

10:00 **Coffee Break**

Session 3A9b
Novel Mathematical Methods in Electromagnetics

Wednesday AM, May 7, 2025

Room 9 - Capital Suite 6

Organized by Yury V. Shestopalov, Kazuya Kobayashi

Chaired by Yury V. Shestopalov, Kazuya Kobayashi

10:30 Microwave Tomography Method for Determining Inhomogeneities in Objects
Yury V. Shestopalov (*University of Gavle*); *Yury G. Smirnov* (*Penza State University*); *A. O. Lapich* (*Penza State University*); *Mikhail Yu. Medvedik* (*Penza State University*);

10:45 3D Anderson Localization of Light in Disordered Dielectric Media
Yevgen Grynko (*BASF Coatings GmbH*); *Dustin Siebert* (*Paderborn University*); *Jan Sperling* (*Paderborn University*); *Jens Forstner* (*Paderborn University*);

11:00 Quantum State Density Matrix Modeling: Exploring the Scattering of Polarization-entangled Photon Pairs
Ivan V. Lopushenko (*University of Oulu*); *Vira R. Besaga* (*Friedrich Schiller University Jena*); *Oleksii Sieryi* (*University of Oulu*); *Alexander Bykov* (*University of Oulu*); *Frank Setzpfandt* (*Friedrich-Schiller-Universitat Jena*); *Igor Meglinski* (*Aston University*);

11:15 Modeling Reconfigurable Intelligent Surfaces with the Finite Element Method
Parmenion Mavrikakis (*Ecole Polytechnique Federale de Lausanne*); *K. Ntokos* (*Aristotle University of Thessaloniki*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *Traianos V. Yioultsis* (*Aristotle University of Thessaloniki*);

11:30 Multi-band Polarization-independent Fractal Absorbers for Electromagnetic Stealth Applications
Mohammad Nasrat Zaqumi (*Macquarie University*); *Fatima Ghulam Kakepoto* (*Zhejiang Normal University*); *Umair Rafique* (*University of Oulu*); *Syed Muzahir Abbas* (*Macquarie University Sydney*); *Subhas Chandra Mukhopadhyay* (*Macquarie University*);

11:45 Excitation of Electromagnetic Oscillations in Quasioptical Open Resonators by Internal Sources
Kostyantyn A. Lukin (*Usikov Institute for Radiophysics and Electronics*);

12:00 Experimental Validation of the Spectral Projection Model for Electromagnetic Scattering and Radiation
Vidyasagar Sivalingam (*University of Massachusetts Dartmouth*); *Dayalan Prajith Kasilingam* (*University of Massachusetts Dartmouth*);

Session 3A10
Rough Surface Scattering: Theory and Application

Wednesday AM, May 7, 2025

Room 10 - Capital Suite 7

Organized by Joel T. Johnson, Antonio Iodice

Chaired by Joel T. Johnson, Antonio Iodice

8:30 On the Prediction of Scattering from Objects in the Presence of a Rough Surface
Joel T. Johnson (*The Ohio State University*); *Joseph Gedney* (*The Ohio State University*); *Robert J. Burkholder* (*The Ohio State University*);

8:45 Closed-form Approximation of the Kirchhoff Integral for a General Class of Rough Surface Autocorrelation Functions
Antonio Iodice (*University of Naples "Federico II"*);

9:00 Multiscale Roughness Effect on Scattering from Snow-covered Sea Ice
Ying Yang (*Nanjing University*); *Kun-Shan Chen* (*Nanjing University*);

9:15 Remote Sensing Scattering of Offshore Oil Spills with Modified Freeman Polarization Decomposition
Ya-Rong Zou (*National Satellite Marine Application Center*); *Wen-Tao An* (*National Satellite Marine Application Center*);

10:00 **Coffee Break**

10:30 Method of Moments-based Scattering from Rough Surfaces Using High-performance Parallel Implementations for Heterogeneous Computing Architectures
Pasquale Imperatore (*Institute for Electromagnetic Sensing of the Environment (IREA), National Research Council (CNR)*); *F. Gregoretti* (*Institute for High Performance Computing and Networking (ICAR), National Research Council (CNR)*); *Nicolas Pinel* (*University of Nantes*); *M. Nisar* (*Institute for Electromagnetic Sensing of the Environment (IREA), National Research Council (CNR)*); *Christophe Bourlier* (*Nantes Université, CNRS, IETR (Institut d'Électronique et des Technologies numéRiques)*); *D. Romano* (*Institute for High Performance Computing and Networking (ICAR), National Research Council (CNR)*); *Antonio Iodice* (*University of Naples "Federico II"*);

10:45 Interferometry Using Spaceborne GNSS-R and SoOp Systems: A Feasibility Study
Joel T. Johnson (*The Ohio State University*); *Mohammad Al-Khaldi* (*The Ohio State University*); *Steven K. Chan* (*NASA Jet Propulsion Laboratory, California Institute of Technology*); *George Hajj* (*NASA Jet Propulsion Laboratory, California Institute of Technology*);

11:00 Performance Analysis of Inverse Equivalent Source Method with Different Types of Incident Fields
Ahmet Sefer (*King Abdullah University of Science and Technology (KAUST)*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST)*);

11:15 Roughness Scale Effects on Doppler Properties of Ocean Radar Scattering
Jianing Shao (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yanlei Du* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yawei Zhao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*);

11:30 Analytical Method of Scattered Electromagnetic Field by a Buried Sphere in a Stratified Formation
Kai Zhao (*Jilin University*); *Decheng Hong* (*Jilin University*);

Session 3A0
Poster Session 4

Wednesday AM, May 7, 2025
13:30 PM - 18:30 PM
Room Poster Area

1 Electronically Tunable Neural Network Based on Magnetoelectric Structure
Vasilii A. Misilin (*Yaroslav-the-Wise Novgorod State University*); *Viktor A. Kiselev* (*Yaroslav-the-Wise Novgorod State University*); *Alena R. Petrova* (*Novgorod State University*); *Marina A. Khavanova* (*Novgorod State University*); *Roman V. Petrov* (*Novgorod State University*); *Aleksandr O. Nikitin* (*Yaroslav-the-Wise Novgorod State University*);

2 Analysis of Electromagnetic Interference Coupling Paths with Electromagnetic Topology
Junhao Shi (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Jun Bo Li* (*Southwest University of Science and Technology*); *Renjun Pan* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*);

3 A Study of Singularity and Near-singularity Problems in Volume Integral Equation Discretized by Curvilinear Tetrahedrons
Tao Leng (*Southwest University of Science and Technology*); *Yuan Zhang* (*University of Electronic Science and Technology of China*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Peng Chen* (*Southwest University of Science and Technology*); *Yuan-Hui Huang* (*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*);

4 Mechanisms of Electrostatic Interactions between Two Charged Dielectric Spheres inside a Polarizable Medium: An Effective-dipole Analysis
Yanyu Duan (*The Hong Kong University of Science and Technology (Guangzhou)*); *Zecheng Gan* (*The Hong Kong University of Science and Technology (Guangzhou)*); *Ho-Kei Chan* (*Harbin Institute of Technology (Shenzhen)*);

5 Lithium Niobate-based Metasurface for Telecom Applications
Annabella La Grasta (*Polytechnic University of Bari*); *Teresa Natale* (*Polytechnic University of Bari*); *Walter Fuscaldo* (*Consiglio Nazionale delle Ricerche Istituto per la Microelettronica e Microsistemi*); *Dimitrios C. Zografopoulos* (*Consiglio Nazionale delle Ricerche Istituto per la Microelettronica e Microsistemi*); *Francesco Dell'Olio* (*Polytechnic University of Bari*);

6 Comparison of the Waveguide Mechanism of Radio Wave Propagation over Tropical and Arctic Seas
Shu Ya Zan (*Henan University of Science and Technology*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

7 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*);

8 Radiation Effects of High-energy Heavy Ions on Carbon Nanotube Field-effect Transistors
Suhan Tang (*University of Electronic Science and Technology of China*); *Yu Zhang* (*University of Electronic Science and Technology of China*); *Chuan Wang* (*University of Electronic Science and Technology of China*); *Feiliang Chen* (*University of Electronic Science and Technology of China*); *Mo Li* (*University of Electronic Science and Technology of China*); *Jian Zhang* (*University of Electronic Science and Technology of China*);

9 Generation of Microwave Kerr-like Dissipative Solitons Based on Cyclotron-resonant Interaction
L. A. Yurovskiy (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Irina V. Zotova* (*Institute of Applied Physics, RAS*); *Naum S. Ginzburg* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

10 Prediction of Subway Track Vibration Reduction Performance Based on Spatio-temporal Correlation Characteristics of Ultraweak FBG Arrays
Jingwei Sun (*Wuhan University of Technology*); *Fang Liu* (*Wuhan University of Technology*); *Linxiao Guo* (*Wuhan University of Technology*); *Yan Yang* (*Wuhan University of Technology*); *Fangpeng Qiu* (*Fiberhome Telecommunication Technologies Co., Ltd.*);

11 Tri-band Imaging Thermal Photonic Metasurface for Information Encryption
Qixiang Chen (*Southeast University*); *Dongliang Zhao* (*Southeast University*);

12 Compact Er/Yb Generator of Ultrashort Pulses with a Variable Duration
Andrei D. Zverev (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *V. A. Kamynin* (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *V. B. Tsvetkov* (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *B. I. Denker* (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *S. E. Sverchkov* (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *Vladimir V. Velmiskin* (*Prokhorov General Physics Institute of the Russian Academy of Sciences*); *Yuriy G. Gladush* (*Skolkovo Institute of Science and Technology*); *Dmitry V. Krasnikov* (*Skolkovo Institute of Science and Technology*); *Albert G. Nasibulin* (*Skolkovo Institute of Science and Technology*); *Mikhail E. Belkin* (*MIREA — Russian Technological University*);

13 RIN Effect on Phase Noise Spectra of Lasers in Heterodyne Measurements
Alexander Valerievich Kozlov (*Russian Metrological Institute of Technical Physics and Radio Engineering*); *K. A. Zagorulko* (*Russian Metrological Institute of Technical Physics and Radio Engineering*); *N. P. Khatyrev* (*Russian Metrological Institute of Technical Physics and Radio Engineering*);

14 Method Development and Optimization for Cyanide Detection in Aquatic Environments Using the Mintek Lab Cynoprobe
Deogratius T. Maiga (*Council for Mineral Technology (MINTEK)*); *Terence T. Phadi* (*Council for Mineral Technology (MINTEK)*); *Mandla B. Chabalala* (*Council for Mineral Technology (MINTEK)*); *Titus Alfred Makudali Msagati* (*University of South Africa*); *Linda L. Sibali* (*University of South Africa*);

15 Polarization Orbital Angular Momentum of Vector Beams
Vladislav Dmitrievich Zaitsev (*Samara National Research University*); *Sergey S. Stafeev* (*NRC Kurchatov Institute*); *Aleksey A. Kovalev* (*NRC Kurchatov Institute*); *Victor V. Kotlyar* (*NRC Kurchatov Institute*);

16 Erbium-doped Fiber Amplifier (EDFA)-assisted Laser Heterodyne Radiometer (LHR) Working in the Shot-noise Dominated Regime
Jun Lee (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences*);

17 Microwave Irradiation of Cellulose-containing Materials
Tatiana Olegovna Krapivnitckaia (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Svetlana Andreevna Ananicheva* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alisa B. Alyeva* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikita V. Chekmarev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander A. Vikharev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

18 W-band Planar Cherenkov Maser with 2D-periodic Slow-wave Structure Based on the ELMI Accelerator: Modeling and Results of the First Experiments
Andrey V. Arzhannikov (*Budker Institute of Nuclear Physics RAS*); *Ekaterina D. Egorova* (*Institute of Applied Physics, RAS*); *Naum Samuilovich Ginzburg* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Petr V. Kalinin* (*Budker Institute of Nuclear Physics RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Evgeny S. Sandalov* (*Budker Institute of Nuclear Physics RAS*); *Denis A. Samtsov* (*Budker Institute of Nuclear Physics RAS*); *Alexander Sergeevich Sergeev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Stanislav L. Sinitsky* (*Budker Institute of Nuclear Physics Russian Academy of Sciences*); *Vasily D. Stepanov* (*Budker Institute of Nuclear Physics RAS*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*);

19 Analysis of Leader Election Algorithms in the Context of Cooperative UAV Mission Simulation
Dmitrijs Rjazanovs (*Riga Technical University*); *Tianhua Chen* (*Riga Technical University*); *Dmitrijs Čulkovs* (*Riga Technical University*); *Armands Lahs* (*Riga Technical University*); *Jurijs Titovičs* (*Riga Technical University*); *Aleksejs Kopats* (*Riga Technical University*); *Toms Kārkliņš* (*Riga Technical University*); *Elans Grabs* (*Riga Technical University*); *Ernests Pētersons* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

20 A Chipless RFID Sensor Based on U-shaped Resonator with Resistive Switch for Strain Detection
Xiao Shuai Li (*Tongji University*); *Mei Song Tong* (*Tongji University*);

21 Compact Wideband Circularly Polarized Magneto-electric Dipole Antenna Array
Yurong Sun (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*); *Xiao Gao* (*Southwest Jiaotong University*);

22 Energy Consumption of Robotic Arm with the Local Reduction Method
Halima Ibrahim Kure (*University of East London*); *Jishna Retnakumari* (*University of East London*); *Lucian Nita* (*University of East London*); *Saeed Sharif* (*University of East London*); *Hamed Balogun* (*Edge Hill University*); *Augustine O. Nwajana* (*University of Greenwich*);

23 The Design of Ku-band Anti-UAV Radar Array Antenna
Tong Su (*Southwest University of Science and Technology*); *Yan Chen* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Chao Zou* (*Southwest University of Science and Technology*); *Tong Li Yuan* (*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*);

24 Broadband Dual-band Omnidirectional Vertically Polarized Microstrip Antenna
Liping Wang (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Jia Wan* (*Southwest University of Science and Technology*); *Haonan Huang* (*Southwest University of Science and Technology*); *Yu-Rui Jia* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

25 A Low Profile Ultra-wideband Discone Antenna
Meiying Li (*Southwest University of Science and Technology*); *Yuan Zhang* (*University of Electronic Science and Technology of China*); *Haonan Huang* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Ke Tian* (*Sichuan Shanghang Intelligent Technology Co., Ltd.*); *Zhong-Bin Cai* (*Sichuan Zhongjiu Defense Technology Co., Ltd.*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

26 Analysis and Comparison of Promising Sites for the Placement of Sub-THz Telescopes
Vyacheslav F. Vdovin (*Institute of Applied Physics of the RAS*); *D. B. Danilevsky* (*Radiooservatory RT-70*); *Maria V. Efimova* (*Institute of Applied Physics of the RAS*); *Ilya V. Lesnov* (*Institute of Applied Physics of the RAS*); *A. S. Marukhno* (*Institute of Applied Physics of the RAS*); *N. A. Marukhno* (*Institute of Applied Physics of the RAS*); *Kirill V. Mineev* (*Institute of Applied Physics of the RAS*); *Gennady Shanin* (*Radiooservatory RT-70*); *H. Sultanov* (*Radiooservatory RT-70*);

27 Construction of an Antenna Element with a Microstrip Power Supply for the Emission of UWB Signals
Vitaliy Vladislavovich Trubetskoy (*Moscow Technical University of Communications and Informatics (MTUCI)*); *A. M. Ignatov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *R. G. Riazantsev* (*National Research University "Moscow Power Engineering Institute"*);

28 Research on Wideband Filter Base Station Antenna
Zhilin He (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*);

29 Design and Optimization of High Q Dielectric Resonators for Radio Frequency Filtering Applications
Ildar Yusupov (*ITMO University*); *Alyona Maksimenko* (*ITMO University*); *Srijeeta Barua* (*ITMO University*); *Dmitry Dobrykh* (*Tel Aviv University*); *Mikhail Udrov* (*ITMO University*);

30 Marine Mucus Detection Using Convolutional Neural Network and Multispectral Remote Sensing Imagery
Ben Zhang (*Ocean University of China*); *Qing Xu* (*Ocean University of China*);

31 Research on Infrared Small Target Detection Method Based on the Extraction and Combination of Deep and Shallow Features
Qiuyue Xu (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Yue Pan* (*Southwest University of Science and Technology*); *Qicao Chen* (*Southwest University of Science and Technology*);

32 Physics Inspired Neural Network for Cortical Electromagnetic Activity of Neonates
Aleksandar Jeremic (*McMaster University*); *Abdullah Biran* (*King Faisal University*); *Aljazi A. Al-Maghlouth* (*King Saud bin Abdulaziz University for Health Sciences KSAU-HS*);

33 Design of a High-power Medium-frequency Power Amplifier Based on Envelope Elimination and Restoration (EER) Technology
Yonghao Lu (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Xing Long Liu* (*Southwest University of Science and Technology*); *Qilong Yu* (*Southwest University of Science and Technology*); *Yining Qing* (*Southwest University of Science and Technology*); *Junfeng Luo* (*Southwest University of Science and Technology*); *Li Wu* (*Southwest University of Science and Technology*);

34 Millimeter-wave Channel Crosstalk Reduction Technique Enabled by Field Confined Metawaveguide Toward Inter-chip Data Communication
Wenliang 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*); *Yanan Bao* (*Jincheng Research Institute of Opto-mechatronics Industry*); *Gang Wu* (*Guangzhou University*);

35 Fault Diagnosis Method of Half-bridge Switching Power Supply Based on Support Vector Machine (SVM)
Peng Chen (*Southwest University of Science and Technology*); *Li-Juan Deng* (*Southwest University of Science and Technology*); *Pengfei Yu* (*Laboratory of Science and Technology on Reliability Physics and Application of Electronic Component*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Tao Leng* (*Southwest University of Science and Technology*); *Yuan-Hui Huang* (*Southwest University of Science and Technology*); *Jun-Liang Wan* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*);

36 Accurate Solutions of Time-domain Electric Field Integral Equations for Transient Electromagnetic Analysis of Penetrable Objects
Zhi Dian Yuan (*Tongji University*); *Wen Tao Yuan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

37 A Parametric Optimization Algorithm Based on the U-Net for Two-dimensional Electromagnetic Reconstruction
Hao Ran Yang (*Shanghai Normal University*); *Chunxia Yang* (*Shanghai Normal University*); *Mei Song Tong* (*Tongji University*);

38 The Utility Model Relates to a Piecewise Curvature Compensated Bandgap Reference Circuit
Haihong Qi (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Xiaolong Chen* (*Southwest Jiaotong University*);

39 The Voltage Gain Design for UAV Wireless Charging Based on Z-source Inverter
Tianqi Zhao (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Guozheng Zhang* (*Southwest University of Science and Technology*); *Huanfa Yi* (*Southwest University of Science and Technology*); *Huanjian Li* (*Southwest University of Science and Technology*); *Qianjiang Zhang* (*Southwest University of Science and Technology*);

40 A Microwave Low-power and Low-phase-noise CMOS VCO with Integrated Low Dropout Regulator and Bandgap Reference
Xuanbin Jiang (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Guangyu Zhong* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Zhihong Lin* (*Guangzhou University*);

Session 3P1
Novel Meta-devices and Their Applications 1

Wednesday PM, May 7, 2025

Room 1 - CH B (A)

Organized by Din Ping Tsai, Pin Chieh Wu

Chaired by Din Ping Tsai, Pin Chieh Wu

13:30 Invited Metasurfaces: From Optical Elements to Integrated Devices
Tao Li (*Nanjing University*);

13:50 Invited Dynamic Beam Steering and Switching with Active Metasurfaces at Mid-IR Frequencies
Min Seok Jang (*Korea Advanced Institute of Science and Technology*);

14:10 Invited Monocular Metasurface Camera for Single-shot Multi-dimensional Imaging
Yuanmu Yang (*Tsinghua University*);

14:30 Invited Laser Scanning Microscopy (x-scan) to Study Nonlinear Nanophotonics
Shi-Wei Chu (*National Taiwan University*);

14:50 Invited Vector Vortex Lasing from Perovskite Metasurface Based on Quasi-bound States in the Continuum
Chi-Ching Liu (*Academia Sinica*); *Yun-Chorng Chang* (*Academia Sinica*);

15:10 Invited Custom Software-driven Design of a Large-diameter, Achromatic Metalens for Thermal Imaging and AI Applications
Chih-Ming Wang (*National Central University*); *W.-L. Hsu* (*National Central University*); *Y.-C. Chen* (*National Central University*); *Q.-C. Zeng* (*National Central University*); *C.-Y. Yu* (*National Central University*); *P.-D. Chen* (*National Central University*); *B.-J. Chen* (*National Central University*); *N. Y.-C. Liu* (*University Brunei Darussalam*);

15:30 **Coffee Break**

16:00 Invited Plasmonic Raman Tags for Selective Photothermal Eradication of GBM Cells
Yung-Ching Chang (*National Cheng Kung University*); *Chan-Chuan Liu* (*National Cheng Kung University*); *Wan-Ping Chan* (*National Cheng Kung University*); *Yu-Long Lin* (*National Cheng Kung University*); *Chun-I Sze* (*National Cheng Kung University*); *Shiuan-Yeh Chen* (*National Cheng Kung University*);

16:20 Invited Exotic Optical Forces and Torques in Optical Tweezers
Yuzhi Shi (*Tongji University (TJU)*);

16:40 Invited Deep-ultraviolet Polaritonic Metadevices for Molecular Sensing
Bo-Ray Lee (*National Yang Ming Chiao Tung University*); *Mao Feng Chiang* (*National Yang Ming Chiao Tung University*); *Kuan-Heng Chen* (*National Yang Ming Chiao Tung University*); *Jia Hua Lee* (*National Yang Ming Chiao Tung University*); *Po Hsiang Hsu* (*National Yang Ming Chiao Tung University*); *Der-Hsien Lien* (*National Yang Ming Chiao Tung University*); *Yu-Chuan Lin* (*National Yang Ming Chiao Tung University*); *Ray-Hua Horng* (*National Yang Ming Chiao Tung University*); *Yuri S. Kivshar* (*Australian National University*); *MingLun Tseng* (*National Yang Ming Chiao Tung University*);

17:00 Invited Tailoring Optical Field Confinement in Surface Plasmon Polariton Lasers through Dielectric and Metal Layer Optimization
Timothy Chou (*National Cheng Kung University*); *Wing-Sing Cheung* (*National Cheng Kung University*);

17:20 Invited High-Q Resonances in Nonlocal Plasmonic Metasurfaces
Yao Liang (*City University of Hong Kong*); *Yuri S. Kivshar* (*Australian National University*); *Din Ping Tsai* (*City University of Hong Kong*);

17:40 Versatile Wavefront Control with Multi-resonant High-Q Metasurfaces
Hsiu-Ping Su (*National Cheng kung University*); *Shih-Hsiu Huang* (*National Cheng Kung University*); *Chao-Yun Chen* (*National Cheng Kung University*); *Yu-Chun Lin* (*National Cheng Kung University*); *Zijin Yang* (*Tsinghua University*); *Yuzhi Shi* (*Tongji University (TJU)*); *Qinghua Song* (*Tsinghua Shenzhen International Graduate School*); *Pin Chieh Wu* (*National Cheng Kung University*);

Session 3P2a
Resonant Metasurfaces at THz, Visible, and Near-infrared

Wednesday PM, May 7, 2025

Room 2 - CH B (C&B)

Organized by Francesco Dell'Olio

Chaired by Francesco Dell'Olio

13:30 Invited — Bound States in the Continuum in Resonant Nanostructures for Advanced Biomedical Applications
Silvia Romano (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Bruno Miranda* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Aida Seifalinezhad* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Annalisa Lamberti* (*University of Naples Federico II*); *Elisabetta Primiceri* (*Institute of Nanotechnology, National Research Council*); *Adam M. Schwartzberg* (*Lawrence Berkeley National Laboratory*); *Vito Mocella* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Ivo Rendina* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*); *Gianluigi Zito* (*Institute of Applied Sciences & Intelligent Systems, National Research Council, CNR-ISASI*);

13:50 Invited — Laser-induced Selective Crystallization in GST Nanostructures Empowered by Quasi-bound States in the Continuum
Marco Gandolfi (*Università degli Studi di Brescia*); *Maria Eugenia Serrano Flores* (*Università degli Studi di Brescia*); *Jesse Frantz* (*US Naval Research Laboratory*); *Jason Myers* (*US Naval Research Laboratory*); *Robel Bekele* (*US Naval Research Laboratory*); *Jas Sanghera* (*US Naval Research Laboratory*); *Anthony Clabeau* (*University Research Foundation*); *Natalia M. Litchinitser* (*Duke University*); *Maria Antonietta Vincenti* (*University of Brescia*);

14:10 Invited — Biosensors Based on Plasmonic Metasurfaces for Biomedical Applications
Francesco Arcadio (*University of Campania L. Vanvitelli*); *Luigi Zeni* (*University of Campania L. Vanvitelli*); *Nunzio Cennamo* (*University of Campania Luigi Vanvitelli*);

14:30 Spatially-modulated Metasurface Tiles for Electromagnetic Shielding at Targeted Frequency
Abijith Kaithatharayil Reju (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

14:45 Metamaterial Enhanced Metal Halide Perovskite's Absorption in Terahertz Regime
Gopika Hari K (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

15:00 Development of High-quality Factor Terahertz Metasurface Biosensors
Jerin K. John (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

15:30 **Coffee Break**

Session 3P2b
Multifunctional and Reconfigurable Terahertz and Infrared Metasurfaces

Wednesday PM, May 7, 2025

Room 2 - CH B (C&B)

Organized by Jinhui Shi, Chunmei Ouyang

Chaired by Jinhui Shi

16:00 Invited — Polarization Control in Chiral Metasurfaces with Symmetry and Resonances
Kirill Koshelev (*Australian National University*);

16:20 Towards 6G: Reconfigurable Intelligent Surfaces with Graphene-enabled Phase Modulation for Terahertz Applications
Fatemeh Barahimi (*Tarbiat Modares University*); *Maryam Hesari-Shermeh* (*Tarbiat Modares University*); *Bijan Abbasi-Arand* (*Tarbiat Modarres University*);

16:35 Graphene Assisted Tunable Electromagnetically Induced Transparency Metasurface for Spatial Modulation Applications in THz Regime
L. P. Abhishek (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

16:50 Tri-layer Broadband Reflective Metasurface for Simultaneous Linear and Circular Cross-polarization Conversion in Terahertz Regime
Adithya Danaj (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

17:05 Research on High Dynamic and Broadband Electromagnetic Modulation Characteristics Based on Plasma and Flexible Hydrogel Materials
Wenchong Ouyang (*Xidian University*); *Zhengwei Wu* (*University of Science and Technology of China*);

17:20 Invited — Design, Fabrication, and Optical Characterization of GST-based Metasurfaces for Telecommunication Bands
Mikhail V. Rybin (*ITMO University*);

17:40 Invited — Chiral-selective Coherent Absorption Based on Bound States in the Continuum
Jinhui Shi (*Harbin Engineering University*); *Juntian Peng* (*Harbin Engineering University*); *Wenjia Li* (*Harbin Engineering University*); *Bo Lv* (*Harbin Engineering University*); *Chunying Guan* (*Harbin Engineering University*);

18:00 Metafilms for Visible and Infrared Stealth
Invited
Cong Quan (*National University of Defense Technology*); *Song Gu* (*National University of Defense Technology*); *Tao Xu* (*National University of Defense Technology*); *Shuo Li* (*National University of Defense Technology*); *Ping Liu* (*National University of Defense Technology*); *Zhihong Zhu* (*National University of Defense Technology*); *Jianfa Zhang* (*National University of Defense Technology*);

Session 3P3a
Advances in Time-Varying Metamaterials and Metasurfaces

Wednesday PM, May 7, 2025

Room 3 - CH B (D)

Organized by Xuchen Wang, Fu Liu

Chaired by Huanan Li, Mohammad Sajjad Mirmoosa

13:30 Towards Feedback-based Time-varying Circuits, Meta-
Keynote surfaces, and Metamaterials
Sergei A. Tretyakov (*Aalto University*);

14:00 Recent Advances in Electromagnetic Time Interfaces
Invited
Mohammad Sajjad Mirmoosa (*University of Eastern Finland*);

14:20 Towards Practical Realization of Positive/Negative
Invited Time-varying Element
Silvio Hrabar (*University of Zagreb*);

14:40 Towards Non-Foster Photonic Time Crystals
Zeyuan Li (*Harbin Engineering University*); *Mohammad Sajjad Mirmoosa* (*University of Eastern Finland*); *Viktar S. Asadchy* (*Aalto University*); *Xuchen Wang* (*Harbin Engineering University*);

14:55 Dispersive Anisotropic Photonic Time Crystals for Stationary Charge Radiation
Sihao Zhang (*Nankai University*); *Huan He* (*Nankai University*); *Junhua Dong* (*Nankai University*); *Huanan Li* (*Nankai University*); *Jingjun Xu* (*Nankai University*); *Boris Shapiro* (*Technion-Israel Institute of Technology*);

15:30 **Coffee Break**

16:00 Time-modulated Wire Media with High Precision Resolution
Dmytro Vovchuk (*Riga Technical University*); *Mykola Khobzei* (*Information Security Yuriy Fedkovych Chernivtsi National University*); *Vladyslav Tkach* (*Yuriy Fedkovych Chernivtsi National University*); *Anna Mikhailovskaya* (*Tel Aviv University*); *Serhii Haliuk* (*Yuriy Fedkovych Chernivtsi National University*); *Andrii Samila* (*Yuriy Fedkovych Chernivtsi National University*); *Jurgis Porins* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Pavel Ginzburg* (*Tel Aviv University*);

16:15 Rotation Induced Unusual Optical Force and Torque on Small Particles
Hengzhi Li (*City University of Hong Kong*); *Wanyue Xiao* (*City University of Hong Kong*); *Tong Fu* (*City University of Hong Kong*); *Zheng Yang* (*City University of Hong Kong*); *Shubo Wang* (*City University of Hong Kong*);

16:30 Space-time Modulated Aperiodic Gratings
Runcheng Huang (*Harbin Engineering University*); *Xuchen Wang* (*Harbin Engineering University*);

Session 3P3b
Multi-antenna Systems for 6G and Beyond

Wednesday PM, May 7, 2025

Room 3 - CH B (D)

Organized by Mario Marques da Silva

Chaired by Mario Marques da Silva

16:50 On the Performance of Large Intelligence Surfaces with LDPC Codes
Mario Marques da Silva (*Universidade Autonoma de Lisboa*); *Gelson Pembele* (*Universidade Autónoma de Lisboa*); *Rui Dinis* (*Universidade Nova de Lisboa*); *Americo Correia* (*Instituto de Telecomunicacoes*);

17:05 Compact Wideband High-gain Quad-port Octagonal MIMO Antenna with Fractal Elements for mm-Wave 6G Applications
Poonam Tiwari (*Banasthali Vidyapith*); *Manoj Kumar Gaur* (*Banasthali Vidyapith*); *Jayant Kumar Rai* (*ABV-Indian Institute of Information Technology and Management*); *Meenu Kaushik* (*Banasthali Vidyapith*); *Anshuman Shastri* (*Banasthali Vidyapith*); *Vishant Gahlaut* (*Banasthali Vidyapith*);

17:20 Design of a Compact Low Loss 2-way Millimetre Wave Power Divider for Future Communication
Muhammad Asfar Saeed (*University of Greenwich*); *Augustine O. Nwajana* (*University of Greenwich*);

17:35 Mixer Design with Enhanced Isolation for Improved 5G Performance in the Ka-band
Yavuz Selim Saglam (*Yeditepe University*); *I. Sisman* (*Yeditepe University*); *Tugba Haykir Ergin* (*Yeditepe University*);

17:50 Enhanced Wideband Wide-angle Scanning for Large-scale Irregular Arrays through Advanced Phase Control
Yankai Ma (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*);

18:05 Design and Analysis of a Compact Dual-band Slotted Rectangular Antenna for Scalp-implantable Biotelemetry Applications
Asim Quddus (*University of Chakwal*); *Syed Rizwan Hassan* (*NFC Institute of Engineering and Fertilizer Research*); *Mohsin Tarar* (*University of Chakwal*);

Session 3P4
Advances in Topological Photonics

Wednesday PM, May 7, 2025

Room 4 - Capital Suite 1

Organized by Yihao Yang, Haoran Xue

Chaired by Haoran Xue

13:30 Invited Three-dimensional Photonic Chern Insulator with Arbitrary Chern Vectors
Xiang Xi (*Southern University of Science and Technology*); *Zhen Gao* (*Southern University of Science and Technology*);

13:50 Change in the Topological Charge of a Superposition of Optical Vortices in the Form of a Geometric Progression under the Influence of Turbulence
Elena Sergeevna Kozlova (*Samara National Research University*); *Dmitry O. Shilov* (*Samara National Research University*); *Victor V. Kotlyar* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS*);

14:05 Invited Point-gap Topology in Non-Hermitian Hyperbolic Lattices
Mengying Hu (*Fudan University*); *Jing Lin* (*Fudan University*); *Kun Ding* (*Fudan University*);

14:25 Invited Singular Dispersion Equation: Breaking Diffraction Limit in Dielectrics
Renmin Ma (*Peking University*);

14:45 Invited Photonic Axion Insulator
Baile Zhang (*Nanyang Technological University*);

15:05 Photonic Parity-time Symmetric Bimorphic Topological Insulator
Tuo Wan (*Zhejiang University*); *Zhaoju Yang* (*Zhejiang University*);

15:30 **Coffee Break**

16:00 Approaching the Adiabatic Infimum of Topological Pumps on Thin-film Lithium Niobate Waveguides
Shengjie Wu (*Nanjing University*); *Wange Song* (*Nanjing University*); *Jiacheng Sun* (*Nanjing University*); *Jian Li* (*Nanjing University*); *Zhiyuan Lin* (*Nanjing University*); *Xuanyu Liu* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Tao Li* (*Nanjing University*);

16:15 Invited Topological Photonic Crystal Fibre
Bofeng Zhu (*Nanyang Technological University*); *Qi Jie Wang* (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*);

16:35 Invited Non-Hermitian Dirac Cones with Valley-dependent Lifetimes
Xinrong Xie (*Zhejiang University*); *Fei Gao* (*Zhejiang University*); *Haoran Xue* (*The Chinese University of Hong Kong*);

16:55 Energy-efficient Feeding and Radiation Schemes for Topological Electromagnetic Devices
Yuan-Zhen Li (*Zhejiang University*); *Zijian Zhang* (*Zhejiang University*); *Fei Gao* (*Zhejiang University*);

17:10 Photonic Floquet Skin-topological Effect
Yeyang Sun (*Zhejiang University*); *Xiangrui Hou* (*Zhejiang University*); *Tuo Wan* (*Zhejiang University*); *Fangyu Wang* (*Zhejiang University*); *Shiyao Zhu* (*Zhejiang University*); *Zhichao Ruan* (*Zhejiang University*); *Zhaoju Yang* (*Zhejiang University*);

17:25 Valley Photonic Topological Insulator for Fluorescence Endoscopy
Navid Sadat Yamin (*Bangladesh University of Engineering and Technology (BUET)*); *Sajid Muhaimin Choudhury* (*Bangladesh University of Engineering and Technology (BUET)*);

Session 3P5a
Advances in the Physical Verification of Integrated Circuits

Wednesday PM, May 7, 2025

Room 5 - Capital Suite 2

Organized by Wenjian Yu, Ibrahim (Abe) M. Elfadel

Chaired by Ibrahim (Abe) M. Elfadel

13:30 A 2-D Floating Random Walk Solver for Capacitance Extraction of Interconnects in Advanced Process Nodes
Jiechen Huang (*Tsinghua University*); *Wenjian Yu* (*Tsinghua University*);

13:45 Accelerating the Computation of Multilayered Media Green's Functions for RFIC Electromagnetic Simulation Using Deep Complex Networks
Hao Zhou (*Hangzhou Dianzi University*); *Peng Zhao* (*Hangzhou Dianzi University*); *Gaofeng Wang* (*Hangzhou Dianzi University*); *Yuanao Zhong* (*Faraday Dynamics, Ltd*);

14:00 Fast Verification of RF Devices Based on the Physical-informed Deep Image Prior
Bi-Yi Wu (*Beijing Institute of Technology*); *Xin-Qing Sheng* (*Beijing Institute of Technology*);

14:15 SFormer: A Transformer-based ***S***-parameter Extractor for Fast Signal Integrity Analysis
Qin Li (*Southern University of Science and Technology*); *Yanliang Sha* (*Southern University of Science and Technology*); *Hao Zhou* (*Southern University of Science and Technology*); *Quan Chen* (*Southern University of Science and Technology*);

14:30 Decentralized Balanced Truncation Based on Relative Gain Array for Model Order Reduction of Second-order Systems
Xunsheng Tan (*Shanghai Jiao Tong University*); *Xinjie Zhang* (*Shanghai Jiao Tong University*); *Xiaoman Yang* (*Shanghai Jiao Tong University*); *Wenjie Zhu* (*Shanghai Jiao Tong University*); *Tianshu Hou* (*Shanghai Jiao Tong University*); *Hai-Bao Chen* (*Shanghai Jiao Tong University*);

14:45 Fast Extraction of Chip Thermal Resistances for Advanced Packaging Design
Boyuan Yu (*Tsinghua University*); *Zhixiao Jiang* (*Tsinghua University*); *Zuochang Ye* (*Tsinghua University*); *Shunfeng Han* (*Beijing SmartChip Microelectronics Technology Co. Ltd*); *Bofu Li* (*Beijing SmartChip Microelectronics Technology Co. Ltd*); *Dejian Li* (*Beijing SmartChip Microelectronics Technology Co. Ltd*); *Wenjian Yu* (*Tsinghua University*);

15:00 Integrated Magnetofluiddynamic Systems for Thermal Management of Hot Chips
Uttam Ghoshal (*Power Chips 3D Inc.*);

15:30 **Coffee Break**

Session 3P5b
Intelligent Photonics

Wednesday PM, May 7, 2025

Room 5 - Capital Suite 2

Organized by Mikhail Y. Shalaginov, Lian Shen

Chaired by Mikhail Y. Shalaginov

16:00 Invited Manipulation of the NV Center Nuclear Spin Using Invisible Transition
Svyatoslav M. Drofa (*Russian Quantum Center*); *Vladimir V. Soshenko* (*P.N. Lebedev Institute, RAS*); *Ivan S. Cojocaru* (*Russian Quantum Center*); *Stepan V. Bolshedvorskii* (*P.N. Lebedev Physical Institute RAS*); *Polina G. Vilyuzhanina* (*Russian Quantum Center*); *Eugene A. Primak* (*Russian Quantum Center*); *Aleksandr M. Kozodaev* (*National Research Nuclear University "MEPhI"*); *A. Chernyavskiy* (*Russian Quantum Center*); *Victor G. Vins* (*LLC Velman*); *Vadim N. Sorokin* (*P.N. Lebedev Physical Institute RAS*); *A. N. Smolyaninov* (*LLC Sensor Spin Technologies*); *Sergey Ya. Kilin* (*B.I. Stepanov Institute of Physics NASB*); *Aleksey V. Akimov* (*Russian Quantum Center*);

16:20 Invited Coherent Computing, Quantum Light Generation and Other Applications of Integrated Microring Resonators
Alexander K. Vorobyev (*Russian Quantum Center*); *Andrey Danilin* (*Russian Quantum Center*); *Timur R. Yunusov* (*Russian Quantum Center*); *Aleksei P. Dushanin* (*Russian Quantum Center*); *Nadezhda S. Tatarinova* (*Russian Quantum Center*); *Daria M. Sokol* (*Russian Quantum Center*); *Aleksei D. Ivanov* (*Russian Quantum Center*); *Nikita Yu. Dmitriev* (*Russian Quantum Center*); *Valery E. Lobanov* (*Russian Quantum Center*); *Artem E. Shitikov* (*Russian Quantum Center*); *Anatoly V. Masalov* (*Russian Quantum Center*); *Igor A. Bilenko* (*Russian Quantum Center*); *Dmitry A. Chermoshentsev* (*Russian Quantum Center*);

16:40 Invited Nanophotonics with Hexagonal Boron Nitride: Ultraviolet Transparency, High Refractive Index, and Giant Optical Anisotropy
Valentyn S. Volkov (*Emerging Technologies Research Center, XPANCEO*);

17:00 Keynote Diffractive Information Processing and Computational Imaging
Aydogan Ozcan (*University of California of Los Angeles*);

17:30 Invited AI for Meta-optics Design
Mikhail Y. Shalaginov (*Massachusetts Institute of Technology*);

17:50 Invited Manifold Learning Approaches for Knowledge Discovery and Design of Electromagnetic Nanostructures
Mohammadreza Zandehshahvar (*Georgia Institute of Technology*); *Mohammad Hadighehjavani* (*Georgia Institute of Technology*); *Mahmoodreza Marzban* (*Georgia Institute of Technology*); *Ali Adibi* (*Georgia Institute of Technology*);

18:10 Integrating Deep Learning and Topology Optimization
Invited for Next-generation Nanophotonic Devices
Sajid Muhaimin Choudhury (*Bangladesh University of Engineering and Technology (BUET)*); *Md. Ehsanul Karim* (*Bangladesh University of Engineering and Technology (BUET)*); *Md. Redwanul Karim* (*Bangladesh University of Engineering and Technology (BUET)*); *Navid Sadat Yamin* (*Bangladesh University of Engineering and Technology (BUET)*);

Session 3P6a
Structured Light Fields and Light Scattering

Wednesday PM, May 7, 2025

Room 6 - Capital Suite 3

Organized by Leonardo Andre Ambrosio

Chaired by Leonardo Andre Ambrosio

13:30 Analytical and Semi-analytical Structured Light Scat-
Keynote tering by Arbitrary Shaped Particles, Theories and Applications
Gerard Gouesbet (*University of Rouen*);

14:15 Angular Spectrum Decomposition, Localized Approxi-
Invited mation and Finite Series Methods in Evaluating the Beam Shape Coefficients of Structured Beams: A Comparison
Jianqi Shen (*University of Shanghai for Science and Technology*); *Siqi Tang* (*University of Shanghai for Science and Technology*);

14:00 Engineering the Longitudinal Intensity Profile of Optical Beams after an Arbitrary Number of 4$\boldsymbol{f}$-systems for Light Scattering Applications
Jhonas Olivati de Sarro (*University of Sao Paulo*); *Michel Zamboni-Rached* (*University of Campinas*); *Gerard Gouesbet* (*University of Rouen*); *Leonardo Andre Ambrosio* (*University of Sao Paulo*);

14:35 Local Wavevector in Optical Vortices
Sergey S. Stafeev (*NRC Kurchatov Institute*); *Victor V. Kotlyar* (*NRC Kurchatov Institute*);

14:50 Full-quantum Description of Erbium-doped Laser with Consideration of Ion Pairs Effects
Ivan V. Vovchenko (*Moscow Institute of Physics and Technology*); *E. S. Andrianov* (*Dukhov Research Institute of Automatics (VNIIA)*); *Alexander V. Dorofeenko* (*Institute for Theoretical and Applied Electromagnetics, RAS*); *A. M. Smirnov* (*Moscow Institute of Physics and Technology*); *Oleg V. Butov* (*Kotelnikov Institute of Radioengineering and Electronics of RAS*);

15:30 **Coffee Break**

Session 3P6b
Space-time Optics

Wednesday PM, May 7, 2025

Room 6 - Capital Suite 3

Organized by Qiwen Zhan

Chaired by Qiwen Zhan

16:00 Controlling the Spatiotemporal Optical Vortices Orien-
Invited tation with a Grating Pair in a Pulse Shaper
Jordan Adams (*University of Dayton*); *Andy Chong* (*Pusan National University*);

16:20 Pulse Velocity Control for Intense Lasers
Invited
Zhaoyang Li (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Hongxiang Lin* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); *Yuxin Leng* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*);

16:40 Spatiotemporal Topology in High-order Harmonic Generation
Zijian Lyu (*Peking University*); *Yiqi Fang* (*Peking University*); *Yunquan Liu* (*Peking University*);

16:55 Spatiotemporal Airy Rings (STAR) Wavepacket
Qian Cao (*University of Shanghai for Science and Technology*); *Xiaolin Su* (*University of Shanghai for Science and Technology*); *Andy Chong* (*Pusan National University*); *Qiwen Zhan* (*University of Shanghai for Science and Technology*);

17:10 Spin-orbit Quantum Frequency Conversion
Rafael Barros (*Tampere University*); *A. Junior* (*Universidade Federal Fluminense*); *A. Z. Khoury* (*Universidade Federal Fluminense*); *Robert Fickler* (*Tampere University*);

17:25 Toroidal, Skyrmionic, and Helical Light Pulses
Invited
Yijie Shen (*Nanyang Technological University*);

Session 3P7
Advances in Multi-Band IF, RF, and Microwave Active, Passive and Antenna Components for Aerospace, Defense and Space System Applications across L/S/C/X/Ku/K/Ka Bands

Wednesday PM, May 7, 2025

Room 7 - Capital Suite 4

Organized by Venkata Kishore Kothapudi, Lakshman Pappula

Chaired by Venkata Kishore Kothapudi

13:30 Arbitrary Power Division Ratio Multi-functional Filtering Power Divider With Reciprocal and Non-reciprocal Frequency Response
Girdhari Chaudhary (*Jeonbuk National University*); *Palaystint Thorng* (*Jeonbuk National University*); *Suyeon Kim* (*Jeonbuk National University*); *Phanam Pech* (*Jeonbuk National University*); *Yongchae Jeong* (*Jeonbuk National University*);

13:45 Unequal Termination Impedance 3 dB Branch Line Hybrid Coupler
Palaystint Thorng (*Jeonbuk National University*); *Suyeon Kim* (*Jeonbuk National University*); *Phanam Pech* (*Jeonbuk National University*); *Girdhari Chaudhary* (*Jeonbuk National University*); *Yongchae Jeong* (*Jeonbuk National University*);

14:00 An X/Ku-band Open Stub Loaded Shared Aperture Chebyshev Amplitude Distribution Antenna Array for Airborne Synthetic Aperture Radar Applications
Praveena Kati (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Venkata Kishore Kothapudi* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

14:15 Different Tapering Techniques for SLL Performance Using Inter-element Spacing 0.7$\boldsymbol{\lambda}$ X/Ku-band Series Feed Centre Fed Open-ended Shared Aperture Antenna Array Airborne SAR Applications
Praveena Kati (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Venkata Kishore Kothapudi* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

14:30 A Dual-band Electromagnetic Protection Antenna
Junyi Yang (*Southwest University of Science and Technology*); *Quanjie Xiong* (*Southwest University of Science and Technology*); *Jinqi Dong* (*Southwest University of Science and Technology*); *Shuyun Lin* (*Southwest University of Science and Technology*); *Qi Chen* (*Southwest University of Science and Technology*);

14:45 Memristor Based Reconfigurable Band-stop Filter for Aerospace Applications
Rida Gadhafi (*University of Dubai*); *Sabina Abdul Hadi* (*University of Dubai*); *Ahmad Ali* (*University of Dubai*); *Abdulla Almarzooqi* (*University of Dubai*); *Ammar Nayfeh* (*Khalifa University*); *Wathiq Mansoor* (*University of Dubai*);

15:00 An Ultra-wideband Electromagnetic Protection Antenna
Quanjie Xiong (*Southwest University of Science and Technology*); *Junyi Yang* (*Southwest University of Science and Technology*); *Qi Chen* (*Southwest University of Science and Technology*); *Jinqi Dong* (*Southwest University of Science and Technology*); *Shuyun Lin* (*Southwest University of Science and Technology*);

15:15 A Conceptual Design of Microwave Power Dividing Amplifiers
Jongsik Lim (*Soonchunhyang University*); *Jeongho Park* (*Soonchunhyang University*); *Sang-Min Han* (*Soonchunhyang University*); *Dal Ahn* (*Soonchunhyang University*); *Yongchae Jeong* (*Jeonbuk National University*);

15:30 **Coffee Break**

16:00 Modified Coplanar Waveguide RF MEMS Based Switch
M. P. Lauksiga (*Amrita Vishwa Vidyapeetham*); *Pranav Vinod* (*Amrita Vishwa Vidyapeetham*); *A. P. Praveen* (*Amrita Vishwa Vidyapeetham*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

16:15 An Open Stub Loaded Microstrip Line for Adulteration of Liquid Food Materials
Nair S. Bhuvana (*Amrita Vishwa Vidyapeetham*); *C. E. Arya Eswar* (*Amrita Vishwa Vidyapeetham*); *Ignacio Gil* (*Universitat Politècnica de Catalunya*); *Sreedevi K. Menon* (*Amrita Vishwa Vidyapeetham*);

16:30 Design and Development of a High Performance Two-element MIMO Antenna for 5.9 GHz Vehicular Communication
Bhavya Babu (*Amrita Vishwa Vidyapeetham*); *Sajeer Aiswarya* (*Amrita Vishwa Vidyapeetham*); *Nair S. Bhuvana* (*Amrita Vishwa Vidyapeetham*);

16:45 Techniques for Loss Coatings on Support Rods of Helix TWTs
Vishant Gahlaut (*Banasthali Vidyapith*); *A. Mercy Latha* (*CSIR-Central Electronics Engineering Research Institute (CEERI)*); *Meenu Kaushik* (*Banasthali Vidyapith*); *Sanjay Kumar Ghosh* (*CSIR-Central Electronics Engineering Research Institute (CEERI)*);

17:00 Metamaterial Based Frequency Tunable mmWave Antenna for Communication Applications
R. Budhi Sagar (*Center for Wireless Networks & Applications (WNA)*); *L. Meenu* (*Center for Wireless Networks & Applications (WNA)*); *Sajeer Aiswarya* (*Center for Wireless Networks & Applications (WNA)*);

17:15 Design and Functional Overview of an SAA-SAR System with Integrated Polarization Switching and TR Modules
Lakshman Pappula (*Department of Electrical, Electronics & Communication Engineering, School of Technology, GITAM University*); *Venkata Kishore Kothapudi* (*CoE, Advanced RF Microwave & Wireless Communications, Department of ECE, Vignan's Foundation for Science, Technology, and Research*); *Likith Parepalli* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Sarikonda Gopi Krishna Raju* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Atchukola Pavan Sai Kumar* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Dugga Lakshmikanth Reddy* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Gavini Janaki Ramaiah* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Shaik Amman* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Cherukumalli Sairam* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Shaik Mohammad Ali* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Karru Bala Krishna* (*Vignan's Foundation for Science, Technology, and Research (VFSTR)*); *Gudipudi Teja Kumar* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

17:30 Ultra-compact Substrate Integrated Waveguide Bandpass Filter with Unequal Termination Impedance and Wide-stopband Characteristics
Phanam Pech (*Jeonbuk National University*); *Palaystint Thorng* (*Jeonbuk National University*); *Girdhari Chaudhary* (*Jeonbuk National University*); *Jongsik Lim* (*Soonchunhyang University*); *Yongchae Jeong* (*Jeonbuk National University*);

17:45 A Coaxial Structure for Measuring Dielectric Properties
D. Peykal (*Merchavim Institute of R&D in Negev, Merchavim Regional Council*); *Sh. Levi* (*Holon Institute of Technology*); *Rami Toledano* (*Sami Shamoon Collage of Engineering*); *Eden Elbaz* (*Merchavim Institute of R&D in Negev, Merchavim Regional Council*); *Motti Haridim* (*HIT — Holon Institute Technology*);

Session 3P8a
Optics for Quantum Applications

Wednesday PM, May 7, 2025

Room 8 - Capital Suite 5

Organized by James A. Grieve, Rene Reimann

Chaired by James A. Grieve, Rene Reimann

13:30 Electrodynamically Levitated Accelerometer for Inertial Navigation
Hitheswar Prasad (*Technology Innovation Institute*); *Dmitrii Grigorev* (*Technology Innovation Institute*); *Karsten Pyka* (*Technology Innovation Institute*); *Rene Reimann* (*Technology Innovation Institute*);

13:45 Nanometric Spinning Rotor Gauge for Pressure Sensing
Philip Verwegen (*Technology Innovation Institute*); *Konstantin Katamadze* (*Technology Innovation Institute*); *Dmitrii Grigorev* (*Technology Innovation Institute*); *Rene Reimann* (*Technology Innovation Institute*);

14:00 Hysteresis Trajectories in Quantum Rydberg Atomic Gases
Jun Zhang (*University of Science and Technology of China*); *Enze Li* (*University of Science and Technology of China*); *Ya-Jun Wang* (*University of Science and Technology of China*); *Baosen Shi* (*University of Science and Technology of China*); *Dong-Sheng Ding* (*University of Science and Technology of China*);

14:15 Quantum Super-resolution Microscopy
Konstantin Katamadze (*Technology Innovation Institute*); *T. Luo* (*Technology Innovation Institute*); *S. Vintskevich* (*Technology Innovation Institute*); *B. Bantysh* (*Technology Innovation Institute*); *R. Reimann* (*Technology Innovation Institute*);

14:30 Ground-based Characterization of an Optical Tracking Telescope for Quantum Key Distribution
Gianluca De Santis (*Technology Innovation Institute*); *Alessandro Grosso* (*Technology Innovation Institute*); *Konstantin Kravtsov* (*Technology Innovation Institute*); *Sana Amairi-Pyka* (*Technology Innovation Institute*); *James A. Grieve* (*Technology Innovation Institute*);

14:45 On-chip Multiplexed Quantum Random Number Generator
Jaideep Singh (*Technology Innovation Institute*); *Karen Sloyan* (*Technology Innovation Institute*); *Sujith Chandran* (*Technology Innovation Institute*); *James A. Grieve* (*Technology Innovation Institute*);

15:00 A Study of Polarization Mode Dispersion on Broadband Entanglement-based Quantum Communications
Vadim Rodimin (*Technology Innovation Institute*); *Konstantin Kravtsov* (*Technology Innovation Institute*); *Rui Ming Chua* (*Technology Innovation Institute*); *Gianluca De Santis* (*Technology Innovation Institute*); *Aleksei Ponasenko* (*Technology Innovation Institute*); *Yury Kurochkin* (*Technology Innovation Institute*); *Alexander Ling* (*Centre for Quantum Technologies*); *James A. Grieve* (*Technology Innovation Institute*);

15:30 **Coffee Break**

Session 3P8b
Quantum Light Source and Quantum Interference

Wednesday PM, May 7, 2025

Room 8 - Capital Suite 5

Organized by Baihong Li, Ruifang Dong

Chaired by He Lu, Omar S. Magana-Loaiza

16:00 Quantum Coherence of Classical Plasmonic Waves
Invited
Omar S. Magana-Loaiza (*Louisiana State University*);

16:20 Quantum Photon Source in Lithium Niobate
Invited Nanowaveguide
He Lu (*Shandong University*);

16:40 Securing Quantum Time Transfer with Energy-time En-
Invited tanglement
Runai Quan (*National Time Service Center, Chinese Academy of Sciences*); *Huibo Hong* (*National Time Service Center, Chinese Academy of Sciences*); *Xiao Xiang* (*National Time Service Center, Chinese Academy of Sciences*); *Mingtao Cao* (*National Time Service Center, Chinese Academy of Sciences*); *Xinghua Li* (*National Time Service Center, Chinese Academy of Sciences*); *Baihong Li* (*Shaanxi University of Science and Technology*); *Ruifang Dong* (*National Time Service Center, Chinese Academy of Sciences*); *Tao Liu* (*National Time Service Center, Chinese Academy of Sciences*); *Shou-Gang Zhang* (*National Time Service Center, Chinese Academy of Sciences*);

17:00 Generation of Wavelength-stable Entangled Biphotons
Invited for Quantum Interference Applications
Xiao Xiang (*National Time Service Center, Chinese Academy of Sciences*); *Yuting Liu* (*National Time Service Center, Chinese Academy of Sciences*); *Huibo Hong* (*National Time Service Center, Chinese Academy of Sciences*); *Runai Quan* (*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*);

17:20 Multiparameter Cascaded Quantum Interferometer
Invited
Baihong Li (*Shaanxi University of Science and Technology*);

17:40 Discrete Time Crystal Based on Optical Cavity-atom System without External Driving
Timofey T. Sergeev (*Dukhov Research Institute of Automatics (VNIIA)*); *A. A. Zyablovsky* (*Dukhov Research Institute of Automatics (VNIIA)*); *E. S. Andrianov* (*Dukhov Research Institute of Automatics (VNIIA)*);

17:55 Subthreshold Generation in a Phonon Laser with an Exceptional Point
Artem Ramazanovich Mukhamedyanov (*Dukhov Research Institute of Automatics (VNIIA)*); *Alexander A. Zyablovsky* (*Dukhov Research Institute of Automatics (VNIIA)*); *Evgeny S. Andrianov* (*Dukhov Research Institute of Automatics (VNIIA)*);

18:10 Quantum Sensing with Free Electrons
Cruz I. Velasco (*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*);

Session 3P9
Specialty Optical Fibers and Sensing Technologies

Wednesday PM, May 7, 2025

Room 9 - Capital Suite 6

Organized by Jianzhong Zhang

13:30 Annulus Core Erbium-doped Photonic Crystal Fiber for Amplification of OAM Modes in MDM-WDM Systems
Ishani De (*Indian Institute of Technology Roorkee*); *Ankita Gaur* (*Adani Enterprises Limited*); *Vipul Rastogi* (*Indian Institute of Technology Roorkee*);

13:45 Optical Fiber Tip Function Integration with Ultrafast Laser Manufacturing
Changrui Liao (*Shenzhen University*);

14:00 Dual Parametric Sensors Based on Hole-assisted Multicore Fibers
Chunying Guan (*Harbin Engineering University*); *Jing Yang* (*Harbin Engineering University*); *Jinhui Shi* (*Harbin Engineering University*);

14:15 Surface Plasmon Resonance Excited by Twisted Fiber for Highly Sensitive Refractive Index Sensing
Lingling Li (*Wuhan University of Technology*); *Yuheng Zuo* (*Wuhan University of Technology*); *Peizhen Jiang* (*Wuhan University of Technology*); *Fang Liu* (*Wuhan University of Technology*); *Lina Yue* (*Wuhan University of Technology*); *Yan Yang* (*Wuhan University of Technology*); *Ai Zhou* (*Wuhan University of Technology*);

14:30 An Intelligent Optical Fiber Device Integrating Sensing,
Invited Storage, and Computing
Yu Zhang (*Harbin Engineering University*); *Wei Jin* (*Harbin Engineering University*); *Xiang Li* (*Harbin Engineering University*); *Siying Cheng* (*Harbin Engineering University*); *Yaru Li* (*Harbin Engineering University*); *Zhihai Liu* (*Harbin Engineering University*); *Libo Yuan* (*Guilin University of Electronics Technology*);

14:50 A Quasi-distributed Temperature and Tensile Force Sensing Scheme Based on Bi/Er Co-doped Fibre
Zhexu Huang (*Shanghai University*); *Yanhua Luo* (*Shanghai University*); *Jianxiang Wen* (*Shanghai University*); *Yanhua Dong* (*Shanghai University*); *Wei Chen* (*Shanghai University*); *Tingyun Wang* (*Shanghai University*); *Jianzhong Zhang* (*Harbin Engineering University*); *Gang-Ding Peng* (*University of New South Wales*);

15:05 Femtosecond Laser-inscribed Large-scale Fiber Bragg
Invited Grating Arrays for Distributed Sensing in Harsh Environments
Jun He (*Shenzhen University*); *Baijie Xu* (*Shenzhen University*); *Guanfeng Chen* (*Shenzhen University*); *Bin Du* (*Shenzhen University*); *Xizhen Xu* (*Shenzhen University*); *Yiping Wang* (*Shenzhen University*);

15:30 **Coffee Break**

16:00 Application of Distributed Optical Fiber Acoustic Sensing System with Artificial Intelligence Algorithm in Underground Pipeline Monitoring
Ying-Ying Wang (*Qilu University of Technology (Shandong Academy of Sciences)*); *Chang Wang* (*Shandong Fybsense Photoelectric Technology Co., LTD*); *Xiaohui Liu* (*Shandong Fybsense Photoelectric Technology Co., LTD*); *Changfeng Li* (*Shandong Fybsense Photoelectric Technology Co., LTD*); *Jinlu Wang* (*Qilu University of Technology (Shandong Academy of Sciences)*); *Xingcheng Wang* (*Shandong Ruifeng Photoelectric Technology Co., LTD*); *Xiangdong Li* (*Qilu University of Technology (Shandong Academy of Sciences)*);

16:15 Invited A Novel Composite Fiber Optic Sensor for Synchronous Detection of Solution Concentration and Temperature with Temperature Self-compensation
Yong Zhao (*Northeastern University*); *Lu Cai* (*Northeastern University*); *Yanan Zhang* (*Northeastern University*); *Maoqing Chen* (*Northeastern University*); *Hongxin Zhang* (*Northeastern University*);

16:35 Invited Harnessing Spatial Modes in Fibers for Communication and Sensing
Jian Wang (*Huazhong University of Science and Technology*);

16:55 Invited Transparent Nanocrystal-doped Glass and Fiber for Optical Applications
Guoping Dong (*South China University of Technology*);

17:15 Spectral Modulation and Wavelength Conversion in Optical Microfiber Knot Resonator
Biqiang Jiang (*Northwestern Polytechnical University*); *Jiexing Wu* (*Northwestern Polytechnical University*); *Xiao Xuan* (*Northwestern Polytechnical University*); *Jianlin Zhao* (*Northwestern Polytechnical University*);

17:30 Ultra-broadband NIR Luminescence in Bi-doped Multicomponent Glass and Optical Fiber
Weiwei Chen (*South China University of Technology*); *Guoping Dong* (*South China University of Technology*);

17:45 Repetition Rate Continuously Reconfigurable Supercontinuum Generation Using an All-fiber Non-mode-locked Source
Yifan Qin (*Harbin Engineering University*); *Shuyi Chen* (*Harbin Institute of Technology*); *Zhihai Liu* (*Harbin Engineering University*);

Session 3P10a
Advancements and Challenges in Electromagnetic Technologies: From Metamaterials Design to Microwave Sensing

Wednesday PM, May 7, 2025

Room 10 - Capital Suite 7

Organized by Luciano Prado de Olivera, Zubair Akhter

Chaired by Luciano Prado de Olivera, Zubair Akhter

13:30 Invited Metamaterial Inspired Planar RF Sensors and Imaging Methodologies for Biomedical, Humanitarian and Industrial Applications
M. Jaleel Akhtar (*Institute of Technology Kanpur (IIT Kanpur)*);

13:50 Electromagnetic Analysis of a Flexible Spilt Ring Microwave Sensor for Rotation and Displacement Measurement
Apala Banerjee (*Indian Institute of Technology Kanpur*); *Mohammad Jaleel Akhtar* (*Indian Institute of Technology Kanpur*);

14:05 Analysis of the Potential Accuracy of Estimating the Radial Spread of Small Elements of the Cloud of Space Debris in Radar Monitoring of Low Earth Orbit
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"*);

14:20 Fluid Interface Detection Using Array of Planar Resonators
Sagiru Gaya (*Khalifa University*); *Mohamed Saeed Al Shehhi* (*Khalifa University*); *Khaled Al-Wahedi* (*Khalifa University*); *Mohamed A. Abou-Khousa* (*Khalifa University*);

14:35 Conception and Realization of Microwave Sensor for Efficient Hydrogen Detection
Mehdi Khaiaf Belghiti (*Université Mohammed VI Polytechnique (UM6P)*); *Mohammed El-Gibari* (*Lunam Universite, Universite de Nantes*); *Btissam El khamlichi* (*Université Mohammed VI Polytechnique (UM6P)*); *Ahmed Rhallabi* (*Nantes University*); *Amal El Fallah Serghrouchni* (*Université Mohammed VI Polytechnique (UM6P)*);

15:30 **Coffee Break**

Session 3P10b
Single-pixel Imaging and Its Applications

Wednesday PM, May 7, 2025

Room 10 - Capital Suite 7

Organized by Hongchao Liu

Chaired by Wen Chen, Jiahao Xiong

16:00 Invited Single-pixel Optical Imaging in Complex Environments
Wen Chen (*The Hong Kong Polytechnic University*);

16:20 Invited Single-pixel Imaging Using Fast Gradient-based Algorithms
Yin Xiao (*The Hong Kong Polytechnic University*); *Wen Chen* (*The Hong Kong Polytechnic University*);

16:40 Dual-color Perovskite Single-pixel Detector for Metasurface Imaging in Complex Environment
Jiahao Xiong (*University of Macau*);

16:55 Metasurface-enabled Image-free Optoelectronic Hybrid Recognition Network
Xuan Zhang (*University of Macau*);

17:10 High Resolution Quantum Ghost Imaging with Spatial Modes
Fazilah Nothlawala (*University of the Witwatersrand*); *Chané Moodley* (*University of the Witwatersrand*); *Neelan Gounden* (*University of the Witwatersrand*); *Isaac Nape* (*University of the Witwatersrand*); *Andrew Forbes* (*University of the Witwatersrand*);

17:25 Optical Color Image Encryption Based on Tunable Perovskite Single-pixel Detector
Ai Fu (*University of Macau*);

Session 3P0
Poster Session 5

Wednesday PM, May 7, 2025
13:30 PM - 18:30 PM
Room Poster Area

1 Ultrawideband Absorber Design Using Resistive Double-cross Frequency-selective Surface
Wei-Chun Kao (*Yuan Ze University*); *Cheng-Nan Chiu* (*Yuan Ze University*);

2 Estimation of the Size of the Sanitary Protection Zone from Antennas in Urban Environments and on Rough Terrain
Shu Ya Zan (*Henan University of Science and Technology*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

3 Research on Shielding Performance of Built-in Dielectric Plate in Chassis
Jun Bo Li (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Quanfeng Jiang* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Feng Guo* (*Southwest University of Science and Technology*); *Liping Wang* (*Southwest University of Science and Technology*); *Renjun Pan* (*Southwest University of Science and Technology*); *Junhao Shi* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

4 Study on "Top-Down" System's EMC Design Flow with Multi-EDA Simulation Software
Yuan-Hui Huang (*Southwest University of Science and Technology*); *Xiao-Jun Zhao* (*Sichuan Jiuzhou Electric Appliance Group Co., Ltd.*); *Yuan Zhang* (*University of Electronic Science and Technology of China*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Jun Bo Li* (*Southwest University of Science and Technology*); *Tao Leng* (*Southwest University of Science and Technology*); *Peng Chen* (*Southwest University of Science and Technology*); *Hai-Yan Guo* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

5 Computational Modeling of the Variation of the Electric Dipole Moment of Cryptochrome Protein Subject to an External Magnetic Field
Mahboobe Sehati (*Sharif University of Technology*); *Shabnam Abutalebi B. A.* (*Sharif University of Technology*); *Sareh Rostami* (*Sharif University of Technology*); *Abolfazl Bahrampour* (*Sharif University of Technology*); *Ali Reza Bahrampour* (*Sharif University*);

6 Conversion from $\boldsymbol{S}$-parameter to Equivalent Circuit Model for Power Distribution Network Analysis
Li Jiang (*Zhejiang University*); *Ling Zhang* (*Zhejiang University*); *Junjie Ren* (*Zhejiang University*); *Erping Li* (*Zhejiang University*);

7 Thermally Tunable Metamaterial Absorber for Wideband Terahertz Applications Using Vanadium Dioxide
Tara Afra (*Polytechnic University of Bari*); *Walter Fuscaldo* (*Consiglio Nazionale delle Ricerche Istituto per la Microelettronica e Microsistemi*); *Dimitrios C. Zografopoulos* (*Consiglio Nazionale delle Ricerche Istituto per la Microelettronica e Microsistemi*); *Teresa Natale* (*Polytechnic University of Bari*); *Francesco Dell'Olio* (*Polytechnic University of Bari*);

8 Application of 3D Printing for the Development of Radiotransparent Constructions
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"*); *Nikita S. Maximov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*);

9 Increasing the Detail of the Point Spread Function Due to Apodization with a Phase Ring Grating to Improve the Efficiency of Detecting Wavefront Aberrations
Pavel A. Khorin (*Samara National Research University*); *D. P. Serafimovich* (*Samara National Research University*);

10 Development of High-power Submillimeter-range Gyrotron for CST Diagnostic in DEMO and TRT
Grigory G. Denisov (*Institute of Applied Physics, Russian Academy of Sciences*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Irina V. Zotova* (*Institute of Applied Physics, RAS*); *Ilya V. Zheleznov* (*Institute of Applied Physics, RAS*); *Andrey Mihailovich Malkin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander S. Sergeev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alexander G. Shalashov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Egor D. Gospodchikov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*);

11 Highway Traffic Flow Monitoring Based on Spatio-temporal Vibration Distribution of Ultra-weak Fiber Bragg Grating Arrays
Linxiao Guo (*Wuhan University of Technology*); *Jingwei Sun* (*Wuhan University of Technology*); *Miao Ma* (*Wuhan University of Technology*); *Qiuming Nan* (*Wuhan University of Technology*); *Fang Liu* (*Wuhan University of Technology*);

12 Determination of Microresonator Thermal Parameters for the Case of Complex Time Dependence of Pump Power
Vladislav I. Pavlov (*Russian Metrological Institute of Technical Physics and Radio Engineering*); *I. S. Silvestrov* (*Russian Metrological Institute of Technical Physics and Radio Engineering*); *M. N. Khromov* (*Russian Metrological Institute of Technical Physics and Radio Engineering*);

13 Design of Optimized Solar Cavity for Maximizing Power Absorption in Solar-pumped Laser
Tomomasa Ohkubo (*Tokyo University of Technology*); *Ei-Ichi Matsunaga* (*Tokyo University of Technology*); *Thanh Hung Dinh* (*National Institutes for Quantum Science and Technology*); *Yuji Sato* (*Osaka University*);

14 Design and Optimization of Fast-and-Easy Deployable Optical Heads for Transceiver-based Gigabit-class FSO Communication System
Faheem Ahmad (*Technology Innovation Institute*); *Ramzil Galiev* (*Technology Innovation Institute*); *Mariam Al Khateri* (*Technology Innovation Institute*); *Predrag Sekulic* (*Technology innovation Institute*); *Rashed Al Blooshi* (*Technology Innovation Institute*); *Ravikiran Saripalli* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

15 Metalenses for Fractional Optical Vortices
Sergey S. Stafeev (*NRC Kurchatov Institute*); *Anton G. Nalimov* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS*); *Victor V. Kotlyar* (*NRC Kurchatov Institute*);

16 Ultrahigh Resolution Fiber Laser Strain Sensor Based on Optical Injection Phase-lock Loop
Yu Zhang (*Harbin Engineering University*); *Wei Jin* (*Harbin Engineering University*); *Jiaxing Gao* (*Harbin Engineering University*); *Yifan Qin* (*Harbin Engineering University*); *Zhihai Liu* (*Harbin Engineering University*); *Libo Yuan* (*Guilin University of Electronics Technology*);

17 Dielectric Properties Measurement of Cellulose-containing Materials Using the Resonator Method
Tatiana Olegovna Krapivnitckaia (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Vladimir V. Parshin* (*Institute of Applied Physics Russian, Academy of Sciences*); *Evgeny A. Serov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Alisa B. Alyeva* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Svetlana Andreevna Ananicheva* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander A. Vikharev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, RAS*); *Mikhail Yu. Glyavin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

18 Investigation of Photocathodes Based on Nanocrystalline Diamond Films for RF Injector Applications
Alexey M. Gorbachev (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Anatoly L. Vikharev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Anatoly K. Poteomkin* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander D. Krupin* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Sergey A. Bogdanov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail A. Lobaev* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander Ya. Vul* (*Ioffe Institute RAS*); *Arthur T. Dideikin* (*Ioffe Institute RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Dmitry B. Radishev* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Mikhail N. Drozdov* (*Institute of Applied Physics of the Russian Academy of Sciences*);

19 Video Traffic Classification in the 5G Open RAN Network
Tianhua Chen (*Riga Technical University*); *Roberts Benkis* (*Riga Technical University*); *Nikolajs Bogdanovs* (*Riga Technical University*); *Mihails Stetjuha* (*Riga Technical University*); *Jānis Klūga* (*Riga Technical University*); *Viktors Jeralovičs* (*Riga Technical University*); *Dmitrijs Rjazanovs* (*Riga Technical University*); *Elans Grabs* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

20 Analysis of Spatial Randomness in Access Point Deployment for Cell-free Massive MIMO Antenna
Muhammad Arslan (*Tongji University*); *Yu Zhao Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

21 Metasurface In-band Full-duplex Antenna Loaded with Ceramic Superstrate-based Realizes Wideband Mutual Coupling Suppression
Haoxuan Sheng (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*); *Yurong Sun* (*Southwest Jiaotong University*); *Xiao Gao* (*Southwest Jiaotong University*);

22 RF Signal-based Classification of Unmanned Aerial Vehicles Leveraging Cyclostationarity
Mohit Sharma (*Technology Innovation Institute*); *Anuj Abraham* (*Technology Innovation Institute*); *Sultan Abughazal* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

23 A Low-cost Multi-beam Lens Antenna for UAV Detection
Zongwei Zhan (*Southwest University of Science and Technology*); *Jin Wang* (*AVIC Chengdu Aircraft Industrial (Group) Co., Ltd.*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Jia-Hao Wang* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*);

24 A One-port Calibrator Circuit for One-port Measurements
Li-Hsien Wang (*National Taiwan University*); *Tah-Hsiung Chu* (*National Taiwan University*);

25 Common-mode Noise Suppression in Differential Transmission Lines by Coating the Line with High Permittivity Material
Jiasheng Chen (*Southwest University of Science and Technology*); *Yan Chen* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Yujie Song* (*Southwest University of Science and Technology*); *Bin Xie* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Xin Cao* (*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*);

26 Some Technical Problems and Solutions of Developing Data Transfer Channels
Ilya V. Lesnov (*Institute of Applied Physics of the RAS*); *Vyacheslav F. Vdovin* (*Institute of Applied Physics of the RAS*);

27 Experimental Characterization of Conformal Embroidered Disc-shaped Textile Array Antenna
Sisi Indriani (*Institut Teknologi Bandung*); *Trasma Yunita* (*Institut Teknologi Bandung*); *Sabrina Megumi Ahmad* (*Institut Teknologi Bandung*); *Muhammad Naufal Arira* (*Institut Teknologi Bandung*); *Edwar* (*Telkom University*); *Achmad Munir* (*Institut Teknologi Bandung*);

28 Low-profile Dual-frequency Omnidirectional Vertically Polarized Antenna
Miao Tang (*Southwest University of Science and Technology*); *Jin Wang* (*AVIC Chengdu Aircraft Industrial (Group) Co., Ltd.*); *Liping Wang* (*Southwest University of Science and Technology*); *Zhi-Lin He* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Qiangming Cai* (*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*);

29 Deep Neural Network Based Microwave GaAs pHEMT Model
Chie-In Lee (*National Sun Yat-Sen University*); *Ian Chen* (*National Sun Yat-Sen University*);

30 Flexible Transmitarray Based on Ultrathin Polyimide Membrane
Peng You (*National University of Defense Technology*); *Yusheng Yang* (*National University of Defense Technology*); *Dong-Fang Guan* (*National University of Defense Technology*); *Ziyang Gu* (*National University of Defense Technology*); *Guanchao Chen* (*National University of Defense Technology*); *Zhangbiao Yang* (*National University of Defense Technology*);

31 Combining Physical Predictors and Convolutional Neural Network for Predicting Sea Level Anomaly
Yongcun Cheng (*PIESAT Information Technology Co., Ltd.*); *Yang Zhang* (*PIESAT Information Technology Co., Ltd.*); *Haoyu Liu* (*Ocean University of China*); *Xiaobin Yin* (*Ocean University of China*); *Qing Xu* (*Ocean University of China*);

32 A Fast Passive Geolocation Method for Scanning and Directive RF Emitters
M. Cusatti (*Elettronica S.p.A.*); *Davide Massaro* (*Elettronica S.p.A.*); *D. Massimi* (*Elettronica S.p.A.*); *Cosmo Mitrano* (*Elettronica S.p.A.*); *D. Palermo* (*Elettronica S.p.A.*); *A. C. Petrelli* (*Elettronica S.p.A.*); *Luca Scorrano* (*Elettronica S.p.A.*);

33 Application of the Kirchhoff Migration Technique for a Fast Identification of Small Dielectric Objects from 2D Fresnel Dataset
Taeyoung Ha (*National Institute for Mathematical Sciences*); *Youngho Woo* (*National Institute for Mathematical Sciences*); *Won-Kwang Park* (*Kookmin University*);

34 A Design of a 650 V Shielded Gate Trench Field-stop IGBT
Yu Xie (*Southwest Jiaotong University*); *Xiaopei Chen* (*Chengdu Technological University*); *Quanyuan Feng* (*Southwest Jiaotong University*);

35 Research of Nonlinear Correction for High Power Piezoelectric Ceramic Power Amplifier
Rongyan Liu (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Li Wu* (*Southwest University of Science and Technology*); *Xuebing Leng* (*Southwest University of Science and Technology*); *Tong Zheng* (*Southwest University of Science and Technology*); *Yonghao Lu* (*Southwest University of Science and Technology*);

36 Low Power Silicon-based Sub-Terahertz Chip-to-Chip Data Link Interconnect Enabled by Subwavelength Metawaveguide and Slow-wave Oscillator
Gang Wu (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Guangqiang Liu* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Xuanbin Jiang* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Yicong Li* (*Guangzhou University*);

37 Accurate Winding Loss Estimation Method Considering Phase Difference in Current for Wireless Power Transfer Applications
Chenxi Liu (*Southwest University of Science and Technology*); *Xiaoping Li* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*); *Yin Sun* (*DeTooLIC Technology Co., Ltd.*); *Xiaohe Chen* (*China University of Petroleum*);

38 A Fisher Information-based Approach for Designing Quantum Channels with Optimal Ultimate Rate
Fahimeh Salari Sehdaran (*Sharif University of Tehran*);

39 De-embedding Method for X-parameters of GaAs pHEMT
Chie-In Lee (*National Sun Yat-Sen University*); *Ian Chen* (*National Sun Yat-Sen University*);

Session 4A1
Novel Meta-devices and Their Applications 2

Thursday AM, May 8, 2025

Room 1 - CH B (A)

Organized by Din Ping Tsai, Pin Chieh Wu

Chaired by Ming Lun Tseng, Yao Liang

8:30 Invited Three-photon Downconversion in Resonant Nonlinear Metasurfaces for Photon-triplet Generation
Miguel Bacaoco (*University of Technology Sydney*); *Kirill Koshelev* (*Australian National University*); *Alexander S. Solntsev* (*University of Technology Sydney*);

8:50 Invited Low-cost and Scalable Manufacturing of Optical Metasurfaces in the Visible Using Engineered Optical Materials (Low-loss a-Si:H, PER, and Hybrid ALD Structural Resin)
Junsuk Rho (*Pohang University of Science and Technology (POSTECH)*);

9:10 Invited Electronic Metadevices with Electrical Metastructures: A New Frontier in Telecommunications
Abdallah Y. I. Abushawish (*Nanyang Technological University*); *Ziwen Huang* (*Nanyang Technological University*); *Mohammad Samizadeh Nikoo* (*Nanyang Technological University*);

9:30 Photoluminescence Polarization Control of 2D Material via Exceptional Points in Plasmonic Metasurfaces
Po-Sheng Huang (*National Cheng Kung Unviersity*); *Ya-Hsin Hsiao* (*National Cheng Kung Unviersity*); *Pin Chieh Wu* (*National Cheng Kung University*);

10:00 **Coffee Break**

10:30 Ultra-wideband Three-dimensional Frequency Selective Surface with Large Angle Stability
Zhaoran Chen (*North China Electric Power University*); *Junjie Hu* (*North China Electric Power University*); *Xiayuan Yao* (*North China Electric Power University*);

10:45 Photoacoustic Microscopy with Meta-optics
Dorian S. H. Brandmüller (*University of Graz*); *D. Grafinger* (*Technical University of Graz*); *A. Hohenau* (*University of Graz*); *M. Ossiander* (*Technical University of Graz*); *R. Nuster* (*University of Graz*); *Peter Banzer* (*University of Graz*);

11:00 Static and Reconfigurable Transmissive Huygens' Metasurfaces for Beam-steering Applications
Stefano Vellucci (*Niccolò Cusano University*); *Alessio Monti* (*ROMA TRE University*); *Mirko Barbuto* (*ROMA TRE University*); *Alessandro Toscano* (*"Roma Tre" University*); *Filiberto Bilotti* (*"Roma Tre" University*);

11:15 Evanescent Wave Nonreciprocity Based on Nonlinear Spectral Singularities
Huan He (*Nankai University*); *Zhicheng Xiao* (*Hunan University*); *Huanan Li* (*Nankai University*); *Jingjun Xu* (*Nankai University*);

Session 4A2
Multi-functional Metasurfaces and Photonic Structures

Thursday AM, May 8, 2025

Room 2 - CH B (C&B)

Organized by Changxu Liu, Haoran Ren

Chaired by Changxu Liu, Haoran Ren

8:30 Invited — Spatially Encoded Light-matter Coupling with Spectrally Selective Metasurfaces
Andreas Tittl (*Ludwig-Maximilians-Universität München*);

8:50 Invited — Meta Devices for Photonics and Quantum
Din Ping Tsai (*City University of Hong Kong*);

9:10 Invited — Hardware-accelerated Optoelectronic Platform Opens High-resolution Hyperspectral Video Understanding at 1.2 Tb/s
A. B. 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)*);

9:30 Invited — Miniaturized Detectors and Light Sources Enabled by Optical Nanoantennas
Zhaogang Dong (*Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)*);

10:00 **Coffee Break**

10:30 Invited — Metamaterial Platforms for Biophotonics, Augmented Reality, and Optical Neural Networks Applications
Andrea Di Falco (*University of St Andrews*);

10:50 Invited — Quantum Metasurfaces for Advanced Photon Sources
Fei Ding (*University of Southern Denmark*);

11:10 Invited — Multi-dimensional Light Field Manipulation Using Dielectric Metasurfaces
Cheng Zhang (*Huazhong University of Science and Technology*);

11:30 Optical Metasurfaces for Unusual Optical Vortex Beams
Hammad Ahmed (*Heriot-Watt University*); *Xianzhong Chen* (*Heriot-Watt University*);

11:45 Transmissive and On-chip Integrated Metalenses as Miniaturized Platforms for Single Molecule Sensing
Aleksandr Barulin (*Moscow Center for Advanced Studies*); *E. Barulina* (*Moscow Center for Advanced Studies*); *M. Podobrii* (*Moscow Center for Advanced Studies*); *Sergey M. Novikov* (*Moscow Center for Advanced Studies*); *A. I. Chernov* (*Moscow Center for Advanced Studies*); *Inki Kim* (*Sungkyunkwan University (SKKU)*);

12:00 Thermooptical Nonlinearity in Nanophotonic Metastructures and Metasurfaces Enhanced by Bound States in the Continuum
Mihail I. Petrov (*ITMO University*);

Session 4A3a
Photonics in Plant Science

Thursday AM, May 8, 2025

Room 3 - CH B (D)

Organized by Yuqiang Jiang

Chaired by Yuqiang Jiang

8:30 Measurement of Temperature inside Plants
Yuqiang Jiang (*Institute of Genetics and Developmental Biology, Chinese Academy of Sciences*);

8:45 Construction and Analysis of Crop Phenotypic Omics Data Based on Imaging Technology
Weijuan Hu (*The Institute of Genetics and Developmental Biology (IGDB) of the Chinese Academy of Sciences (CAS)*);

9:00 Enhanced Identification of Transgenic Corn Using UV-Vis Spectroscopy
Mohammed Nasir Ali Khan (*International Institute of Information Technology Hyderabad*); *Anil Kumar Vuppala* (*International Institute of Information Technology Hyderabad*); *Syed Azeemuddin* (*Pennsylvania State University*); *Mohammed Zafar Ali Khan* (*Indian Institute of Technology*);

9:15 Revealing Hierarchical Structure of Leaf Venations in Plant Science via Label-efficient Segmentation: Dataset and Method
Weizhen Liu (*Wuhan University of Technology*); *Ao Li* (*Wuhan University of Technology*); *Ze Wu* (*Wuhan University of Technology*); *Yue Li* (*Wuhan University of Technology*); *Baobin Ge* (*Wuhan University of Technology*); *Guangyu Lan* (*Wuhan University of Technology*); *Shilin Chen* (*Wuhan University of Technology*); *Minghe Li* (*Shanghai Artificial Intelligence Laboratory*); *Yuefei Liu* (*Wuhan University of Technology*); *Xiaohui Yuan* (*Wuhan University of Technology*); *Nanqing Dong* (*Shanghai Artificial Intelligence Laboratory*);

9:30 High-throughput Phenotyping to Reveal the Genetic Architecture of Crop Abiotic Stress
Jiawei Shi (*Huazhong Agricultural University*); *Weikun Li* (*Huazhong Agricultural University*); *Jianglin Wang* (*Huazhong Agricultural University*); *Shangyuan Xie* (*Huazhong Agricultural University*); *Tao Luo* (*Huazhong Agricultural University*); *Ruilin Fang* (*Huazhong Agricultural University*); *Junli Ye* (*Huazhong Agricultural University*); *Haifu Tu* (*Huazhong Agricultural University*); *Xi Wu* (*Huazhong Agricultural University*); *Mingqiu Dai* (*Huazhong Agricultural University*); *Lizhong Xiong* (*Huazhong Agricultural University*); *Wanneng Yang* (*Huazhong Agricultural University*);

9:45 Study on Integrated Multimodal Information Collection and Processing Technology in Plant Phenomics
Liang Xu (); *Xin Tan* (*Changchun Institute of Optics, Fine Mechanics and Physics (CIOMP), Chinese Academy of Sciences*); *Mingyu Yang* (); *Qingbin Jiao* ();

Session 4A3b
Photonic Integrated Waveguide and Fiber-based Photonic Circuits and Devices

Thursday AM, May 8, 2025

Room 3 - CH B (D)

Chaired by Nikita M. Kondratyev

10:30 Substrate-integrated Topological Valley Photonic Crystals Fed by Transmission Lines
Xinyu Zhang (*The Hong Kong Polytechnic University*); *Menglin L. N. Chen* (*The Hong Kong Polytechnic University*);

10:45 Tunable Silicon-based Fano Resonance with Large Slope Rate and High Extinction Ratio
Bei Chen (*Institute of Semiconductors, Chinese Academy of Sciences*); *Renheng Zhang* (*Institute of Semiconductors, Chinese Academy of Sciences*); *Kunpeng Zhai* (*Nankai University*); *Ya Jin* (*Institute of Semiconductors, Chinese Academy of Sciences*); *Xiaowen Xiong* (*Tsinghua University*); *Ninghua Zhu* (*Nankai University*);

11:00 Chip-integrated Temporal Telescope Induced by Moving Index Perturbation
Nikita M. Kondratyev (*Technology Innovation Institute*); *Abdalla O. Hableel* (*Technology Innovation Institute*); *Abdellatif Bouchalkha* (*Technology Innovation Institute*); *Evgeny Lonshakov* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*); *Mahmoud A. Gaafar* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

11:15 A Programmable Grating with Phase Change Materials
Martino De Carlo (*Politecnico di Bari*); *Francesco De Leonardis* (*Politecnico di Bari*); *Vittorio M. N. Passaro* (*Politecnico di Bari*);

11:30 Digital Integrated Nonvolatile Variable Optical Attenuator
Martino De Carlo (*Politecnico di Bari*); *Francesco De Leonardis* (*Politecnico di Bari*); *Vittorio M. N. Passaro* (*Politecnico di Bari*);

11:45 Experimental Evaluation of SOI Micro-ring Resonators with Different Gap Widths and Radii
M. Hamza Öncüer (*Insigma Engineering*); *Fatih Üstüner* (*Istanbul Ticaret University*);

Session 4A4
Bioinspired Optics/Photonics

Thursday AM, May 8, 2025

Room 4 - Capital Suite 1

Organized by Young Min Song, Hyeon-Ho Jeong

Chaired by Hyeon-Ho Jeong, Young Min Song

8:30 Invited Functional Pd Material Insertion at the Dielectric Film of Fabry-Perot Cavity for Enhanced Colour Tunability
Hyeonbin Woo (*Korea University*); *Taehyun Kim* (*Korea University*); *Min-Joong Kim* (*Korea University*); *Myung-Ki Kim* (*Korea University*); *Yong-Sang Ryu* (*Korea University*);

8:50 Invited Metasurfaces and Metalenses for Miniaturization of Optical Devices
Junsuk Rho (*Pohang University of Science and Technology (POSTECH)*);

9:10 Invited Iridescent Structural Color by Using Ultra-low Refractive Index Aerogel in Optical Cavity
Jennie Paik (*University of Michigan*); *Wei-Jie Feng* (*University of Michigan*); *Hyeonwoo Kim* (*University of Michigan*); *L. Jay Guo* (*The University of Michigan*);

9:30 Is the Symmetry in Morphology Always Beneficial in Nature?
Jae-Hyun Kim (*Kyung Hee University*); *Sun-Kyung Kim* (*Kyung Hee University*);

10:00 **Coffee Break**

10:30 Invited Bioinspired Dynamic Color Modulation for Soft Robotics Application
Seung Hwan Ko (*Seoul National University*);

10:50 Invited Bio-inspired Artificial Vision Systems for Challenging Environments
Gil Ju Lee (*Gwangju Institute of Science and Technology*);

11:10 Use of Natural Minerals for Low-cost Multilayer Structural Color Fabrication by PVD Process
Benjamin A. Rorem (*University of Michigan*); *Yian Cheng* (*University of Michigan*); *L. Jay Guo* (*The University of Michigan*);

Session 4A5
The Potential of Electrical Reflectometry: An Interesting Technology for System Health Monitoring

Thursday AM, May 8, 2025

Room 5 - Capital Suite 2

Organized by Wafa Ben Hassen

Chaired by Wafa Ben Hassen

8:30 Electrical Reflectometry: Challenges and Strategies for Technology Transfer to Industrial Applications
Wafa Ben Hassen (*Universite Paris-Saclay*);

8:45 Arc Fault Detection and Localization on Embedded Wire Harness by MCTDR Sensors
Soumaya Sallem (*CEA, LIST, GIF-SUR-YVETTE*); *Marc Olivas Carrion* (*CEA LIST*);

9:00 Electrical Reflectometry-based Fire Detection System Using Innovative Heat-sensitive Cable
Mariem Slimani (*Universite Paris-Saclay*); *Nicolas Ravot* (*Universite Paris Saclay*); *Yosra Gargouri* (*Universite Paris-Saclay*); *Mickael Cartron* (*Universite Paris-Saclay*); *Wafa Ben Hassen* (*Universite Paris-Saclay*);

9:15 Implementation of a Novel Hardware Reflectometry System Employing Compressed Sensing for Efficient Cable Diagnostics
Yosra Gargouri (*Universite Paris-Saclay*); *Nicolas Ravot* (*Universite Paris Saclay*); *Mariem Slimani* (*Universite Paris-Saclay*); *Mickael Cartron* (*Universite Paris-Saclay*);

10:00 **Coffee Break**

10:30 Beyond System Health Monitoring: Constructing an Ideal Broadband Sensor Using Time-domain Software Correction
Ghida Al Achkar (*Université Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal*); *P. Bonnet* (*Université Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal*);

10:45 Software Correction of Transient Crosstalk Interferences in Unshielded Wiring: Numerical and Experimental Validations
Brahim El Mokhtari (*Université Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal*); *P. Bonne* (*Université Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal*);

11:00 Study of Cable Sheathing Degradation with the Use of Time-domain NMR
Galina S. Kupriyanova (*Immanuel Kant Baltic Federal University*); *Georgy V. Mozzhukhin* (*Gebze Technical University*); *Ivan G. Mershiev* (*Baltic Federal University by Immanuel Kant*); *Vitaliy V. Molchanov* (*Baltic Federal University by Immanuel Kant*); *Evgeniy A. Severin* (*Baltic Federal University by Immanuel Kant*); *Bulat Rameev* (*Gebze Technical University*);

Session 4A6
Quantum Sensing Methods and Applications

Thursday AM, May 8, 2025

Room 6 - Capital Suite 3

Organized by Yong-Chun Liu, Bei Liu

Chaired by An-Ning Xu

8:30 Invited Electromagnetic Induction Imaging with Atomic Magnetometers: Coming of Age
Ferruccio Renzoni (*University College London*);

8:50 Invited Quantum Radar over Long Distances
Diego Alejandro Roberto Dalvit (*Los Alamos National Laboratory*);

9:10 Invited Superresolving and Supersensitive Multiphoton Quantum Imaging
Omar S. Magana-Loaiza (*Louisiana State University*);

9:30 Quantum-enhanced Gravimetry
Victor Montenegro (*University of Electronic Science and Technology of China (UESTC)*);

10:00 **Coffee Break**

10:30 Turbulence-resistant Quantum Imaging Based on Quantum Entanglement
Si Shen (*University of Electronic Science and Technology*); *Q. Xu* (*University of Electronic Science and Technology*); *Jing Qiu* (*Southwest Institute of Technical Physics*); *M. K. Cai* (*University of Electronic Science and Technology*); *Qiang Zhou* (*University of Electronic Science and Technology of China*); *Hai-Zhi Song* (*Southwest Institute of Technical Physics & UESTC*);

10:45 Noise-robust Ultrasensitive Sensing Empowered by Non-Hermitian Amplification
Tian Zhang (*Nanjing University*); *Xiujuan Zhang* (*Nanjing University*);

11:00 Quantum Imaging with Constraints: Developing a Practical Algorithm
Saif Almazrouei (*Technology Innovation Institute*); *Alexander Mikhalychev* (*B.I. Stepanov Institute of Physics, NAS of Belarus*); *Abdellatif Bouchalkha* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

11:15 Ultra-sensitive Magnetometry Based on Hot Atomic Vapors
An-Ning Xu (*Shandong University*); *Bei Liu* (*Shandong University*);

Session 4A7
Antenna and Array: Theory and Applications

Thursday AM, May 8, 2025

Room 7 - Capital Suite 4

Chaired by Debabrata K. Karmokar, Qingyi Guo

8:30 Design and Optimization of Controlled Reception Pattern Array (CRPA) Antennas for GNSS Systems: Enhancing Anti-jamming Capabilities
I. Sisman (*Yeditepe University*); *Yavuz Selim Saglam* (*Yeditepe University*); *Tugba Haykir Ergin* (*Yeditepe University*);

8:45 Spiral Phased Array Antenna Distribution for Enhanced Sidelobe Suppression
Nikita M. Kondratyev (*Technology Innovation Institute*); *M. Engsig* (*Technology Innovation Institute*); *Evgeny Lonshakov* (*Technology Innovation Institute*); *Mahmoud A. Gaafar* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

9:00 Gain and Dual-polarization Performance Enhancement in Medium-gain Antenna Arrays Featuring Thin Thickness
Arkadiusz Byndas (*Wroclaw University of Science and Technology*); *Mariusz Hofman* (*Tespol*); *Paweł Kabacik* (*Wrocław University of Science and Technology*);

9:15 Optimized Blazed Grating Antenna for Optical Phased Arrays
Henna Farheen (*Paderborn University*); *S. Joshi* (*Paderborn University*); *J. Christoph Scheytt* (*University of Paderborn*); *Viktor Myroshnychenko* (*University Paderborn*); *Jens Forstner* (*Paderborn University*);

9:30 Rectangular Maxwell Fish-Eye Lens Antenna Based on Transformation Optics
Muhib Ullah (*Zhejiang University*); *Xidong Wu* (*Zhejiang University*);

9:45 Investigation of Haussdorf Window in Antenna Power Weighting: Preliminary Findings and Practical Implications
Hartuti Mistialustina (*Universitas Sangga Buana*); *Muhammad Farhan Maulana* (*Universitas Sangga Buana*); *Muhammad Manzil Karama* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

10:00 **Coffee Break**

10:30 Validation of Beamwidth Broadening Technique at Patch Antennas Little Protruding Outside Walls of Small Satellites
Paweł Kabacik (*Wrocław University of Science and Technology*); *Arkadiusz Byndas* (*Wroclaw University of Science and Technology*); *Patryk Wawrzacz* (*Wroclaw University of Science and Technology*);

10:45 Scanning Rate Improvement of Composite Right/Left-handed Leaky-wave Antenna
Debabrata K. Karmokar (*University of South Australia*);

11:00 Ultra-wideband Linear-to-circular Polarizer Based on Phase Difference Complementary Scheme
Qingyi Guo (*Shenzhen University*);

11:15 Comparing Modeling and Measuring Field Pattern of a Slotted Waveguide Antenna Using Modified Pocklington Equation
Alejandro Trejo León (*Sección de Estudios de Posgrado e Investigación*); *David Morales Rodríguez* (*Sección de Estudios de Posgrado e Investigación*); *Fabiola Martínez-Zúñiga* (*Instituto Politecnico Nacional*); *Jorge R. Sosa-Pedroza* (*Instituto Politecnico Nacional*);

11:30 The Effect of Metamaterial on the Gain of the Microstrip Patch Antenna
Yahya Salameh Hassan Khraisat (*Al Balqa Applied University*);

11:45 Circularly Polarized Antenna with EBG Cavity for High Gain WLAN Applications
Asim Quddus (*University of Chakwal*); *Syed Rizwan Hassan* (*NFC Institute of Engineering and Fertilizer Research*);

12:00 Low Profile Circular SIW Cavity-backed Slot Antenna for V2V and 5G Applications
Anil Kumar Nayak (*Indian Institute of Technology Indore*);

Session 4A8
SC4&SC3&SC2: Meeting of Minds for Cross-continental Collaboration in Photonics and Electromagnetics 2

Thursday AM, May 8, 2025

Room 8 - Capital Suite 5

Organized by Hugo Enrique Hernandez-Figueroa, Pavel A. Belov, Boon S. Ooi, Sailing He, Andrew Forbes

Chaired by Sailing He, Andrew Forbes

8:30 Spectral Imaging for Sensing: From Active Metasurface Spectral Filtering to Aberration-free Line-scan Confocal Raman Imager
Sailing He (*Royal Institute of Technology & Zhejiang University*);

8:45 Experimental Markers for Photonic Stopband Topological Character Identification: Polarization-discriminated Dispersion and Its Applications
Nitish Kumar Gupta (*Birla Institute of Technology and Science (BITS) Pilani, Hyderabad Campus*); *Anjani Kumar Tiwari* (*Indian Institute of Technology Roorkee*);

9:00 Metasurface-based Pads for Enhancing Diagnostic Accuracy of Magnetic Resonance Imaging
Vladislav Koloskov (*ITMO University*); *Viktor M. Puchnin* (*ITMO University*); *Evgeniy Koreshin* (*ITMO University*); *Alexander Efimtcev* (*ITMO University*); *Irina Mashchenko* (*Federal Almazov North-West Medical Research Center*); *Alexey P. Slobozhanyuk* (*ITMO University*); *Stanislav B. Glybovski* (*ITMO University*); *Alena V. Shchelokova* (*ITMO University*);

9:15 Nanophotonics for Perovskite Optoelectronic Devices
Sergey Makarov (*ITMO University*);

10:00 **Coffee Break**

10:30 Manipulating the Electromagnetic Field in Wire Media Resonators for Enhanced Axion Detection
Jim A. Enriquez (*ITMO University*); *Rustam Balafendiev* (*ITMO University*); *Pavel A. Belov* (*ITMO University & New Uzbekistan University*);

10:45 Development of a Room-sized Volumetric Resonator for Advanced Wireless Power Transfer
Aigerim N. Jandaliyeva (*ITMO University*); *Nikita V. Mikhailov* (*ITMO University*); *Andrey N. Vdovenko* (*ITMO University*); *Evgenii B. Maiorov* (*ITMO University*); *Alena V. Shchelokova* (*ITMO University*); *Pavel A. Belov* (*ITMO University & New Uzbekistan University*);

11:00 Invited Generalized Lorenz-Mie Theories: From Problems Solved in the Past to Problems to be Solved in the Future
Gérard Gouesbet (*University of Rouen*);

11:20 Invited Global Collaboration through Multilateral Research Societies
Osvaldo N. Oliveira, Jr. (*University of Sao Paulo*);

Session 4A9
Innovations in Modern Microwave Imaging and Sensing Technologies

Thursday AM, May 8, 2025

Room 9 - Capital Suite 6

Organized by Wei Pu, Yu Hai

Chaired by Mou Wang, Yue Song

8:30 A New Convolutional Neural Network for Polarimetric SAR Imagery Classification
Shuaiying Zhang (*National University of Defense Technology (NUDT)*); *Zhen Dong* (*National University of Defense Technology (NUDT)*); *Wentao An* (*National Satellite Ocean Application Service*);

8:45 Wireless, Wearable Pressure-temperature Sensors for Highly Sensitive and Reliable Diabetic Foot Ulcer Management
Zhilu Ye (*Xi'an Jiaotong University*); *Xinran Li* (*Xi'an Jiaotong University*); *Minye Yang* (*Xi'an Jiaotong University*); *Ming Liu* (*Xi'an Jiaotong University*); *Xiaohui Zhang* (*Xi'an Jiaotong University*);

9:00 Microwave Photonic Ultra-wideband Instrument for Planetary Boundary Layer Sensing
Mehmet Ogut (*California Institute of Technology*); *Shannon T. Brown* (*California Institute of Technology*); *Sidharth Misra* (*California Institute of Technology*); *Eric A. Kittlaus* (*California Institute of Technology*); *Pekka Kangaslahti* (*California Institute of Technology*); *Janusz Murakowski* (*Phase Sensitive Innovations*); *Michael Gehl* (*Sandia National Laboratories*);

9:15 Enhanced 3D SAR Imaging: By Using Truncated Nuclear and L1 Norm
Mou Wang (*University of Electronic Science and Technology of China*); *Yifei Hu* (*University of Electronic Science and Technology of China*); *Shunjun Wei* (*University of Electronic Science and Technology of China*); *Jun Shi* (*University of Electronic Science and Technology of China*);

10:00 **Coffee Break**

10:30 Three-dimensional Electrical Impedance Tomography for Pulmonary Ventilation and Perfusion Monitoring: Algorithm Development and Clinical Practice
Ke Zhang (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*);

10:45 Electromagnetic Reconstruction of 3-D Subsurface Objects Straddling Multiple Planar Layers by FEBI and LM Methods
Feng Han (*Great Bay University*); *Jiawen Li* (*Guangxi Normal University*);

11:00 Enhancing Basement Relief Inversion from Gravity Data: Conditional PSU-Net with Integrated Error Prediction
Ruiyuan Kang (*Technology Innovation Institute*); *Meixia Geng* (*Technology Innovation Institute*); *Santosh Sanjeev* (*Technology Innovation Institute*); *Qingjie Yang* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

11:15 A Ku/Ka Dual-band Microwave Photonic Radar Frontend for High-resolution Ranging
Lingjie Zhang (*University of Electronic Science and Technology of China*); *Xiaoyu Liu* (*University of Electronic Science and Technology of China*); *Zhiyao Zhang* (*University of Electronic Science and Technology of China*); *Yong Liu* (*University of Electronic Science and Technology of China (UESTC)*);

Session 4A0
Poster Session 6

Thursday AM, May 8, 2025

8:30 AM - 12:30 AM

Room Poster Area

1 Dual-band Linear-to-circular Polarization Converter for ISM Applications
Cheng-Hsin Ku (*Yuan Ze University*); *Cheng-Nan Chiu* (*Yuan Ze University*);

2 Research on Road Safety-based Wide-angle RCS Enhancement Flexible Surface
Jia-Hao Wang (*Southwest University of Science and Technology*); *Zongwei Zhan* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*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*); *Yu-Teng Zheng* (*DeTooLIC Technology Co., Ltd.*); *Bo Pu* (*DeTooLIC Technology Co., Ltd.*); *Jun Fan* (*Southwest University of Science and Technology*);

3 An Electromagnetic Compatibility Evaluation Method with AHP-entropy Weight Fuzzy Comprehensive
Bin Xie (*Southwest University of Science and Technology*); *Jiasheng Chen* (*Southwest University of Science and Technology*); *Yujie Song* (*Southwest University of Science and Technology*); *Hao-Ran Jiang* (*Sichuan Jiuzhou Electric Appliance Group Co., Ltd.*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *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*); *Feng Guo* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

4 A Novel Dual-probe Method for Noise Source Impedance Extraction
Guozheng Zhang (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Tianqi Zhao* (*DeTooLIC Technology Co., Ltd.*); *Jun Fan* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*);

5 Model Identification of Coupled Electromagnetic-thermal Model of Heterogeneous Structures Using Artificial Neural Networks
Aleksandar Jeremic (*McMaster University*);

6 Study of Artificial Magnetic Conductor Unit Cell Designs to Enhance Bowtie Antenna Performance
Safia Chenaoui (*University of Blida 1*); *Lila Mouffok* (*University of Blida 1*); *Sami Hebib* (*University of Blida 1*);

7 Development of Linear-to-circular Transmissive Polarizer for UHF RFID Range
Si Thu Htet (*Institut Teknologi Bandung*); *Dwi Andi Nurmantris* (*Telkom University*); *Edwar* (*Telkom University*); *Achmad Munir* (*Institut Teknologi Bandung*);

8 Simulation of the Wavefront Aberrations Influence on the Beams Formation with a Nonlinear Vortex Phase Singularity
Pavel A. Khorin (*Samara National Research University*); *N. A. Ivliev* (*Samara National Research University*); *P. G. Serafimovich* (*Samara National Research University*);

9 Separation-tunable Bound States Enabled by Carbon Nanotubes
Congyu Zhang (*Beihang University*); *Bo Fu* (*Beihang University*);

10 Gain Performance Analysis of Rare-Earth-Doped Fiber Amplifier for Optical Networks
Dmitrijs Prigunovs (*Riga Technical University*); *Patriks Morevs* (*Riga Technical University*); *Ints Murans* (*Riga Technical University*); *Inese Parfjonova* (*Riga Technical University (RTU)*); *Aleksandrs Olinš* (*Riga Technical University*); *Ricards Kudojars* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

11 Investigation of Aerosol Scattering and Absorption Properties Using a Novel Broad-spectrum Albedometer
Salma Jose (*National Institute of Technology Calicut*); *K. S. Sidharth* (*National Institute of Technology Calicut*); *Dhilbar Muhammed* (*National Institute of Technology Calicut*); *M. K. Ravi Varma* (*National Institute of Technology Calicut*);

12 Exploring FEC Code Performance in Super-PON Systems: A Comparative Analysis of RS and LDPC Codes with PAM-4 Modulation
Ricards Kudojars (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Patriks Morevs* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Oleksiy Borysenko* (*Sumy State University*); *Svitlana Matsenko* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

13 Calculation of the Optical Skyrmion Number
Sergey S. Stafeev (*NRC "Kurchatov Institute"*); *Aleksey A. Kovalev* (*NRC "Kurchatov Institute"*); *A. M. Telegin* (*NRC "Kurchatov Institute"*); *Victor V. Kotlyar* (*NRC "Kurchatov Institute"*);

14 Peat Pyrolysis in Microwave Heating Simulation
Tatiana Olegovna Krapivnitckaia (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander A. Vikharev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Svetlana Andreevna Ananicheva* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alisa B. Alyeva* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Sergey A. Smirnov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

15 Multi-megawatt Ka-band Relativistic Gyrotron with a Longitudinally Slotted Cavity and a TM-type Operating Mode
Yuri Yurievich Danilov (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Evgeny Viktorovich Ilyakov* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Igor Stanislavovich Kulagin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Alexander Nikolaevich Leontyev* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Roman Markovich Rozental* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

16 Seamless Switching between Cellular, 5G and Wi-Fi Technologies with Open RAN Integration
Roberts Benkis (*Riga Technical University*); *Romans Jerjomin* (*Riga Technical University*); *Romualds Beļinskis* (*Riga Technical University*); *Daniils Aleksandrovs-Moisejs* (*Riga Technical University*); *Artjoms Ratkuns* (*Riga Technical Universit*); *Janeks Ahrems* (*Riga Technical University*); *Arnis Ancans* (*Riga Technical University*); *Deomits Andrejevs* (*Riga Technical University*); *Elans Grabs* (*Riga Technical University*); *Dmitrijs Rjazanovs* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

17 Low-profile Ultra-wideband Tightly Coupled Dipole Array Antenna Based on Artificial Magnetic Conductor
Xiao Gao (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Yan Wen* (*Southwest Jiaotong University*); *Yurong Sun* (*Southwest Jiaotong University*); *Haoxuan Sheng* (*Southwest Jiaotong University*);

18 A Study on a Wireless Power Transmission Method for Downhole Sensors in Oilfields
Yang Qiu (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Huanfa Yi* (*Southwest University of Science and Technology*); *Qianjiang Zhang* (*Southwest University of Science and Technology*);

19 A Simple High Gain Slot Integrated Dipole Antenna for Sub-6 GHz Applications
Yue Jiang (*Macquarie University*); *Umair Rafique* (*University of Oulu*); *Hijab Zahra* (*Macquarie University*); *Fatima Ghulam Kakepoto* (*Zhejiang Normal University*); *Farman Ali Mangi* (*Shah Abdul Latif University Khairpur*); *Syed Muzahir Abbas* (*Macquarie University*);

20 Investigation of the Effect of a Spherical Dielectric Element Installed in the Rupture of the NRD Waveguide Rod
V. V. Krutskikh (*National Research University "Moscow Power Engineering Institute"*); *Andrei N. Ushkov* (*National Research University "Moscow Power Engineering Institute"*); *D. S. Chukashov* (*National Research University "Moscow Power Engineering Institute"*); *A. Yu. Trofimov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

21 Simulation of Circuit with Yttrium Iron Garnet Film Implementing the Magnetic Permeability Tensor Approximation
Nikita S. Maximov (*National Research University "Moscow Power Engineering Institute"*); *K. S. Kharlamp'ev* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *P. M. Vetoshko* (*V.I. Vernadsky Crimean Federal University*); *A. N. Kuzmichev* (*Russian Quantum Center*);

22 Design of a Broadband Circularly Polarized Patch Antenna
Egor Dmitrievich Malev (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*); *B. L. Kogan* (*National Research University "Moscow Power Engineering Institute"*);

23 A Compact Narrowband Circular Waveguide Bandpass Filter with High Selectivity Incorporating Magneto-Dielectric Material
Achmad Munir (*Institut Teknologi Bandung*); *Edwar* (*Telkom University*); *Junas Haidi* (*Institut Teknologi Bandung*); *Sulistyaningsih* (*Institut Teknologi Bandung*); *Rheyuniarto Sahlendar Asthan* (*Institut Teknologi Sumatera*); *Agustinus Agung Nugroho* (*Institut Teknologi Bandung*);

24 Design of a Novel Interdigital Microwave Planer Filter with Asymmetrical Serpentine DGSs
Xin Cao (*Southwest University of Science and Technology*); *Weiping Li* (*East China Jiaotong University*);

25 Conceptual Framework for Remote Height Estimation Using 94 GHz Dual-point Doppler Radar
Y. B. Sudai (*University of Ariel*); *N. Steinmetz* (*University of Ariel*); *E. Magori* (*Jerusalem College of Technology*); *Nezah Balal* (*Ariel University*);

26 Emission Forward Modeling for Mountain Glacier with Basal Slope
Dongjin Bai (*National Space Science Center, Chinese Academy of Sciences*); *Xiaolong Dong* (*National Space Science Center, Chinese Academy of Sciences*); *Saibun Tjuatja* (*University of Texas at Arlington*); *Di Zhu* (*National Space Science Center, Chinese Academy of Sciences*); *Zijin Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

27 The Effect of the Process of Polysilicon Gate on the Performance of VDMOS
Xiaopei Chen (*Chengdu Technological University*); *Chiyuan Wang* (*Chengdu Technological University*); *Yu Xie* (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Suping Huang* (*Southwest Jiaotong University*);

28 Design of Standing Wave Detection System for High Power Medium-long Wave Antenna
Xing Long Liu (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yonghao Lu* (*Southwest University of Science and Technology*); *Qilong Yu* (*Southwest University of Science and Technology*); *Yining Qing* (*Southwest University of Science and Technology*); *Junfeng Luo* (*Southwest University of Science and Technology*);

29 A Millimeter-wave Wireless Interconnect Integrated with Broadband Frequency Synthesizer and Power Amplifier
Yicong Li (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Rui Ma* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Guangqiang Liu* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Yanan Bao* (*Jincheng Research Institute of Opto-mechatronics Industry*); *Gang Wu* (*Guangzhou University*);

30 A Design of Three Kinds of Fruit Quality Inspection Method Based on YOLOv5
Zhuang Xu (*Shanghai Institute of Technology*); *Yaming Xie* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

31 Broadband Nyquist Pulse Generation on TFLN Platform for Integrated Quantum Source
Christian Kress (*Paderborn University*); *M. M. Mihaylov* (*Paderborn University*); *Tobias Schwabe* (*Paderborn University*); *Christine Silberhorn* (*Paderborn University*); *J. Christoph Scheytt* (*Paderborn University*);

32 Design and Failure Mechanism Analysis of High-power Microwave Limiter under High Power Microwave Pulse Injection
Liang Zhou (*Shanghai Jiao Tong University*);

33 Comparison of the Waveguide Mechanism of Radio Wave Propagation over Tropical and Arctic Seas
Mikhail Sergeyevich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *V. A. Telegin* (*Ionosphere and Radio Wave Propagation Russian Academy of Sciences*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*);

34 Research on Microstrip Signal Line Interference Suppression in High Speed PCB Boards
Yujie Song (*Southwest University of Science and Technology*); *Jiasheng Chen* (*Southwest University of Science and Technology*); *Bin Xie* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Longjian Zhou* (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

35 Coupling Properties and Effective Control of Terahertz Metasurfaces with Fabry-Pérot Cavities
Xiaoxiao Wu (*The Hong Kong University of Science and Technology (GZ)*); *Aoning Luo* (*The Hong Kong University of Science and Technology (GZ)*);

36 Towards the Realisation of Waveguide-integrated Graphene Terahertz Detector
Anastasia N. Titchenko (*National Research University "Higher School of Economics"*); *Kirill V. Shein* (*National Research University "Higher School of Economics"*); *Grigory N. Gol'tsman* (*Moscow Pedagogical State University*); *Igor A. Gayduchenko* (*Moscow State University of Education (MSPU)*);

37 Realization of Bound states in the Continuum in First-order Diffraction Channel Using Metallic Metasurface
Haochen Yang (*Zhejiang University*); *Zuojia Wang* (*Zhejiang University*);

38 Dependence of the Terahertz Wave Frequency Upconversion Detection Characteristics on the Pumping Pulse Energy
Na Ming (*Shandong University*); *Shuzhen Fan* (*Shandong University*); *Xingyu Zhang* (*Shandong University*); *Dechun Li* (*Shandong University*); *Liyuan Guo* (*Shandong University*); *Binzhe Jiao* (*Shandong University*); *Jiasheng Yuan* (*Shandong University*); *Shiwu Wang* (*Shandong University*); *Kaiyu Wang* (*Shandong University*); *Naichang Liu* (*Shandong University*); *Xutao Dai* (*Shandong University*);

39 Asymmetric 4.77 dB Three-way Unequal Filtering Power Divider/Combiner for Communication Systems Application
Augustine O. Nwajana (*University of Greenwich*); *Mosammat Rokaiya Akter* (*University of Greenwich*); *Muhammad Asfar Saeed* (*University of Greenwich*);

Session 4P1a
Optoelectronic Devices and Integration

Thursday PM, May 8, 2025

Room 1 - CH B (A)

Chaired by Sajid Muhaimin Choudhury

13:30 Simulation of MoS_2-based LEDs: A COMSOL Approach to Optoelectronic Design
Maryam AlQaydi (*Technology Innovation Institute*); *Abdellatif Bouchalkha* (*Technology Innovation Institute*); *Mahmoud A. Gaafar* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

13:45 Towards High-performance Quantum-based LEDs: Optoelectronic Modulation of 2D Silicon Carbide for Tunable and Efficient White Light Emission
Md. Mahfuzul Haque (*Bangladesh University of Engineering and Technology*); *Sajid Muhaimin Choudhury* (*Bangladesh University of Engineering and Technology (BUET)*);

14:00 On-chip Spectrometer with Superior Performance and Reconfigurability Enabled by Programmable Photonic Circuit
Ang Li (*Nanjing University of Aeronautics and Astronautics*); *Shilong Pan* (*Nanjing University of Aeronautics and Astronautics*);

14:15 Thermal and Optical Properties of Vanadium Oxide Thin Films Deposited by Atomic Layer Deposition
Shuguang Wang (*Fudan University*); *Qingyuan Cai* (*Shanghai Institute of Technical Physics, Chinese Academy of Sciences*); *Xiaojie Sun* (*Fudan University*); *Yuting Yang* (*Fudan University*); *Baojian Liu* (*Fudan University*); *Jing Li* (*Fudan University*); *Rongjun Zhang* (*Fudan University*); *Weibo Duan* (*Shanghai Institute of Technical Physics, Chinese Academy of Sciences*); *Yu-Xiang Zheng* (*Fudan University*); *Liangyao Chen* (*Fudan University*);

14:30 Chiral Semiconductors and Photon Recycling Mechanism for Optoelectronics
Shaocong Hou (*Wuhan University*); *Haofeng Zheng* (*Wuhan University*); *Jing Xiao* (*Wuhan University*);

14:45 Linear Stability Analysis of Soliton Generation in a Ring Cavity with High Backscattering
Nikita M. Kondratyev (*Technology Innovation Institute*); *Evgeny Lonshakov* (*Technology Innovation Institute*); *Mahmoud A. Gaafar* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

15:30 **Coffee Break**

Session 4P1b
Compound Semiconductors and Optoelectronic Devices

Thursday PM, May 8, 2025

Room 1 - CH B (A)

Organized by Jiang Wu, Cheng-Ao Yang

Chaired by Xingzhan Wei

16:00 Invited High-performance and Intelligent Graphene-semiconductor Hybrid Photodetectors
Xingzhan Wei (*Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences*);

16:20 Optical Spectroscopy of Strained A3B5 Nanowires
P. A. Alekseev (*Ioffe Institute*); *V. A. Sharov* (*Ioffe Institute*); *I. A. Eliseyev* (*Ioffe Institute*); *V. Yu. Davydov* (*Ioffe Institute*); *Andrey A. Bogdanov* (*Harbin Engineering University*); *Alexey M. Mozharov* (*Saint Petersburg Academic University*); *V. V. Fedorov* (*Saint Petersburg Academic University*); *Ivan S. Mukhin* (*National Research University for Information Technology, Mechanics and Optics*);

16:35 Invited $CsPbBr_3$ Perovskite Enhance GaN Nanowires as a Self-power Device for Photovoltaic Applications
Dhaifallah Rahim Almalawi (*Taif University*); *Bin Xin* (*King Abdullah University of Science and Technology (KAUST)*); *Venkatesh Singaravelu* (*King Abdullah University of Science and Technology (KAUST)*); *Iman S. Roqan* (*King Abdullah University of Science and Technology (KAUST)*);

16:55 Low Noise InGaAs/InP Single-photon Avalanche Diode with Thin Multiplication Layer
Xing Wang (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Qiao Kai* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*); *Liyu Liu* (*Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS)*);

Session 4P2
Metamaterials, Metasurface and Applications

Thursday PM, May 8, 2025

Room 2 - CH B (C&B)

Chaired by Olivier J. F. Martin, Manuel Arrebola

13:30 Multi-functional Frequency Selective Structure with Tunable Reflective Notch for Intelligent Communication Systems
Da Li (*Zhejiang University*); *Yudi Fan* (*Zhejiang University*); *Erping Li* (*Zhejiang University*);

13:45 Reconfigurable Intelligent Surface Assisted Wireless Energy Transfer: Concept and Experimental Validation
Baiqing Tang (*University of Hertfordshire*); *Yansheng Zhao* (*University of Hertfordshire*); *Qi Luo* (*University of Hertfordshire*); *Yichuang Sun* (*University of Hertfordshire*); *Rafael Caldeirinha* (*Instituto de Telecomunicações and Polytechnic of Leiria*);

14:00 Exploration of Non-Moiré Metasurface Tiles for Robust Polarization Functionalities
Akshay S. Nair (*National Institute of Technology Calicut*); *Natesan Yogesh* (*National Institute of Technology Calicut*);

14:15 Transmissive Metasurface Quarter-wave Plates for Few-femtosecond Pulses at Deep Ultraviolet Wavelengths
Shatha Kaassamani (*National Institute of Standards and Technology*); *Kyle Chapkin* (*National Institute of Standards and Technology*); *Dhruv Fomra* (*University of Maryland*); *Junyeob Song* (*National Institute of Standards and Technology*); *Amit Agrawal* (*National Institute of Standards and Technology*); *Henri J. Lezec* (*National Institute of Standards and Technology*); *Wenqi Zhu* (*National Institute of Standards and Technology*);

14:30 Microwave Absorption of Composite Materials Based on Different Types of Magnetic Flakes
Dzmitry S. Bychanok (*Belarusian State University*); *E. Gurnevich* (*Belarusian State University*); *A. Sukhotski* (*Belarusian State University*); *Gleb Gorokhov* (*Belarusian State University*); *Sergey A. Maksimenko* (*Belarusian State University*);

14:45 Ensuring mm-Wave Communications Using Advanced Electromagnetic Surfaces in Near Field
Alvaro F. Vaquero (*Universidad de Oviedo*); *Manuel Arrebola* (*Universidad Politecnica de Madrid*);

15:00 Anisotropic Second Harmonic Generation from a Monocrystalline Gold Metasurface
Sergejs Boroviks (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

15:30 **Coffee Break**

16:00 Nanoporous Gold Structures as a Platform for Exciting Polarization-independent Radiative Ferrell-Berreman Modes
Jaspreet Singh (*Indian Institute of Technology Ropar*); *Nitish Kumar Gupta* (*Birla Institute of Technology and Science (BITS) Pilani, Hyderabad Campus*); *Subhendu Sarkar* (*Indian Institute of Technology Ropar*);

16:15 Performance Analysis of Switchable Linear-to-circular Polarizer in Conformal Configuration
Dwi Andi Nurmantris (*Telkom University*); *Radial Anwar* (*Telkom University*); *Zulfi* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

16:30 Design and Observation of Type-II Dirac Points at Arbitary Position in the Reciprocal Space
Yangsong Ye (*Hong Kong University of Science and Technology (GZ)*);

16:45 A Study of a Graphene Layer as Tuning Element in Resonant Cavities for Dark Matter Axion Detection
Jose Ramón Navarro Madrid (*Technical University of Cartagena*); *Viktar S. Asadchy* (*Aalto University*); *Xuchen Wang* (*Harbin Engineering University*); *Alejandro Diaz-Morcillo* (*Universitat Politècnica de València*);

17:00 Electrical Tuning in Resonant Cavities with Varactor Diodes
Jose Ramón Navarro Madrid (*Technical University of Cartagena*); *Alejandro Diaz-Morcillo* (*Universitat Politècnica de València*); *Alejandro Alvarez Melcon* (*Universidad Politecnica de Cartagena*);

17:15 Multi-layered Metamaterial Based Broadband Circuit Analog Microwave Absorber Using Graphene/Carbon Conductive Paste
Sahil Thakur (*CSIR-Central Scientific Instruments Organization*); *Sachin Tyagi* (*CSIR-Central Scientific Instruments Organization*); *Kamel Haddadi* (*University of Lille*);

Session 4P3a
Optical Wireless Communications and Visible Light Communications

Thursday PM, May 8, 2025

Room 3 - CH B (D)

Organized by Cuiwei He, Chedlia Ben Naila

Chaired by Cuiwei He

13:30 The Influence of Environmental Parameters on Optical Signal Attenuation in Underwater Wireless Communication Systems
Himaja Madamanchi (*Sri Sairam Engineering College*); *M. Baskaran* (*Sri Sairam Engineering College*);

13:45 Implementation and Experimental Validation of a Python-based Adaptive Optics Closed-loop Control
Asma Al Ahmadi (*Technology innovation Institute*); *Predrag Sekulic* (*Technology innovation Institute*); *Juan Coronel* (*Technology Innovation Institute*); *Guillaume Matras* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*);

14:00 Fluorescent Antennas/Concentrators in Optical Wireless Communications: A Review
Cuiwei He (*Japan Advanced Institute of Science and Technology (JAIST)*); *Ke Wang* (*Royal Melbourne Institute of Technology (RMIT University)*);

Session 4P3b
Advanced Optical and Digital Signal Processing in Optical Communication Networks

Thursday PM, May 8, 2025

Room 3 - CH B (D)

Organized by Tianhua Xu, Mingming Tan

Chaired by Feng Wen

14:00 **Coffee Break**

14:20 Invited — Analog Radio-over-Fiber Technologies for Cell-free MIMO Networks in 6G
Xiaodan Pang (*Riga Technical University*); *Rafael Puerta* (*Ericsson Research*); *Tianyu Jiang* (*KTH Royal Institute of Technology*); *Kristaps Rubuls* (*Riga Technical University*); *Dan Li* (*KTH Royal Institute of Technology*); *Armands Ostrovskis* (*Riga Technical University*); *Richard Schatz* (*Royal Institute of Technology (KTH)*); *Lu Zhang* (*Zhejiang University*); *Toms Salgals* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Xianbin Yu* (*Zhejiang University*); *Oskars Ozoliņš* (*Riga Technical University, Latvian Academy of Sciences*);

14:40 Invited — Practical Implementation of Probabilistic Constellation Shaping for High Speed Optical Data Links
Jinlong Wei (*Peng Cheng Laboratory*);

15:00 Invited — Digital Chaotic Encryption for Secure Optical Networks
Zhouyi Hu (*Beijing Jiaotong University*);

16:00 Invited — Photonic Terahertz Chaos for Broadband Communication and Sensing
Lu Zhang (*Zhejiang University*); *Qiuzhuo Deng* (*Zhejiang University*); *Zhidong Lyu* (*Zhejiang University*); *Xiaodan Pang* (*Zhejiang University*); *Oskars Ozoliņš* (*Riga Technical University, Latvian Academy of Sciences*); *Xianbin Yu* (*Zhejiang University*);

16:20 Invited — Can SiP Modulators Enable 400 Gbps on Single Wavelength in IM/DD Systems?
Armands Ostrovskis (*Riga Technical University*); *Darja Cirjulina* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Minkyu Kim* (*IMEC*); *Michael Koenigsmann* (*Keysight Technologies Deutschland GmbH*); *Benjamin Krüger* (*Keysight Technologies Deutschland GmbH*); *Fabio Pittalà* (*Keysight Technologies Deutschland GmbH*); *Lu Zhang* (*Zhejiang University*); *Xianbin Yu* (*Zhejiang University*); *Richard Schatz* (*Royal Institute of Technology (KTH)*); *Markus Gruen* (*Keysight Technologies Deutschland GmbH*); *Hadrien Louchet* (*Keysight Technologies Deutschland GmbH*); *Robert Jahn* (*Keysight Technologies Deutschland GmbH*); *Kazuo Yamaguchi* (*Keysight Technologies*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Peter De Heyn* (*IMEC*); *Xiaodan Pang* (*Zhejiang University*); *Oskars Ozoliņš* (*Riga Technical University, Latvian Academy of Sciences*);

16:40 Invited — Analytical Formulation of Linear and Nonlinear Noise in Coherent Optical Communication Systems with Polarization Dependent Loss
Junhe Zhou (*Tongji University*); *Tengyuan Liu* (*Tongji University*);

17:00 Diffractive Optical Neural Networks Solving Different Classification Problems at Different Wavelengths
Leonid L. Doskolovich (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *G. A. Motz* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *D. V. Soshnikov* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *E. V. Byzov* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Evgeni A. Bezus* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*); *Dmitry A. Bykov* (*Image Processing Systems Institute, NRC "Kurchatov Institute"*);

17:15 Investigation on Radio-over-fiber Signals Propagating through Mode-division Multiplexing Channel
Yihan Wang (*University of Electronic Science and Technology of China*); *Tianfeng Zhao* (*University of Electronic Science and Technology of China*); *Feng Wen* (*University of Electronic Science and Technology of China*);

Session 4P4a
Biophotonics, Optical Imaging and Bioelectromagnetics

Thursday PM, May 8, 2025

Room 4 - Capital Suite 1

Chaired by Cristian Focsa, Stephen Pistorius

13:30 Analysis of Major Cell Death Pathways under Photodynamic Treatment Using QPI and FLIM
Irina V. Semenova (*Ioffe Institute of the Russian Academy of Sciences*); *Andrey V. Belashov* (*Ioffe Institute of the Russian Academy of Sciences*); *Anna A. Zhikhoreva* (*Ioffe Institute of the Russian Academy of Sciences*); *Oleg S. Vasyutinskii* (*Ioffe Institute of the Russian Academy of Sciences*);

13:45 Variations of Photophysical Properties of PpIX upon Binding to Serum Albumin
Irina V. Semenova (*Ioffe Institute of the Russian Academy of Sciences*); *Maxim V. Belashov* (*Ioffe Institute of the Russian Academy of Sciences*); *Ioanna A. Gorbunova* (*Ioffe Institute of the Russian Academy of Sciences*); *Anna A. Zhikhoreva* (*Ioffe Institute of the Russian Academy of Sciences*); *Maxim E. Sasin* (*Ioffe Institute of the Russian Academy of Sciences*); *Dina M. Beltukova* (*Ioffe Institute of the Russian Academy of Sciences*); *Andrey V. Belashov* (*Ioffe Institute of the Russian Academy of Sciences*); *Oleg S. Vasyutinskii* (*Ioffe Institute of the Russian Academy of Sciences*);

14:00 Data Fusion for Improved Prediction Interval Performance of Ratiometric Binary Liposome Measurement
Waseem Ahmed (*University of Southampton*); *Aneesh Vincent Veluthandath* (*University of Southampton*); *Ganapathy Senthil Murugan* (*University of Southampton*);

14:15 Label-free Imaging of Cancer Cells — Laden 3D Hydrogel Scaffold Using Spectral Domain Optical Coherence Tomography
Pauline John (*New York University Abu Dhabi*); *Gopinathan Janarthanan* (*New York University Abu Dhabi*); *Soyini Alexander* (*New York University Abu Dhabi*); *Sanjairaj Vijayavenkataraman* (*New York University Abu Dhabi*); *Azhar Zam* (*New York University Abu Dhabi*);

14:30 Coupling Optical and Chemical Imaging for Environmental and Biological Applications
Yvain Carpentier (*Université de Lille*); *Kevin Lepot* (*Université de Lille*); *Claire Pirim* (*Université de Lille*); *Cristian Focsa* (*Université de Lille 1*);

14:45 Spatial Modulation Microscopy of Subwavelength Nanoparticles for Silicon Metrology
Anton N. Sofronov (*Samsung Research*);

15:00 Breast Microwave Imaging: Enhancing Diagnostic Accuracy Using Frequency-dependent Phase Centre Corrections
Peng Wang (*University of Manitoba*); *Fatimah Eashour* (*University of Manitoba*); *Stephen Pistorius* (*University of Manitoba*);

15:15 Multi-image Liquid Crystal Computer Generated Holograms
Peter Ropač (*University of Ljubljana*); *Yu-Tung Hsiao* (*Ghent University*); *Jeroen Beeckman* (*Ghent University*); *Miha Ravnik* (*University of Ljubljana*);

15:30 **Coffee Break**

Session 4P4b
Optics and Photonics: Fundamentals and Applications

Thursday PM, May 8, 2025

Room 4 - Capital Suite 1

Chaired by Claude R. Phipps, Sergey V. Morozov

16:00 Dual-band Plasmonic Band-pass Filters Based on Metal-insulator-metal Waveguide Square Ring Resonators for Sub-wavelength Wireless Networks
Montasir Qasymeh (*Abu Dhabi University*); *Kola Thirupathaiah* (*Koneru Lakshmaiah Education Foundation, Hyderabad*);

16:15 Four-wave Mixing in a Laser Diode Gain Medium with Feedback from a High-Q Microresonator in the Linear and Nonlinear Regime
Daria M. Sokol (*Russian Quantum Center*); *Dmitry A. Chermoshentsev* (*Russian Quantum Center*); *Artem E. Shitikov* (*Russian Quantum Center*); *Nikita Yu. Dmitriev* (*Russian Quantum Center*); *Valery E. Lobanov* (*Russian Quantum Center*); *Anatoly V. Masalov* (*Russian Quantum Center*); *Igor A. Bilenko* (*Russian Quantum Center*);

16:30 Lasers in Space: Years of Promise are Becoming Reality
Claude R. Phipps (*Photonic Associates, LLC*);

16:45 Giant Optical Anisotropy and Its Applications in van der Waals Materials
Georgy A. Ermolaev (*Emerging Technologies Research Center, XPANCEO*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *Valentyn S. Volkov* (*Emerging Technologies Research Center, XPANCEO*); *K. S. Novoselov* (*National University of Singapore*);

17:00 Close of Room Temperature Stimulated Emission and Whispering Gallery Mode 3–5 mkm Lasers Based on Relativistic Heterostructers HgCdTe
Sergey V. Morozov (*Institute for Physics of Microstructures of RAS*); *K. A. Mazhukina* (*Institute for Physics of Microstructures of RAS*); *A. A. Yantser* (*Institute for Physics of Microstructures of RAS*); *A. A. Razova* (*Institute for Physics of Microstructures of RAS*); *V. V. Utochkin* (*Institute for Physics of Microstructures of RAS*); *M. A. Fadeev* (*Institute for Physics of Microstructures of RAS*); *Vladimir V. Rumyantsev* (*Institute for Physics of Microstructures of RAS*); *A. A. Dubinov* (*Institute for Physics of Microstructures of RAS*); *D. V. Shengurov* (*Institute for Physics of Microstructures of RAS*);

17:15 Biaxial van der Waals Crystals: Optical Properties and Advanced Photonic Applications
Aleksandr Slavich (*Emerging Technologies Research Center, XPANCEO*); *Georgy A. Ermolaev* (*Emerging Technologies Research Center, XPANCEO*); *D. V. Grudinin* (*Emerging Technologies Research Center, XPANCEO*); *K. V. Kravtsov* (*Emerging Technologies Research Center, XPANCEO*); *A. N. Toksumakov* (*Emerging Technologies Research Center, XPANCEO*); *A. V. Syuy* (*Emerging Technologies Research Center, XPANCEO*); *A. A. Vyshnevyy* (*Emerging Technologies Research Center, XPANCEO*); *I. A. Kruglov* (*Emerging Technologies Research Center, XPANCEO*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *Valentyn S. Volkov* (*Emerging Technologies Research Center, XPANCEO*);

17:30 Exceptional Coupling and Dense Integration of e-skid Waveguides Made of Van-der-Waals Materials
Dmitrii V. Grudinin (*Emerging Technologies Research Center, XPANCEO*); *A. A. Vyshnevyy* (*Emerging Technologies Research Center, XPANCEO*); *Georgy A. Ermolaev* (*Emerging Technologies Research Center, XPANCEO*); *R. V. Kirtaev* (*Emerging Technologies Research Center, XPANCEO*); *Aleksandr S. Slavich* (*Emerging Technologies Research Center, XPANCEO*); *D. I. Yakubovsky* (*Emerging Technologies Research Center, XPANCEO*); *Aleksey V. Arsenin* (*Emerging Technologies Research Center, XPANCEO*); *Valentyn S. Volkov* (*Emerging Technologies Research Center, XPANCEO*);

17:45 Overview of Laser Transparent Material Processing Using Lasers
You Wang (*Southwest Institute of Technical Physics*);

Session 4P5a
Pioneering Advances in Spaceborne Remote Sensing: Observations, Retrievals, Theoretical Frameworks, and AI Innovations

Thursday PM, May 8, 2025

Room 5 - Capital Suite 2

Organized by Xianglei Huang, Lei Bi

Chaired by Xianglei Huang, Lei Bi

13:30 High-throughput All-reflective Optical Design Enabling Achromatic Wide Field of View Space Imaging Systems
Daewook Kim (*University of Arizona*);

13:45 Development and Evaluation of a New Correlated K-distribution Scheme for BCC_RAD Radiative Transfer Model
Liting Liu (*Nanjing University of Information Science & Technology*); *Hua Zhang* (*China Meteorological Administration*);

14:00 Spectrally Consistent Ice Models for Simulating Polarized Radiance of Ice Clouds in the Visible and Near-infrared Bands: Global Simulations and Case Studies
Lei Bi (*Zhejiang University*); *Lanhui Sun* (*Zhejiang University*); *Yizhen Meng* (*Zhejiang University*);

14:15 Retrieval of Ice Cloud Extinction Coefficient from Lidar Observations with the Consideration of Coherent Backscatter Enhancement
Chen Zhou (*Nanjing University*);

14:30 Study on the Relevance to Detection Area and Image Feature Distance on Vehicle Tracking by Using Fractal Image Analysis
Yifan Wu (*Nihon University*); *Syota Yazawa* (*Nihon University*); *Akira Uchida* (*Nihon University*); *Takashi Kuroiwa* (*Nihon University*);

14:45 Study on Detecting Small UAVs Using Two LiDARs with Different FOV
Takashi Kuroiwa (*Nihon University*); *Yifan Wu* (*Nihon University*); *Syota Yazawa* (*Nihon University*); *Akira Uchida* (*Nihon University*);

15:30 **Coffee Break**

Session 4P5b
Advances in Random Medium Scattering Theory and Remote Sensing Techniques

Thursday PM, May 8, 2025

Room 5 - Capital Suite 2

Organized by Shurun Tan, Yanlei Du

Chaired by Shurun Tan, Yanlei Du

16:00 Marine Target Detection in Polarimetric SAR Images Based on Three-component Decomposition and Generalized Likelihood Ratio Test
Chun Liu (*Northwestern Polytechnical University*); *Cong Huang* (*Northwestern Polytechnical University*); *Ke Shi* (*Northwestern Polytechnical University*); *Xiaobo Deng* (*AVIC Leihua Electronic Technology Research Institute*);

16:15 Vegetation Scattering Modeling: An Intercomparison between a Hybrid Wave Approach and the Radiative Transfer Theory
Shurun Tan (*Zhejiang University*); *Haifeng Zheng* (*Zhejiang University*); *Kaiqi Chen* (*Zhejiang University*); *Tengfeng Zhang* (*Zhejiang University-University of Illinois Urbana-Champaign Institute, Zhejiang University*);

16:30 Ocean Internal Wave Detection in SAR Images by Combining Superpixel Segmentation and Saliency Features
Yanlei Du (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Nanjing University*);

16:45 Advances in Remote Sensing Technology for the Study of Ocean Internal Waves
Xiaolin Bai (*Xiamen University*);

17:00 Fundamental Stochastic Processes to Predict Scattering in Turbulent Ionospheric Plasma under Low Solar Activity
Rachid Talhi (*University of Tours*);

17:15 Physical Modelling of Surface and Volume Scattering in Radar Remote Sensing of Snow
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*); *Haokui Xu* (*University of Michigan*);

17:30 Sensing the Environment with Analog TV Signals (ATV-CommSense): A Feasibility Analysis
Vikram Pingili (*Indian Institute of Technology Hyderabad*); *Amit Kumar Mishra* (*Aberystwyth University*); *Mohammed Zafar Ali Khan* (*Indian Institute of Technology*);

Session 4P6a
Advances in Quantum Communications

Thursday PM, May 8, 2025

Room 6 - Capital Suite 3

Organized by Valéria Loureiro Da Silva

Chaired by Valéria Loureiro Da Silva, Guilherme Penello Temporão

13:30 Invited — Secure Communications and Computations Based on Quantum Technologies
Armando Nolasco Pinto (*Aveiro University*);

13:50 Invited — Information-theoretically Secure Equality Testing Protocol for Quantum Key Distribution Networks
Go Kato (*National Institute of Information and Communications Technology*); *M. Fujiwara* (*National Institute of Information and Communications Technology*); *Toyohiro Tsurumaru* (*Mitsubishi Electric Corporation, Information Technology R&D Center*);

14:10 Invited — Tackling Engineering Challenges in Metropolitan Quantum Networks
Guilherme Penello Temporão (*Pontifical Catholic University of Rio de Janeiro (CETUC/PUC-Rio)*);

14:30 Structured Light Communications in Aerial Links
Braian Pinheiro Da Silva (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *A. L. S. Santos Junior* (*Universidade Federal Fluminense*); *M. Gil De Oliveira* (*Universidade Federal Fluminense*); *A. C. Barbosa* (*Universidade Federal Fluminense*); *Antonio Zelaquett Khoury* (*Universidade Federal Fluminense*);

14:45 Optimizing Intruder Evasion and Key Recovery on BB84 Quantum Protocol via Varying Rotational Angles with a Universal Quantum Copying Machine
Yousef Ahmed Y. Altaher (*King's College London*);

15:00 Invited — QuIIN — An Initiative for Fostering a Brazilian Quantum Communication Industry
Valéria Loureiro Da Silva (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *Micael Andrade Dias* (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *Nelson Alves Ferreira Neto* (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *Seyed Saman Mahjour* (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *Braian Pinheiro Da Silva* (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*); *Alexandre Baron Tacla* (*QuIIN — Quantum Industrial Innovation, SENAI CIMATEC*);

15:30 **Coffee Break**

16:00 Invited — A Quantum Key Distribution Portfolio for the UAE
James A. Grieve (*Technology Innovation Institute*);

Session 4P6b
Quantum Optics & Quantum Electromagnetics

Thursday PM, May 8, 2025

Room 6 - Capital Suite 3

Chaired by Mingtao Cao

16:20 Efficient Quantum Memories of Multiplexed High Dimension States for Quantum Networks
Mingtao Cao (*National Time Service Center, Chinese Academy of Sciences*); *Hong Gao* (*Xi'an Jiaotong University*); *Shou-Gang Zhang* (*National Time Service Center, Chinese Academy of Sciences*);

16:35 Some Problems in Computational Classical and Quantum Electromagnetics
Dong-Yeop Na (*Pohang University of Science and Technology*); *Boyuan Zhang* (*Purdue University*); *Jie Zhu* (*Purdue University*); *Weng Cho Chew* (*Purdue University*);

16:50 Spin-based Sensors and Their Application in Fundamental Physics
Wei Ji (*Institut für Physik, Universität Mainz*);

17:05 Modified Michelson Interferometer Setup for Light Bending in Free Space
Wael H. Khatib (*Virtual Satellites, Startup and Research Group*); *Mihai Sanduleanu* (*Khalifa University of Science and Technology*);

17:20 Quantum Image Processing Algorithm for Large Space Datasets
Mohammed Abdellatif AbdelAal Zidan (*Hurghada University*); *Montasir Qasymeh* (*Abu Dhabi University*);

17:35 Bandgap-tuned Nanoplasmonic Ultra-wide Bandpass Filters Based on MIM Waveguide Structures for Sub-wavelength Wireless Networks
Kola Thirupathaiah (*Koneru Lakshmaiah Education Foundation, Hyderabad*); *Montasir Qasymeh* (*Abu Dhabi University*);

Session 4P7a
Electromagnetic Theory, EM Shielding and Computational Electromagnetics

Thursday PM, May 8, 2025

Room 7 - Capital Suite 4

Chaired by B. M. Azizur Rahman

13:30 Invited — Finite Element Method for Photonics Modelling
B. M. Azizur Rahman (*City University*);

13:50 Detecting and Preventing Data Poisoning Attacks on AI Models
Halima Ibrahim Kure (*University of East London*); *Pradipta Sarkar* (*University of East London*); *Ahmed B. Ndanusa* (*University of Abuja*); *Augustine O. Nwajana* (*University of Greenwich*);

14:05 Fundamental and Generalized Solutions of Maxwell's Equations at Moving Emitters of Electromagnetic Waves
Ludmila A. Alexeyeva (*Institute of Mathematics and Mathematical Modeling*); *Ilmira A. Kanymgaziyeva* (*L.N. Gumilyov Eurasian National University*);

14:20 Helical Motion of a Particle in a Multilayer Cylindrical Waveguide
Mikayel Ivanyan (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *B. Grigoryan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *A. 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)*); *V. Avagyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *H. Babujyan* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *S. Arutunian* (*Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)*); *K. Floettmann* (*Deutsches Elektronen-Synchrotron DESY*); *F. Lemery* (*Deutsches Elektronen-Synchrotron DESY*);

14:35 Use of Computer Aided Engineering for Dielectrophoresis Devices
Lars Ole Fichte (*Helmut Schmidt University*);

14:50 Stability of State-spaced Full-wave PEEC for Time-domain Full-wave Solution
Chaofan Xie (*Southeast University*); *Hong Cai Chen* (*Southeast University*);

15:05 A Parallel-based Efficient Nonuniform Meshing Method for FDTD Simulations
Liang Peng (*Southeast University*); *Kanjian Zhang* (*Southeast University*); *Hong Cai Chen* (*Southeast University*);

15:20 Neural Equalizer Based on Gated Recurrent Unit Variants for High-speed Links
Hanzhi Ma (*Zhejiang University*); *Yiqin Xiang* (*Zhejiang University*); *Erping Li* (*Zhejiang University*);

15:35 **Coffee Break**

Session 4P7b
Wireless Power Transfer and High Power Microwave Systems

Thursday PM, May 8, 2025

Room 7 - Capital Suite 4

Chaired by Cuiwei He, Umar Hashmi

15:30 **Coffee Break**

16:00 Improving Efficiency of Miniature Wireless Power Transfer System Employing Metamaterial Slab
Zhanel Kudaibergenova (*Nazarbayev University*); *M. Hashmi* (*Nazarbayev University*);

16:15 Capacitance Prediction Using Parallel GRU Fusion Neural Network for Efficient Wireless Power Transfer
Meng Wang (*Henan Normal University*); *Yilong Sun* (*Henan Normal University*); *Mingshen Li* (*Henan Normal University*); *Qi Luo* (*University of Hertfordshire*); *Yanyan Shi* (*Henan Normal University*);

16:30 Defected Ground Structure-based WPT System for IMDs: Exploring Data Transmission Capability
Anel Murat (*Nazarbayev University*); *Zhanel Kudaibergenova* (*Nazarbayev University*); *M. Hashmi* (*Nazarbayev University*);

16:45 A Far-field Wireless Power Transfer Using Frequency Selective Surface and High-efficiency Power Amplifier at 3.5 GHz
Farheen Fatima (*Indian Institute of Technology Kanpur*); *Areeba Ahsan* (*Indian Institute of Technology Kanpur*); *Shubham Sharma* (*Indian Institute of Technology Kanpur*); *Aamir Alam* (*Indian Institute of Technology Kanpur*); *Mohammad Jaleel Akhtar* (*Indian Institute of Technology Kanpur*);

17:00 Design and Testing of a 300-kV PFN-Marx Generator for High-power Microwaves Applications
Umar Hashmi (*Technology Innovation Institute*); *A. Alali* (*Technology Innovation Institute*); *G. N. Appiah* (*Technology Innovation Institute*); *H. Deiban* (*Technology Innovation Institute*); *Fernando Albarracin-Vargas* (*Technology Innovation Institute-TII*); *Mae Al Mansoori* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*);

17:15 Compact 200 kV–50 Hz Marx Generator for Charging a Dipole Antenna
Umar Hashmi (*Technology Innovation Institute*); *A. Alali* (*Technology Innovation Institute*); *G. N. Appiah* (*Technology Innovation Institute*); *Fernando Albarracin-Vargas* (*Technology Innovation Institute-TII*); *Mae Al Mansoori* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*);

17:30 Design and Development of Compact HPEM Antenna with Tuning Capability
Zubair Akhter (*Technology Innovation Institute*); *Fernando Albarracin-Vargas* (*Technology Innovation Institute-TII*); *E. Gurnevich* (*Technology Innovation Institute*); *A. Al-Ali* (*Technology Innovation Institute*); *Ernesto Neira* (*Technology Innovation Institute, Directed Energy Research Centre*); *Mae Al Mansoori* (*Technology Innovation Institute*); *Felix Vega* (*Technology Innovation Institute*); *Chaouki Kasmi* (*Technology Innovation Institute*);

17:45 High-performance CMOS OTA Design for Sub-6 GHz RF Applications: Optimizing Efficiency-linear Trade-offs in 65 nm Technology
Tugba Haykir Ergin (*Yeditepe University*); *Yavuz Selim Saglam* (*Yeditepe University*); *Ismail Sisman* (*Yeditepe University*);

Session 4P0
Poster Session 7

Thursday PM, May 8, 2025
13:30 PM - 18:30 PM
Room Poster Area

1 Design and Optimization of a Low Frequency Ez Probe with High Sensitivity
Jie Luo (*Southwest University of Science and Technology*); *Qiwen Yan* (*Southwest University of Science and Technology*); *Xiaohe Chen* (*China University of Petroleum*); *Yin Sun* (*DeTooLIC Technology Co., Ltd.*); *Shufang Li* (*Beijing University of Posts and Telecommunications*); *Guozheng Zhang* (*Southwest University of Science and Technology*); *Qiangming Cai* (*Southwest University of Science and Technology*);

2 Piezoelectric Potential Phonon Scattering Properties of ZnS of the Quantum-Qusi Two Dimensional System
Su Ho Lee (*Dong University*); *J. S. Yoo* (*Dong-A University*); *S. H. Rim* (*Dong-A University*); *He Rie Park* (*Dong-A University*);

3 Research on Calibration Techniques for Polarization Detection with Metagratings
Zeyu Zheng (*China Jiliang University*); *Chunlian Zhan* (*China Jiliang University*); *Han Gao* (*China Jiliang University*);

4 Structurally Enhanced Electromagnetic Interference Shielding Performance of 2D Material Composite Film
Min-Yan Bai (*National Taipei University of Technology*); *Zhao-Fu Yen* (*National Taipei University of Technology*); *Sridharan Balu* (*National Taipei University of Technology*); *Shih-Wen Chen* (*National Taipei University of Technology*);

5 Energy Comparison Fueled Motor with Hydrogen Fuels Packed in Different Single Wall Materials and Carbon-nano Tube Storage
Diyar Bajalan (*Technische Universität Wien*);

6 Development of a High-speed, Compact Magneto-optical Magnetic Field Detector
E. Borchanu (*University of Ariel*); *M. Klein* (*University of Ariel*); *A. Haj Yahya* (*University of Ariel*); *Nezah Balal* (*Ariel University*);

7 Towards High-performance Hybrid Optical Amplifiers: Raman/EDFA Design for L- and C-band Applications
Patriks Morevs (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Ricards Kudojars* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Lilita Gegere* (*Riga Technical University*); *Mareks Parfjonovs* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

8 Study on Wavelet Threshold Improved Noise Reduction Method for Miniature Optical Fiber Spectrometer
Juntao Wang (*Shanghai Institute of Technology*); *Xu Zhuang* (*Shanghai Institute of Technology*); *Ya Ming Xie* (*Tongji University*); *Guo Chun Wan* (*Tongji University*);

9 Investigation of Novel Approaches for the Design and Fabrication of Fiber-based Optical Tweezers
Dilan Enrique Ortiz Blanco (*Riga Technical University*); *Ints Murans* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Andrey Machnev* (*Tel Aviv University*); *Mihails Rjumšins* (*Riga Technical University*); *Stanislavs Satins* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

10 Comparative Modeling of Laguerre-Gaussian and Squared Laguerre-Gaussian Beams in a Turbulent Medium
Elena Sergeevna Kozlova (*Samara National Research University*); *Alexandra A. Savelyeva* (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Victor V. Kotlyar* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS*);

11 Performance Improvement of Long Reach Optical Access Systems Using Hybrid Optical Amplifiers
Shreyas Srinivas Rangan (*Technical University of Riga*); *Jurgis Porins* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*);

12 SMIS 37 Upgrade — High-current Electron Cyclotron Resonance Ion Source with Gyrotron Plasma Heating
Vadim A. Skalyga (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Golubev* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *I. V. Izotov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *A. V. Polyakov* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. V. Razin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *D. M. Smagin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *S. S. Vybin* (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

13 Broadband Data Analysis to Create a Model for Internet Connection Speeds Template
Elmars Lipenbergs (*Riga Technical University*); *Inga Vagale* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

14 Project of a Relativistic 35 MW W-band Gyrotron for Accelerator Applications
Alexander Nikolaevich Leontyev (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Oleg Petrovich Plankin* (*Institute of Applied Physics of the RAS*); *Roman Markovich Rozental* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *Evgeny Sergeevich Semenov* (*Institute of Applied Physics of the Russian Academy of Sciences*);

15 Design and Manufacturing of Ka-band Horn Antennas Using 3D Printing: An Expanded Study with Enhanced Comparative Analysis
Nezah Balal (*Ariel University*); *Hagai Shlomo* (*Ariel University*); *Yael Balal* (*Afeka College of Engineering*);

16 A Novel Metal Crack Sensor with Reconfigurable Encoding Tags Based on Chipless RFID Technology
Jiu Yi Hao (*Tongji University*); *Jing Jing Cao* (*Tongji University*); *Guochun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

17 Aperture Coupled Feeding Technique for Improving Radiation Characteristics of Microstrip Antenna
Mohammad Ridwan Effendi (*Institut Teknologi Bandung*); *Mochamad Ananda Mario* (*UIN Sunan Gunung Djati*); *Agus Dwi Prasetyo* (*Institut Teknologi Bandung*); *Sisi Indriani* (*Institut Teknologi Bandung*); *Hartuti Mistialustina* (*Universitas Sangga Buana*); *Achmad Munir* (*Institut Teknologi Bandung*);

18 Another Way to Expand the Bandwidth of a Microstrip Antenna
Mikhail Sergeyevich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *B. L. Kogan* (*National Research University "Moscow Power Engineering Institute"*);

19 Investigation of the Effect of a Complex-shaped Dielectric Element on the Characteristics of a Bandpass Filter Based on an NRD Waveguide
V. V. Krutskikh (*National Research University "Moscow Power Engineering Institute"*); *Andrei N. Ushkov* (*National Research University "Moscow Power Engineering Institute"*); *D. S. Chukashov* (*National Research University "Moscow Power Engineering Institute"*); *A. Yu. Trofimov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*);

20 Measurement of Scattering Parameters of Ferrite-garnet Films on a Vector Network Analyzer
Nikita S. Maximov (*National Research University "Moscow Power Engineering Institute"*); *K. S. Kharlamp'ev* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *P. M. Vetoshko* (*V.I. Vernadsky Crimean Federal University*); *A. N. Kuzmichev* (*Russian Quantum Center*);

21 Design of a Multi-band Patch Antenna with an Integrated Microwave Switch
Egor Dmitrievich Malev (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*); *Alexei A. Komarov* (*National Research University "Moscow Power Engineering Institute"*); *B. L. Kogan* (*National Research University "Moscow Power Engineering Institute"*);

22 A Novel RFID Bidirectional Displacement Detection Sensor with 2-bit Reconfigurable Coding Units
Zhuang Xu (*Shanghai Institute of Technology*); *Yaming Xie* (*Tongji University*); *Guochun Wan* (*Tongji University*);

23 Design of Circularly Polarized Antenna for RF Energy Harvesting
Hussain Muteb Alrashedi (*Prince Sattam Bin Abdulaziz University*); *Faroq Razzaz* (*Prince Sattam Bin Abdulaziz University*);

24 5G Shark Fin Style Antenna for Vehicular Applications
Hijab Zahra (*Macquarie University*); *Umair Rafique* (*University of Oulu*); *Arslan Kiyani* (*Macquarie University*); *Fatima Ghulam Kakepoto* (*Zhejiang Normal University*); *Syed Muzahir Abbas* (*Macquarie University*); *Subhas Chandra Mukhopadhyay* (*Macquarie University*);

25 A Study of the Semi-superjunction SGT MOSFET with Double-layer Epitaxy
Qiqi Liu (*Southwest Jiaotong University*); *Xiaopei Chen* (*Chengdu Technological University*); *Yu Xie* (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*);

26 Improved Accuracy of High-power Microwave Beam Measurements Based on Projective Transformations
Svetlana Andreevna Ananicheva (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); *M. V. Morozkin* (*Institute of Applied Physics, Russian Academy of Sciences*); *Dmitry I. Sobolev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Andrey A. Ananichev* (*Institute of Applied Physics of the RAS*); *A. V. Chirkov* (*Institute of Applied Physics of the Russian Academy of Sciences*); *Grigory G. Denisov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Andrey Pavlovich Fokin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); *Mikhail Yu. Glyavin* (*A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*);

27 A Fast Transient Response LDO with Dynamic Adjustment Circuit for Slew Rate
Zhong Jie Tang (*Tongji University*); *Zhi Chong Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

28 A High PSR Bandgap Reference with Curvature Compensation
Xiaolong Chen (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Wei Wang* (*Southwest Jiaotong University*);

29 Design of an Autonomous Wireless Charging Docking Station and Research on Its Trajectory Planning
Qianjiang Zhang (*Southwest University of Science and Technology*); *Haoran Li* (*Southwest University of Science and Technology*); *Yuyu Zhu* (*Southwest University of Science and Technology*); *Yue Pan* (*Southwest University of Science and Technology*);

30 Design of a Silicon-based Radio Frequency Low-noise Amplifier with Simultaneously Impedance and Noise Matching for Communication
Rui Ma (*Guangzhou University*); *Yicong Li* (*Guangzhou University*); *Lin Peng* (*Guangzhou University*); *Wen Liang Lin* (*Guangzhou University*); *Guangqiang Liu* (*Guangzhou University*); *Guangyu Zhong* (*Guangzhou University*); *Liang Yuan* (*Guangzhou University*); *Yukai Feng* (*Guangzhou University*); *Gang Wu* (*Guangzhou University*); *Zhihong Lin* (*Guangzhou University*);

31 Accurate and Efficient Solutions of Electromagnetic Problems with Chiral Materials Based on Meshless Method
Hao Cheng (*Tongji University*); *Mei Song Tong* (*Tongji University*);

32 An Enhanced Hybrid Channel Estimation Method for Extremely Large MIMO Systems
Muhammad Arslan (*Tongji University*); *Hao Cheng* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

33 Enhanced Channel Estimation and Spectral Efficiency for Massive MIMO in TDD Mode
Muhammad Arslan (*Tongji University*); *Hao Cheng* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

34 Modeling of Pulse Wave Signals for a Blood Pressure Monitor with a Remote Photoplethysmography Sensor
Andrey Petrovich Tarasov (*Moscow Regional Research and Clinical Institute ("MONIKI")*); *Dmitry Alekseevich Rogatkin* (*Moscow Regional Research and Clinical Institute ("MONIKI")*);

35 Design of Terahertz Flat Lens for Focusing and Generation of Orbital Angular Momentums
Xiaoxiao Wu (*The Hong Kong University of Science and Technology (GZ)*); *Xiexuan Zhang* (*The Hong Kong University of Science and Technology (GZ)*);

		May 4 (Sunday PM)
Room 0 - CH A		0P0 - Opening Ceremony 16:00-17:00 0P1 - Hot Topics in Photonics and Electromagnetics
	May 5 (Monday AM)	**May 5 (Monday PM)**
Room 1 - CH B (A)	1A1 - Metasurfaces for Wireless Communications and Sensing 1	1P1a - Metasurfaces for Wireless Communications and Sensing 2 1P1b - Deep Learning in Electromagnetics Research 1
Room 2 - CH B (C&B)	1A2 - Acoustic Metamaterials and Metasurfaces	1P2 - Recent Advances in Optical Metasurfaces 1
Room 3 - CH B (D)	1A3 - Advanced Photonic Technologies for Spectroscopic Applications 1	1P3 - Free-Electron-Driven Photonic Platforms
Room 4 - Capital Suite 1	1A4a - Oral Presentations for Best Student Paper Awards --- SC2: Metamaterials, Plasmonics and Complex Media 1A4b - Oral Presentations for Best Student Paper Awards --- SC4: Antennas and Microwave Technologies	1P4 - Topologically Structured Waves
Room 5 - Capital Suite 2	1A5a - Functional Nanomaterials for Optical Sensing and Imaging 1	1P5 - Functional Nanomaterials for Optical Sensing and Imaging 2
Room 6 - Capital Suite 3	1A6 - Ultrafast and Nonlinear Nanophotonics 1	1P6 - Ultrafast and Nonlinear Nanophotonics 2
Room 7 - Capital Suite 4	1A7 - Organic and Inorganic Optoelectronic Devices 1	1P7 - Organic and Inorganic Optoelectronic Devices 2
Room 8 - Capital Suite 5	1A8 - Terahertz and Mid Infrared Science and Technology	1P8a - SC4&SC3&SC2: Meeting of Minds for Cross-continental Collaboration in Photonics and Electromagnetics 1 1P8b - THz Communication System and Devices
Room 9 - Capital Suite 6	1A9a - Oral Presentations for Best Student Paper Awards --- SC1: CEM, EMC, Scattering & EM Theory 1A9b - Advanced Nummerical Methods in Computational Electromagnetics 1	1P9 - Advanced Nummerical Methods in Computational Electromagnetics 2
Room 10 - Capital Suite 7	1A10 - Advancements and Applications of Drone-Borne Synthetic Aperture Radar (SAR) Systems	1P10 - Ocean and Coastal Remote Sensing: The AI Approach
Poster Area	1A0 - Poster Session 1	1P0 - Poster Session for Best Student Poster Award Competition
Room 11 - Capital Suite 8		1P11 - Oral Presentation for Best Student Poster Award Competition

	May 6 (Tuesday AM)	May 6 (Tuesday PM)
Room 1 - CH B (A)	2A1 - Chiral Metaphotonics 1	2P1 - Deep Learning in Electromagnetics Research 2
Room 2 - CH B (C&B)	2A2a - Singular Optics in Nanophotonics and Metasurfaces 2A2b - 3D Metamaterials for Effective Radar Absorption	2P2a - Interplay between Metasurfaces and Artificial Intelligence 2P2b - Advancing Metamaterials: From Research to Applications
Room 3 - CH B (D)	2A3 - Thermal Radiation: Principles, Progress, and Potentials 1	2P3a - Thermal Radiation: Principles, Progress, and Potentials 2 2P3b - Tunable Photonics
Room 4 - Capital Suite 1	2A4a - Ultrafast and Nonlinear Nanophotonics 3 2A4b - Photonic Resonances and Bound States in the Continuum	2P4 - Bound States in the Continuum and Non-local Flat Optics
Room 5 - Capital Suite 2	2A5a - Advances in Optical Sensing for Sustainability 2A5b - Optical Sensors: From Theory to Applications	2P5 - Optical Fiber Sensors for Medical and Industrial Applications
Room 6 - Capital Suite 3	2A6 - Thermal Photonics: Fundamental Physics and Application 1	2P6a - Manipulation, Detection and Application in Optical Spatial and Temporal Modulation Systems 2P6b - Thermal Photonics: Fundamental Physics and Application 2
Room 7 - Capital Suite 4	2A7 - Semiconductor Optoelectronics 1	2P7a - Semiconductor Optoelectronics 2 2P7b - Oral Presentations for Best Student Paper Awards --- SC3: Optics and Photonics
Room 8 - Capital Suite 5	2A8a - Millimeter and Sub MM-waves On-chip/Off-chip Antennas 2A8b - Advanced Antennas and Arrays for Wireless Communications	2P8a - The Classical and Quantum Theory of Electromagnetic Fields 2P8b - Quantum Information Processing and Devices
Room 9 - Capital Suite 6	2A9 - Surface Integral and Boundary Element Methods: Fundamentals and Applications	2P9 - High Power Sub-THz and THz Waves: Sources and Applications
Room 10 - Capital Suite 7	2A10a - Oral Presentations for Best Student Paper Awards --- SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing 2A10b - Remote Sensing of Water and Energy Cycle	2P10 - Remote Sensing of Water and Energy Cycles
Poster Area	2A0 - Poster Session 2	2P0 - Poster Session 3

	May 7 (Wednesday AM)	May 7 (Wednesday PM)
Room 1 - CH B (A)	3A1 - Chiral Metaphotonics 2	3P1 - Novel Meta-devices and Their Applications 1
Room 2 - CH B (C&B)	3A2 - Recent Advances in Optical Metasurfaces 2	3P2a - Resonant Metasurfaces at THz, Visible, and Near-infrared 3P2b - Multifunctional and Reconfigurable Terahertz and Infrared Metasurfaces
Room 3 - CH B (D)	3A3a - Additive Manufacturing of Photonic Devices 3A3b - Advanced Photonic Technologies for Spectroscopic Applications 2	3P3a - Advances in Time-Varying Metamaterials and Metasurfaces 3P3b - Multi-antenna Systems for 6G and Beyond
Room 4 - Capital Suite 1	3A4 - Multimode Nonlinear Photonics	3P4 - Advances in Topological Photonics
Room 5 - Capital Suite 2	3A5 - Optical Spectroscopy of Two-dimensional Materials and Heterostructures	3P5a - Advances in the Physical Verification of Integrated Circuits 3P5b - Intelligent Photonics
Room 6 - Capital Suite 3	3A6 - Complicated Systems in Photonics and Other Waves	3P6a - Structured Light Fields and Light Scattering 3P6b - Space-time Optics
Room 7 - Capital Suite 4	3A7 - Lasers in Life Sciences: From 3D Bio Printing to Sensing	3P7 - Advances in Multi-Band IF, RF, and Microwave Active, Passive and Antenna Components for Aerospace, Defense and Space System Applications across L/S/C/X/Ku/K/Ka Bands
Room 8 - Capital Suite 5	3A8 - Nanophotonics with Solid-state Quantum Emitters	3P8a - Optics for Quantum Applications 3P8b - Quantum Light Source and Quantum Interference
Room 9 - Capital Suite 6	3A9a - Advanced Techniques in Computational Electromagnetics 3A9b - Novel Mathematical Methods in Electromagnetics	3P9 - Specialty Optical Fibers and Sensing Technologies
Room 10 - Capital Suite 7	3A10 - Rough Surface Scattering: Theory and Application	3P10a - Advancements and Challenges in Electromagnetic Technologies: From Metamaterials Design to Microwave Sensing 3P10b - Single-pixel Imaging and Its Applications
Poster Area	3A0 - Poster Session 4	3P0 - Poster Session 5

	May 8 (Thursday AM)	May 8 (Thursday PM)
Room 1 - CH B (A)	4A1 - Novel Meta-devices and Their Applications 2	4P1a - Optoelectronic Devices and Integration 4P1b - Compound Semiconductors and Optoelectronic Devices
Room 2 - CH B (C&B)	4A2 - Multi-functional Metasurfaces and Photonic Structures	4P2 - Metamaterials, Metasurface and Applications
Room 3 - CH B (D)	4A3a - Photonics in Plant Science 4A3b - Photonic Integrated Waveguide and Fiber-based Photonic Circuits and Devices	4P3a - Optical Wireless Communications and Visible Light Communications 4P3b - Advanced Optical and Digital Signal Processing in Optical Communication Networks
Room 4 - Capital Suite 1	4A4 - Bioinspired Optics/Photonics	4P4a - Biophotonics, Optical Imaging and Bioelectromagnetics 4P4b - Optics and Photonics: Fundamentals and Applications
Room 5 - Capital Suite 2	4A5 - The Potential of Electrical Reflectometry: An Interesting Technology for System Health Monitoring	4P5a - Pioneering Advances in Spaceborne Remote Sensing: Observations, Retrievals, Theoretical Frameworks, and AI Innovations 4P5b - Advances in Random Medium Scattering Theory and Remote Sensing Techniques
Room 6 - Capital Suite 3	4A6 - Quantum Sensing Methods and Applications	4P6a - Advances in Quantum Communications 4P6b - Quantum Optics & Quantum Electromagnetics
Room 7 - Capital Suite 4	4A7 - Antenna and Array: Theory and Applications	4P7a - Electromagnetic Theory, EM Shielding and Computational Electromagnetics 4P7b - Wireless Power Transfer and High Power Microwave Systems
Room 8 - Capital Suite 5	4A8 - SC4&SC3&SC2: Meeting of Minds for Cross-continental Collaboration in Photonics and Electromagnetics 2	
Room 9 - Capital Suite 6	4A9 - Innovations in Modern Microwave Imaging and Sensing Technologies	
Room 10 - Capital Suite 7		
Poster Area	4A0 - Poster Session 6	4P0 - Poster Session 7