TECHNICAL PROGRAM

SPIE. COS | PHOTONICS ASIA

24–26 October 2026
Nantong International Convention Center
Nantong, Jiangsu, China



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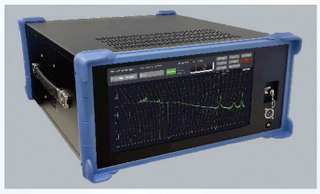
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北京大学长三角光电科学研究院
Peking University Yangtze Delta
Institute of Optoelectronics

Peking University Yangtze Delta Institute of Optoelectronics (PKU-YDIOE) is an innovative R&D institution jointly established by Peking University and the Nantong Municipal People's Government. Inaugurated in November 2019, it is located in Zilang Science and Technology Park, Nantong, Jiangsu Province, China.

Focused on optics and optoelectronics, PKU-YDIOE aims to become one of the world's leading translational R&D institutes. It is committed to conducting innovative research, developing disruptive technologies, promoting technology transfer, incubating high-tech enterprises, and cultivating top optoelectronic engineering talents. Over the past seven years, the institute has steadily built comprehensive core platforms and instrumentation infrastructure to support diverse optical and photonic research, striving to deliver state-of-the-art scientific facilities for outstanding research teams.




PKU-YDIOE operates a two-part R&D layout: the Frontier Innovation Center at Peking University and the Translational R&D Center at its main Nantong campus. The Frontier Innovation Center houses 11 laboratories driving original innovation and technical breakthroughs. The Translational R&D Center leverages findings from the Frontier Innovation Center to advance industrialization prospects. The institute plans to construct 10–15 laboratories within the Translational R&D Center in total, eight of which are now operational: High-Resolution Microscopic Imaging, Photonic Chip and Information System, Micro-Nano Optical Precision Measurement & Quantum Sensing, Optoelectronic Energy Technology, Polymer Optoelectronic Printing, Ultrafast Laser 3D Extreme Manufacturing, Epitaxial Optoelectronic Materials and Devices, and Ultrafast Micro/Nano-scale Optoelectronics. Each laboratory advances industrialization and has achieved remarkable results.

Centered on three core strategic areas: new energy, AI-driven computing infrastructure, and high-end equipment, PKU-YDIOE adopts a dual-track R&D framework to develop both disruptive frontier fundamental optoelectronic technologies and industry-focused applied technologies. The institute accelerates lab-to-pilot scaling, technological commercialization and deep-tech startup incubation, seeking to build a cohesive industry-academia-research-application innovation ecosystem in optoelectronics.

With the institute's rapid and remarkable development, we sincerely invite global outstanding talents to join us in building a globally influential platform for optoelectronic research and industrial development.

E-mail: hr@ydioe.pku.edu.cn
Web: https://www.ydioe.pku.edu.cn





Nantong University (NTU), founded in 1912 by Mr. Zhang Jian—a renowned modern Chinese industrialist and educator—has upheld its motto "Integrating East and West, Striving for the best," its educational philosophy "Learning Must Serve Practice, Practice Must Suit the Local needs," and its value pursuit "Moral Integrity and Academic Purity" for over a century. Through relentless progress, NTU has evolved into a comprehensive university jointly established by the Jiangsu Provincial People's Government and the Ministry of Transport, and a key institution under Jiangsu's "High-Level University Peak Plan." It ranks 179th globally in the Nature Index, with 14 disciplines entering the top 1% of ESI. To date, NTU has nurtured 12 academicians of the Chinese Academy of Sciences and Chinese Academy of Engineering, including 5 from the medical field—placing it 9th nationally and 1st in Jiangsu for the number of medical academicians among Chinese universities.

NTU has three campuses: Seyuan, Qixiu , and Qidong , covering a total area of over 3,300 mu (553 acres) with a building area of more than 1.2 million square meters. It comprises 27 schools, 1 independent college (Xinglin College), 1 directly affiliated tertiary Grade A hospital (Affiliated Hospital of Nantong University), as well as the School of International Education and School of Continuing Education.

The university has 3,376 faculty members, including 1,865 with senior professional titles. Distinguished talents include academicians of the Chinese Academy of Engineering, foreign academicians of the Chinese Academy of Engineering, Olympic champions, recipients of the Ministry of Education's "Chang Jiang Scholars" Program, National Science Fund for Distinguished Young Scholars winners, chief scientists of National Key R&D Programs, chief experts of National Social Science Fund Major Projects, and members of national "Huang Danian-style Teacher Teams."



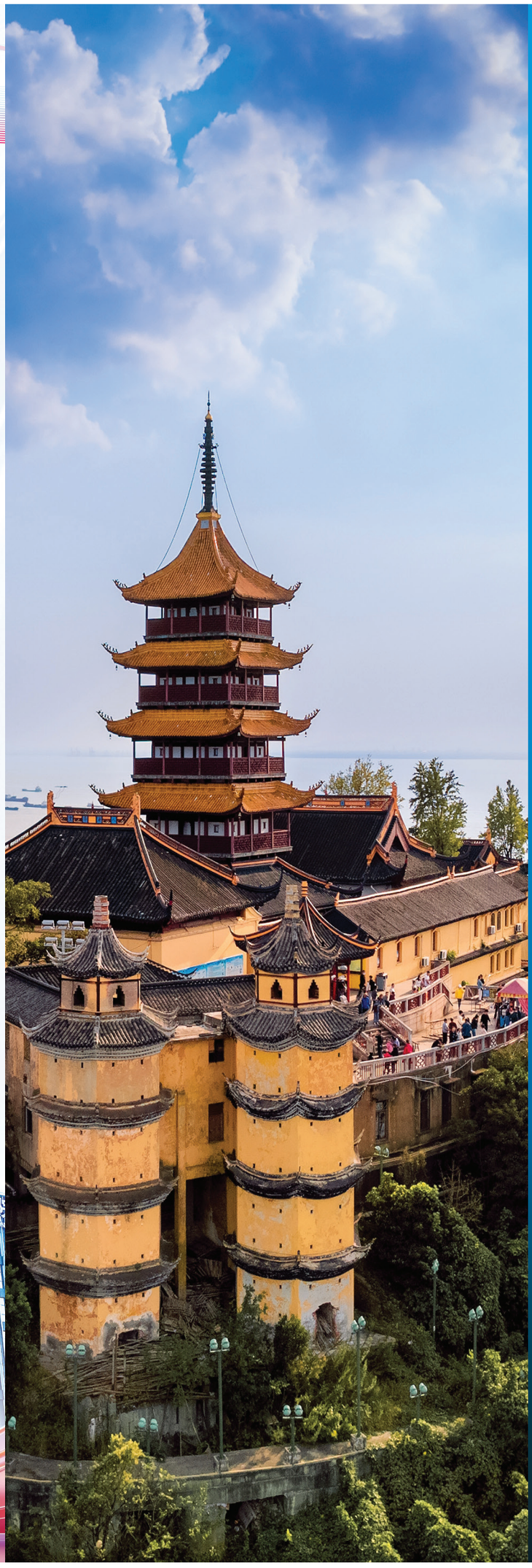




NTU offers 82 undergraduate programs spanning 11 disciplines: literature, science, engineering, medicine, art, economics, law, education, history, management and cross-disciplinary. It enrolls over 50,000 full-time undergraduates, 6,800 full-time postgraduates, and 1,000 international students.

With extensive global engagement, NTU has established partnerships with over 170 universities and research institutions across the U.S., Canada, the U.K., Germany, France, Italy, Spain, Russia, Australia, Japan, South Korea, and Chinese regions of Hong Kong, Macao and Taiwan. It participates in six Sino-foreign university consortium platforms, including Jiangsu-U.K., Jiangsu-Canada, and Jiangsu-Hong Kong/Macau.

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SPIE. COS PHOTONICS ASIA

24–26 October 2026
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Experience the energy of SPIE/COS Photonics Asia

Get ready to enjoy real conversations, discuss the latest breakthroughs, and make important connections in person. Hear thought-provoking technical presentations and featured spotlights from world experts, researchers, and innovators discussing advancements and the latest research in advanced optics and photonics technologies.



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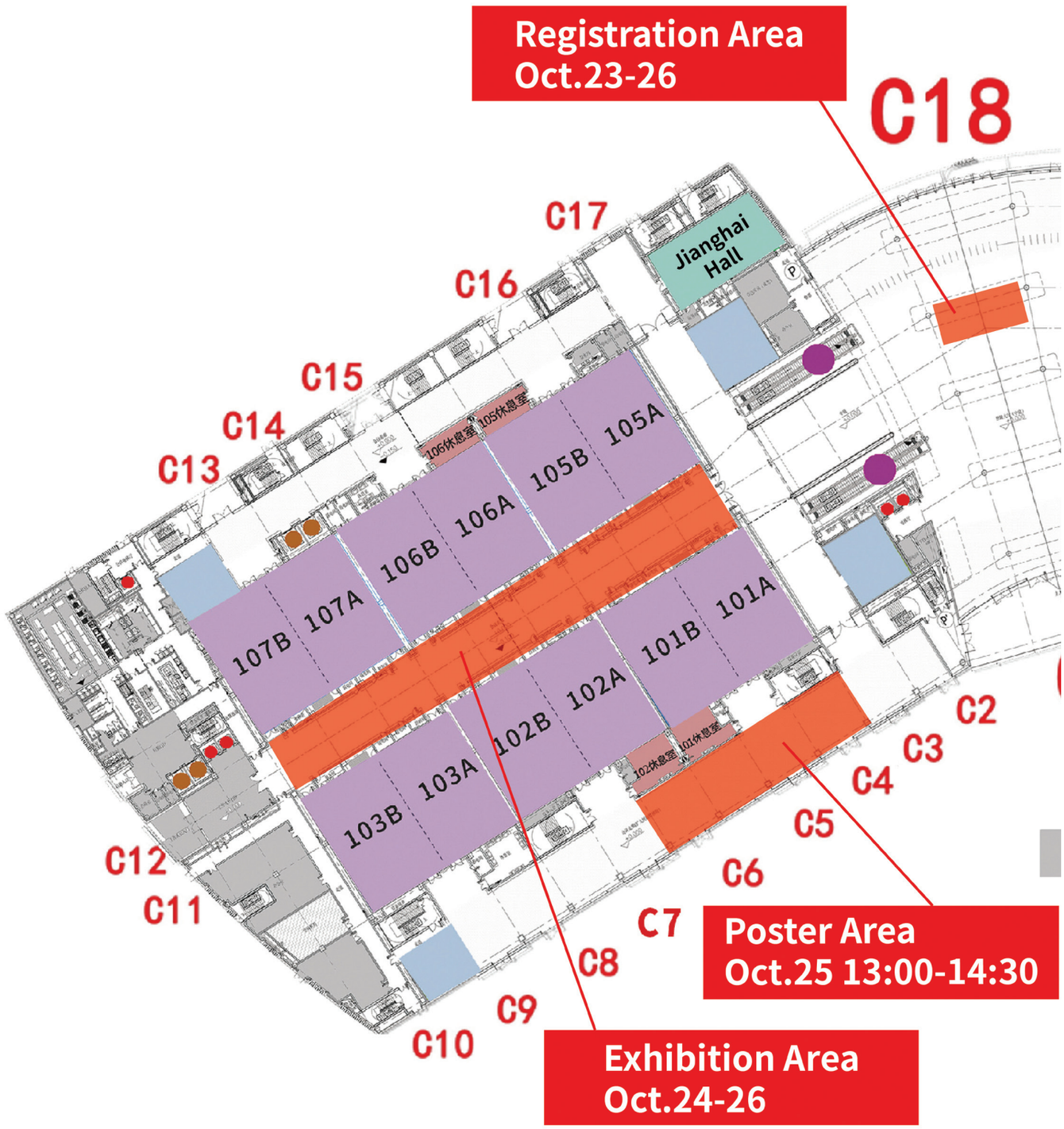
Optics and Photonics Society of Singapore

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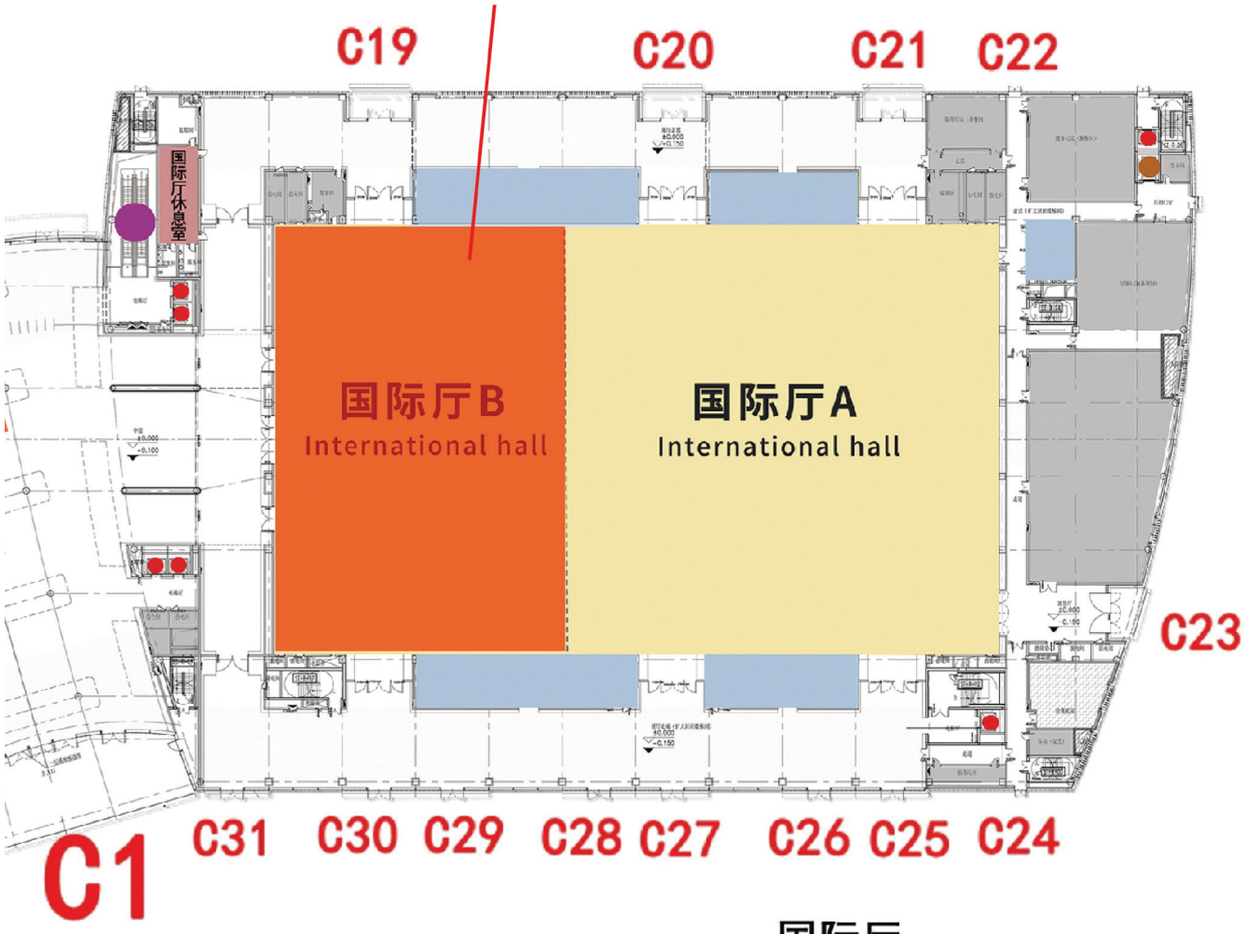
Nantong International Convention Center

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Opening Ceremony
Oct. 24 8:30-8:50

Photonics Asia Spotlights
Oct. 24 8:50-12:00



国际厅
International hall

工作区
Staff only

会议室
Meeting room

直梯
Elevator

江海厅
Jianghai hall

货梯
Ladder

休息室
Lounge

扶梯
Escalator

洗手间
Washing room

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Opening Ceremony and Spotlights

24 October 2026 • 08:30 - 12:00 | International Hall B, 1st Floor

Hear from the leading speakers highlighting their areas of research.

Photonics Asia Opening Ceremony

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements. The ceremony will recognize the newest Fellows for their significant contributions to optics and photonics and highlight the enduring partnership between SPIE and the Chinese Optical Society (COS), which continues to foster scientific exchange and international collaboration. Immediately following the ceremony, attendees are invited to continue the experience at SPIE/COS Photonics Asia Spotlights, featuring presentations from distinguished leaders in photonics and optical science.

Photonics Asia Spotlights

24 October 2026 • 08:50 - 12:00 China
International Hall B, 1st Floor

SPOTLIGHT ON OPTICAL PHYSICS



08:50:

Ultrafast physics with structured light

Yunquan Liu
Peking Univ. (China)

Laser-driven electron motions allow the investigation of fundamental physical phenomena with unprecedented resolution in time, space and energy. The first step in most interactions between light and matter is the ultrafast response of electrons to impinging light, in which the electron dynamics is sensitive to the signatures of the driving light. As light can be tailored to carry custom angular momentum by imprinting it with characteristic structures of intensity, polarization or phase, the resulting structured light offers new opportunities to tailor and control the optical response of materials, far beyond the ability of conventional linearly or circularly polarized light. In this talk, we discuss recent progress at the intersection of the structured light and ultrafast physics communities alongside the underlying physics. Beyond these interesting fundamental considerations, we highlight the broad applications of structured light for investigating and controlling the dynamics of bound and free electrons, as well as extreme ultraviolet radiation, including in strong-field ionization, high harmonic generation and free-electron optical modulation.

High-order harmonic generation is one of most important phenomena in ultrafast community. In optics, light can be tailored to carry custom angular momentum by imprinting it with characteristic structures of intensity, polarization or phase. And thus, the resulting structured light offers fascinating opportunities for structing high-order harmonic radiation because it introduces new tuning knobs for optical fields, far beyond the ability of conventional linearly or circularly polarized light. In this presentation, we discuss the physics and the recent progress at the intersection of ultrafast science with structured light. These capabilities provide new opportunities for probing ultrafast electron dynamics, studying topological and chiral phenomena in matter, and advancing next-generation coherent light sources. The control over harmonic structure highlights the potential of structured HHG for applications in quantum optics, nanoscale imaging, and ultrafast science.

SPOTLIGHT ON BIOPHOTONICS



09:30:

Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers

Vladislav V. Yakovlev
Texas A&M Univ. (United States)

Brillouin microscopy has re-emerged as a powerful non-contact optical modality for probing local viscoelastic properties of biological materials via inelastic light scattering from acoustic phonons. By analyzing the Brillouin frequency shift and linewidth, which are directly correlated with longitudinal modulus and viscosity, this technique enables label-free, diffraction-limited 3D mechanical mapping with minimal photodamage, offering distinct advantages over traditional elastography methods. This presentation reviews the field's current state, from biophysical principles to diverse biomedical applications. I summarize instrumentation guidelines and best practices from the recent international Consensus Statement to ensure standardization. I highlight paradigm-shifting advances, including quantum-enhanced Brillouin microscopy, which surpasses the classical shot-noise limit using entangled photons for faster acquisition and reduced phototoxicity. Looking forward, I outline technical frontiers for clinical translation, discussing ultrafast spectral acquisition for capturing rapid subcellular responses and deep-tissue imaging innovations for fibrotic and in-vivo models.

SPOTLIGHT ON OPTOELECTRONICS



10:40

Manipulation of generalized energy-bands for new functional optoelectronic devices

Yidong Huang
Tsinghua Univ. (China)

The operating principle of photonic devices is based on the interaction between light and matter, which can be summarized as the process of energy exchange and momentum transfer between photons and the microscopic particles/quantum particles within the matter. Matter is composed of electrons and atomic nuclei, and electrons are the main microscopic particles that form photonic devices through interaction with photons, while the atomic nucleus vibration described by phonons is the main quasiparticle in photonic devices. Therefore, the relation between the energy and momentum of photons, electrons, and phonons, will directly determine the interaction process, thereby determine the functions of photonic devices. In analogy to the energy-bands of electrons, the energy-momentum relations (dispersion relations) of photons and phonons can be called "generalized energy bands". This talk summarizes our research work on nanophotonics from the perspective of general energy-bands manipulation. Here the general energy-bands of photon and phonon were manipulated by different nanostructures for realizing novel optoelectronic characteristics on chip, including the free electron radiation, real-time ultraspectral imaging, and phonon exceptional points.

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SPOTLIGHT ON BIOPHOTONICS



11:20:

Platform technologies for AI for science: intelligent imaging across biological scales

Keisuke Goda
The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), and Univ. of California, Los Angeles (United States)

AI is transforming science, but its impact depends on experimental platforms that generate high-quality, high-dimensional, and actionable data. In this talk, I will present our efforts to develop intelligent optical imaging systems as platform technologies for AI for science (Nitta et al., Cell 2018; Nitta et al., *Nature* 2026; Wang et al., Nature Biomedical Engineering 2026, in press). I will discuss how these systems can act as experimental foundation models: general-purpose data-generating infrastructures that learn rich biological representations and support diverse AI tasks, including classification, prediction, perturbation design, and autonomous discovery. I will introduce flow zoometry, a whole-animal analogue of flow cytometry for high-throughput 3D phenotyping, and whole-slide edge tomography, an autonomous digital cytopathology platform. Together, these technologies illustrate how imaging systems can become AI-ready discovery engines that observe, select, perturb, and learn from biological systems across scales.

Photonics Asia Exhibition

24 - 26 October October 2026 • 10:00 - 16:00
Conference Area Middle Hallway, 1st Floor

Discover the latest innovations in optics and photonics at the three-day SPIE/COS Photonics Asia Exhibition. Explore cutting-edge products, technologies, and services from leading companies and organizations while connecting with customers, suppliers, collaborators, and prospective partners.

The exhibition provides a dynamic environment for researchers, scientists, engineers, and industry professionals to engage directly with exhibitors, learn about emerging technical capabilities, and discuss solutions to current challenges. Whether you are seeking new technologies, exploring business opportunities, or building professional relationships, the exhibition serves as a valuable forum for collaboration, innovation, and growth within the global photonics community.

Photonics Asia Banquet

24 October 2026 • 18:30 - 20:00
International Hall B, 1st Floor

TICKETS ARE REQUIRED FOR ADMISSION

Don't miss the SPIE/COS Photonics Asia Banquet, a special evening bringing together researchers, industry professionals, students, and leaders from across the global photonics community. This event offers a relaxed and welcoming atmosphere to continue conversations sparked during the conference, build new professional connections, and celebrate the achievements and innovations shaping the future of optics and photonics.

Whether you are reconnecting with longtime colleagues or meeting new collaborators, the banquet is an excellent opportunity to expand your network and enjoy an evening of fellowship with fellow attendees.

Tickets are required for admission. Banquet tickets may be purchased on site at the COS registration desk, subject to availability. We encourage attendees to obtain tickets early to ensure participation.

Poster Session

25 October 2026 • 13:00 - 14:30
Conference Area South Hallway, 1st Floor

Conference attendees are invited to participate in the Sunday afternoon poster session, an excellent opportunity to explore the latest research, interact directly with authors, and engage in technical discussions with colleagues from around the world. Poster presenters will be available at their displays to answer questions, discuss their findings, and exchange ideas with attendees.

All participants are required to wear their conference registration badge for admission to the poster session.

Information for Poster Authors

Poster authors may set up their presentations between 10:00 and 13:00 on Sunday. To ensure inclusion in the session and conference proceedings, posters must be installed no later than 13:00.

Important: Posters that are not set up by 13:00 will be considered a No-Show, and the associated manuscript will not be published in the Proceedings of SPIE or included in the SPIE Digital Library.

For poster specifications, setup requirements, and presentation guidelines, please visit the SPIE/COS Photonics Asia Poster Presentation Guidelines at:
http://spie.org/PA/poster-presentation-guidelines.

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CONFERENCE 14328

Saturday–Monday 24–26 October 2026 • Room 101A

Advanced Lasers, High-Power Lasers, and Applications XVII

Conference Chairs: **Shibin Jiang,** AdValue Photonics, Inc. (United States); **Zhaoyang Li,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

Program Committee: **Guoqing Chang,** Institute of Physics, Chinese Academy of Sciences (China); **Ioan Dancus,** Extreme Light Infrastructure - Nuclear Physics / IFIN-HH (Romania); **Yuxi Fu,** Xi'an Institute of Optics and Precision Mechanics, CAS (China); **Minglie Hu,** Tianjin Univ. (China); **Lei Jin,** Harbin Engineering Univ. (China); **Hiromitsu Kiriyama,** National Institutes for Quantum Science and Technology (Japan); **Pengfei Lan,** Huazhong Univ. of Science and Technology (China); **Yuxin Leng,** Shanghai Institute of Optics and Fine Mechanics, CAS (China); **Ping Li,** China Academy of Engineering Physics (China); **Ruxin Li,** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China); **Wenxue Li,** East China Normal Univ. (China); **Zhi-Yuan Li,** South China Univ. of Technology (China); **Houkun Liang,** Sichuan Univ. (China); **Jun Liu,** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China); **Károly Osvay,** Univ. of Szeged (Hungary); **Shigeki Tokita,** Kyoto Univ. (Japan); **Yulei Wang,** Hebei Univ. of Technology (China); **Guoqiang Xie,** Shanghai Jiao Tong Univ. (China); **Shixiang Xu Sr.,** Shenzhen Univ. (China); **Pu Zhou,** National Univ. of Defense Technology (China); **Jiangfeng Zhu,** Xidian Univ. (China); **Meiping Zhu,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: NOVEL TECHNOLOGIES FOR HIGH-POWER LASERS I

24 October 2026 • 13:30 - 15:10 | Room 101A
Session Chair: **Yi Cai**, Shenzhen Univ. (China)

14328-1
Two-step phase-shift SPIDER *(Invited Paper)*
Shixiang Xu, Shenzhen Univ. (China)
24 October 2026 • 13:30 - 14:00 | Room 101A

14328-7
Boosting output capacity of a laser system via high-power laser diffractive gratings *(Invited Paper)*
Yunxia Jin, Jianda Shao, Shijie Liu, Shanghai Institute of Optics and Fine Mechanics (China)
24 October 2026 • 14:00 - 14:30 | Room 101A

14328-3
A fine-grained optical scheduling architecture for 6G edge computing-power networks based on predictive sensing and nanosecond-scale REC-DFB/AWGR array reconfiguration
Yihang Chen, Beijing Univ. of Posts and Telecommunications (China); Xuwei Xue, North China Univ. of Technology (China); Xianchen Wu, Xinchi Zhang, Beijing Univ. of Posts and Telecommunications (China)
24 October 2026 • 14:30 - 14:50 | Room 101A

14328-5
A subnanosecond green laser based on master oscillator power amplifier technology
Liqi Niu, Univ. of Jinan (China); Kaichen Zhang, Wenyong Cheng, Shandong Univ. (China); Peng Song, Univ. of Jinan (China)
24 October 2026 • 14:50 - 15:10 | Room 101A

Tea/Coffee Break 15:10 - 15:40

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SESSION 2: NOVEL TECHNOLOGIES FOR HIGH-POWER LASERS II

24 October 2026 • 15:40 - 17:40 | Room 101A

Session Chair: **Zhaoyang Li,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14328-6

Generation and amplification of helical-envelope optical fields *(Invited Paper)*

Yi Cai, Shenzhen Univ. (China)

24 October 2026 • 15:40 - 16:10 | Room 101A

14328-2

Creation of intense full-spectrum white lasers *(Invited Paper)*

Lihong Hong, South China Univ. of Technology (China)

24 October 2026 • 16:10 - 16:40 | Room 101A

14328-8

Interpretable ensemble learning for small-sample inverse design of high-performance diffraction gratings

Yixin Liu, Yunxia Jin, Yuanzhi Dong, Yuxing Han, Rui Wang, Lingjie Yu, Yibin Zhang, Hongchao Cao, Jianda Shao, Chinese Academy of Sciences (China)

24 October 2026 • 16:40 - 17:00 | Room 101A

14328-9

Adaptive correction model and experimental verification of materials under intense optical irradiation based on strongly coupled opto-thermo-mechanical multiphysics fields

Shaohui Wang, Beijing Information Science & Technology Univ. (China); Xiaozheng Liu, Peiyuan Zhou, Tsinghua Univ. (China); Linghao Meng, Mengjiao Lu, Beijing Information Science & Technology Univ. (China); Haitao Zhang, Tsinghua Univ. (China)

24 October 2026 • 17:00 - 17:20 | Room 101A

14328-10

Tunable spacetime birefringence in optical crystals via spectrum engineering of ultrafast wavepackets

Chenhui Yu, Guanyi Zhu, Fei He, Shanghai Institute of Optics and Fine Mechanics (China)

24 October 2026 • 17:20 - 17:40 | Room 101A

SUNDAY 25 OCTOBER

SESSION 3: NOVEL TECHNOLOGIES FOR HIGH-POWER LASERS III

25 October 2026 • 08:10 - 10:10 | Room 101A

Session Chair: **Yang Yu,** Xidian Univ. (China)

14328-11

High-energy and high-average-power 2-μm lasers and their applications in driving EUV plasma sources *(Invited Paper)*

Enhao Li, Yuchun Liu, Panqiang Kang, Yujie Peng, Yuxin Leng, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 08:10 - 08:40 | Room 101A

14328-12

Pulse laser damage of optical components at 13.5 nm, 193 nm, 532 nm, and 2.1 μm *(Invited Paper)*

Yuan'an Zhao, Mengxia Wang, Jun Wang, Jiansheng He, Jiaxing Sun, Yafei Lian, Xiaofeng Liu, Yuxin Leng, Jianda Shao, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 08:40 - 09:10 | Room 101A

14328-13

Off-axis-pumped Hermite-Gaussian laser in single longitudinal mode

Zongchi Xie, Dechen Zhan, Quan Sheng, Tianjin Univ. (China); Chunpeng Shi, Jianhui Zhang, Tianjin Univ (China); Zixin Guo, Wei Shi, Jianquan Yao, Tianjin Univ. (China)

25 October 2026 • 09:10 - 09:30 | Room 101A

14328-14

Generation of 5 W, 26th-order petal-like structured light via transverse-mode control in a thin-disk resonator

Ranyou Zhao, Weiting Shen, Guangzhi Zhu, Hailin Wang, Xiao Zhu, Huazhong Univ. of Science and Technology (China)

25 October 2026 • 09:30 - 09:50 | Room 101A

14328-15

Hybrid fiber amplification and coherent beam combining for high-energy ultrafast lasers

Xue Cao, Jiangsu Normal Univ. (China)

25 October 2026 • 09:50 - 10:10 | Room 101A

Tea/Coffee Break 10:10 - 10:30

SESSION 4: NOVEL TECHNOLOGIES FOR HIGH-POWER LASERS IV

25 October 2026 • 10:30 - 12:10 | Room 101A

Session Chair: **Yuan'an Zhao,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14328-16

Few-cycle tunable femtosecond laser generation by SPM-enabled spectrum selection based on a Yb:CALGO oscillator *(Invited Paper)*

Yang Yu, Yutong Zhang, Xuan Tian, Geyang Wang, Han Liu, Wenlong Tian, Jiangfeng Zhu, Xidian Univ. (China); Zhiyi Wei, Institute of Physics (China)

25 October 2026 • 10:30 - 11:00 | Room 101A

14328-17

Broadband high-damage-threshold ultrafast laser coatings: design, fabrication, and laser-induced damage properties *(Invited Paper)*

Yu Chen, Zhaoyang Li, Yanzhi Wang, Yesheng Lu, Jianda Shao, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 11:00 - 11:30 | Room 101A

14328-18

Random laser emission from DCJTB liquid solution enhanced by polystyrene microspheres

Le Li, Qingyue Zhang, Xia Wang, Yanli Shen, Univ. of Jinan (China)

25 October 2026 • 11:30 - 11:50 | Room 101A

14328-19

Whole-signal simulation of dispersive optical loops with delayed feedback

Igor Chekhovskoy, Novosibirsk State Univ. (Russian Federation), Federal Research Ctr. for Information and Computational Technologies (Russian Federation); Ivan Terekhov, Alexey Kokhanovskiy, ITMO Univ. (Russian Federation); Mikhail Fedoruk, Novosibirsk State Univ. (Russian Federation), Federal Research Ctr. for Information and Computational Technologies (Russian Federation)

25 October 2026 • 11:50 - 12:10 | Room 101A

Lunch Break 12:10 - 13:30

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POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14328-46

Robust ring-weight apodization for 19-element hexagonal coherent beam combining

Riga Nai, Xia Hou, Shanghai Institute of Optics and Fine Mechanics (China)

14328-48

Watt-level broadband and relatively flat supercontinuum generation based on dual-wavelength pumping from a frequency-doubled femtosecond fiber laser

Xinran Wang, Jinrong Tian, Yuze Zhan, Yinan Zhou, Lin Mao, Dandan Wang, Ruyue You, Beijing Univ. of Technology (China)

14328-49

Deformable mirror for high-power laser control and beam shaping

Stefano Bonora, CNR-Istituto di Fotonica e Nanotecnologie (Italy); Lorenzo Uliana, Roberto Francescon, Stefano Binotto, Luca Massaro, Dynamic Optics S.r.l. (Italy)

14328-50

High-order method-of-lines simulation of transient counterpropagating waves in fiber laser systems

Igor Chekhovskoy, Novosibirsk State Univ. (Russian Federation), Federal Research Ctr. for Information and Computational Technologies (Russian Federation); Oleg Sidelnikov, Novosibirsk State Univ. (Russian Federation); Denis Kharenko, Novosibirsk State Univ. (Russian Federation), Institute of Automation and Electrometry (Russian Federation); Alexey Redyuk, Novosibirsk State Univ. (Russian Federation)

14328-51

SOA-integrated 8-channel multi-wavelength laser based on an etched diffraction grating

Shangtong Zou, Jia Guo, Xu Liu, Ziteng Liu, Jiajun Hu, Jian-Jun He, Zhejiang Univ. (China)

14328-52

Generation of a 2–3.8 μm supercontinuum using a 9-shaped cavity femtosecond seed source

YaMin Liu, Xuan Wang, Xuelian Yang, Linjing Yang, Chuanfei Yao, Pingxue Li, Beijing Univ. of Technology (China)

14328-53

Multi-wavelength diode-pumped passively Q-switched Nd:YAG laser with enhanced temperature stability

Liu Peng, Sun Yat-Sen Univ. (China); Zhongxing Jiao, Yan Zhang, Sun Yat-sen University (China)

14328-55

Tracer PLIF spectral calibration and fuel-air mixing measurement in supersonic combustor

Xingyu Yang, Harbin Engineering Univ. (China); Tao Zhang, Bo Yan, Linsen Wang, China Aerodynamics Research and Development Ctr. (China); Weimin Sun, Harbin Engineering Univ. (China); Shuang Chen, China Aerodynamics Research and Development Ctr. (China)

14328-56

Measurement of atmospheric visibility based on single-photon detection technology

Hui Yu, Wuhan Huazhong Quantum Optical Technology Co., Ltd. (China); Qian Zhang, State Electric Power Engineering Research Institute Co., Ltd. (China); Xianjiang Zeng, Wenhao TANG, Wuhan Huazhong Quantum Optical Technology Co., Ltd. (China)

SESSION 5: LARGE LASER FACILITIES

25 October 2026 • 14:30 - 16:10 | Room 101A

Session Chair: **Song Li,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14328-20

Research on precise time-spectrum regulation technology for ICF facilities *(Invited Paper)*

Ke Yao, Research Ctr. of Laser Fusion (China)

25 October 2026 • 14:30 - 15:00 | Room 101A

14328-21

Research on the stimulated Brillouin scattering effect in the sampling optical path of a high-power laser facility *(Invited Paper)*

Bo Zhang, Zhitao Peng, China Academy of Engineering Physics (China)

25 October 2026 • 15:00 - 15:30 | Room 101A

14328-22

Low-smile water-cooled diode laser and its applications in high-power fiber-coupling modules

Yingmin Fan, Focuslight Technologies, Inc. (China)

25 October 2026 • 15:30 - 15:50 | Room 101A

14328-23

Toward the deployment of high-power lasers in upstream energy applications

Damián P. San Román Alerigi, Sameeh I. Batarseh, Ahmad A. Alrashed, Saudi Aramco (Saudi Arabia)

25 October 2026 • 15:50 - 16:10 | Room 101A

Tea/Coffee Break 16:10 - 16:30

SESSION 6: APPLICATIONS OF HIGH-POWER LASERS

25 October 2026 • 16:30 - 17:50 | Room 101A

Session Chair: **Ke Yao,**
China Academy of Engineering Physics (China)

14328-24

Research advances in high-brightness betatron radiation and its applications driven by high-power lasers at SIOM *(Invited Paper)*

Song Li, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 16:30 - 17:00 | Room 101A

14328-25

Strong magnetic fields and subrelativistic collisionless shocks driven by intense lasers *(Invited Paper)*

Yafeng Bai, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 17:00 - 17:30 | Room 101A

14328-27

A custom 266 nm frequency-quadrupled laser for microscopic illumination

Ziyou Yang, Univ. of Jinan (China); Wenyong Cheng, Shandong Univ. (China); Yu-Jing Han, Univ. of Jinan (China)

25 October 2026 • 17:30 - 17:50 | Room 101A

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CONFERENCE 14328

MONDAY 26 OCTOBER

SESSION 7: ADVANCED SOLID/FIBER LASERS

26 October 2026 • 08:00 - 10:10 | Room 101A

Session Chair: **Guijun Hu,** Jilin Univ. (China)

14328-28

High-power 2 µm amplifier for nanosecond and ultrafast timescale *(Invited Paper)*

Weichao Yao, Shanghai Institute of Optics and Fine Mechanics (China)

26 October 2026 • 08:00 - 08:30 | Room 101A

14328-29

Stability of state switching in hybrid mode-locked fiber lasers *(Invited Paper)*

Kun Zhou, Heng Lu, Ruilong Song, Hongbo Jiang, Lei Jin, Harbin Engineering Univ. (China)

26 October 2026 • 08:30 - 09:00 | Room 101A

14328-30

Raman fiber lasers: power scaling, wavelength extension, and structured-light generation *(Invited Paper)*

Chenchen Fan, Tianfu Yao, Jiangming Xu, Jinyong Leng, Pu Zhou, National Univ. of Defense Technology (China)

26 October 2026 • 09:00 - 09:30 | Room 101A

14328-31

0.9 µm high-power Nd-doped random fiber laser

Wenwen Cheng, National Univ. of Defense Technology (China)

26 October 2026 • 09:30 - 09:50 | Room 101A

14328-32

227 W single-frequency Er/Yb co-doped fiber amplifier via long-wavelength off-peak pumping

Peiheng Jiang, Junxiang Zhang, Quan Sheng, Lu Zhang, Shijie Fu, Jianquan Yao, Wei Shi, Tianjin Univ. (China)

26 October 2026 • 09:50 - 10:10 | Room 101A

Tea/Coffee Break 10:10 - 10:30

SESSION 8: ADVANCED FIBER LASERS I

26 October 2026 • 10:30 - 12:10 | Room 101A

Session Chair: **Weichao Yao,** Ruhr-Univ. Bochum (Germany)

14328-33

Spatiotemporally synchronized pure high-even-order dispersion soliton fiber laser *(Invited Paper)*

Guijun Hu, Jilin Univ. (China)

26 October 2026 • 10:30 - 11:00 | Room 101A

14328-34

Passive stabilization of a GHz-rate soliton fiber laser using self-phase-matched injected optoacoustic modulation in PCF *(Invited Paper)*

Wenbin He, Benhai Wang, Meng Pang, Shanghai Institute of Optics and Fine Mechanics (China)

26 October 2026 • 11:00 - 11:30 | Room 101A

14328-35

Fully embedded autonomous mode-locking of NPR fiber lasers via Bayesian-inspired polarization landscape cartography

Muhammad Hamza Younes, Shenzhen Univ. (China); Jiachen Wang, Aamir Khan, Shenzhen Technology Univ. (China); S. Sadam Hussain, Umer Sayyab Khalid, Lip Zhan Hong, Shenzhen Univ. (China); Yu Yan, Chengbing Qin, Lingzhen Yang, Mingjiang Zhang, Taiyuan Univ. of Technology (China); Hang Ren, Fanlong Dong, Peiguang Yan, Junle Qu, Shenzhen Univ. (China); Liantuan Xiao, Taiyuan Univ. of Technology (China); Shuangchen Ruan, Shenzhen Technology Univ. (China); Chunyu Guo, Shenzhen Univ. (China)

26 October 2026 • 11:30 - 11:50 | Room 101A

14328-38

Experimental study on periodic waves to soliton-rain transitions in an erbium-doped fiber ring laser

Zhiming Yang, Ruilong Song, Hongbo Jiang, Lei Jin, Harbin Engineering Univ. (China)

26 October 2026 • 11:50 - 12:10 | Room 101A

Lunch Break 12:10 - 13:30

SESSION 9: ADVANCED FIBER LASERS II

26 October 2026 • 13:30 - 15:00 | Room 101A

Session Chair: **Sha Wang,** Sichuan Univ. (China)

14328-37

Transition dynamics in mode-locked fiber lasers *(Invited Paper)*

Zhiwen He, Can Li, Pu Zhou, National Univ. of Defense Technology (China)

26 October 2026 • 13:30 - 14:00 | Room 101A

14328-54

Recent advances in mid-infrared fluoride glass fibre lasers at NENU Advanced Laser Laboratory *(Invited Paper)*

Pengfei Wang, Northeast Normal Univ. (China)

26 October 2026 • 14:00 - 14:30 | Room 101A

14328-39

Photostability regulation of bismuth-active centers in bismuth-doped fibers: From photobleaching mechanisms to material engineering strategies

Qi Yang, Yushi Chu, Harbin Engineering Univ. (China); Gangding Peng, The Univ. of New South Wales (Australia); Jianzhong Zhang, Harbin Engineering Univ. (China)

26 October 2026 • 14:30 - 14:50 | Room 101A

Tea/Coffee Break 15:00 - 15:10

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SESSION 10: ADVANCED FIBER LASERS III

26 October 2026 • 15:10 - 16:20 | Room 101A

Session Chair: **Zhaoyang Li,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14328-40

Laser field manipulation and its applications in multimode optical fibers *(Invited Paper)*

Sha Wang, Sichuan Univ. (China)

26 October 2026 • 15:10 - 15:40 | Room 101A

14328-41

Successful implementation of high-power fiber laser technology for oil and gas subsurface applications

Sameeh I. Batarseh, Ahmed A. Alrashed, Damian I. Alegrie, Saudi Aramco (Saudi Arabia)

26 October 2026 • 15:40 - 16:00 | Room 101A

14328-42

Amplification Characteristics of Passively Synchronized Yb-Doped Fiber Lasers with Adjustable Pulse Delay

Kaixuan Zhang, Beijing Univ. of Technology (China); Fan Wu, Beijing University Of Technology (China); Jinrong Tian, Yinan Zhou, Dandan Wang, Lin Mao, Yuze Zhan, Ruyue You, Beijing Univ. of Technology (China); Yanrong Song, Beijing University Of Technology (China)

26 October 2026 • 16:00 - 16:20 | Room 101A

SESSION 11: MID-INFARED LASERS

26 October 2026 • 16:20 - 17:40 | Room 101A

Session Chair: **Wenbin He,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14328-43

High-purity 2-μm vortex beam generated from an off-axis-pumped Tm:YLF laser *(Invited Paper)*

Quan Sheng, Zixin Guo, Tianjin Univ. (China); Jianhui Zhang, Tianjin Univ (China); Di Liu, Dechen Zhan, Yizhe Zheng, Tianjin Univ. (China); Kai Zhong, Tianjin Univ (China); Shijie Fu, Wei Shi, Jianquan Yao, Tianjin Univ. (China)

26 October 2026 • 16:20 - 16:50 | Room 101A

14328-44

Multidimensional state regulation of a 2-μm fiber laser based on an artificial intelligence strategy *(Invited Paper)*

Wei Zhou, Jiangsu Normal Univ. (China)

26 October 2026 • 16:50 - 17:20 | Room 101A

14328-45

Compact ZnGeP2 optical parametric oscillator pumped by a 1908 nm Tm:YLF laser with a widely tunable repetition rate

Yizhe Zheng, Kai Zhong, Jing Chi, Yuxin Liu, Kai Chen, Jining Li, Degang Xu, Jianquan Yao, Tianjin Univ. (China)

26 October 2026 • 17:20 - 17:40 | Room 101A

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CONFERENCE 14329

Saturday–Monday 24–26 October 2026 • Room 102A

Semiconductor Lasers, Optoelectronic Devices, and Photonic Integration

Conference Chairs: **Wei Li,** Institute of Semiconductors, Chinese Academy of Sciences (China); **Sha Zhu,** Nankai Univ. (China); **Werner H. Hofmann,** Deutsches Patent- und Markenamt (Germany); **Ting Wang,** Institute of Physics, Chinese Academy of Sciences (China)

Conference Co-Chairs: **Xuping Zhang,** Nanjing Univ. (China); **Baojun Li,** Jinan Univ. (China); **Changyuan Yu,** The Hong Kong Polytechnic Univ. (Hong Kong, China); **Xinliang Zhang,** Wuhan National Lab. for Optoelectronics (China)

Program Committee: **Dayan Ban,** Univ. of Waterloo (Canada); **Minghua Chen,** Tsinghua Univ. (China); **Xiangfei Chen,** Nanjing Univ. (China); **Nan Chi,** Fudan Univ. (China); **Daoxin Dai,** Zhejiang Univ. (China); **Ming Li,** Institute of Semiconductors, Chinese Academy of Sciences (China); **Yong Liu,** Univ. of Electronic Science and Technology of China (China); **Gang-Ding Peng,** The Univ. of New South Wales (Australia); **Edwin Y. Pun,** City Univ. of Hong Kong (Hong Kong, China); **Yaocheng Shi,** Zhejiang Univ. (China); **Yikai Su,** Shanghai Jiao Tong Univ. (China); **Yonghui Tian,** Lanzhou Univ. (China); **Zixian Wei,** The Hong Kong Polytechnic Univ. (Hong Kong, China); **Guang-Qiong Xia,** Southwest Univ. (China); **Yujun Xie,** Institute of Semiconductors, Chinese Academy of Sciences (China); **Yu Yu,** Huazhong Univ. of Science and Technology (China); **Yuan Yu,** Wuhan National Lab. for Optoelectronics (China); **Baoping Zhang,** Xiamen Univ. (China); **Shangjian Zhang,** Univ. of Electronic Science and Technology of China (China); **Xiaobei Zhang,** Shanghai Univ. (China); **Xinliang Zhang,** Wuhan National Research Ctr. for Optoelectronics (China); **Zhiping Zhou,** Aijie Optoelectronic Technology (China); **Ning Hua Zhu,** Institute of Semiconductors, Chinese Academy of Sciences (China); **Ningmu Zou,** Nanjing Univ. (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: ADVANCED INTEGRATED PHOTONIC DEVICES AND ELECTRO-OPTIC TECHNOLOGIES

24 October 2026 • 13:30 - 15:35 | Room 102A
Session Chair: **Fang Wang,** Shanghai Institute of Technical Physics, CAS (China)

14329-1
Chalcogenide integrated photonic devices for multifunctional on-chip optical field manipulation *(Invited Paper)*
Zhiyu Zhang, Kunhao Lei, Zhejiang Univ. (China); Kangjian Bao, Boshu Sun, Lan Li, Westlake Univ. (China); Hongtao Lin, Zhejiang Univ. (China)
24 October 2026 • 13:30 - 13:55 | Room 102A

14329-2
Electro-optic frequency comb-empowered precise measurement of the dynamic frequency of a laser *(Invited Paper)*
Yang Li, Sun Yat-Sen Univ. (China)
24 October 2026 • 13:55 - 14:20 | Room 102A

14329-3
Micro and nanostructured thin film lithium niobate enhanced photonic devices *(Invited Paper)*
Huihui Lu, Jinan Univ. (China)
24 October 2026 • 14:20 - 14:45 | Room 102A

14329-4
Integrated application of all-optical electro-optic characterization method and simplified electro-optic frequency comb *(Invited Paper)*
Wenzhao Sun, City Univ. of Hong Kong (China)
24 October 2026 • 14:45 - 15:10 | Room 102A

14329-5
Electrically reconfigurable mode chirality in integrated microcavities *(Invited Paper)*
Jiawei Wang, Harbin Institute of Technology Shenzhen Graduate School (China)
24 October 2026 • 15:10 - 15:35 | Room 102A

Tea/Coffee Break 15:35 - 15:55

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SESSION 2: ADVANCED PHOTODETECTION, IMAGING, AND OPTOELECTRONIC TECHNOLOGIES

24 October 2026 • 15:55 - 18:00 | Room 102A

Session Chair: **Jiawei Wang,** Harbin Institute of Technology Shenzhen Graduate School (China)

14329-6

Photodetectors for weak signals *(Invited Paper)*

Fang Wang, Shanghai Institute of Technical Physics (China)

24 October 2026 • 15:55 - 16:20 | Room 102A

14329-7

Ge-on-Si photodetector with compact size and high power for microwave photonics *(Invited Paper)*

Yuhang Wan, Di Xu, Zheng Zheng, Beihang Univ. (China)

24 October 2026 • 16:20 - 16:45 | Room 102A

14329-8

Heterogeneous integrated photodetector for multi-dimensional photonic information detection *(Invited Paper)*

Wenjie Deng, Beijing Univ. of Technology (China)

24 October 2026 • 16:45 - 17:10 | Room 102A

14329-9

Low-noise 3D meta-holography based on dual spatial constraints *(Invited Paper)*

Di Wang, Beihang Univ. (China)

24 October 2026 • 17:10 - 17:35 | Room 102A

14329-10

Controllable growth of two-dimensional TMDs for optoelectronic devices *(Invited Paper)*

Yongji Wang, City Univ. of Hong Kong (China)

24 October 2026 • 17:35 - 18:00 | Room 102A

SUNDAY 25 OCTOBER

SESSION 3: SEMICONDUCTOR PHOTONIC DEVICES AND HIGH-SPEED COMPUTING TECHNOLOGIES

25 October 2026 • 08:30 - 10:25 | Room 102A

Session Chair: **Shangjian Zhang,** Univ. of Electronic Science and Technology of China (China)

14329-11

Multiphysics simulation of semiconductor lasers and modulators for CPO/NPO optical interconnects in AI computing systems *(Invited Paper)*

Jimin Wen, Qiao Sun, Bibo Li, Xpeedic Co., Ltd. (China)

25 October 2026 • 08:30 - 08:55 | Room 102A

14329-12

Hybrid time delay reservoir computing based on semiconductor lasers *(Invited Paper)*

Yali Zhang, Kun Jiao, Qingzhong Pang, Shangjian Zhang, Yong Liu, Univ. of Electronic Science and Technology of China (China)

25 October 2026 • 08:55 - 09:20 | Room 102A

14329-13

Photonic reservoir computing *(Invited Paper)*

Xing Xing Guo, Xidian Univ. (China)

25 October 2026 • 09:20 - 09:45 | Room 102A

14329-14

Polarization dynamics in an AlGaAs spin-VCSEL

Uliana Diiankova, Markus Lindemann, Martin R. Hofmann, Ruhr-Univ. Bochum (Germany)

25 October 2026 • 09:45 - 10:05 | Room 102A

14329-15

Design of a high-speed divide-by-2/3 frequency prescaler using triple-tail latch-based D flip-flop topology

Phuong T. Tran, Ton Duc Thang Univ. (Vietnam); Bharat Choudhary, Ghanshyam Singh, Malaviya National Institute of Technology, Jaipur (India); Abhishek Srivastava, International Institute of Information Technology, Hyderabad (India); Hemant Kumar Meena, Malaviya National Institute of Technology, Jaipur (India); Dheeraj Singh Rajput, Indira Gandhi Engineering College Sagar (India); Himanshu Kumar, Malaviya National Institute of Technology, Jaipur (India)

25 October 2026 • 10:05 - 10:25 | Room 102A

Tea/Coffee Break 10:25 - 10:50

SESSION 4: ADVANCED PHOTONIC MEASUREMENT, SIGNAL PROCESSING, AND OPTICAL NETWORKS

25 October 2026 • 10:50 - 12:05 | Room 102A

Session Chair: **Xing Xing Guo,** Xidian Univ. (China)

14329-16

Comprehensive linear and nonlinear frequency response characterization of photodetectors via pilot-aided de-embedding *(Invited Paper)*

Shangjian Zhang, Di Lei, Xinhai Zou, Yali Zhang, Yong Liu, Univ. of Electronic Science and Technology of China (China)

25 October 2026 • 10:50 - 11:15 | Room 102A

14329-17

High-performance microwave photonic applications enabled by ultra-fast frequency-swept lasers *(Invited Paper)*

Bin Wang, Beijing Institute of Technology (China)

25 October 2026 • 11:15 - 11:40 | Room 102A

14329-18

Routing selection technology for LEO satellite laser networks based on path aggregation *(Invited Paper)*

Hua Wang, Nanjing Tech Univ. (China)

25 October 2026 • 11:40 - 12:05 | Room 102A

Lunch Break 12:05 - 13:30

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POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14329-36

Research on mitigation of equalization enhanced phase noise based on correlated conjugate detection scheme

Xishuo Wang, Xiaolong Pan, Jianping Zhu, Zhipei Li, Beijing Institute of Technology (China); Lei Zhu, Beijing Univ. of Posts and Telecommunications (China); Huan Chang, Qi Xu, Ran Gao, Xiangjun Xin, Beijing Institute of Technology (China)

14329-37

A 112Gbps PAM4 O-band differentially driven Mach-Zehnder modulator

Xingyu Wang, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China); Yujun Xie, Institute of Semiconductors (China); Wei Li, Ming Li, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China)

14329-38

Hybrid mode-locked coupled optoelectronic oscillator

Xinyue Chen, Linxiao Guo, Shiyu Xiao, Wei Li, Tengfei Hao, Ming Li, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China)

14329-39

Electro-optic co-simulation of an ultra-high-speed silicon microring modulator for 400 Gbps optical interconnects

Shuaihang Guo, Yujun Xie, Wei Li, Ming Li, Institute of Semiconductors (China), The Univ. of Chinese Academy of Sciences (China)

14329-40

A programmable Bragg–Fabry–Pérot filter based on thin-film lead zirconate titanate

Lei Duan, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China); Yujun Xie, Institute of Semiconductors (China); Guangming Zhao, Wei Li, Institute of Semiconductors (China), Univ. of the Chinese Academy of Sciences (China); Yang Qu, Institute of Semiconductors, Chinese Academy of Sciences (China); Ming Li, Institute of Semiconductors (China), Univ. of the Chinese Academy of Sciences (China)

14329-41

Theoretical investigation of optical frequency comb generation in gain-switching vertical-cavity surface-emitting laser driven by various modulation signals under optical injection

Chenhao Gou, Yuan Jiao, Zhenlin Tian, Baoping Huang, Sai Du, Jincheng Ma, Xiaoting Xian, Yufan Luo, Zhaopeng Qin, Chaoyi Shen, Southwest Institute of Technical Physics (China)

14329-42

Geometry optimization of single-mode laterally coupled sidewall-grating distributed Bragg reflector lasers

Hantao Liu, Biwei Hu, Zunhao Hu, Yuede Yang, Youling Chen, Jinlong Xiao, Yongzhen Huang, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China)

14329-43

Thermal effects on the soliton plateau of self-injection-locked microcombs

Yukun Wang, Wenqi Shi, Yuede Yang, Jinlong Xiao, Yongzhen Huang, Youling Chen, Institute of Semiconductors (China)

14329-44

Temperature-insensitive supermode waveguide microring resonator

Rui Yin, Tiangang Zheng, Ming Li, Xin Wang, Institute of Semiconductors (China)

14329-45

Influence of optoelectronic feedback loop gain on linearly chirped signal generation in a Fourier domain mode-locked optoelectronic oscillator

Xinyu Liu, Xiaoyu Yang, Shiyu Xiao, Wei Li, Ming Li, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China); Tengfei Hao, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences. (China)

14329-46

Reflection grating for external-cavity narrow-linewidth tunable laser

Shuaibing Chen, Quan Liu, Tianshuai Xiao, Jilei Jiang, Jiang Leng, Zijiang Yang, Soochow Univ. (China)

14329-47

Self-referenced large-aperture beam profiler for wavefront and angular diagnostics of diode lasers

Daba A. Radnatarov, Ivan Gromov, Sergey Kobtsev, Novosibirsk State Univ. (Russian Federation)

14329-48

Alleviating the incompatibility between frequency domain chromatic dispersion estimation algorithm and probabilistic shaping through the truncated constellation shaping method

Xishuo Wang, Xiaolong Pan, Jianping Zhu, Zhipei Li, Beijing Institute of Technology (China); Lei Zhu, Beijing Univ. of Posts and Telecommunications (China); Huan Chang, Qi Xu, Ran Gao, Xiangjun Xin, Beijing Institute of Technology (China)

14329-49

Silicon-based high-efficiency perfectly vertical grating coupler with a dual-layer structure

Yumo Lei, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China); Yanzhen Li, Centre for Nanophotonics, Department of Physics, Engineering Physics, and Astronomy (Canada); Nan Zhang, Ming Li, Wei Li, Institute of Semiconductors (China), Univ. of Chinese Academy of Sciences (China)

14329-50

Parallel chaotic series prediction based on robustness-enhanced photonic reservoir computing with mutually coupled VCSELs

Yu Wang, Fei Wang, Ying-Ke Xie, Zi-Ye Gao, Li-Wen Hu, Xi-Meng Hu, Yu-Long Wu, Tao Deng, Southwest Univ. (China)

14329-51

A 4.6μm mid-infrared quantum cascade laser polarization-combined light source

Xiaolong Bai, Yao Li, Kun Liu, Kun Zhang, The 11th Research Institute of China Electronics Technology Group Corp. (China)

14329-52

Folded-cavity Littrow semiconductor laser with narrow-linewidth emission

Yiwei Zhang, The 11th Research Institute of China Electronics Technology Group Corp. (China)

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14329-53

Study on the failure mechanism of 1550nm tunable VCSEL using high contrast grating

WenYuan Liao, Yubiao Xu, CanXiong Lai, Guoguang Lu, China Electronic Product Reliability and Environmental Testing Research Institute (China)

14329-54

Research on high-brightness incoherent beam combining technology for QCL

Bo Ni, Shuangqi Zhu, Xiaolong Bai, Yiwei Zhang, Yao Li, Kun Zhang, Kun Liu, Hong Zhao, The 11th Research Institute of China Electronics Technology Group Corp. (China)

14329-55

System-level verification of Compute Express Link in high-speed optoelectronic interconnecting system

Yue Geng, Xuhui Liu, Liang Wang, Chun-Zhang Chen, Peng Cheng Lab. (China); Quan Pan, Southern Univ. of Science and Technology (China); Hanming Wu, Peng Cheng Lab. (China)

14329-56

Bandwidth and AM-PM conversion co-design in modified uni-traveling carrier (MUTC) photodetectors

Xue Xiao, ZhanYu Yang, Beijing Univ. of Posts and Telecommunications (China); BaiQing Zong, Milphoton Semiconductor (China); XingYu Cheng, Beijing Univ. of Posts and Telecommunications (China)

14329-57

A wide-bandwidth high-resolution computational spectrometer based on neural networks

XiaoChen Mao, Pei Yuan, XinYu Zhang, Beijing Information Science & Technology Univ. (China)

14329-58

SOI-based broadband high-resolution computational spectrometer

Xinyu Zhang, Pei Yuan, Xiaochen Mao, Beijing Information Science & Technology Univ. (China)

14329-59

A dual-photodetector multiplexed spectral readout and locking architecture for microring-array photonic chips

Liu Qixuan, Yu Tianyue, He Jian-Jun, Zhejiang Univ. (China); Yu Tianyue, Liu Biaohan, Liu Xu, College of Optical Science and Engineering, Zhejiang University (China)

14329-60

Resonant cavity enhanced AlInAsSb avalanche photodiodes for MWIR applications at 2 micrometer based on modeling analyses

Yegao Xiao, Crosslight Software Inc. (Canada); Sheng Gao, Crosslight Software Inc. (China); Michel Lestrade, Zhanming S. Li, Crosslight Software Inc. (Canada)

14329-61

Electro-optic codesign of a highspeed silicon photodetector with spiral-inductor peaking

Peng Wang, Nanjing Xiaozhuang Univ. (China), Institute of Semiconductors (China); Shuaihang Guo, Yujun Xie, Wei Li, Ming Li, Institute of Semiconductors (China)

14329-62

O-band polarization-insensitive grating couplers for on-chip polarization diversity systems

Huimin Yan, Jiayin Yan, Zikang Xu, Ying Tang, Xu Liu, Jian-Jun He, Zhejiang Univ. (China)

14329-63

Ultra-compact racetrack resonator with enhanced Q-factor

Xulin Zhao, Shanghai Jiao Tong Univ. (China); Zhewei Zhang, Peng Liu, Zhangjiang Lab. (China)

14329-64

Fiber-array facet-integrated polymer microlens coupler fabricated by two-photon polymerization 3D printing

Wenjian Huang, Ying Bai, Wenzhe Zhao, Xin Chen, Nanjing Univ. (China); Jun Lu, Institute of Future Technology, Nanjing Univ. (China); Feng Wang, Xiangfei Chen, Nanjing Univ. (China)

14329-65

ZnO nanowires-functionalized WaveFlex biosensor for the quantitative analysis of rutin in food samples

Yiran Bi, Yiyan Xie, Mengyuan Li, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, Centre of Excellence for Nanotechnology, K L Deemed to be Univ. (India)

14329-66

Infrared small-target enhancement based on photonic gray-scale morphological operation and white top-hat transform in a VCSEL-SA spiking neuron network

Bo-Da Yao, Zi-Ye Gao, Fei Wang, Yan-Chao Wang, Yu-Xing He, Wen-Li Liu, Xi-Ling Ou, Tao Deng, Southwest Univ. (China)

14329-67

Photonic wire bonding enabled self-injection-locked narrow-linewidth DFB laser array source

Wenzhe Zhao, Nanjing Univ. (China); Gengyuan Ye, Nanjing Jinling High School (China); Xin Chen, Ying Bai, Wenjian Huang, Zhenxing Sun, Feng Wang, Xiangfei Chen, Nanjing Univ. (China)

14329-68

Terahertz multifunctional metasurface for sensing-to-absorption switching enabled by VO2 phase transition

Xiaofeng Yang, Ke Pang, Runchao Hou, Yuxin Bai, Mengyao Li, Tiangong Univ. (China); Pingjuan Niu, Tianjin Univ. (China)

14329-69

Photonic-wire-bonded BPD chip with low-loss fiber coupling and high channel uniformity

Ying Bai, Aobo Li, Wenjian Huang, Yuchen Wang, Wenzhe Zhao, Xin Chen, Nanjing Univ. (China); Jun Lu, Institute of Future Technology, Nanjing Univ. (China); Xiangfei Chen, Nanjing University (China); Feng Wang, Nanjing Univ. (China)

14329-70

Research of a miniaturized, highly-integrated infrared laser pod

Zhigang Zhou, Jidong Du, Jiapeng Wang, Beijing Zhenxing Institute of Metrology and Measurement (China); Guangwei Sun, Beijing Zhenxing Institute of Metrology and Testing (China)

14329-71

A highpower electroabsorption modulated laser with an over-55GHz bandwidth for 200Gb/s-class PAM4 transmission

Shanhong Guan, Institute of Semiconductors (China); Jianyi Zhao, Fan Xiao, Yang Ruan, Chenggang Liu, Accelink Technologies Co., Ltd. (China); Ya Jin, Nankai Univ. (China); Liping Sun, Accelink Technologies Co., Ltd. (China); Ming Li, Institute of Semiconductors (China)

14329-72

Packaging design and experimental demonstration of a back-illuminated MUTC-PD module

Tengmu Chen, Xiaojun Xie, Chao Wei, Guofeng Lin, Kun Chen, Peng Li, Xihua Zou, Wei Pan, Lianshan Yan, Southwest Jiaotong Univ. (China)

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14329-73

A chip–package co-designed InGaAs/InP PIN photodetector with backside microlens coupling for 224-Gb/s optical receivers

Peng Li, Southwest Jiaotong Univ. (China); Yan Hu, Accelink Technologies Co., Ltd. (China); Hang Zhong, Accelink Technologies Co. Ltd (China); Tingyu Li, Panjie Huo, Chenggang Liu, Accelink Technologies Co., Ltd. (China); Liping Sun, Accelink Technologies Co. Ltd (China); Jia Ye, Xihua Zou, Wei Pan, Lianshan Yan, Southwest Jiaotong Univ. (China)

SESSION 5: ADVANCED OPTOELECTRONIC DEVICES AND INTERCONNECT TECHNOLOGIES

25 October 2026 • 14:30 - 18:00 | Room 102A

Session Chair: **Jinfeng Li,** Beijing Institute of Technology (China)

14329-19

Broadband TFLN modulators unlocking terabit data-center interconnects *(Invited Paper)*

Yixiao Zhu, Shanghai Jiao Tong Univ. (China)

25 October 2026 • 14:30 - 14:55 | Room 102A

14329-20

Electro-optic comb enabling next-generation multi-functional and power-efficient radio-over-fiber fronthaul

Chenbo Zhang, Peking Univ. (China)

25 October 2026 • 14:55 - 15:15 | Room 102A

14329-21

QD micro-LED for visible light interconnect

Zixian Wei, The Hong Kong Polytechnic Univ. (Hong Kong, China)

25 October 2026 • 15:15 - 15:35 | Room 102A

14329-22

Vulnerability assessment of phase unwrapping errors in liquid crystal phase shifter delay lines

Jinfeng Li, Beijing Institute of Technology (China), Imperial College London (United Kingdom); Haorong Li, Yunchen Xiao, Beijing Institute of Technology (China)

25 October 2026 • 15:35 - 15:55 | Room 102A

Tea/Coffee Break 15:55 - 16:15

14329-23

Single-polarization 600-Gb/s silicon photonic local oscillator-free homodyne receiver for optical interconnects *(Invited Paper)*

Jingchi Li, Yikai Su, Shanghai Jiao Tong Univ. (China)

25 October 2026 • 16:15 - 16:40 | Room 102A

14329-24

Broadband extraction of constitutive losses in liquid crystal phase shifters using automated HFSS subroutines

Jinfeng Li, Haorong Li, Beijing Institute of Technology (China)

25 October 2026 • 16:40 - 17:00 | Room 102A

14329-25

Aligned embedded signal rerouting for 256 Gbps LTCC differential via-to-BGA interconnects

Chi Zhang, Beijing Information Science & Technology Univ. (China); Jianyu Shi, Beijing Information Science and Technology Univ. (China); Jiaxin Zheng, Beijing Information Science & Technology Univ. (China); Jun Qin, Beijing Information Science and Technology Univ. (China); Yan Zhou, Peking Univ. (China); Yu Sun, Junde Lu, Shuo Jiang, Zhensong Li, Beijing Information Science & Technology Univ. (China); Bowen Bai, Peking Univ. (China)

25 October 2026 • 17:00 - 17:20 | Room 102A

14329-26

Near-infrared optoelectronic synaptic transistor based on two-dimensional ferroelectric CuInP2Se6

Guanchu Ding, Aosheng Zheng, Hang Xu, Tianjin Univ. (China); Mengyao Li, Tiangong Univ. (China); Fan Yang, Huanyu Ren, Qi Tan, Zhengyi Zhao, Minxue Wang, Jianquan Yao, Tianjin Univ. (China)

25 October 2026 • 17:20 - 17:40 | Room 102A

14329-27

All-visible-light-modulated organic thin-film transistors via direct blending of CdS quantum dots and diarylethenes

Taibin Wang, Lili Hou, Tianjin Univ. (China)

25 October 2026 • 17:40 - 18:00 | Room 102A

MONDAY 26 OCTOBER

SESSION 6: ADVANCED OPTOELECTRONIC DEVICES AND INTELLIGENT SENSING SYSTEMS

26 October 2026 • 08:35 - 12:00 | Room 102A

Session Chair: **Yixiao Zhu,** Shanghai Jiao Tong Univ. (China)

14329-28

Wavelength-encoded neuromorphic inference enabled by microcavity MoS2 photodetector arrays *(Invited Paper)*

Ningmu Zou, Zehua Hu, Xiang Chen, Kangjian Di, Nanjing Univ. (China)

26 October 2026 • 08:35 - 09:00 | Room 102A

14329-29

A high-frequency digital infrared focal plane array detector based on Type-II superlattice *(Invited Paper)*

Xu Zhang, Ruiqing Chai, Liqiang Han, Ruimeng Zhang, Shuaichen Mu, Songbo Wu, Lili Xie, Gengyun Wang, Dan Wang, Ting Xue, Wei Fan, Liqun Dai, Beijing Institute of Space Mechanics and Electricity (China); Bowen Zhang, Shanghai Jiao Tong Univ. (China)

26 October 2026 • 09:00 - 09:25 | Room 102A

14329-30

Integrated photonic technologies for solid-state FMCW LiDAR *(Invited Paper)*

Shijun Xiao, Fuyao Univ. of Science and Technology (China); Zixian Wei, The Hong Kong Polytechnic University, Hong Kong (Hong Kong, China); Changyuan Yu, The Hong Kong Polytechnic University (Hong Kong, China)

26 October 2026 • 09:25 - 09:50 | Room 102A

14329-31

Ultra-compact integrated photonic logic chip

Chen Yuemng, Kun Liao, Xiaoyong Hu, Qihuang Gong, Peking Univ. (China)

26 October 2026 • 09:50 - 10:10 | Room 102A

Tea/Coffee Break 10:10 - 10:40

14329-32

A study on the multi-band coupling performance of SiN-Si edge couplers with parametrically tunable Gaussian beam incidence

Shuhui Liu, Haiwei Zhang, Jinglei Zhang, Tianjin Univ. of Technology (China); Peihao Tseng, Walteria Communication Inc. (United States); Rui Yang, Tianjin Univ. of Technology (China); Wenshen Wang, Walteria Communication Inc. (United States)

26 October 2026 • 10:40 - 11:00 | Room 102A

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14329-33

Non-contact assessment of nocturnal heart rate variability in non-cardiac surgical patients using fiber-optic sensors

Yu Zihan, The Hong Kong Polytechnic Univ. (Hong Kong, China); Dailan Xiong, Guangdong Provincial People's Hospital, Southern Medical Univ. (China); Zhuoli Wu, The Hong Kong Polytechnic Univ. (China); Qing Lu, Guangdong Provincial People's Hospital, Southern Medical Univ. (China); Tianyu Chen, Yulin Qiu, The Hong Kong Polytechnic Univ. (Hong Kong, China); Xiaolu Yang, Guangdong Provincial People's Hospital, Southern Medical Univ. (China); Weimin Lyu, Changyuan Yu, The Hong Kong Polytechnic Univ. (Hong Kong, China)

26 October 2026 • 11:00 - 11:20 | Room 102A

14329-34

Transient target capture using a moving-part-free fast-zoom optical system

Zining Yang, Xuemin Cheng, Tsinghua Univ. Shenzhen International Graduate School (China)

26 October 2026 • 11:20 - 11:40 | Room 102A

14329-35

An intelligent visual-servo UAV gimbal with line-of-sight self-stabilization for high-rise firefighting reconnaissance

Yi Zhou, Xuemin Cheng, Tsinghua Univ. (China)

26 October 2026 • 11:40 - 12:00 | Room 102A

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CONFERENCE 14330

Sunday–Monday 25–26 October 2026 • Room 101B

Advanced Laser Processing and Manufacturing X

Conference Chairs: **Minghui Hong,** Xiamen Univ. (China); **Ting Huang,** Beijing Univ. of Technology (China); **Yuji Sano,** SANKEN, The Univ. of Osaka (Japan), National Institute for Fusion Science (Japan); **Jianhua Yao,** Zhejiang Univ. of Technology (China)

Conference Co-Chair: **Min Zheng,** Beijing Univ. of Technology (China)

Program Committee: **Liang Guo,** Southern Univ. of Science and Technology (China); **Anming Hu,** The Univ. of Tennessee Knoxville (United States); **Yongxiang Hu,** Shanghai Jiao Tong Univ. (China); **Sungho Jeong,** Gwangju Institute of Science and Technology (Republic of Korea); **Jian Liu,** PolarOnyx, Inc. (United States); **Tomokazu Sano,** Osaka Univ. (Japan); **Xiahui Tang,** Huazhong Univ. of Science and Technology (China); **Peng Wen,** Tsinghua Univ. (China); **Rongshi Xiao,** Beijing Univ. of Technology (China); **Haibin Zhang,** MKS Instruments, Inc. (United States); **Wenwu Zhang,** Ningbo Institute of Materials Technology and Engineering (China); **Jianzhong Zhou,** Jiangsu Univ. (China)

SUNDAY 25 OCTOBER

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14330-18

Short-pulse CO2 laser removal of epoxy resin adhesive from metal substrates

Ke Jiang, Hangzhou Dianzi Univ. (China), Univ. of Yamanashi (Japan); Kazuyuki Uno, Univ. of Yamanashi (Japan); Changlun Hou, Hangzhou Dianzi Univ. (China)

14330-19

Effect of layer thickness on microstructure and mechanical properties of GH3536 alloy fabricated by selective laser melting

Donghai Guo, Beijing Univ. of Technology (China)

14330-20

High-fidelity manufacturing of graphene micro-rings on flexible substrates via femtosecond laser direct writing

Zhiyao Wang, Yifan Yang, Kang Zhang, Shunda Liu, Yandong Gong, Beijing Information Science & Technology Univ. (China)

14330-21

Processing characteristics of soft tissue irradiated by a short-pulse CO2 laser with a controllable pulse shape

Kazuyuki Uno, Ryo Fukasawa, Univ. of Yamanashi (Japan)

14330-22

Femtosecond laser-induced non-ablative periodic structures in hBN with enhanced luminescence and extended fluorescence lifetime

Jiahui Pan, Jielei Ni, Changjun Min, Nanophotonics Research Ctr., Institute of Microscale Optoelectronics, Shenzhen Univ. (China)

14330-23

Underwater high-power fiber laser cutting for nuclear decommissioning: mechanisms, challenges, and future trends

Weiqiang Wang, Jianli Song, Linyue Wang, Yongxin Cui, Beijing Information Science & Technology Univ. (China)

14330-24

Ultrafast laser dicing and slicing technologies for silicon carbide wafers: mechanisms, recent advances, and perspectives

Shunli He, Haonan Zhang, Weiqiang Wang, Jianli Song, Beijing Information Science & Technology Univ. (China)

14330-25

Topology-patterned laser-induced graphene-based flexible pressure sensors with tunable sensing ranges

Aoqi Wu, Misheng Liang, Beijing Information Science & Technology Univ. (China); Ying Xie, Chengdu Aircraft Industrial (Group) Co., Ltd. (China); Xuande Yue, Chengdu Aircraft Industrial (Group) Co., Ltd., (China); Yingjie Chen, Rui You, Beijing Information Science & Technology Univ. (China)

14330-26

Laser-induced fabrication of MXene-composite porous graphene electrodes for discriminative detection of levodopa and uric acid

Yu Zhang, Xiaomeng Bian, Tianshu Li, Shihan Yin, Daokun Sun, Rui You, Beijing Information Science & Technology Univ. (China)

14330-27

Polarization-controlled femtosecond laser structuring via dual-reflection on SLM for advanced surface functionalization

Vladislav Fedyaj, Alexander Revyakin, Nikita Bochkarev, Institute of Automation and Electrometry (Russian Federation), Novosibirsk State Univ. (Russian Federation); Alexey Kokhanovskiy, Evgenii Menshikov, ITMO Univ. (Russian Federation); Alexey Yakubov, Petr Lazarenko, National Research Univ. of Electronic Technology (Russian Federation); Aleksandr Kuchmizhak, Institute of Automation and Control Processes (Russian Federation), Far Eastern Federal Univ. (Russian Federation); Alexander Dostovalov, Institute of Automation and Electrometry (Russian Federation), Novosibirsk State Univ. (Russian Federation)

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MONDAY 26 OCTOBER

SESSION 1: NOVEL LASER SYSTEMS, COMPONENTS, AI AND PROCESS DIAGNOSTICS

26 October 2026 • 09:00 - 10:30 | Room 101B

Session Chair: **Jianhua Yao,** Zhejiang Univ. of Technology (China)

14330-1

Deformable mirror dynamic beam shaping in high-power laser manufacturing *(Invited Paper)*

Stefano Bonora, Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche (Italy); Lorenzo Uliana, Claudio Moretti, Dynamic Optics S.r.l. (Italy)

26 October 2026 • 09:00 - 09:30 | Room 101B

14330-2

Online constructions on dynamic systems in intelligent manufacturing

Hua Liu, Science and Technology on Electro-Optic Control Lab. (China)

26 October 2026 • 09:30 - 09:50 | Room 101B

14330-3

Spectrometry and AI analysis of high-power laser-matter interaction for energy and mining applications

Damián P. San Román Alerigi, Halah F. Alabdulkarem, Sameeh I. Batarseh, Saudi Aramco (Saudi Arabia)

26 October 2026 • 09:50 - 10:10 | Room 101B

14330-4

Low-threshold mode-locked laser based on tapered microstructured multimode fiber

Panpan Wang, Zhehai Zhou, Beijing Information Science & Technology Univ. (China); guangwei chen, Beijing Information Science and Technology Univers (China)

26 October 2026 • 10:10 - 10:30 | Room 101B

Tea/Coffee Break 10:30 - 11:00

SESSION 2: LASER CUTTING, ADDITIVE MANUFACTURING, CLADDING AND REMANUFACTURING

26 October 2026 • 11:00 - 12:00 | Room 101B

Session Chair: **Ting Huang,** Beijing Univ. of Technology (China)

14330-5

Melt removal mechanism in assist-gas-free remote laser cutting of ultra-thick steel using a stepped layered strategy

Yinan Chen, Guorong Wang, Lin Zhong, Wenling Liao, Jianfan Xu, Southwest Petroleum Univ. (China)

26 October 2026 • 11:00 - 11:20 | Room 101B

14330-6

High-efficiency LPBF of Al-Mg-Sc-Zr alloy using a ring-shaped beam and thick powder layers

Yacheng Wei, Min Zheng, Linqiang Liu, Rongshi Xiao, Ting Huang, Beijing Univ. of Technology (China)

26 October 2026 • 11:20 - 11:40 | Room 101B

14330-7

High-efficiency dual-beam wire-keyhole laser deposition of Inconel 625 coatings with depth-dependent molten salt corrosion behavior

Rui Zhang, Demin Zou, Rongshi Xiao, Ting Huang, Beijing Univ. of Technology (China)

26 October 2026 • 11:40 - 12:00 | Room 101B

Lunch Break 12:00 - 13:30

SESSION 3: LASER-BASED HYBRID/COMBINED PROCESSING AND INDUSTRIAL APPLICATIONS

26 October 2026 • 13:30 - 15:20 | Room 101B

Session Chairs: **Jianhua Yao,** Zhejiang Univ. of Technology (China), **Ting Huang,** Beijing Univ. of Technology (China)

14330-8

Nitridation mechanisms and surface hardening effects of laser-synchronised composite plasma nitriding on steels *(Invited Paper)*

Qunli Zhang, Jinwen He, Guangming Chen, Wenxu Liu, Yichen Meng, Jianhua Yao, Institute of Laser Advanced Manufacturing, Zhejiang Univ. of Technology (China)

26 October 2026 • 13:30 - 14:00 | Room 101B

14330-9

All-surface patterning of conductive carbon electronics in transparent structures using ultrafast laser chemical vapor deposition

Junseok Heo, Chanwoong Wi, Nagarajan Chinnapaiyan, Chonnam National Univ. (Republic of Korea); Younggeun Lee, KAIST (Republic of Korea); Sangseon Lee, Korea Institute of Industrial Technology (Republic of Korea); Jaeseung Lim, Korea Institute of Machinery & Materials (Republic of Korea); Mishfaqur Rahman, Texas A&M Univ. (United States); Seungman Kim, Seongheum Han, Jae-Hak Lee, Korea Institute of Machinery & Materials (Republic of Korea); Jihoon Jeong, Texas A&M Univ. (United States); Young-Jin Kim, KAIST (Republic of Korea); Seunghwoi Han, Chonnam National Univ. (Republic of Korea)

26 October 2026 • 14:00 - 14:20 | Room 101B

14330-10

Femtosecond laser direct writing of porous LIG/MoS2 hybrid architectures for microwave absorption

Yaqi Wang, Mengyao Tian, Beijing Information Science & Technology Univ. (China); Guiyong Chen, Yongjian Liu, Wengan Wang, Chengdu Aircraft Industrial (Group) Co., Ltd., Aviation Industry Corp. of China, Ltd. (China); Misheng Liang, Rui You, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 14:20 - 14:40 | Room 101B

14330-11

Keyhole-based wire laser directed energy deposition of Inconel 625 coatings on pipe surfaces

Kaikai Shi, Beijing Univ. of Technology (China), Handan Univ. (China)

26 October 2026 • 14:40 - 15:00 | Room 101B

14330-12

Electrical homogenization of direct-written carbon interconnects via omnidirectional reactive laser annealing

Chanwoong Wi, Junseok Heo, Junwon Lee, Jeongin Han, Seunghwoi Han, Chonnam National Univ. (Republic of Korea)

26 October 2026 • 15:00 - 15:20 | Room 101B

Tea/Coffee Break 15:20 - 15:50

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SESSION 4: PICO-/FEMTOSECOND LASER PROCESSING

26 October 2026 • 15:50 - 17:30 | Room 101B

Session Chair: **Jianhua Yao,** Zhejiang Univ. of Technology (China)

14330-13

Research on anisotropic thermal conduction characteristics and medical applications of femtosecond laser processing of CFRP

Honghao Zhang, Luyao Xu, Gongli Hospital of Shanghai Pudong New Area (China)

26 October 2026 • 15:50 - 16:10 | Room 101B

14330-14

Laser-assisted interfacial processing of end-of-life photovoltaic modules for encapsulant delamination and crystalline silicon recovery

Szymon Tofil, Moganshan Institute, Zhejiang Univ. of Technology (China), Kielce Univ. of Technology (Poland); Shuyang Lin, Qunli Zhang, Zhejiang Univ. of Technology (China)

26 October 2026 • 16:10 - 16:30 | Room 101B

14330-15

Delay-controlled double pulse femtosecond laser for selective copper etching of Cu/PI films

Yingjie Chen, Misheng Liang, Beijing Information Science & Technology Univ. (China); Yong Xia, Huagong Tech Co., Ltd. (China); Youmin Rong, Huazhong Univ. of Science and Technology (China); Fan Wu, Rui You, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 16:30 - 16:50 | Room 101B

14330-16

Experimental and numerical investigation of shock-wave dynamics during femtosecond laser processing of ITO films

Guodong Zhang, Misheng Liang, Beijing Information Science & Technology Univ. (China); Yong Xia, Huagong Tech Co., Ltd. (China); Youmin Rong, Huazhong Univ. of Science and Technology (China); Yaqi Wang, Rui You, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 16:50 - 17:10 | Room 101B

14330-17

Overcoming the conductivity–adhesion trade-off of carbon patterns on glass via sequential ultrafast laser chemical vapor deposition

Jeongin Han, Junseok Heo, Chanwoong Wi, Junwon Lee, Seunghwoi Han, Chonnam National Univ. (Republic of Korea)

26 October 2026 • 17:10 - 17:30 | Room 101B

PA26-Technical-Program-#7-10-14-26.indd 22 10/14/26 5:26 PM

CONFERENCE 14331

Saturday–Sunday 24–25 October 2026 • JiangHai Hall

Photonics for Energy VI

Conference Chairs: **Jianpu Wang,** Nanjing Univ. of Technology (China); **Rui Zhu,** Peking Univ. (China); **Samuel D. Stranks,** Univ. of Cambridge (United Kingdom); **Nana Wang,** Nanjing Tech Univ. (China)

Program Committee: **Osman M. Bakr,** King Abdullah Univ. of Science and Technology (Saudi Arabia); **Feng Gao,** Linköping Univ. (Sweden); **Anita Ho-Baillie,** The Univ. of Sydney (Australia); **Tae-Woo Lee,** Seoul National Univ. (Republic of Korea); **Feng Liu,** Shanghai Jiao Tong Univ. (China); **Jingshan Luo,** Nankai Univ. (China); **Yabing Qi,** Okinawa Institute of Science and Technology Graduate Univ. (Japan); **Michael Saliba,** Univ. Stuttgart (Germany), Forschungszentrum Jülich (Germany); **Zhi-Kuang Tan,** National Univ. of Singapore (Singapore); **Wolfgang R. Tress,** Zurich Univ. of Applied Sciences (Switzerland); **Guichuan Xing,** Univ. of Macau (Macao, China); **Qihua Xiong,** Tsinghua Univ. (China); **Sheng Xu,** Univ. of California, San Diego (United States); **Yuan Yang,** Columbia Univ. (United States); **Hin-Lap Yip,** City Univ. of Hong Kong (Hong Kong, China); **Wei Zhang,** Univ. of Surrey (United Kingdom); **Haizheng Zhong,** Beijing Institute of Technology (China); **Jia Zhu,** Nanjing Univ. (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: PHOTONICS FOR ENERGY I

24 October 2026 • 13:30 - 15:20 | JiangHai Hall
Session Chair: **Haizheng Zhong,**
Beijing Institute of Technology (China)

14331-6
Synergetic interface engineering for efficient perovskite LEDs *(Invited Paper)*
Yanqing Li, East China Normal Univ. (China); Yang Shen, Soochow Univ. (China)
24 October 2026 • 13:30 - 14:00 | JiangHai Hall

14331-2
Advanced manufacturing of luminescent perovskite cesium lead halide quantum dots
Jizhong Song, Zhengzhou Univ. (China)
24 October 2026 • 14:00 - 14:20 | JiangHai Hall

14331-3
Exciton dynamics in NIR quantum-dot optoelectronics and its implications
Zhilong Zhang, South China Univ. of Technology (China)
24 October 2026 • 14:20 - 14:40 | JiangHai Hall

14331-4
Stabilising nonequilibrium states in quantum dots
Linjie Dai, Peking Univ. (China)
24 October 2026 • 14:40 - 15:00 | JiangHai Hall

14331-5
Intelligent design of optoelectronic semiconductor materials
Jian Xu, Beijing Institute of Technology (China)
24 October 2026 • 15:00 - 15:20 | JiangHai Hall

Tea/Coffee Break 15:20 - 15:50

SESSION 2: PHOTONICS FOR ENERGY II

24 October 2026 • 15:50 - 17:40 | JiangHai Hall
Session Chair: **Nana Wang,** Nanjing Tech Univ. (China)

14331-1
Quantum-dot light-emitting diodes for optical communication *(Invited Paper)*
Yizheng Jin, Zhejiang Univ. (China)
24 October 2026 • 15:50 - 16:20 | JiangHai Hall

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14331-7
Circularly polarized optoelectronics based on perovskites
Yimu Chen, Harbin Institute of Technology (Shenzhen) (China)
24 October 2026 • 16:20 - 16:40 | JiangHai Hall

14331-8
Study on surface and interface structure modulation of novel optoelectronic devices based on synchrotron radiation
Yingguo Yang, Fudan Univ. (China)
24 October 2026 • 16:40 - 17:00 | JiangHai Hall

14331-9
Operando characterization of light-conversion kinetics
Yi Wang, Renmin Univ. of China (China)
24 October 2026 • 17:00 - 17:20 | JiangHai Hall

14331-10
Controllable fabrication of high-performance perovskite single crystals in solution toward efficient X-ray detection
Yu Chen, Beijing Institute of Technology (China)
24 October 2026 • 17:20 - 17:40 | JiangHai Hall

SUNDAY 25 OCTOBER

SESSION 3: PHOTONICS FOR ENERGY III

25 October 2026 • 08:30 - 10:00 | JiangHai Hall
Session Chair: **Lichen Zhao,**
Univ. of Science and Technology Beijing (China)

14331-11
SDOI strategy for efficient all-evaporated perovskite light-emitting diodes *(Invited Paper)*
Lei Wang, Wuhan National Lab. for Optoelectronics (China)
25 October 2026 • 08:30 - 09:00 | JiangHai Hall

14331-12
Degradation mechanisms and improvement strategies for organic solar cell
Qun Luo, Suzhou Insitute of Nano-Tech and Nano-Bionics (China)
25 October 2026 • 09:00 - 09:20 | JiangHai Hall

14331-13
Multiphysics simulation and experimental optimization for efficient all-perovskite tandem solar cells
Changlei Wang, Soochow Univ. (China)
25 October 2026 • 09:20 - 09:40 | JiangHai Hall

14331-15
Synergistic regulation of crystal surfaces and interfaces for enhanced stability of perovskite solar cells under cyclic operating conditions
Meng Li, Henan Univ. (China)
25 October 2026 • 09:40 - 10:00 | JiangHai Hall

Tea/Coffee Break 10:00 - 10:30

SESSION 4: PHOTONICS FOR ENERGY IV

25 October 2026 • 10:30 - 12:00 | JiangHai Hall
Session Chair: **Peng Chen,** Peking Univ. (China)

14331-16
Stable and large-area perovskite light-emitting diodes *(Invited Paper)*
Zhengguo Xiao, Univ. of Science and Technology of China (China)
25 October 2026 • 10:30 - 11:00 | JiangHai Hall

14331-17
Investigation on stability and large-area modules of perovskite solar cells
Yanfeng Miao, Yixin Zhao, Shanghai Jiao Tong Univ. (China)
25 October 2026 • 11:00 - 11:20 | JiangHai Hall

14331-18
Thermal-shock-induced dynamic interfacial degradation in perovskite solar cells
Guixiang Li, Southeast Univ. (China)
25 October 2026 • 11:20 - 11:40 | JiangHai Hall

14331-19
Infrared quantum-dot inks and optoelectronic applications
Zeke Liu, Soochow Univ. (China)
25 October 2026 • 11:40 - 12:00 | JiangHai Hall

Lunch Break 12:00 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14331-28
Simulation of perovskite/CIGS thin-film tandem solar cells
Yegao Xiao, Crosslight Software Inc. (Canada); Sheng Gao, Crosslight Software Inc. (China); Michel Lestrade, Zhanming S. Li, Crosslight Software Inc. (Canada)

14331-29
Photocatalytic H2S splitting over sulfide-based heterojunctions: insights from ultrafast spectroscopy and DFT calculations
Sarvarkhodzha Nematulloev, Bradley Francis Lewis, Waleed Ahmad, Hassnain Abbas Khan, King Abdullah Univ. of Science and Technology (Saudi Arabia); Mohammed Sait, Damian P. San Roman Alerigi, Khalid Hazazi, Saudi Aramco (Saudi Arabia); Aamir Farooq, King Abdullah Univ. of Science and Technology (Saudi Arabia)

14331-30
Dual-function surface passivation of MAPbBr3 nanocrystals: mechanisms of defect and stability enhancement
Sheng Huang, China Univ. of Mining and Technology (China); Shu Nie, Xiuquan Gu, China University of Mining and Technology (China)

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14331-31

Efficient near-infrared quantum-dot light-emitting diodes with carrier balance achieved via hole-transport-layer engineering

Guiling Zeng, South China Univ. of Technology (China)

14331-32

Balancing radiance and external quantum efficiency in forward-structure PbS quantum-dot LEDs via donor–acceptor blending

Chenyang Zhang, South China Univ. of Technology (China)

SESSION 5: PHOTONICS FOR ENERGY V

25 October 2026 • 14:30 - 17:30 | JiangHai Hall

Session Chair: **Yuming Wang,** Changzhou Univ. (China)

14331-20

Broadband photocatalytic H2S removal over copper sulfide (CuS) using visible-to-near-infrared light

Waleed Ahmad, Hassnain Abbas Khan, Sarvarkhodzha Nematulloev, King Abdullah Univ. of Science and Technology (Saudi Arabia); Mohammed Sait, Exploration and Petroleum Engineering Ctr., Advanced Research Ctr. (EXPEC ARC) (Saudi Arabia); Damian P. San Roman Alerigi, Khalid Hazazi, Saudi Aramco (Saudi Arabia); Aamir Farooq, King Abdullah Univ. of Science and Technology (Saudi Arabia)

25 October 2026 • 14:30 - 14:50 | JiangHai Hall

14331-21

Fabrication of core–shell-structured perovskite quantum dots and understanding into their carrier recombination dynamics

Feng Zhang, Beijing Univ. of Technology (China)

25 October 2026 • 14:50 - 15:10 | JiangHai Hall

14331-22

Linewidth control in perovskite thin films and devices

Jian Mao, Fudan Univ. (China)

25 October 2026 • 15:10 - 15:30 | JiangHai Hall

14331-23

Oxygen sensitivity of PEA_2SnI_4 and its application in trace oxygen sensing

Yangyang Ju, Beijing Institute of Technology (China)

25 October 2026 • 15:30 - 15:50 | JiangHai Hall

Tea/Coffee Break 15:50 - 16:10

14331-24

Efficient and stable perovskite solar cells by interface manipulation

Yun Xiao, Beihang Univ. (China)

25 October 2026 • 16:10 - 16:30 | JiangHai Hall

14331-25

Surface chemistry of $AgBiS_2$ quantum dots and their high-efficiency solar cells

Qixuan Zhong, Ruchao Gong, Changzhou Univ. (China); Lichen Zhao, Univ. of Science and Technology Beijing (China); Rui Zhu, Peking Univ. (China)

25 October 2026 • 16:30 - 16:50 | JiangHai Hall

14331-26

FA-based perovskite solar cells: high efficiency and stability

Luyao Wang, Xiamen Univ. (China)

25 October 2026 • 16:50 - 17:10 | JiangHai Hall

14331-27

Enhanced self-powered $CsCu_2I_3$/GaN heterojunction UV photodetectors based on highly oriented $CsCu_2I_3$ thin films

Zhiying Zhou, Qieni Lu, Haitao Dai, Tianjin Univ. (China)

25 October 2026 • 17:10 - 17:30 | JiangHai Hall

PA26-Technical-Program-#7-10-14-26.indd 25 10/14/26 5:26 PM

CONFERENCE 14332

Saturday - Sunday 24–25 October 2026 • Room 101B

Optical Design and Testing XVI

Conference Chairs: **Yongtian Wang,** Beijing Institute of Technology (China); **Tina E. Kidger,** Kidger Optics Associates (United Kingdom); **Rengmao Wu,** Zhejiang Univ. (China)

Program Committee: **Jian Bai,** Zhejiang Univ. (China); **Jeroen Cerpentier,** KU Leuven (Belgium); **Dewen Cheng,** Beijing Institute of Technology (China); **Stuart David,** SRD Consulting (United States); **Sen Han,** Suzhou Graduate School of Nanjing Univ. (China); **Andrew R. Harvey,** Univ. of Glasgow (United Kingdom); **Chulmin Joo,** Yonsei Univ. (Republic of Korea); **Ki-Nam Joo,** Chosun Univ. (Republic of Korea); **Donglin Ma,** Huazhong Univ. of Science and Technology (China); **Julius Muschaweck,** JMO Illumination Optics (Germany); **Yunfeng Nie,** Vrije Univ. Brussel (Belgium); **Takanori Nomura,** Wakayama Univ. (Japan); **Tomoyoshi Shimobaba,** Chiba Univ. (Japan); **Simon Thibault,** Univ. Laval (Canada); **Sandy To,** The Hong Kong Polytechnic Univ. (Hong Kong, China); **Peter Török,** Nanyang Technological Univ. (Singapore); **Tong Yang,** Beijing Institute of Technology (China); **Qun Yuan,** Nanjing Univ. of Science and Technology (China); **Chunyu Zhao,** Arizona Optical Metrology LLC (United States)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: ADVANCED IMAGING TECHNIQUES

24 October 2026 • 13:30 - 15:00 | Room 101B
Session Chair: **Yongtian Wang,**
Beijing Institute of Technology (China)

14332-1
Variable depth-of-field lensless photography using a quasi-radial amplitude mask *(Invited Paper)*
Takanori Nomura, Yoshiya Kato, Yusuke Saita, Wakayama Univ. (Japan)
24 October 2026 • 13:30 - 14:00 | Room 101B

14332-2
Pixel-wise adaptive optics for near-eye displays *(Invited Paper)*
Jae-Hyeung Park, Woongseob Han, Chanseul Lee, Jiyun Han, Gyu-Chan Han, Seoul National Univ. (Republic of Korea)
24 October 2026 • 14:00 - 14:30 | Room 101B

14332-4
Effective color compensation for AR displays
Chun Chen, Woongseob Han, Jae-Hyeung Park, Seoul National Univ. (Republic of Korea)
24 October 2026 • 14:30 - 14:45 | Room 101B

14332-5
Visualization of road scenes on the base of CIE reflection characteristics
Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation); Vadim Sokolov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China); Dmitry Zhdanov, Igor Potemin, ITMO Univ. (Russian Federation); Madina Sinetova, ITMO University (Russian Federation)
24 October 2026 • 14:45 - 15:00 | Room 101B

Tea/Coffee Break 15:00 - 15:30

SESSION 2: FREEFORM OPTICS

24 October 2026 • 15:30 - 17:45 | Room 101B
Session Chair: **Sandy To,**
The Hong Kong Polytechnic Univ. (Hong Kong, China)

14332-6
Optical measurement of precision complex freeform and structured components *(Invited Paper)*
Lingbao Kong, Fudan Univ. (China)
24 October 2026 • 15:30 - 16:00 | Room 101B

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14332-7
Practical applications of CGH metrology for ultra-high-precision asphere fabrication *(Invited Paper)*
Logan R. Graves, Arizona Optical Metrology LLC (United States)
24 October 2026 • 16:00 - 16:30 | Room 101B

14332-8
Differentiable obscuration and volume estimation for off-axis reflective-systems design
Haoqiang Wang, Jiaxin Zhang, Xingyu Huang, Shenzhen Univ. (China)
24 October 2026 • 16:30 - 16:45 | Room 101B

14332-9
Automated generation of multi-mirror freeform off-axis reflective imaging systems using machine learning
Yiwei Sun, Shenyang Jianzhu Univ. (China)
24 October 2026 • 16:45 - 17:00 | Room 101B

14332-10
Design of an extreme-ultraviolet lithography objective with freeform surfaces
Yutong Zou, Zhishan Gao, Zhenyan Guo, Qun Yuan, Nanjing Univ. of Science and Technology (China)
24 October 2026 • 17:00 - 17:15 | Room 101B

14332-11
Ray-tracing modeling for a segmented-mirror telescope
Yinjie Xin, Beijing Institute of Technology (China); Shu Yuan, National Astronomical Observatories (China); Zexin Feng, Nanshun Jiang, Beijing Institute of Technology (China)
24 October 2026 • 17:15 - 17:30 | Room 101B

14332-76
Quasi-annular laser-detection optical system for short-range circumferential detection
Ting Zheng, Junya Wang, Jun Chang, Beijing Institute of Technology (China)
24 October 2026 • 17:30 - 17:45 | Room 101B

SUNDAY 25 OCTOBER

SESSION 3: OPTICAL TESTING AND SYSTEM CHARACTERIZATION I

25 October 2026 • 08:30 - 10:15 | Room 101B
Session Chair: **Qun Yuan,**
Nanjing Univ. of Science and Technology (China)

14332-12
Satisfying the precision requirement in fringe-projection profilometry: from passive to active *(Invited Paper)*
Kemao Qian, Shenzhen Lyu, Nanyang Technological Univ. (Singapore)
25 October 2026 • 08:30 - 09:00 | Room 101B

14332-13
Smart lens assembly by direct-transmission wavefront testing *(Invited Paper)*
Chao-Wen Liang, TACOPTICS Co., Ltd. (Taiwan, China), Taiwan C entral Univ. (Taiwan, China)
25 October 2026 • 09:00 - 09:30 | Room 101B

14332-14
Dynamic interferometry measurement using a deep-learning network for dual-frame tilt removal
Peiyu Yin, Runzhou Shi, Baokun Wu, Jian Bai, Zhejiang Univ. (China)
25 October 2026 • 09:30 - 09:45 | Room 101B

14332-15
Analysis of stray-light characteristics of a laser-communication system based on a multi-scattering model
Haozhan Lu, Zeyu Tan, Jun Chang, Beijing Institute of Technology (China)
25 October 2026 • 09:45 - 10:00 | Room 101B

14332-16
Single-frame dual-ADC CMOS HDR imaging for moving-part-free optical systems in high-speed motion scenes
Jimu Zhang, Xuemin Cheng, Tsinghua Univ. (China)
25 October 2026 • 10:00 - 10:15 | Room 101B

Tea/Coffee Break 10:15 - 10:30

SESSION 4: OPTICAL SYSTEM DESIGN I

25 October 2026 • 10:30 - 12:00 | Room 101B
Session Chair: **Rengmao Wu,** Zhejiang Univ. (China)

14332-17
Perspective shift: Nodal Aberration Theory recast in the Optical Plate Diagram *(Invited Paper)*
Andrew P. Rakich, Mersenne Optical Consulting (New Zealand)
25 October 2026 • 10:30 - 11:00 | Room 101B

14332-18
Deep learning for optical-system design: recent trends and ray-wave modeling *(Invited Paper)*
Yunfeng Nie, Vrije Univ. Brussel (Belgium); Jintao Shi, Xidian Univ. (China); Jurgen Van Erps, Heidi Ottevaere, Vrije Univ. Brussel (Belgium)
25 October 2026 • 11:00 - 11:30 | Room 101B

14332-19
Metaheuristic algorithms for optical design
Ziyao Tang, Carl Zeiss AG (Germany); Herbert Gross, Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany)
25 October 2026 • 11:30 - 11:45 | Room 101B

14332-20
Ab initio mobile-lens design based on progressive ray sampling
Nanshun Jiang, Zexin Feng, Yinjie Xin, Beijing Institute of Technology (China)
25 October 2026 • 11:45 - 12:00 | Room 101B

Lunch Break 12:00 - 13:30

PA26-Technical-Program-#7-10-14-26.indd 27 10/14/26 5:26 PM

CONFERENCE 14332

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14332-30

AI-assisted effect generation and validation for programmable LED ambient-lighting devices

Lingfeng Chen, Beijing Information Science and Technology Univ. (China); Yichen He, Bingchao Huang, Zijian Liu, Lei Deng, Sun Ting, Beijing Information Science & Technology Univ. (China)

14332-31

Design of a large-relative-aperture passive-athermalization optical system for star sensors

Guo Zhe, Hongjian Yu, Ting Sun, Shijie Yu, Rui You, Beijing Information Science & Technology Univ. (China); Haonan Liu, National Univ. of Defense Technology (China)

14332-32

Physics-prior-based image restoration and MTF-limit evaluation for minimalist optical systems

Yuxuan Zhu, Tingyu Yang, Xuanqi Zhang, Runzhou Shi, Zhejiang Univ. (China);

14332-33

ZEMAX simulation and experimental validation for tandem Fabry–Perot interferometers in a Brillouin light-scattering spectrometer

Muddasir Naeem, Lahore Univ. of Management Sciences (Pakistan); Tayyab Imran, National Institute for Research and Development in Microtechnologies (Romania); Muhammad Sabieh Anwar, Lahore Univ. of Management Sciences (Pakistan)

14332-34

Design and optimization of electromagnetic drive for two-dimensional large-angle fast steering mirror

Jingcheng Mo, Beijing Information Science and Technology Univ. (China); Qingshan Chen, Lishuang Liu, Beijing Information Science & Technology Univ. (China); Beijing Information Science and Technology University (China)

14332-35

Two-step phase-shifting interferometry via a Kolmogorov–Arnold network

Runzhou Shi, Peiyu Yin, Baokun Wu, Jian Bai, Zhejiang Univ. (China)

14332-36

Ultra-precision turning-parameter optimization for polycarbonate to achieve nanometric surface roughness

Yunfei Shang, Jun Yu, Xiaoqiang Wang, Xiaotian Liu, Kaiyi Liu, Haoran Yuan, Tongji Univ. (China)

14332-37

Optimization of a flexure-supported galvanometer motor for high-frequency reverse-scan compensation

Yiming Wang, Qingshan Chen, Lishuang Liu, Beijing Information Science & Technology Univ. (China); jingcheng Mo, Beijing Information Science and Technology University (China)

14332-38

Optical design of a multichannel optical system

Hien Pham Thi Thu, Thanh Nguyen Quang, Hung Nguyen Duy, Thuong Hoang Thi, Viettel Group (Vietnam)

14332-39

Optical design, nanoimprint fabrication, and performance characterization of a central-open V-groove microstructure for micro-LED displays

Zhenyu You, Denglin Chen, Shaobin Yan, Quanzhou Normal Univ. (China); Junpeng Shi, Quanzhou San'an Semiconductor Technology Co., Ltd (China)

14332-40

Volume-constrained automated construction of unobscured initial structures for off-axis four-mirror reflective zoom systems

Liwei Zhu, Tong Yang, Lei Yang, Hongbo Xie, Tianjin Univ. (China)

14332-41

Robust optical-aberration estimation from Twyman–Green interferograms using Slime Mould Algorithm (SMA) and Zernike-based wavefront modeling

Reyna Cornelio de Jesus, Héctor Nahum Chavarría-Lizárraga, María Elizabeth Percino-Zacarías, Fermín Salomón Granados-Agustín, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

14332-42

Design method for high-uniformity concentrating Fresnel lenses for space-solar-energy collection

Guanheng Fan, Minghao Li, Jiazheng Zhou, Xidian Univ. (China)

14332-43

Broadband panoramic annular lens design assisted by Q-adaptive particle swarm optimization

Xiaotong Zhang, Ning Pan, Jian Bai, Zhejiang Univ. (China)

14332-44

Design of a 3-DOF fast-steering mirror based on piezoelectric ceramics

Jiajun Wu, Yong Lyu, Lishuang Liu, Yanlin Wang, Beijing Information Science & Technology Univ. (China)

14332-45

Research on electromagnetic-driving characteristics of a 2D large-angle reluctance fast-steering mirror

Chuangang Zhang, Yong Lyu, Lishuang Liu, Beijing Information Science & Technology Univ. (China)

14332-46

Radiometric uncertainty of digital TDI space cameras induced by residual misregistration

Yushen Lu, Weimin Shen, Soochow Univ. (China)

14332-47

Research on displacement measurement and calibration method for three-degree-of-freedom piezoelectric fast-steering mirrors

Luyu Mai, Lishuang Liu, Yanlin Wang, Beijing Information Science & Technology Univ. (China)

14332-48

Optical-performance improvement of a compact surveillance-camera lens through progressive optimization in Zemax OpticStudio

Karuna Sindhu Malik, Brainware Univ. (India); Nagendra Kumar, Indian Institute of Information Technology Vadodara (India); Shilpa Singh, Indian Institute of Technology Guwahati (India); S. S. Goutam Buddha, Tata Institute of Fundamental Research (India); Santanu Konwar, Abhayapuri College (India)

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14332-49

Zemax OpticStudio for investigating mode interchange between Laguerre–Gaussian and Hermite–Gaussian beams in the presence of astigmatism

Santanu Konwar, Abhayapuri College (India); Karuna Sindhu Malik, Brainware Univ. (India); Nimish Gupta, Indian Institute of Technology Guwahati (India); Nagendra Kumar, Indian Institute of Information Technology Vadodara (India); S. S. Goutam Buddha, Tata Institute of Fundamental Research (India)

14332-50

Fast field-continuation pupil-support calibration for differentiable PSF simulation of ultra-wide-angle optical systems

Ruiyu Xu, Runzhou Shi, Xin Luo, Jian Bai, Zhejiang Univ. (China)

14332-51

Design and optimization of an electromagnetic drive structure for a large-aperture fast steering mirror in vehicle-mounted laser ranging

Jiaming Fan, Hong Gao, Lishuang Liu, Beijing Information Science & Technology Univ. (China); jiayuan Li, yuting Yan, Beijing Information Science and Technology University (China)

14332-52

Optical-axis stability of an electric adjustment platform based on nonlinear contact characteristics

Haoyu Luan, Hong Gao, Qingshan Chen, Beijing Information Science & Technology Univ. (China); Jiayuan Li, Yuting Yan, Beijing Information Science and Technology University (China)

14332-53

Formation mechanisms and experimental investigation of mid-spatial-frequency errors in single-point diamond turning of X-ray mirrors

Haoran Yuan, Pengfeng Sheng, Jun Yu, Xiaoqiang Wang, Zhanshan Wang, Yunfei Shang, Tongji Univ. (China)

14332-54

Vibration suppression of large-angle fast-steering mirrors via multisensor feedforward-decoupling compensation

Kai Wang, Runqiu Xia, Lishuang Liu, Beijing Information Science & Technology Univ. (China)

14332-55

Self-sensing deformable mirror with fiber-strain sensors for surface correction

Xiaopeng Xie, Liang Xu, Pengfei Wang, Zeyuan Yin, Gangyi Zou, Xuewu Fan, Wenhui Fan, Hui Zhao, Xi'an Institute of Optics and Precision Mechanics (China)

14332-56

Robust non-blind minimalist-optics image restoration based on degradation estimation

Xin Luo, Runzhou Shi, Hanwen Zhang, Jian Bai, Zhejiang Univ. (China)

14332-57

Design of a highly integrated 3D-folded telecentric Badal scanning system for robot-assisted multimodal fundus OCT

Lu Li, Yong Huang, Yifan Huang, Beijing Institute of Technology (China)

14332-58

One-step full-zoom thermal-defocus compensation for motionless zoom-imaging systems

Weiru Zhang, Tsinghua Univ. (China); Xuemin Cheng, Tsinghua Univ. Shenzhen International Graduate School (China)

14332-59

Design Method of Color-Temperature-Raising Filters for Precise CCT Reproduction

Tao Wang, Nanjing Institute of Technology (China); Jinyun Yan, Hui Liu, Weiqiang Zhao, Ying Su, Chao Tang, National Institute of Metrology (China)

14332-60

Efficient fabrication and coaxial compensation of an off-axis aspheric surface by SPDT

Xiaotian Liu, Jun Yu, Pengfeng Sheng, Zhanshan Wang, Tongji Univ. (China)

14332-61

Reconstruction the matrix of coupling coefficients and fluctuation parameters in weakly coupled multicore fibers using evolutionary and gradient-based algorithms

Nikita Bochkarev, Mikhail Gervaziev, Denis Kharenko, Sergey Babin, Novosibirsk State Univ. (Russian Federation), Institute of Automation and Electrometry (Russian Federation)

14332-62

Feasibility evaluation of achieving a color image in a freeform-prism system for near-eye display optics

Guanqiao Su, ITMO Univ. (Russian Federation)

14332-63

Shear-invariant wavefront reconstruction in Ronchi lateral-shearing interferometry using physics-informed deep learning

Zheming Zhang, Runzhou Shi, Huiwen Liu, Yicheng Zhu, Haoran Zhu, Jian Bai, Zhejiang Univ. (China)

14332-64

Simultaneous determination of surface positions and coefficients for co-axis reflective systems based on generalized aberration theory and series expansion

Tianci He, Tong Yang, Dewen Cheng, Yongtian Wang, Beijing Institute of Technology (China)

14332-65

Optical design and analysis of extreme ultraviolet imaging spectrometer for planetary exploration mission

Yang Du, Jun Yu, Tian Lan, Xiaotian Liu, Pengfeng Sheng, Wei Zhang, Tongji Univ. (China); Xi Lu, Tongji University (China); Xiao Chen, Shanghai Institute of Satellite Engineering, Shanghai 201109, China (China); Zhanshan Wang, Tongji Univ. (China)

14332-66

Reconstruction of volume-scattering parameters on the base of BSDF measurements

Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation); Vadim Sokolov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China); Dmitry Zhdanov, Igor Potemin, ITMO Univ. (Russian Federation); Julia Koroleva, ITMO University (Russian Federation)

14332-67

GNN-based surrogate modeling for wavefront prediction in deformable phase plates

Hongtao Cheng, Wei Zhang, Shenzhen Technology Univ. (China)

14332-68

Design of an endoscopic objective lens based on freeform optics

Weifeng Cai, Zhaorui Liu, Hongtao Cheng, Wei Zhang, Shenzhen Technology Univ. (China)

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14332-69

Optical-system design of a visible hyperspectral-imaging device for document scanning

Weijia Huang, Yin Wu, Univ. of Chinese Academy of Sciences (China); Yueming Wang, Shanghai Institute of Technical Physics (China); Hongsong Qu, Univ. of Chinese Academy of Sciences (China)

14332-70

Tapered MMF–SMF–MMF fiber WaveFlex biosensor for sensitive detection of diethylstilbestrol using hybrid nanomaterials

Yujiao Wan, Huibo Han, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India)

14332-71

Single freeform surface enabled dual-path continuous-varifocal HUD optical design with a single PGU and adaptive membrane lens

Yanan Shen, Chunhui Niu, Beijing Information Science & Technology Univ. (China)

14332-72

Design and simulation of a nonimaging catadioptric system with ellipsoidal-cavity dual-field separation for rapid BRDF measurement

Bingyi Zhang, Jianchao Wang, Haozhan Lu, Yi Huang, Beijing Institute of Technology (China); Chi Fai Cheung, The Hong Kong Polytechnic Univ. (Hong Kong, China); Xiaofang Zhang, Beijing Institute of Technology (China); Jun Chang, National Key Lab. on Near-surface Detection, Beijing Institute of Technology (China), State Key Lab. of Ultra-precision Machining Technology, The Hong Kong Polytechnic Univ. (Hong Kong, China)

14332-74

A point-cloud-completion scheme for laser 3D-marking systems

Tingxuan Li, Yiyong Liang, Zhejiang Univ. (China)

14332-75

High-performance multilayer SPR sensor based on $CsPbBr_3$ and 2D materials for chemical and biological sensing

Chella Santhosh, K L Deemed to be Univ. (India); Bi Yiran, Liaocheng Univ. (China); K.V.S.S Vamsi Krishna, S. Sri Hima Teja, Yesudasu Vasimalla, Santosh Kumar, K L Deemed to be Univ. (India)

14332-77

Optimization design of an electrostatically actuated MEMS micromirror with a large field of view for laser-beam scanning

Zetong Lei, Fan Zhang, Rui You, Beijing Information Science & Technology Univ. (China)

14332-78

Closed-loop optimization for miniaturized NDIR gas cell design based on a genetic algorithm

Jiayu Kong, Xiangyang Wei, Beijing Information Science & Technology Univ. (China); Junya Wang, Huazhong Univ. of Science and Technology (China); Hailong Liu, Rui You, Beijing Information Science & Technology Univ. (China)

14332-79

A differentiable étendue-matching method for designing compact projection illumination systems

Haoqiang Wang, Yejun Su, Lei Lei, Shenzhen Univ. (China); Yi Luo, Tsinghua Univ. (China)

SESSION 5: OPTICAL SYSTEM DESIGN II

25 October 2026 • 14:30 - 16:00 | Room 101B

Session Chair: **Yunfeng Nie,** Vrije Univ. Brussel (Belgium)

14332-21

Single-material achromat via point-to-point iso-optical-path matching *(Invited Paper)*

Bo Dong, State Key Lab. of Ultra-precision Machining Technology, The Hong Kong Polytechnic Univ. (Hong Kong, China), Changchun Univ. of Science and Technology (China); Changxi Xue, Changchun Univ. of Science and Technology (China); Suet To, State Key Lab. of Ultra-precision Machining Technology, The Hong Kong Polytechnic Univ. (Hong Kong, China)

25 October 2026 • 14:30 - 15:00 | Room 101B

14332-22

Stock-lens matching methods and new possibilities in the AI era

Chao Ding, Jinsong Liu, Yan Gong, Yueqian Zhang, Suzhou Institute of Biomedical Engineering and Technology (China)

25 October 2026 • 15:00 - 15:15 | Room 101B

14332-23

Optical design and performance estimation of the 0.8-m Ritchey–Chrétien telescope for NARIT's public regional observatory

Sasikan Suriyot, Weerapot Wanajaroen, Chanisa Kanjanasakul, National Astronomical Research Institute of Thailand (Thailand); Thierry Lépine, Institut d'Optique Graduate School (France); Supachai Awiphan, Pruchaya Sonnapapat, Warakon Sribunrueang, Natthapong Sanwongwan, National Astronomical Research Institute of Thailand (Thailand); Sukrit Sucharitakul, Chiang Mai Univ. (Thailand)

25 October 2026 • 15:15 - 15:30 | Room 101B

14332-24

Automatic evaluation of first-order optical-system response for Gaussian beamlet modeling

Haibo Wang, Yan Mo, Hao Tan, Zhuang Qian, Donglin Ma, Huazhong Univ. of Science and Technology (China)

25 October 2026 • 15:30 - 15:45 | Room 101B

14332-25

Nodal-aberration-based misalignment localization and modal analysis for moving-part-free zoom optical systems

Ruidan Qian, Xuemin Cheng, Tsinghua Univ. (China)

25 October 2026 • 15:45 - 16:00 | Room 101B

Tea/Coffee Break 16:00 - 16:15

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SESSION 6: OPTICAL TESTING AND SYSTEM CHARACTERIZATION II

25 October 2026 • 16:15 - 17:45 | Room 101B

Session Chair: **Kemao Qian,** Nanyang Technological Univ. (Singapore)

14332-26

Instantaneous film-thickness measurements for optical testing *(Invited Paper)*

Ki-Nam Joo, Yunjong Oh, Chosun Univ. (Republic of Korea)

25 October 2026 • 16:15 - 16:45 | Room 101B

14332-27

Near-infrared coherence-scanning interferometry for 3D metrology of high-aspect-ratio microstructures *(Invited Paper)*

Qun Yuan, Nanjing Univ. of Science and Technology (China)

25 October 2026 • 16:45 - 17:15 | Room 101B

14332-28

Evaluation method for imaging variation in variable-focus lenses under periodic vibration based on synchronized displacement and image acquisition

Chunxing Li, Northeast Electric Power Univ. (China); Wenzhi Li, Nanjing Univ. of Posts and Telecommunications (China); Lihui Wang, Soochow Univ. (China); Xiuyu Zhang, Northeast Electric Power Univ. (China); Yan Hu, Junyi Wang, Institute of AI for Industries (China)

25 October 2026 • 17:15 - 17:30 | Room 101B

14332-29

Multi-view image generation method for light field displays based on viewpoint-illuminance distribution

Zhanghan Liu, Rengmao Wu, Zhejiang Univ. (China)

25 October 2026 • 17:30 - 17:45 | Room 101B

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CONFERENCE 14333

Saturday–Sunday 24–25 October 2026 • Room 102B

Advanced Optical Imaging Technologies IX

Conference Chairs: **He Sun,** Peking Univ. (China); **P. Scott Carney,** The Institute of Optics, Univ. of Rochester (United States); **Shian Zhang,** East China Normal Univ. (China)

Program Committee: **Benfeng Bai,** Tsinghua Univ. (China); **David J. Brady,** Duke Univ. (United States); **Liangyi Chen,** Peking Univ. (China); **Ziyang Chen,** Huaqiao Univ. (China); **Xiang Hao,** Zhejiang Univ. (China); **Yoshio Hayasaki,** Utsunomiya Univ. Ctr. for Optical Research & Education (Japan); **Minghui Hong,** Xiamen Univ. (China); **Roarke W. Horstmeyer,** Duke Univ. (United States); **Zhenli Huang,** Wuhan National Lab. for Optoelectronics (China); **Mooseok Jang,** KAIST (Republic of Korea); **Wei Ji,** Institute of Biophysics, Chinese Academy of Sciences (China); **Puxiang Lai,** The Hong Kong Polytechnic Univ. (Hong Kong, China); **Haowen Liang,** Sun Yat-Sen Univ. (China); **Jinyang Liang,** Institut National de la Recherche Scientifique (Canada); **Xu Liu,** Zhejiang Univ. (China); **Changjun Min,** Shenzhen Univ. (China); **Amir Rosenthal,** Technion-Israel Institute of Technology (Israel); **Kebin Shi,** Peking Univ. (China); **Guohai Situ,** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China); **Qian Peter Su,** Univ. of Technology Sydney (Australia); **Dong Wang,** Taiyuan Univ. of Technology (China); **Lidai Wang,** City Univ. of Hong Kong (Hong Kong, China); **Hanqing Xiong,** Peking Univ. (China); **Baoli Yao,** Xi'an Institute of Optics and Precision Mechanics of CAS (China); **Xiao-Cong Yuan,** Shenzhen Univ. (China); **Yongdeng Zhang,** Westlake Univ. (China); **Chao Zuo,** Nanjing Univ. of Science and Technology (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: ADVANCED OPTICAL IMAGING TECHNOLOGIES I

24 October 2026 • 13:30 - 15:20 | Room 102B
Session Chairs: **He Sun,** Peking Univ. (China), **Shian Zhang,** East China Normal Univ. (China)

14333-1
AI imaging in daily and scientific domains *(Invited Paper)*
Yang Liu, Caltech (United States), The Univ. of Hong Kong (Hong Kong, China)
24 October 2026 • 13:30 - 14:00 | Room 102B

14333-2
Physics-informed intelligent spatiotemporal super-resolution for high-speed structured-light 3D imaging *(Invited Paper)*
Shijie Feng, Nanjing Univ. of Science and Technology (China)
24 October 2026 • 14:00 - 14:30 | Room 102B

14333-3
diffhsr: unleashing diffusion priors in hyperspectral image super-resolution *(Invited Paper)*
Xia Hua, Shanghai Univ. (China)
24 October 2026 • 14:30 - 15:00 | Room 102B

14333-4
Image-scanning microscopy with optical super-oscillation focus
Tong Peng, Runze Li, Dan Dan, Chen Bai, Junwei Min, Meiling Zhou, Baoli Yao, Xi'an Institute of Optics and Precision Mechanics (China)
24 October 2026 • 15:00 - 15:20 | Room 102B

Tea/Coffee Break 15:20 - 15:50

SESSION 2: ADVANCED OPTICAL IMAGING TECHNOLOGIES II

24 October 2026 • 15:50 - 17:10 | Room 102B
Session Chairs: **P. Scott Carney,** The Institute of Optics, Univ. of Rochester (United States), He Sun, Peking Univ. (China)

14333-5
Compressive ultrahigh-speed imaging with a linear shearer *(Invited Paper)*
Lianzhong Deng, East China Normal Univ. (China)
24 October 2026 • 15:50 - 16:20 | Room 102B

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14333-7
Adaptive illumination for infrared visualization with a single-pixel detector *(Invited Paper)*
Baolei Liu, Beihang Univ. (China)
24 October 2026 • 16:20 - 16:50 | Room 102B

14333-8
Resolution analysis and performance optimization of confocal photoacoustic remote-sensing microscopy
Hao Zhang, Yihan Pi, Yixuan Pang, Yuye Wang, Jiao Li, Zhen Tian, Tianjin Univ. (China)
24 October 2026 • 16:50 - 17:10 | Room 102B

SUNDAY 25 OCTOBER

SESSION 3: ADVANCED OPTICAL IMAGING TECHNOLOGIES III

25 October 2026 • 08:20 - 10:10 | Room 102B
Session Chairs: **Shian Zhang,** East China Normal Univ. (China), **P. Scott Carney,** The Institute of Optics, Univ. of Rochester (United States)

14333-9
Self-inspired super-resolution microscopy *(Invited Paper)*
Weisong Zhao, Harbin Institute of Technology (China)
25 October 2026 • 08:20 - 08:50 | Room 102B

14333-10
Super-resolution structured-illumination microscopy: polarization, anisotropy, and lattice *(Invited Paper)*
Peng Xi, Peking Univ. (China)
25 October 2026 • 08:50 - 09:20 | Room 102B

14333-11
Towards bidirectional optical brain interfaces *(Invited Paper)*
Lingjie Kong, Tsinghua Univ. (China)
25 October 2026 • 09:20 - 09:50 | Room 102B

14333-12
Imaging cell biology with high-throughput systems biophotonics
Xuanwen Hua, Georgia Institute of Technology (United States), Tohoku Univ. (Japan); Shu Jia, Georgia Institute of Technology (United States)
25 October 2026 • 09:50 - 10:10 | Room 102B

Tea/Coffee Break 10:10 - 10:40

SESSION 4: ADVANCED OPTICAL IMAGING TECHNOLOGIES IV

25 October 2026 • 10:40 - 12:10 | Room 102B
Session Chairs: **He Sun,** Peking Univ. (China), **Shian Zhang,** East China Normal Univ. (China)

14333-13
Noninterferometric quantitative phase microscopy and intensity diffraction tomography *(Invited Paper)*
Chao Zuo, Nanjing Univ. of Science and Technology (China)
25 October 2026 • 10:40 - 11:10 | Room 102B

14333-14
Super-broadband stimulated Raman scattering spectroscopy and imaging *(Invited Paper)*
Jin Guo, Haojie Guo, Hanqing Xiong, Peking Univ. (China)
25 October 2026 • 11:10 - 11:40 | Room 102B

14333-15
Disordered metasurface platform for spectral sensing and imaging *(Invited Paper)*
Mooseok Jang, KAIST (Republic of Korea)
25 October 2026 • 11:40 - 12:10 | Room 102B

Lunch Break 12:10 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14333-24
Intelligent target recognition of all-aspect imaging situation in future air combat
Yuan Luo, Xi'an Institute of Applied Optics (China)

14333-25
High-resolution computational imaging in space optical interferometry based on model-guided Fourier-domain sampling
Yang Peng, Institute of Spacecraft System Engineering (China); Shangsu Cheng, Zhuoxi Huo, China Academy of Aerospace System and Innovation (China)

14333-26
Error analysis and indicator system design of pupil-plane beam-combining nulling interferometry for the MEAYIN program
Jianjie Yin, Yibing Hou, Yang Xie, Xiaojing Zhang, Zhuoxi Huo, China Academy of Aerospace System and Innovation (China)

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14333-27

A joint dot-array calibration method for heterogeneous stereo event cameras based on raw event streams

Cunyi Guo, Ting Sun, Haonan Liu, Ye Tian, Beijing Information Science & Technology Univ. (China)

14333-28

Multi-gradient scoring with top-K selection for compact and high-quality 3D Gaussians

Yangzhi Wang, Di He, Haimiao Zhang, Chang Liu, Jun Qiu, Beijing Information Science & Technology Univ. (China)

14333-29

Research on subpixel localization algorithm for virtual pinhole in confocal microscopy under complex imaging conditions

Yuwen Chen, Jianbo Bai, Chao Liu, Beijing Information Science & Technology Univ. (China)

14333-31

Efficient imaging through scattering media with a small MoE model

Cheng Tang, Haishan Liu, Fei Wang, Guohai Situ, Shanghai Institute of Optics and Fine Mechanics (China)

14333-32

STORM-BSM: combined STORM beam-scanning microscope (BSM) for simultaneous super-resolution and high-resolution imaging

Anupam Bharadwaj, Neeraj Kumar, Nimish Gupta, Bosanta Boruah, Indian Institute of Technology Guwahati (India)

14333-33

Camera-LiDAR fusion object detection based on visual guidance and adaptive DBSCAN

Kai Xu, Xiaoqing Zhang, Yangkuan Guo, Beijing Information Science & Technology Univ. (China); Yang Feng, Beijing Information Science and Technology Univers (China)

14333-34

3D image-measurement arm by the component of optimized structured light and binocular vision principle

Tianle Ma, Ying Yang, Jie Dong, Tianshuo Han, Huai'an Univ. (China); Jialin Zhang, Nantong Univ. (China)

14333-35

Characterization of fine particulate matter emitted by diverse incenses via portable lens-free microscopy

Xuan Jiang, Jintong Liu, Xin Li, Nantong Univ. (China); Ying Yang, Huai'an Univ. (China); Mei Yu, Jialin Zhang, Nantong Univ. (China)

14333-36

High-dimensional denoising autoencoder priors-guided generative deep learning enables superior photoacoustic tomography at ultra-limited-view sampling

Haoran Fang, Nanchang Univ. (China)

14333-38

An underwater image-restoration technique based on polarization scene simulation

Shiyu Li, Sichuan Police College (China); Ruoxi Wang, Hebei Univ. of Engineering (China); Xu Hu, Shufen Jian, Chenpeng Shi, Sichuan Police College (China)

14333-39

Coordinate-conditioned variance-stabilized restoration

Yiming Du, Yimo Huang, Yingjie Dong, Wenzhi Han, Changchun Univ. of Science and Technology (China)

14333-40

High-quality 3D visualization in single-axis 2D/3D switchable light-field microscopy using a polarization-dependent liquid-crystal microlens array

Ki-Chul Kwon, Hui-Ying Wu, Sung-Hoon Kim, Kwan-Hee Yoo, Chungbuk National Univ. (Republic of Korea); Munkh-Uchral Erdenebat, Erkhembaatar Dashdavaa, Ji-Sub Park, Hak-Rin Kim, Kyungpook National Univ. (Republic of Korea); Nam Kim, Chungbuk National Univ. (Republic of Korea)

14333-41

Mid-infrared broadband diffraction imaging based on nonlinear frequency conversion

Ran Ning, Xiaoyu Jin, Shan Wu, Minghua Zhang, Fuyang Normal Univ. (China)

14333-42

A clinical investigation of the link between optoacoustic imaging and selective photothermolysis

Sergio Contador Pachon, Alvaro Jimenez, Rodrigo Rojo, Juan Aguirre, Univ. Autónoma de Madrid (Spain), Instituto de Investigación Sanitaria de la Fundación Jiménez Díaz (Spain)

14333-43

Multi-exposure low-complexity temporal-spatial weighted fitting laser speckle contrast imaging for robust blood-flow quantification

Guang Han, Tiangong University (China); Siyu Liu, Tiangong Univ. (China); Qinglong Yang, Tianjin University (China); Rui Zeng, Yiyang Xie, Ruijuan Chen, Tiangong University (China)

14333-44

Multi-magnification fluorescence imaging of Sox10-expressing neural crest cells in zebrafish using sMx-SPIM

Aiswarya K. S., Malavika K. A., Indian Institute of Science Education and Research Thiruvananthapuram (India)

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SESSION 5: ADVANCED OPTICAL IMAGING TECHNOLOGIES V

25 October 2026 • 14:30 - 17:50 | Room 102B

Session Chairs: **P. Scott Carney,** The Institute of Optics, Univ. of Rochester (United States), **He Sun,** Peking Univ. (China)

14333-16

Progress and core science of CPI-C on CSST and introduction of the ELSE Program for high-contrast imaging search and study of exoplanets *(Invited Paper)*

Jiangpei Dou, Nanjing Institute of Astronomical Optics & Technology (China)

25 October 2026 • 14:30 - 15:00 | Room 102B

14333-17

Upconversion nanoparticle-guided virtual deformable mirror for computational adaptive optics in scattering fluorescence microscopy *(Invited Paper)*

Yongtao Liu, Congyi Feng, Weilong Kong, Qingqing Zhang, Zhihong He, Nanjing Univ. of Science and Technology (China); Zitong Zhang, Shenzhen Samii Medical Ctr. (China)

25 October 2026 • 15:00 - 15:30 | Room 102B

14333-18

Microscope extreme adaptive optics: focal-plane wavefront sensing and control for deep-tissue super-resolution imaging

Jinxin Liu, Peking Univ. (China)

25 October 2026 • 15:30 - 15:50 | Room 102B

Tea/Coffee Break 15:50 - 16:10

14333-19

Spatiotemporal measurement of extreme ultraviolet high-harmonic attosecond pulse train *(Invited Paper)*

Zhengyan Li, Huazhong Univ. of Science and Technology (China)

25 October 2026 • 16:10 - 16:40 | Room 102B

14333-20

Single-shot and high-fidelity reconstruction of femtosecond-nanosecond images *(Invited Paper)*

Yu Lu, Xi'an Jiaotong Univ. (China)

25 October 2026 • 16:40 - 17:10 | Room 102B

14333-21

Ultrafast X-ray imager with pulse-dilation technology for ICF diagnosis

Houzhi Cai, Lijuan Xiang, Zhiying Deng, Liangnv Huang, Shenzhen Univ. (China)

25 October 2026 • 17:10 - 17:30 | Room 102B

14333-22

Imaging swollen mitochondria in APAP-induced acute injured liver tissue by label-free third-harmonic-generation microscopy

Qiyu Bo, Nankai Univ. (China); Hanwen Yan, Yongjie Zhang, China Pharmaceutical Univ. (China); Zhiqing Zhang, Nankai Univ. (China)

25 October 2026 • 17:30 - 17:50 | Room 102B

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CONFERENCE 14334

Sunday–Monday 25–26 October 2026 • Room 102B

Optoelectronic Imaging and Multimedia Technology XIII

Conference Chairs: **Jinli Suo,** Tsinghua Univ. (China); **Zhenrong Zheng,** Zhejiang Univ. (China)

Program Committee: **Liheng Bian,** Beijing Institute of Technology (China); **Liangcai Cao,** Tsinghua Univ. (China); **Xun Cao,** Nanjing Univ. (China); **Qionghai Dai,** Tsinghua Univ. (China); **Yu Qi Han,** Dalian Univ. of Technology (China); **Gangyi Jiang,** Ningbo Univ. (China); **Jun Ke,** Beijing Institute of Technology (China); **Jun Fei Shen,** Sichuan Univ. (China); **Tsutomu Shimura,** The Univ. of Tokyo (Japan); **Baoqing Sun,** Shandong Univ. (China); **Mingjie Sun,** Beihang Univ. (China); **Qiong-Hua Wang,** Beihang Univ. (China); **Yuwang Wang,** Tsinghua Univ. (China); **Xin Yuan,** Westlake Univ. (China); **Chao Zuo,** Nanjing Univ. of Science and Technology (China)

SUNDAY 25 OCTOBER

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14334-2

Directional column-row relationship modeling for infrared image destriping with a U-shaped transformer

Maoyong Li, Yingying Gao, Lei Deng, Mingli Dong, Beijing Information Science & Technology Univ. (China)

14334-5

scene-aware adversarial camouflage generation for intelligent optoelectronic image processing

Yiming Chen, Chunhui Niu, Beijing Information Science & Technology Univ. (China)

14334-6

SAIR-Net: Structure-aware infrared image enhancement under mixed degradations

Yingying Gao, Maoyong Li, Lei Deng, Mingli Dong, Beijing Information Science & Technology Univ. (China); Lianqing Zhu, Beijing Information Science & Technology Universit (China)

14334-10

Thermal-saliency-guided multi-scale infrared image enhancement with over-enhancement suppression

Wanlin Niu, Xu Zhang, Xiaoping Lou, Xinyu Li, Beijing Information Science & Technology Univ. (China)

14334-21

Adaptive edge-guided event-stream denoising with reference-frame structural priors

Baokang You, Ting Sun, Ye Tian, Haonan Liu, Qianyu Chen, Wenya Wang, Beijing Information Science & Technology Univ. (China)

14334-22

Localized spectral-structure recovery in hyperspectral digital spectral super-resolution

Danny Luarte, Univ. de Concepción (Chile); Ignacio Sanhueza, Univ. San Sebastian (Chile); Joaquin Lermanda-Sandoval, Sergio N. Torres, Univ. de Concepción (Chile)

14334-23

UAV visual monitoring: RT-DETR-based real-time small-object detection in aerial images

Yabo He, Qingshan Chen, Xueqiong Bai, Beijing Information Science & Technology Univ. (China); Junjie Cao, Beijing Information Science and Technology University (China)

14334-24

Research on lightweight farmland intelligent recognition algorithm and mobile application

Yitao Liu, Beijing Information Science and Technology Univ. (China); Jianwei Li, Ziheng Li, Xinchang Zhou, Xinchen Wang, Yandong Gong, Beijing Information Science & Technology Univ. (China)

14334-25

Many-objective band selection with structured decision-space optimization strategy for hyperspectral target detection

Jinlian Xiong, China Univ. of Geosciences (China), National Marine Data and Information Service (China); Gang Liu, China Univ. of Geosciences (China), Engineering Research Ctr. of Natural Resource Information Management and Digital Twin Engineering (China); Peng Hu, Tianjin Geological Survey Ctr. (China); Genshen Chen, China Univ. of Geosciences (China), Engineering Research Ctr. of Natural Resource Information Management and Digital Twin Engineering (China); Chong Zhou, Hebei GEO Univ. (China)

14334-26

Simulation Method for Dynamic Space-Target Observation and Star Simulator Implementation

Ye Tian, Ting Sun, Baokang You, Haonan Liu, Qianyu Chen, Wenya Wang, Beijing Information Science & Technology Univ. (China)

14334-27

Confidence-aware adaptive tracking for small objects in UAV electro-optical imaging

Junjie Cao, Xueqiong Bai, Beijing Information Science & Technology Univ. (China)

14334-28

Geospatial positioning and local orthomosaicking of high-frequency images from a UAV-borne cross-track scanning camera

Yangyang Zhang, Yong Lyu, Beijing Information Science & Technology Univ. (China); Qiang Wang, Tianjin Normal Univ. (China); Yang Liu, Beijing Information Science & Technology Univ. (China); Xinyue Zhang, Beijing Information Science and Technology University (China)

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14334-29
Cascaded liquid-crystal SLMs for achromatic beam steering in WDM free-space optical communication
Xinjie Wu, Zhenrong Zheng, Zhejiang Univ. (China)

14334-30
A low-cost color-lenslet video-acquisition system with efficient compression using monochrome plenoptic and RGB cameras
Wanxin Shi, China Mobile Research Institute (China), Tsinghua Univ. (China); Lili Zhao, Jie Li, Meng Guo, Lei Yang, Wei Yu, China Mobile Research Institute (China); Hongwei Chen, Tsinghua Univ. (China)

14334-31
TransT-HieraFusion: A hierarchical multi-level fusion transformer for RGB-thermal visual-object tracking
Chunming Li, Xueyuan Su, Yao Liu, Hebei Univ. of Science and Technology (China); Songling Yuan, Hebei Provincial Innovation Ctr. for Semiconductor Display Application Technology (China)

14334-32
SAFM: Speckle-aware Fourier module for laser-speckle suppression in optoelectronic imaging
Heng Wang, Ting Sun, Shijie Yu, Lei Deng, Beier He, Shicong Du, Beijing Information Science & Technology Univ. (China)

14334-33
Robust LiDAR-inertial-visual SLAM in underground dusty environments: A dehazing-enhanced scheme based on FAST-LIVO2
Lili Jia, Yicheng Zhao, Yong Huang, Hangjie Chen, Beijing Institute of Technology (China)

14334-34
WALC-IRSR: Efficient window attention meets large-kernel convolution for infrared image super-resolution
Chen Wang, Lei Deng, Beijing Information Science & Technology Univ. (China)

14334-35
Learning infrared degradation distributions for scalable real-world infrared image super-resolution
Chen Wang, Lei Deng, Mingli Dong, Lianqing Zhu, Beijing Information Science & Technology Univ. (China)

14334-36
FGANet: Frequency-guided attention network for lightweight stereo matching
Beier He, Heng Wang, Lebing Fu, Shicong Du, Ting Sun, Beijing Information Science & Technology Univ. (China)

14334-37
Single-Shot Multi-Exposure Imaging with a Metasurface
Xun Liu, Zhenrong Zheng, Zhejiang Univ. (China)

14334-38
An improved YOLOv11 model for vehicle recognition on embedded platforms
Jihui Wang, Shurui Zhao, Beijing Institute of Technology (China)

14334-39
CNN-based post-processing optimization for Hi3516 video pipeline
Tao An, Hebei Univ. of Science and Technology (China)

14334-40
A Mamba-Transformer hybrid network with 2D selective scan and symmetric convolution for continuous object detection
Yicheng Zhao, Lili Jia, Yong Huang, Zhiming Zhang, Beijing Institute of Technology (China)

14334-41
Gradient-based and compressive-sensing-combined source-mask optimization for high-NA EUV lithography
Jiayin Li, Zhenrong Zheng, Zhejiang Univ. (China)

14334-42
A local correlation-aware seam-optimization method for image stitching
Zhuo Zhao, Ting Sun, Shijie Yu, Xue Yan, Jiaxin Lei, Beijing Information Science & Technology Univ. (China)

14334-44
Dispersive metasurfaces for extended depth-of-field RGBD imaging
Zhenrong Zheng, Yuhang Zhou, Zhejiang Univ. (China)

14334-46
Single-shot fringe-frequency calibration method for structured-light 3D reconstruction based on active laser focusing
Pengjiao Su, Yibo Xing, Jialin Ren, Xiaohao Wang, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14334-47
Research on a deep-learning-based carbon-footprint graph model
Rongteng Wu, Minjiang Univ. (China)

14334-48
Nonlocal metasurfaces supporting bound states in the continuum in the visible range
Ziqi Pan, Zhejiang Univ. (China)

14334-49
Depth estimation and all-in-focus recovery for RGB-D imaging based on metalens arrays
Zhenrong Zheng, Yufeng Xu, Zhejiang Univ. (China)

14334-50
Polymer-based achromatic AR waveguide via resist-film-modulated gratings
Jie Dai, Zhejiang Univ. (China), Goertek Optical Technology Co., Ltd. (China)

14334-51
High-quality imaging-array waveguide-film design for mirror-image and stray-light suppression
Xuhui Shen, Keting Optical Technology Inc. (China), Zhejiang Univ. (China); Zhenrong Zheng, Zhejiang Univ. (China); Jin Bo, Keting Optical Technology Inc. (China)

14334-52
Double-layer Moiré metalens optical coding for fiber-endoscopic computational achromatization and depth estimation
Chang Wang, Zhangjiang Lab. (China); Zhenrong Zheng, Zhejiang Univ. (China)

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14334-53

Real-time fruit-freshness detection on Raspberry Pi using YOLO and image processing

Phuong T. Tran, Ton Duc Thang Univ. (Vietnam); Ritu Sharma, Bharat Choudhary, Ghanshyam Singh, Himanshu Kumar, Malaviya National Institute of Technology, Jaipur (India)

14334-54

Distributed control system for multi-component manufacturing systems under multitasking and uncertainty

Evgeny A. Semenishchev, Aleksandr Zelensky, Kirill Danilin, Moscow State Univ. of Technology "STANKIN" (Russian Federation)

14334-55

Animatable 3D reconstruction of sturgeon based on multi-video neural implicit modeling with batch-level Soft-IoU silhouette optimization

Yihang Lu, Shiyu Zhang, Rui Zhang, Beijing Information Science & Technology Univ. (China); Kai Lin, Fishery Science Institute, Beijing Academy of Agriculture and Forestry Sciences (China)

14334-56

A lightweight detection algorithm for occluded human targets in UAV visible-light imagery for disaster-emergency optical reconnaissance

Chenxu Li, Donghua Univ. (China); yi Yang, Donghua University (China); xuefen Wan, North China Institute of Science and Technology (China)

14334-57

Gradient unfolding network for single image deraining

Huasong Chen, Yalin You, Qiansheng Feng, Junhao Wang, Huai'an Univ. (China)

14334-58

Continuous velocity field networks for dynamic 3D reconstruction

Haiping Liu, Xixi Guo, Beijing Information Science & Technology Univ. (China)

14334-59

Genetic optimization and FDTD validation of RGB grating couplers for AR waveguide displays

Mengyao Zhang, Zhenrong Zheng, Zhejiang University (China)

MONDAY 26 OCTOBER

SESSION 1: AI-BASED IMAGE/VIDEO ANALYSIS AND INTELLIGENT VISION

26 October 2026 • 10:30 - 11:10 | Room 102B

Session Chair: **Zhenrong Zheng,** Zhejiang Univ. (China)

14334-1

Difficulty-aware lightweight Siamese tracking for low-contrast small-target imaging scenarios

Xinyue Zhang, Yong Lyu, Xueqiong Bai, Beijing Information Science & Technology Univ. (China); Yangyang Zhang, Beijing Information Science and Technology University (China)

26 October 2026 • 10:30 - 10:50 | Room 102B

14334-3

Multi-scale encoding with modality-gated fusion for infrared and visible image registration

Shuwang Chen, Dongxue Yan, Caixin Wang, Hebei Univ. of Science and Technology (China)

26 October 2026 • 10:50 - 11:10 | Room 102B

SESSION 2: INFRARED, MULTISPECTRAL IMAGING, AND IMAGE RESTORATION

26 October 2026 • 11:10 - 11:50 | Room 102B

Session Chair: **Jinli Suo,** Tsinghua Univ. (China)

14334-8

Hardware-accelerated hyperspectral video understanding via metasurface encoders

Qizhou Wang, Arturo Burguete Lopez, Maksim Makarenko, Andrea Fratalocchi, King Abdullah Univ. of Science and Technology (Saudi Arabia)

26 October 2026 • 11:10 - 11:30 | Room 102B

14334-9

Visible-guided infrared image super-resolution via Mamba feature fusion and local implicit neural representation

Shuchen Sun, Beijing Information Science & Technology Univ. (China); Ligen Shi, Inner Mongolia Univ. (China); Lina Wu, Chang Liu, Jun Qiu, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 11:30 - 11:50 | Room 102B

Lunch Break 11:50 - 13:10

SESSION 3: COMPUTATIONAL IMAGING AND 3D IMAGING

26 October 2026 • 13:10 - 14:50 | Room 102B

Session Chair: **Jun Fei Shen,** Sichuan Univ. (China)

14334-11

Fine-grained occlusion-aware 3D Gaussian splatting with self-evolving confidence guidance

Zhengjun Shan, Qiang Zhang, Yuqi Han, Jiayu Yang, Dalian Univ. of Technology (China)

26 October 2026 • 13:10 - 13:30 | Room 102B

14334-12

AdaProj: Adaptive projection for robust diffusion-based inverse-problem solving

Hu Chen, Xiaojuan Deng, Chang Liu, Jun Qiu, Haimiao Zhang, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 13:30 - 13:50 | Room 102B

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14334-13

Single-photon imaging with noise-aware local conditional neural representation

Yaping Chu, Fei Wang, Zunwang Bo, Shanghai Institute of Optics and Fine Mechanics (China); Yuanhao Su, Univ. of Shanghai for Science and Technology (China); Guangyuan Xu, Hangzhou Institute for Advanced Study, UCAS (China); Guohai Situ, Shanghai Institute of Laser Technology (China), Shanghai Institute of Optics and Fine Mechanics (China)

26 October 2026 • 13:50 - 14:10 | Room 102B

14334-14

Combining deterministic and stochastic ray-tracing methods for calculating the luminance of a scattering medium

Zhan Wang, Dmitry Zhdanov, ITMO Univ. (Russian Federation); Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation); Yan Wang, Jilin Province Aisi Photoelectric Co., Ltd. (China)

26 October 2026 • 14:10 - 14:30 | Room 102B

14334-16

Spiral metasurface enables tunable directional edge enhancement

Wenli Wang, Chery Automobile Co., Ltd. (China); Yao Hu, Beijing Institute of Technology (China); Dan Chen, Shaozhang Wang, Chery Automobile Co., Ltd. (China); Qun Hao, Beijing Institute of Technology (China)

26 October 2026 • 14:30 - 14:50 | Room 102B

Tea/Coffee Break 14:50 - 15:10

SESSION 4: ADVANCED IMAGING SYSTEMS AND PHYSICAL SCENE VISUALIZATION

26 October 2026 • 15:10 - 16:30 | Room 102B

Session Chair: **Ting Sun**,
Beijing Information Science & Technology Univ. (China)

14334-17

WAFT-PIV: Warping-alone field transforms with learned DCT spectral smoothing for PIV

Song Zhang, Xiaojuan Deng, Yiming Li, Chang Liu, Jun Qiu, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 15:10 - 15:30 | Room 102B

14334-18

Method for removing fog luminance from HDR images in a smart-city system

Zhan Wang, Dmitry Zhdanov, ITMO Univ. (Russian Federation); Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation); Yan Wang, Jilin Province Aisi Photoelectric Co., Ltd. (China)

26 October 2026 • 15:30 - 15:50 | Room 102B

14334-19

Real-time model for cloudy-sky visualization on portable devices

Marat Safin, Elena Boldyreva, Ivan Loginov, Iurii Korenkov, Dmitry Zhdanov, ITMO Univ. (Russian Federation); Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation)

26 October 2026 • 15:50 - 16:10 | Room 102B

14334-20

Real-time model for visualizing dynamic fluid-surface behavior

Abdujalol Hodjaev, Elena Boldyreva, Sergei Tabunshchik, Sergei Bykovskii, Dmitry Zhdanov, ITMO Univ. (Russian Federation); Andrei Zhdanov, Shanghai Aozhan Intelligent Technology Co., Ltd. (China), ITMO Univ. (Russian Federation)

26 October 2026 • 16:10 - 16:30 | Room 102B

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CONFERENCE 14335

Saturday–Monday 24–26 October 2026 • Rooms 103A (Saturday-Monday) and 103B (Sunday only)

Holography, Diffractive Optics, and Applications XVI

Conference Chairs: **Changhe Zhou,** Jinan Univ. (China); **Ting-Chung Poon,** Virginia Polytechnic Institute and State Univ. (United States); **Liangcai Cao,** Tsinghua Univ. (China); **Hiroshi Yoshikawa,** Nihon Univ. (Japan)

Program Committee: **Partha P. Banerjee,** Univ. of Dayton (United States); **David Jones Brady,** Wyant College of Optical Sciences (United States); **Chau-Jern Cheng,** Taiwan Normal Univ. (Taiwan, China); **Jürgen W. Czarske,** TU Dresden (Germany); **Gaoliang Dai,** Physikalisch-Technische Bundesanstalt (Germany); **Wei Gao,** Tohoku Univ. (Japan); **Min Gu,** Univ. of Shanghai for Science and Technology (China); **Yoshio Hayasaki,** Utsunomiya Univ. Ctr. for Optical Research & Education (Japan); **Hoonjong Kang,** Wonkwang Univ. (Republic of Korea); **Taegeun Kim,** Sejong Univ. (Republic of Korea); **Edmund Y. Lam,** The Univ. of Hong Kong (Hong Kong, China); **Wenhao Li,** Changchun Institute of Optics, Fine Mechanics and Physics, CAS (China); **Xiangping Li,** Jinan Univ. (China); **Xinghui Li,** Tsinghua Univ. Shenzhen International Graduate School (China); **Juan Liu,** Beijing Institute of Technology (China); **Yuan Luo,** Taiwan Univ. (Taiwan, China); **Vladimir Ya Molchanov,** National Univ. of Science and Technology MISIS (Russian Federation); **Ignacio Moreno Soriano,** Univ. Miguel Hernández (Spain); **Naveen K. Nishchal,** Indian Institute of Technology Patna (India); **Takanori Nomura,** Wakayama Univ. (Japan); **Jae-Hyeung Park,** Seoul National Univ. (Republic of Korea); **Pascal Picart,** Lab. d'Acoustique de l'Univ. du Maine (France); **Stephan Reichelt,** Univ. Stuttgart (Germany); **Yunlong Sheng,** Univ. Laval (Canada); **Tomoyoshi Shimobaba,** Chiba Univ. (Japan); **Tatsuki Tahara,** National Institute of Information and Communications Technology (Japan); **Xiaodi Tan,** Fujian Normal Univ. (China); **Vladimir Yu Venediktov,** Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation), Saint Petersburg State Univ. (Russian Federation); **Aimin Yan,** Shanghai Normal Univ. (China); **Baoli Yao,** Xi'an Institute of Optics and Precision Mechanics of CAS (China); **JunJie Yu,** Shanghai Institute of Optics and Fine Mechanics, CAS (China); **Fucai Zhang,** Southern Univ. of Science and Technology (China); **Yan Zhang,** Capital Normal Univ. (China); **Yaping Zhang,** Kunming Univ. of Science and Technology (China); **Jianlin Zhao,** Northwestern Polytechnical Univ. (China); **Renjie Zhou,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Wenjing Zhou,** Shanghai Univ. (China); **Chao Zuo,** Nanjing Univ. of Science and Technology (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: DIGITAL HOLOGRAPHY

24 October 2026 • 13:30 - 15:30 | Room 103A
Session Chair: **Changhe Zhou,** Jinan Univ. (China)

14335-1
Fourier optics with a twist: The spiral Fourier transformation *(Invited Paper)*
Jürgen Jahns, FernUniv. In Hagen (Germany); Waldemar Spiller, Stefan Helfert, FernUniv. in Hagen (Germany)
24 October 2026 • 13:30 - 14:00 | Room 103A

14335-2
Digital holography applied to materials engineering: Non-destructive monitoring and control of damage on concretes *(Invited Paper)*
Silvio Montrésor, Pascal Picart, Mourad Bentahar, Lab. d'Acoustique de l'Univ. du Mans (France)
24 October 2026 • 14:00 - 14:30 | Room 103A

14335-3
Reconstructing full-resolution object wave from a single off-axis digital hologram with iterative spiral phase transform
Pavel Trochtchanovitch, Independent Researcher (United States)
24 October 2026 • 14:30 - 14:50 | Room 103A

14335-4
Single-shot deep-polarization holography for label-free phenotyping of heterogeneous systems
Yanmin Zhu, Jingyan Chen, Yuxing Li, Edmund Y. Lam, Shuo Li, The Univ. of Hong Kong (Hong Kong, China)
24 October 2026 • 14:50 - 15:10 | Room 103A

14335-5
Computational polarimetric holography through heterogeneous scattering media
Sihan Meng, Yanmin Zhu, Jingyan Chen, Yuxing Li, Edmund Y. Lam, The Univ. of Hong Kong (Hong Kong, China)
24 October 2026 • 15:10 - 15:30 | Room 103A

Tea/Coffee Break 15:30 - 16:00

SESSION 2: HOLOGRAPHY I

24 October 2026 • 16:00 - 17:20 | Room 103A

Session Chair: **Jürgen Jahns,** FernUniv. In Hagen (Germany)

14335-6

Capabilities and recent advances in photographic 3D Fresnel incoherent correlation holography (FINCH) *(Invited Paper)*

Gary Brooker, CellOptic, Inc. (United States)

24 October 2026 • 16:00 - 16:30 | Room 103A

14335-7

Structured light beams in optical cryptography *(Invited Paper)*

Kehar Singh, Indian Institute of Technology Delhi (India); Neha Chaudhary, Naveen K. Nishchal, Indian Institute of Technology Patna (India)

24 October 2026 • 16:30 - 17:00 | Room 103A

14335-8

High-resolution holographic multicore-fiber endoscopy with compressed sensing for minimally invasive 3D biomedical imaging

Zhaoyi Liu, Nanjing Univ. (China); Jakob Dremel, Tijue Wang, Robert Kuschmierz, TU Dresden (Germany); Jonas Golde, Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany); Christoph Müller, Universitätsklinikum Carl Gustav Carus Dresden (Germany); Feng Wang, Nanjing Univ. (China); Juergen Czarske, TU Dresden (Germany)

24 October 2026 • 17:00 - 17:20 | Room 103A

SUNDAY 25 OCTOBER

SESSIONS 3-6 RUN CONCURRENTLY WITH SESSIONS 7-10

SESSION 3: HOLOGRAPHY II

25 October 2026 • 08:20 - 10:00 | Room 103A

Session Chair: **Ting-Chung Poon,**
Virginia Polytechnic Institute and State Univ. (United States)

14335-11

Simulation of quantum computer-generated holography *(Invited Paper)*

Tomoyoshi Shimobaba, Shunsuke Watanabe, Megumi Kobayashi, Masato Shotoku, Fan Wang, Tomoyoshi Ito, Chiba Univ. (Japan)

25 October 2026 • 08:20 - 08:50 | Room 103A

14335-12

Digital holographic camera system based on flying-over scanning holography *(Invited Paper)*

Eungjoon Lee, Bongyeon Kim, Kyuho Kim, Kyungbeom Kim, Youseok Kim, Cubixel Co., Ltd. (Republic of Korea); Taegeun Kim, Cubixel Co., Ltd. (Republic of Korea), Sejong Univ. (Republic of Korea)

25 October 2026 • 08:50 - 09:20 | Room 103A

14335-13

Achromatic form-birefringent retarders using subwavelength ZnO gratings

Manh-Thang Tran, Ji-Hoon Lee, Jeonbuk National Univ. (Republic of Korea)

25 October 2026 • 09:20 - 09:40 | Room 103A

14335-14

Orbital angular momentum detection based on a diffractive deep neural network using polarization holography

Shujun Zheng, Hongjie Liu, Shenghui Ke, Enqiang Wu, Jun Xie, Xuelin Wang, Rongjie Yang, Dakui Lin, Yi Yang, Xiaodi Tan, Fujian Normal Univ. (China)

25 October 2026 • 09:40 - 10:00 | Room 103A

Tea/Coffee Break 10:00 - 10:30

SESSION 7: OPTICAL IMAGING AND DISPLAY I

25 October 2026 • 08:20 - 10:30 | Room 103B

Session Chair: **Lingling Huang,**
Beijing Institute of Technology (China)

14335-28

Computational phase imaging for label-free 3D microscopy: noninterferometric phase retrieval and intensity diffraction tomography *(Invited Paper)*

Chao Zuo, Nanjing Univ. of Science and Technology (China)

25 October 2026 • 08:20 - 08:50 | Room 103B

14335-29

Learning-based imaging and rendering toward realistic 3D visual systems *(Invited Paper)*

Hyeonseung Yu, Sungkyunkwan Univ. (Republic of Korea)

25 October 2026 • 08:50 - 09:20 | Room 103B

14335-30

Encoding methods for enhanced holographic-display quality and 3D perception *(Invited Paper)*

Fan Wang, Chiba Univ. (Japan)

25 October 2026 • 09:20 - 09:50 | Room 103B

14335-31

Focusing-actuation feasibility of a gram-scale objective lens for a page-imaging servo in collinear holographic data storage

Rupeng Yang, Hao Chen, Kang Shen, Erkang Yang, Yilong Zhuang, Jingjun Huang, Jianlei Li, Xiaodi Tan, Fujian Normal Univ. (China)

25 October 2026 • 09:50 - 10:10 | Room 103B

14335-32

Energy-guided parallel multislice Fourier ptychographic microscopy for high-speed quantitative phase imaging of thick biological specimens

Jiasong Sun, Nanjing Univ. of Science and Technology (China)

25 October 2026 • 10:10 - 10:30 | Room 103B

Tea/Coffee Break 10:30 - 11:00

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CONFERENCE 14335

SESSIONS 3-6 RUN CONCURRENTLY WITH SESSIONS 7-10

SESSION 4: COMPUTATIONAL IMAGING

25 October 2026 • 10:30 - 12:10 | Room 103A

Session Chair: **Gary Brooker**, CellOptic, Inc. (United States)

14335-15

Real-time horizontal-parallax-only holographic stereogram display using a 14K liquid-crystal panel *(Invited Paper)*

Hiroshi Yoshikawa, Makoto Oikawa, Takeshi Yamaguchi, Nihon Univ. (Japan)

25 October 2026 • 10:30 - 11:00 | Room 103A

14335-16

Lensless imaging with a denoising-diffusion null-space model *(Invited Paper)*

Tomoya Nakamura, The Univ. of Osaka (Japan)

25 October 2026 • 11:00 - 11:30 | Room 103A

14335-17

Physics-informed deep neural network for quantitative phase imaging through a lensless fiber endomicroscope

Yu Han, Univ. of Science and Technology of China (China); Xibin Yang, Jiawei Sun, Suzhou Institute of Biomedical Engineering and Technology (China)

25 October 2026 • 11:30 - 11:50 | Room 103A

14335-18

Sparse preprocessing-guided cascaded U-Net for mixed additive–multiplicative noise suppression in off-axis digital holography

Ying Luo, Wenjing Zhou, Yingjie Yu, Shanghai Univ. (China); Ting-Chung Poon, Virginia Polytechnic Institute and State Univ. (United States)

25 October 2026 • 11:50 - 12:10 | Room 103A

Lunch Break 12:10 - 13:30

SESSION 8: METASURFACES

25 October 2026 • 11:00 - 12:10 | Room 103B

Session Chair: **Hyeonseung Yu**, Sungkyunkwan Univ. (Republic of Korea)

14335-33

Multidimensional and large-capacity wavefront modulation based on metasurfaces *(Invited Paper)*

Lingling Huang, Beijing Institute of Technology (China)

25 October 2026 • 11:00 - 11:30 | Room 103B

14335-34

Polarization-controlled dual-mode display using a metasurface

Jingnan Li, Huan Zhao, Juan Liu, Beijing Institute of Technology (China)

25 October 2026 • 11:30 - 11:50 | Room 103B

14335-35

Terahertz encryption with a polarization-sensitive metasurface

Yan Zhang, Capital Normal Univ. (China); Huan Zhao, Beijing Institute of Technology (China); Tong Nan, Harbin Institute of Technology (China); Xinke Wang, Yixuan He, Capital Normal Univ. (China)

25 October 2026 • 11:50 - 12:10 | Room 103B

Lunch Break 12:10 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14335-26

Calibrated illumination-field initialization for low-sampling near-field multislice ptychographic phase recoCalibrated-Illumination-Assisted Phase Reconstruction in Low-Sampling Near-Field Multi-Slice Ptychographynstruction

Jiaxin Lei, Ting Sun, Xue Yan, Zhuo Zhao, Beijing Information Science & Technology Univ. (China)

14335-65

High-diffraction-efficiency reflective grating for wavelength selective switch

Tianshuai Xiao, Quan Liu, Jilei Jiang, Shuaibing Chen, Jiang Leng, Zijiang Yang, Soochow Univ. (China)

14335-66

Fringe-visibility analysis in digital holographic interferometry under different displacement and object conditions

Angelica Rocio Hernandez Delesma, Mariana Martinez Marquez, Arturo Olivares Perez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

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14335-67

Spatiotemporal wavefront reconstruction under dynamic atmospheric turbulence for adaptive optics

Nagendra Kumar, Vinay Yadav, Navaneeth V. Munavalli, Indian Institute of Information Technology Vadodara (India); Pranjal Choudhury, Indian Institute of Technology Guwahati (India); Satya Siddharta Goutam Buddha, Tata Institute of Fundamental Research (India); Sunil Mohan, Indian Institute of Technology Guwahati (India); Karuna S. Malik, Department of Physics, Brainware University, Barasat, Kolkata-700125, India (India); Santanu Konwar, Department of Physics, Abhayapuri College, Assam-783384, India (India)

14335-68

The effect of defocus on the propagation dynamics of Gaussian and orbital angular momentum beams

Nimish Gupta, Bosanta Ranjan Boruah, Indian Institute of Technology Guwahati (India)

14335-69

Generation of a flat-top beam from a Gaussian beam using a binary phase grating

Nagendra Kumar, Indian Institute of Information Technology Vadodara (India); Harpreet Kaur, Indian Institute of Technology Delhi (India); Karuna Sindhu Malik, Brainware Univ. (India); Satya Siddharta Goutam Buddha, Tata Institute of Fundamental Research (India); Pranjal Choudhury, Department of Basic Science and Humanities, Assam Skill University, Assam 784125, India (India); Fnu Sushma, Indian Institute of Information Technology Vadodara (India); Santanu Konwar, Abhayapuri College (India); Sunil Mohan, Indian Institute of Technology Guwahati (India)

14335-70

Numerical investigation of Mandelbrot fractal apertures and their diffraction characteristics using Fourier optics and FDTD validation

Akanseri Mastetbay, Imangali Zhumagulov, Kamilla Ilyasheva, Azkia Mehdi, Karakat Tugelbayeva, Ainur Koshkinbayeva, Nazarbayev Univ. (Kazakhstan); Hyucksu Choi, Yonsei Univ. (Republic of Korea); Kyunghwan Oh, Nazarbayev Univ. (Kazakhstan)

14335-71

High-efficiency diffractive-coupling grating for augmented-reality displays

Jilei Jiang, Quan Liu, Shuaibing Chen, Tianshuai Xiao, Jiang Leng, Zijiang Yang, Soochow Univ. (China)

14335-72

Experimental evaluation of deep-learning-based batch reading and decoding for holographic memory

Fang Gao, Hangzhou Dianzi Univ. (China), Univ. of Yamanashi (Japan); Changqiu Yu, Hangzhou Dianzi Univ. (China); Hironori Ito, Satoshi Honma, Univ. of Yamanashi (Japan)

14335-73

High-efficiency fused-silica transmission grating for atmospheric CO2 detection

Jiang Leng, Quan Liu, Zijiang Yang, Shuaibing Chen, Tianshuai Xiao, Jilei Jiang, Soochow Univ. (China)

14335-74

Research on the rotation-angle sensor based on a segmented metasurface

Ekaterina A. Efremova, St. Petersburg Academic Univ. (Russian Federation); Igor R. Krylov, Uliana V. Prokhorova, Saint Petersburg State Univ. (Russian Federation); Egor V. Shalymov, Vladislav I. Shoev, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation); Alexander A. Zinchik, ITMO Univ. (Russian Federation); Vladimir Y. Venediktov, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation)

14335-75

Fringe-locking system referenced to an arbitrary exposure position for mosaic exposure fabrication of large-size diffraction gratings

Songyang Xie, Shuonan Shan, Chencheng Wang, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14335-76

Switching of resonances of two optically coupled subwavelength gratings with PT symmetry

Ekaterina A. Efremova, St. Petersburg Academic Univ. (Russian Federation); Igor R. Krylov, Saint Petersburg State Univ. (Russian Federation); Egor V. Shalymov, Vladislav I. Shoev, Vladimir Y. Venediktov, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation); Alexander A. Zinchik, ITMO Univ. (Russian Federation)

14335-77

extraction and internal-consistency validation of grating uniformity features from scan data of a grating interferometer

Chencheng Wang, Shuonan Shan, Songyang Xie, Xiaohao Wang, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14335-78

Evolution of the singular skeleton in a laser speckle field

Haibin Sun, Tingting Liu, Taishan Univ. (China)

14335-79

Multi-channel holographic wavefront sensor

Alina V. Gorelaya, Egor V. Shalymov, Dmitrii V. Masygin, Vladimir Y. Venediktov, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation)

14335-81

PC-LFNet: high-fidelity partially coherent lens-free quantitative phase imaging based on defocus self-correction

Yu Cui, Nanjing Univ. of Science and Technology (China)

14335-83

Efficiency optimization of multiplexed holographic optical elements for single-axis 2D/3D light-field imaging

Hui-Ying Wu, Korea Univ. (Republic of Korea); Ki-Chul Kwon, Chungbuk National Univ. (Republic of Korea); Hwi Kim, Korea University (Republic of Korea); Nam Kim, Chungbuk National Univ. (Republic of Korea)

14335-84

Full-field residual stress measurement in thin plates via a fusion of digital holography and digital image correlation

Chen Sihan, Wenjing Zhou, Zhang Huiling, Yu Yingjie, Shanghai Univ. (China)

14335-85

Dove-prism-based total-internal-reflection digital holography for measuring dynamic refractive-index distribution

Xiaoyu Jin, Ran Ning, Minghua Zhang, Shan Wu, Fuyang Normal Univ. (China)

14335-86

Weighted correction and graph-cut fusion for subaperture stitching of inner cylindrical surfaces

Hairong Chen, Qiwei Fang, Yingjie Yu, Shanghai Univ. (China)

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CONFERENCE 14335

SESSIONS 3-6 RUN CONCURRENTLY WITH SESSIONS 7-10

SESSION 5: OPTICAL MEASUREMENT

25 October 2026 • 14:30 - 16:20 | Room 103A

Session Chair: **Hiroshi Yoshikawa**, Nihon Univ. (Japan)

14335-19

Three-dimensional measurement of fine surface features of rough surfaces using an Abramson-type oblique-incidence interferometer *(Invited Paper)*

So Ito, Shuji Miyata, Takumi Yamagishi, Yasutomo Sugisawa, Kenta Matsumoto, Kazuhide Kamiya, Toyama Prefectural Univ. (Japan)

25 October 2026 • 14:30 - 15:00 | Room 103A

14335-20

Dimensional measurement based on multi-beam interference using a line-focused laser beam *(Invited Paper)*

Dong Wook Shin, Yuki Shimizu, Hokkaido Univ. (Japan)

25 October 2026 • 15:00 - 15:30 | Room 103A

14335-21

Generation of Vector Vortex Beams in a Polarization Mach–Zehnder Interferometer and Statistical Characterization of Output Radiation *(Invited Paper)*

Marya E. Pavelina, Saint Petersburg Electrotechnical Univ. “LETI” (Russian Federation); Viktor M. Petrov, Daniil D. Reshetnikov, Saint Petersburg State Univ. (Russian Federation); Anastsiia A. Ryzhaya, Alexander A. Sevryugin, Vladimir Y. Venediktov, Saint Petersburg Electrotechnical Univ. “LETI” (Russian Federation)

25 October 2026 • 15:30 - 16:00 | Room 103A

14335-22

Grating-period repeatability measurement setup and experimental results

Ying Wang, Changhe Zhou, Shanwen Zhang, Wei Jia, Jin Wang, Jinan Univ. (China)

25 October 2026 • 16:00 - 16:20 | Room 103A

Tea/Coffee Break 16:20 - 16:40

SESSION 9: OPTICAL IMAGING AND DISPLAY II

25 October 2026 • 14:30 - 16:20 | Room 103B

Session Chair: **Chao Zuo,**
Nanjing Univ. of Science and Technology (China)

14335-36

Pushing the technical boundary of coherent diffraction imaging *(Invited Paper)*

Fucai Zhang, Southern Univ. of Science and Technology (China)

25 October 2026 • 14:30 - 15:00 | Room 103B

14335-37

Spatiotemporal light springs: generation and application in multiple-image encryption *(Invited Paper)*

Aimin Yan, Shanghai Normal Univ. (China)

25 October 2026 • 15:00 - 15:30 | Room 103B

14335-38

Development of an off-axis reflective HOE for near-eye displays *(Invited Paper)*

Juan Liu, Changyu Wang, Hong Xu, Shijie Zhang, Beijing Institute of Technology (China)

25 October 2026 • 15:30 - 16:00 | Room 103B

14335-39

Low-order form leakage in Fizeau subaperture stitching for wafer-scale surface metrology

Abdulmajeed Yahya Moqbel Saleh Al-Sabahi, Shujia Liu, Jingwen Li, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

25 October 2026 • 16:00 - 16:20 | Room 103B

Tea/Coffee Break 16:20 - 16:30

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SESSIONS 3-6 RUN CONCURRENTLY WITH SESSIONS 7-10

SESSION 6: MANIPULATION OF OPTICAL FIELD

25 October 2026 • 16:40 - 18:00 | Room 103A

Session Chair: **Tomoyoshi Shimobaba,** Chiba Univ. (Japan)

14335-23

Recent advances in optical-correlator applications

Jyoti B. Mohapatra, Akash Pal, Indian Institute of Technology Patna (India); Rahul Kumar, Acharya Institute of Graduate Studies (India); Naveen K. Nishchal, Indian Institute of Technology Patna (India)

25 October 2026 • 16:40 - 17:00 | Room 103A

14335-24

An experimental investigation of topological charge and alignment tolerances in OAM mode cancellation

Nimish Gupta, Bosanta Ranjan Boruah, Indian Institute of Technology Guwahati (India)

25 October 2026 • 17:00 - 17:20 | Room 103A

14335-25

Snake-in-the-box sequences for ordered traversal of binary diffractive optical elements

John J. Healy, Yushi Zheng, Yannuo Wen, Univ. College Dublin (Ireland)

25 October 2026 • 17:20 - 17:40 | Room 103A

14335-27

Partially coherent Fourier ptychographic microscopy based on wavelet transform

Jie Zhao, Pengfei Li, Beijing Univ. of Technology (China); Siyu Gao, Beijing University of Technology (China); Feifan Fan, Dayong Wang, Yunxin Wang, Beijing Univ. of Technology (China)

25 October 2026 • 17:40 - 18:00 | Room 103A

SESSION 10: FABRICATION

25 October 2026 • 16:30 - 18:10 | Room 103B

Session Chair: **Juan Liu,** Beijing Institute of Technology (China)

14335-40

Encoder based on a grating-imaging scanning system

Zichen Zhao, Changhe Zhou, Wei Jia, Jinan Univ. (China); Shanwen Zhang, Jinan university (China); Jin Wang, Jinan University (China)

25 October 2026 • 16:30 - 16:50 | Room 103B

14335-41

Integrated holographic optical element development scheme with fringe locking

Yuan Xu, Juan Liu, Liangfa Xu, Qiukun Liao, Changyu Wang, Beijing Institute of Technology (China)

25 October 2026 • 16:50 - 17:10 | Room 103B

14335-42

Surface-profile reconstruction with subaperture stitching

Shujia Liu, Jingwen Li, Abdulmajeed Yahya Moqbel Saleh Al-Sabahi, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

25 October 2026 • 17:10 - 17:30 | Room 103B

14335-43

High-fidelity fabrication of large-aperture ultra-low-NA cylindrical lens arrays via grayscale laser direct writing and ICP etching

Linze Li, Shao Yu, Luoyu Zhang, Chenying Yang, Hangzhou Institute for Advanced Study, UCAS (China)

25 October 2026 • 17:30 - 17:50 | Room 103B

14335-44

Hybrid spatial-polarization modulation and solid-immersion lithography for Mueller matrix image reconstruction

Bin Xu, Tianshi Lu, Tsinghua Univ. Shenzhen International Graduate School (China); Hao Lv, Tsinghua Univ. (China); Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

25 October 2026 • 17:50 - 18:10 | Room 103B

MONDAY 26 OCTOBER

SESSION 11: META-OPTICS

26 October 2026 • 08:30 - 10:00 | Room 103A

Session Chair: **Liangcai Cao**, Tsinghua Univ. (China)

14335-45

High-dimensional multichannel spatial photonic Ising machine based on Dammann gratings *(Invited Paper)*

Junjie Yu, Shanghai Institute of Optics and Fine Mechanics (China); Jinmin Yang, State Key Lab. of Photonics and Communications, Shanghai Jiao Tong Univ. (China); Junze Yao, Shanghai Institute of Optics and Fine Mechanics (China); Wenjia Zhang, State Key Lab. of Photonics and Communications, Shanghai Jiao Tong Univ. (China)

26 October 2026 • 08:30 - 09:00 | Room 103A

14335-46

Digital holographic microscopy for laser processing and quantitative analysis of polarization-phase anisotropy

Aleksey V. Chernykh, Vladislav R. Gresko, Aleksei S. Ezerskii, Elizaveta G. Tsiplakova, Tikhon V. Reztsov, Andrey Y. Ivanov, Maksim M. Sergeev, ITMO Univ. (Russian Federation); Tetiana Orlova, Yerevan State Univ. (Armenia); Nikolay V. Petrov, Harbin Institute of Technology (China), ITMO Univ. (Russian Federation)

26 October 2026 • 09:00 - 09:20 | Room 103A

14335-47

High-resolution lens-free on-chip quantitative phase microscopy with a programmable VCSEL array

Yang Chen, Nanjing Univ. of Science and Technology (China)

26 October 2026 • 09:20 - 09:40 | Room 103A

14335-48

Cross-dimensional steganography of a bimetal stacked array

Shencheng Fu, Xiuping Qi, Northeast Normal Univ. (China)

26 October 2026 • 09:40 - 10:00 | Room 103A

Tea/Coffee Break 10:00 - 10:20

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CONFERENCE 14335

SESSION 12: TECHNOLOGY AND APPLICATIONS

26 October 2026 • 10:20 - 11:50 | Room 103A

Session Chair: **Chao Zuo**, Nanjing Univ. of Science and Technology (China)

14335-49

LED-based optical diffraction tomographic microscopy *(Invited Paper)*

Junwei Min, Xi'an Institute of Optics and Precision Mechanics (China)

26 October 2026 • 10:20 - 10:50 | Room 103A

14335-50

High-performance Ge/ZnS mosaic Fabry–Perot long-wave infrared filter for snapshot multispectral gas detection

Luoyu Zhang, Linze Li, Chenying Yang, Hangzhou Institute for Advanced Study, UCAS (China)

26 October 2026 • 10:50 - 11:10 | Room 103A

14335-51

High-throughput reconstruction for wavelet-transform-based X-ray speckle tracking

Rongcheng Yang, Boyong Wang, Zhihao Guan, Pingping Wen, Yajun Tong, Huaidong Jiang, Qiao Zhi, ShanghaiTech Univ. (China)

26 October 2026 • 11:10 - 11:30 | Room 103A

14335-52

Super-encryption of a full-color fluorescent hologram in carbon-dot assemblies

Shuo Zhang, Shencheng Fu, Northeast Normal Univ. (China)

26 October 2026 • 11:30 - 11:50 | Room 103A

Lunch Break 11:50 - 13:10

SESSION 13: DIFFRACTIVE OPTICS I

26 October 2026 • 13:10 - 15:00 | Room 103A

Session Chair: **Xiaodi Tan,** Fujian Normal Univ. (China)

14335-53

Subwavelength-grating-waveguide-based integrated polarizing beam splitters *(Invited Paper)*

Jijun Feng, Univ. of Shanghai for Science and Technology (China)

26 October 2026 • 13:10 - 13:40 | Room 103A

14335-54

Diffraction imaging with broadband sources

Huixiang Lin, Fucai Zhang, Southern Univ. of Science and Technology (China)

26 October 2026 • 13:40 - 14:00 | Room 103A

14335-55

Diffraction-based Hermite–Gaussian imaging

Qiushuang Lian, Qiaofeng Tan, Liangcai Cao, Tsinghua Univ. (China)

26 October 2026 • 14:00 - 14:20 | Room 103A

14335-56

Broadband high-efficiency beam-combining grating for dual-polarization Littrow reflection

Zhipeng Pan, Wei Jia, Changhe Zhou, Shanwen Zhang, Jin Wang, Jinan Univ. (China)

26 October 2026 • 14:20 - 14:40 | Room 103A

14335-57

A modal-feature-based residual-correction network for grating-diffraction-efficiency prediction

Shuang Zhang, Jinan Univ. (China)

26 October 2026 • 14:40 - 15:00 | Room 103A

Tea/Coffee Break 15:00 - 15:20

SESSION 14: DIFFRACTIVE OPTICS II

26 October 2026 • 15:20 - 17:40 | Room 103A

Session Chair: **So Ito,** Toyama Prefectural Univ. (Japan)

14335-58

design of a circular-polarization-selective Dammann grating

Fujun Tan, Changhe Zhou, Shanwen Zhang, Wei Jia, Jin Wang, Jinan Univ. (China)

26 October 2026 • 15:20 - 15:40 | Room 103A

14335-59

Deep-learning-enabled optical scanning holography for multimaterial nanoplastic identification

Yongwei Yao, Lanqing Zhao, Yaping Zhang, Kunming Univ. of Science and Technology (China); Ting-Chung Poon, Virginia Polytechnic Institute and State Univ. (United States)

26 October 2026 • 15:40 - 16:00 | Room 103A

14335-60

Refined design of grating layout and subdivision parameters for two-dimensional exit-pupil-expansion diffractive waveguides

Jiaqin Chen, Shanwen Zhang, Jin Wang, Wei Jia, Changhe Zhou, Jinan Univ. (China)

26 October 2026 • 16:00 - 16:20 | Room 103A

14335-61

A processing-technology scheme for dielectric protective coatings on diffraction gratings

Hongying Qiu, Jinan Univ. (China)

26 October 2026 • 16:20 - 16:40 | Room 103A

14335-62

Diffraction-efficiency prediction and inverse design of two-dimensional cylindrical gratings based on an enhanced BPNN

Hao Luo, Wei Jia, Shanwen Zhang, Changhe Zhou, Jin Wang, Jinan Univ. (China)

26 October 2026 • 16:40 - 17:00 | Room 103A

14335-63

Design of a high-efficiency phase-delay grating based on a simplified-mode method

Weixian Qin, Wei Jia, Changhe Zhou, Jinan Univ. (China)

26 October 2026 • 17:00 - 17:20 | Room 103A

14335-64

Defect inspection of large-aperture beam-sampling gratings based on ultraviolet fluorescence

Yu Fang, Shanwen Zhang, Changhe Zhou, Wei Jia, Jin Wang, Jinan Univ. (China)

26 October 2026 • 17:20 - 17:40 | Room 103A

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CONFERENCE 14336

Sunday–Monday 25–26 October 2026 • Room 105A

Optical Metrology and Inspection for Industrial Applications XIII

Conference Chairs: **Sen Han,** Univ. of Shanghai for Science and Technology (China), Suzhou H&L Instruments LLC (China); **Gerd Ehret,** Physikalisch-Technische Bundesanstalt (Germany); **Benyong Chen,** Zhejiang Sci-Tech Univ. (China)

Program Committee: **Jürgen W. Czarske,** TU Dresden (Germany); **Xiaohao Dong,** Shanghai Advanced Research Institute, Chinese Academy of Sciences (China); **Matthias Eifler,** IU International Univ. of Applied Sciences (Germany); **Claas Falldorf,** BIAS - Bremer Institut für angewandte Strahltechnik GmbH (Germany); **Shijie Feng,** Nanjing Univ. of Science and Technology (China); **Tina E. Kidger,** Kidger Optics Associates (United Kingdom); **Peter Lehmann,** Univ. Kassel (Germany); **Xiao Luo,** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences (China); **Yukitoshi Otani,** Utsunomiya Univ. (Japan); **Christof Pruss,** Institut für Technische Optik (Germany); **Patrice Salzenstein,** FEMTO-ST (France); **Wenjuan Sun,** National Physical Lab. (United Kingdom); **Takamasa Suzuki,** Niigata Univ. (Japan); **Wei Wang,** Heriot-Watt Univ. (United Kingdom); **Xiangzhao Wang,** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China); **Quanying Wu,** Suzhou Univ. of Science and Technology (China); **Liping Yan,** Zhejiang Sci-Tech Univ. (China); **Dawei Zhang,** Univ. of Shanghai for Science and Technology (China); **Hao Zhang,** Dalian Maritime Univ. (China); **Xiangchao Zhang,** Fudan Univ. (China); **Zonghua Zhang,** Hebei Univ. of Technology (China); **Chao Zuo,** Nanjing Univ. of Science and Technology (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SUNDAY 25 OCTOBER

SESSION 1: OPTICAL METROLOGY METHODS I

25 October 2026 • 08:30 - 10:30 | Room 105A
Session Chairs: **Sen Han,** Univ. of Shanghai for Science and Technology (China), **Guillermo Castro Luis,** Wooptix, S.L. (Spain)

14336-1
Comparison of depth-standard measurements using different optical Fizeau interferometers *(Invited Paper)*
Gerd Ehret, Hanno Dierke, Markus Schake, Physikalisch-Technische Bundesanstalt (Germany)
25 October 2026 • 08:30 - 09:00 | Room 105A

14336-2
Design and tolerance analysis of a virtual ring light source based on a dual-GRIN-lens group for Fizeau interferometers
Peili Wang, Peng Gao, Yifan Ding, Qi Lu, Shijie Liu, Shanghai Institute of Optics and Fine Mechanics (China)
25 October 2026 • 09:00 - 09:15 | Room 105A

14336-3
Robust interferogram-processing algorithm against Gaussian-envelope and harmonic interference for high-precision Fizeau wavemeters
Peiqi Chen, Zhaohui Hu, Beihang Univ. (China); Jingcheng Shang, Hangzhou National Major Scientific Infrastructure Research Institute for Ultra-Weak Magnetic Fields (China)
25 October 2026 • 09:15 - 09:30 | Room 105A

14336-4
Finite-window amplitude-frequency response compensation for I/Q velocity demodulation in SDR-LDV-based industrial vibration detection
Qiaowan Jin, Beijing Information Science and Technology Univ. (China); Yang Cao, Beijing Information Science and Technology University (China)
25 October 2026 • 09:30 - 09:45 | Room 105A

14336-5
Compensation method for pose parameters of a distributed measurement system based on optical-frequency-comb interferometric ranging
Fengcheng Song, Yutong Wei, Jiarui Lin, Tianjin Univ. (China)
25 October 2026 • 09:45 - 10:00 | Room 105A

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14336-6

Radiographic diagnostics and nondestructive testing of laser-welded joints

Igor V. Melnikov, Moscow Institute of Physics and Technology (Russian Federation); Lyubov A. Yurchenko, Cifracon (Russian Federation); Valery I. Krivorotov, VPG LaserOne (Russian Federation)

25 October 2026 • 10:00 - 10:15 | Room 105A

14336-7

Extended MMPD-EMA method for surface roughness compensation in Mueller matrix ellipsometry of nanograting structures

Yihang Xu, Nanjing Univ. of Aeronautics and Astronautics (China); Hangying Zhang, Kai Meng, Nanjing Univ. of Aeronautics and Astronautics (China), National Key Lab. of Microwave Photonics (China), Key Lab. of Aerospace Integrated Circuits and Microsystem (China); Xiaoming Qian, Peihuang Lou, Nanjing Univ. of Aeronautics and Astronautics (China)

25 October 2026 • 10:15 - 10:30 | Room 105A

Tea/Coffee Break 10:30 - 10:45

SESSION 2: OPTICAL METROLOGY METHODS II

25 October 2026 • 10:45 - 12:00 | Room 105A

Session Chairs: **Gerd Ehret,** Physikalisch-Technische Bundesanstalt (Germany), **Shijie Feng,** Nanjing Univ. of Science and Technology (China)

14336-8

Beam-reshaping-based measurement uncertainty reduction for multipoint laser Doppler sensors *(Invited Paper)*

Hao Zhang, Guocheng Yan, Wentao Liu, Dalian Maritime Univ. (China)

25 October 2026 • 10:45 - 11:15 | Room 105A

14336-9

Adaptive photothermal microscopy for fast defect localization in dielectric optical coatings

Ivan Babushkin, Shanghai Institute of Optics and Fine Mechanics (China), Univ. of Chinese Academy of Sciences (China), China-Russian Belt and Road Joint Lab. on Laser Science (China); Weiwei Wang, Shanghai Institute of Optics and Fine Mechanics (China), China-Russian Belt and Road Joint Lab. on Laser Science (China); Aleksandr Cheplakov, Shanghai Institute of Optics and Fine Mechanics, CAS (China), University of Chinese Academy of Sciences (China), China-Russian Belt and Road Joint Laboratory on Laser Science, SIOM, CAS (China); Shijie Liu, Jianda Shao, Shanghai Institute of Optics and Fine Mechanics (China), China-Russian Belt and Road Joint Lab. on Laser Science (China)

25 October 2026 • 11:15 - 11:30 | Room 105A

14336-10

A decision-making framework for microchip-orientation control

Kirill Danilin, Evgenii Semenishchev, Moscow State Univ. of Technology “STANKIN” (Russian Federation)

25 October 2026 • 11:30 - 11:45 | Room 105A

14336-11

The School of Electronic Engineering at Xi’an University of Posts and Telecommunications uses TXRF to detect contaminants on silicon wafers

Zihao Zhou, Xi’an Univ. of Posts & Telecommunications (China)

25 October 2026 • 11:45 - 12:00 | Room 105A

Lunch Break 12:00 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14336-12

Analysis of the structured-light-based system for curved surfaces

Nikita Mitiushenko, Guanqiao Su, Galina Romanova, ITMO Univ. (Russian Federation)

14336-31

A task-allocation system for automated systems and human operators in nondeterministic environments *(Invited Paper)*

Evgeny A. Semenishchev, Aleksandr Zelensky, Kirill Danilin, Moscow State Univ. of Technology “STANKIN” (Russian Federation)

14336-36

Absolute-distance measurement based on dual microcombs

Yang Xie, Jianjie Yin, Yibing Hou, China Academy of Aerospace System and Innovation (China)

14336-39

Dynamic pointing calibration for inter-satellite laser links: A physics-data-fusion model based on STL-ARIMA

Xinyue Yu, Xidian Univ. (China), China Satellite Network System Co., Ltd. (China); Qianglin Xing, China Satellite Network System Co., Ltd. (China); Shuiying Xiang, Xidian Univ. (China); Haida Liu, China Satellite Network System Co., Ltd. (China)

14336-47

An adaptive weight-tuning method for gait control of humanoid robots over complex terrain

Jun Wang, Guangtai Song, Bixi Yan, Peng Sun, Weijun Zhong, Tingzhu Gu, Beijing Information Science & Technology Univ. (China)

14336-48

Joint calibration of a vision-laser system via global parameter optimization

Ronghao Jia, Bixi Yan, Zirun Wang, Jiang Sheng, Wei Zhuang, Beijing Information Science & Technology Univ. (China); Kuai Yu, Institute of Remote Sensing Satellites, China Academy of Space Technology (China); Peng Sun, Beijing Information Science & Technology Univ. (China)

14336-49

A joint segmentation-classification SAM3 method for fine-grained component recognition of star-sensor PCBs

Shicong Du, Ting Sun, Lei Deng, Beier He, Heng Wang, Beijing Information Science & Technology Univ. (China)

14336-50

A vision-based autonomous fueling system via stereo-pair dense matching

Lebing Fu, Yulin Feng, Beier He, Heng Wang, Xiantong Zheng, Yuan Liu, Beijing Information Science & Technology Univ. (China)

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14336-51

Accuracy improvement of 3D vision by compensating for entrance-pupil walking of the lens

Yiqi Liao, Jianhang Ding, Renju Li, SHINING 3D Tech Co., Ltd. (China)

14336-52

Relative-displacement-constrained radar–camera extrinsic calibration for high-precision fusion measurement

Nanfeng Yi, Peng Sun, Mingli Dong, Bixi Yan, Jun Wang, Guangyi Dai, Wei Zhuang, Beijing Information Science & Technology Univ. (China); Kuai Yu, Institute of Remote Sensing Satellites, China Academy of Space Technology (China)

14336-53

Physics-guided neural thermal-radiance-field reconstruction for sparse-view infrared optoelectronic imaging

ChengHua Yao, Beijing Information Science & Technology Univ. (China); Yuxia Zhao, Beijing Information Science and Technology University (China); Lei Deng, Beijing Information Science & Technology Univ. (China)

14336-54

A zero-crossing-localization method for differential-confocal signals based on candidate-interval screening

Kang Zhang, Chao Liu, Beijing Information Science & Technology Univ. (China)

14336-55

Triple-differential-confocal peak-extraction method based on a curvature-adaptive interval and Huber-M estimation

Yifan Yang, Chao Liu, Yuwen Chen, Beijing Information Science & Technology Univ. (China)

14336-56

Curvature-adaptive inverse-sensitivity fringe design for micro-defect detection on specular cylindrical surfaces

Lining Ma, Jiayan Xia, Jiacheng Wang, Xiuquan Li, Xinru Yang, Yangtze Univ. (China)

14336-57

Vision-language-based rotatable imaging system for curved pharmaceutical bottle-label recognition

Yanlin Zhu, Hanze Liu, Lebing Fu, Yuxia Zhao, Ting Sun, Beijing Information Science & Technology Univ. (China); Shijie Yu, Beijing Information Science & Technology University (China); Lei Deng, Beijing Information Science & Technology Univ. (China)

14336-58

Reliability-based reranking and uncertainty calibration of elliptic-ring candidate observations under degraded imaging conditions

Sijin Tang, Xiaoping Lou, Xin Liu, Beijing Information Science & Technology Univ. (China)

14336-59

variable-wavelength divided-aperture differential-confocal microscopy-focusing technique

Bowei Huang, Shunda Liu, Chao Liu, Beijing Information Science & Technology Univ. (China)

14336-60

Color-aware noncontact mass estimation of PET bottle flakes via flexible vibration-induced multiframe imaging

Yuxia Zhao, Hanze Liu, Yanlin Zhu, Bingchao Huang, Lei Deng, Beijing Information Science & Technology Univ. (China)

14336-61

Target-distance measurement for humanoid soccer robots in dynamic scenarios

Renshuang Wang, Jun Wang, Bixi Yan, Peng Sun, Weijun Zhong, Tingzhu Gu, Zirun Wang, Beijing Information Science & Technology Univ. (China)

14336-62

Phononic-crystal-enhanced ultra-high-Q PZT resonators for precision electromechanical sensing and piezoaxionic signal detection

Patrice Salzenstein, Mahmoud Addouche, FEMTO-ST, CNRS (France)

14336-63

Frequency-domain selection of high-speed-video phase channels for multifrequency microvibration measurement

Xue Yan, Ting Sun, Zhuo Zhao, Jiaxin Lei, Beijing Information Science & Technology Univ. (China); Fei Xing, Tsinghua Univ. (China)

14336-64

Forward sensitivity of reference-position detection to relative assembly misalignment in a grating interferometric encoder

Jianwei Yan, Maqiang Zhao, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14336-65

TR-SEG: A method for rail and train segmentation based on RGB-D data

Qisen Zhao, Yang Li, CRSC Research & Design Institute Group Co., Ltd. (China); Fengtian Han, Tsinghua Univ. (China)

14336-66

Improvement of optoelectronic autocollimation systems for monitoring angular displacements and shift deformations of industrial structures

Nguyen Tran Long, Igor Konyakhin, ITMO Univ. (Russian Federation); Renpu Li, Guifu Huang, Chongqing Univ. of Posts and Telecommunications (China)

14336-67

Multichannel optoelectronic coordinate-measurement system based on redundant information

Aleksei Luzanov, Igor Konyakhin, ITMO Univ. (Russian Federation); Renpu Li, Guifu Huang, Chongqing Univ. of Posts and Telecommunications (China)

14336-68

Innovation protection through patent-landscape analysis in optical metrology of smart-contact-lens technologies

Patrice Salzenstein, FEMTO-ST, CNRS (France); Julia Kabrera, International Humanitarian Univ. (Ukraine)

14336-69

In-plane displacement measurement based on perfect optical vortices

Haibin Sun, Tingting Liu, Taishan Univ. (China)

14336-70

Real-time photogrammetric monitoring of wellhead movements in high-temperature gas wells

Ahmed Alrashed, Damián San Román Alerigi, Sameeh Batarseh, Saudi Aramco (Saudi Arabia); Huseyin Seren, Aramco Americas (United States); Dinu Caragheorghe, Saudi Aramco (Saudi Arabia)

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14336-71
Magneto-optical Faraday-effect microscopy for defect detection
Ki-Nam Joo, Junyeong Seo, Chosun Univ. (Republic of Korea)

14336-72
Dark-field microscopy for microparticle detection
Ki-Nam Joo, Minseo Park, Chosun Univ. (Republic of Korea)

14336-73
Research on far-ultraviolet diffuse-calibrator technology for space calibration
Guang-wei Sun, Guo-ao Zhou, Ji-dong Du, Beijing Zhenxing Institute of Metrology and Measurement (China)

14336-74
Lens MTF measurement beyond the sensor Nyquist frequency via CCD moiré imaging
Zitong Yu, Shichao Zhou, Shaopeng Ma, Shanghai Jiao Tong Univ. (China)

14336-75
Chromatic-confocal sensor for snapshot-based area measurement
Ki-Nam Joo, Yunjong Oh, Chosun Univ. (Republic of Korea)

14336-76
Measurement of transmitted wavefront error for large-aperture beam-expander lenses using a reflective computer-generated hologram
Jian-Peng Cui, Wei-Peng Kong, Zhi-Gang Li, Di-Long Wu, Chengdu Fine Optical Engineering Research Ctr. (China)

14336-77
High-precision monocular pose-variation estimation via periodic-grating-based image-displacement measurement
Lei Guo, Shichao Zhou, Shaopeng Ma, Shanghai Jiao Tong Univ. (China)

14336-78
Polarization-imaging-based deglare technique for traffic images in four directions
Shiyu Li, Sichuan Police College (China), Intelligent Policing Key Lab. of Sichuan Province (China); Cheng He, Xinguo Xiong, Peng Peng, Sichuan Police College (China); Jun Wang, Traffic Management Detachment, Luzhou Municipal Public Security Bureau (China); Ruoxi Wang, Hebei Univ. of Engineering (China)

14336-79
Absolute measurement of four surfaces of three parallel plates based on Zernike polynomials
Leyuan Peng, Yingjie Yu, Shanghai Univ. (China)

14336-80
Gaussian-splatting-based multi-plane diffraction phase retrieval for plano-convex lens wavefront metrology
Qiwei Fang, Yingjie Yu, Shanghai Univ. (China)

SESSION 3: OPTICAL METROLOGY METHODS III

25 October 2026 • 14:30 - 15:45 | Room 105A
Session Chairs: **Benyong Chen,** Zhejiang Sci-Tech Univ. (China), **Patrice Salzenstein,** FEMTO-ST (France)

14336-13
Spectroscopic Mueller-matrix ellipso-microscope *(Invited Paper)*
Lianhua Jin, Daisuke Yamaguchi, Shunri Ishimaru, Yuki Harada, Univ. of Yamanashi (Japan); Bernard Gelloz, Nagoya Univ. (Japan); Hiroshi Nishizato, Kumamoto Univ. (Japan); Yugo Nakaya, Takumi Moriyama, HORIBA STEC, Co., Ltd. (Japan)
25 October 2026 • 14:30 - 15:00 | Room 105A

14336-14
Optical-position encoder based on the Talbot effect
Ayur Garmaev, Vladimir Strigalev, Aleksandr Vasilev, Dmitrii Kukushkin, Vladimir Kuznetsov, ITMO Univ. (Russian Federation)
25 October 2026 • 15:00 - 15:15 | Room 105A

14336-16
High-precision measurement of critical dimensions and depth of microholes based on optical coherence tomography
Zaixing Wen, Donglin Ma, Huazhong Univ. of Science and Technology (China)
25 October 2026 • 15:15 - 15:30 | Room 105A

14336-17
Light-field manipulation, topological photonics, and micro-nano optical-device design
Gao Tang, Univ. of Shanghai for Science and Technology (China)
25 October 2026 • 15:30 - 15:45 | Room 105A

Tea/Coffee Break 15:45 - 16:00

SESSION 4: OPTICAL METROLOGY METHODS IV

25 October 2026 • 16:00 - 17:45 | Room 105A
Session Chair: **Yang Xie,** China Academy of Aerospace System and Innovation (China)

14336-18
Digitizing and studying the diffraction structure of analog holograms *(Invited Paper)*
Nikolay V. Petrov, Harbin Institute of Technology (China), ITMO Univ. (Russian Federation); Ekaterina V. Rabosh, Photonics Systems LLC (Russian Federation); Aleksey V. Chernykh, Nikolay S. Balbekin, Igor V. Margaryan, Lyubov N. Borodina, Mikhail A. Baranov, Andrey V. Veniaminov, ITMO Univ. (Russian Federation)
25 October 2026 • 16:00 - 16:30 | Room 105A

14336-19
Pixel-wise OPD spectrum analysis for adaptive phase retrieval in Fourier-transform phase-shifting interferometry with dispersive diffractive elements *(Invited Paper)*
Lei Zhang, Zygo Corporation (China)
25 October 2026 • 16:30 - 17:00 | Room 105A

14336-20
Analysis method for optical-path compensation in unequal-arm grating interferometers
Liangyu Liu, Linbin Luo, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)
25 October 2026 • 17:00 - 17:15 | Room 105A

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14336-21

Improved camera calibration with a simple checkerboard under degraded imaging conditions

Yufan Yang, Suodong Ma, Guangcanlan Yang, Chinhua Wang, Soochow Univ. (China)

25 October 2026 • 17:15 - 17:30 | Room 105A

14336-22

Coupling efficiency and fiber-facet visibility in a fiber-coupled interferometer under mirror tilt

Zhaojie Dong, Linbin Luo, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

25 October 2026 • 17:30 - 17:45 | Room 105A

MONDAY 26 OCTOBER

SESSION 5: OPTICAL METROLOGY APPLICATIONS I

26 October 2026 • 08:30 - 10:30 | Room 105A

Session Chairs: **Lianhua Jin,** Univ. of Yamanashi (Japan), **Guillermo Castro Luis,** Wooptix, S.L. (Spain)

14336-23

Fringe-frequency analysis adapted to steep surface slopes and lateral-resolution enhancement in high-NA coherence-scanning interferometry *(Invited Paper)*

Peter Lehmann, Univ. Kassel (Germany)

26 October 2026 • 08:30 - 09:00 | Room 105A

14336-24

SIMP: An integrated stitching interferometric metrology platform for large-aperture X-ray mirrors

Luyan Zhang, Xuebo Qin, Weizheng Lei, ShanghaiTech Univ. (China); Fuyuan Liu, Shanghai Institute of Applied Physics (China); Xiaohao Dong, Shanghai Advanced Research Institute (China)

26 October 2026 • 09:00 - 09:15 | Room 105A

14336-25

Development of a smart contact lens based on a 1-GHz loop antenna for autonomous sensing and metrology

Patrice Salzenstein, FEMTO-ST, CNRS (France)

26 October 2026 • 09:15 - 09:30 | Room 105A

14336-26

Online full-field deformation-measurement method for workpieces in optical-metrology-constrained industrial environments

Jie Li, Beijing Information Science and Technology Univ. (China); Yong Lyu, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 09:30 - 09:45 | Room 105A

14336-27

A method for measuring an ultra-large radius of curvature based on dual parallel collimators

Youhua Lin, Liangliang Li, Fei Li, National Institute of Metrology (China); Lirong Qiu, Beijing Institute of Technology (China)

26 October 2026 • 09:45 - 10:00 | Room 105A

14336-28

Development of a micro-area FDTR system for thin-film thermal-property measurements

Baozheng Xu, Tianjin Univ. (China)

26 October 2026 • 10:00 - 10:15 | Room 105A

14336-29

Submicron-scale scratch inspection using transmission-mode full-Stokes Scheimpflug dark-field imaging

Manning Sun, Nathen Hagen, Yukitoshi Otani, Utsunomiya Univ. (Japan)

26 October 2026 • 10:15 - 10:30 | Room 105A

Tea/Coffee Break 10:30 - 10:50

SESSION 6: OPTICAL METROLOGY APPLICATIONS II

26 October 2026 • 10:50 - 12:05 | Room 105A

Session Chairs: **Hao Zhang,** Dalian Maritime Univ. (China), **Evgeny A. Semenishchev,** Moscow State Univ. of Technology "STANKIN" (Russian Federation)

14336-30

Physics-guided digital-twin learning for generalizable temporal phase unwrapping in structured-light 3D imaging *(Invited Paper)*

Shijie Feng, Nanjing Univ. of Science and Technology (China)

26 October 2026 • 10:50 - 11:20 | Room 105A

14336-32

3D displacement-field reconstruction using dual-modal targets and camera–millimeter-wave radar fusion

Weihang Li, Peng Sun, Mingli Dong, Bixi Yan, Jun Wang, Guangyi Dai, Wei Zhuang, Beijing Information Science & Technology Univ. (China); Kuai Yu, Institute of Remote Sensing Satellites, China Academy of Space Technology (China)

26 October 2026 • 11:20 - 11:35 | Room 105A

14336-33

Systematic study of surface-profile measurement for thin planar substrates

Ying Yang, Changchun Univ. of Science and Technology (China); Sen Han, Changchun Univ. of Science and Technology (China), Univ. of Shanghai for Science and Technology (China), Suzhou H&L Instruments LLC. (China); Yuhang Shen, Liwei Zhang, Univ. of Shanghai for Science and Technology (China), Suzhou H&L Instruments LLC. (China); Xinru Zhang, Suzhou Univ. of Science and Technology (China); Hao Sun, Changchun Univ. of Science and Technology (China)

26 October 2026 • 11:35 - 11:50 | Room 105A

14336-34

Detection and compensation of grating-polarization modulation in grating interferometry

Shizheng Bian, Linbin Luo, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

26 October 2026 • 11:50 - 12:05 | Room 105A

Lunch Break 12:05 - 13:30

SESSION 7: OPTICAL METROLOGY APPLICATIONS III

26 October 2026 • 13:30 - 14:45 | Room 105A

Session Chairs: **Nikolay V. Petrov,** ITMO Univ. (Russian Federation), **Hao Zhang,** Dalian Maritime Univ. (China)

14336-35

The importance of intercomparisons for improved uncertainty evaluation in industrial optical and photonic metrology *(Invited Paper)*

Patrice Salzenstein, FEMTO-ST, CNRS (France)

26 October 2026 • 13:30 - 14:00 | Room 105A

14336-37

Nanostrain measurement using a ϖ-phase-shifted fiber Bragg grating with 3-dB-point intensity interrogation

Xinyang Sun, Guangkai Sun, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 14:00 - 14:15 | Room 105A

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14336-38

Monte Carlo analysis of uncertainty propagation in wind speed retrieval from a double-edge wind lidar

Xinqi Li, Tianjin Univ. (China); Teng Sun, National Key Laboratory of Scattering and Radiation (China); Kai Zhong, Xianzhong Zhang, Guxi Chen, Xinyu Si, Degang Xu, Jianquan Yao, Tianjin Univ. (China)

26 October 2026 • 14:15 - 14:30 | Room 105A

14336-42

Space-time adaptive: systematic construction, computational process, and intelligent manufacture

Hua Liu, Science and Technology on Electro-Optic Control Lab. (China)

26 October 2026 • 14:30 - 14:45 | Room 105A

Tea/Coffee Break 14:45 - 15:00

SESSION 8: OPTICAL METROLOGY APPLICATIONS IV

26 October 2026 • 15:00 - 16:30 | Room 105A

Session Chairs: **Peter Lehmann,** Univ. Kassel (Germany), **Shijie Feng,** Nanjing Univ. of Science and Technology (China)

14336-40

Wafer-shape metrology characterization and validation of wavefront-phase imaging using a piezoelectric active deformable plate *(Invited Paper)*

Guillermo Castro Luis, Wooptix, S.L. (Spain)

26 October 2026 • 15:00 - 15:30 | Room 105A

14336-41

Unsupervised localization of probe-needle tips for probe-station alignment in wafer-inspection images *(Invited Paper)*

Kirill Danilin, Evgenii Semenishchev, Moscow State Univ. of Technology "STANKIN" (Russian Federation)

26 October 2026 • 15:30 - 16:00 | Room 105A

14336-43

A horizontal two-degree-of-freedom surface encoder based on a large-period grating

Bairong Wu, Linbin Luo, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

26 October 2026 • 16:00 - 16:15 | Room 105A

14336-45

Microsphere-assisted optical inspection of nanoscale metasurfaces using optical tweezers

Zhongyuan Su, Yulu Chen, Zizheng Wang, Boya Cao, Yuze Jiao, Jiaqi Tian, Chunguang Hu, Tianjin Univ. (China)

26 October 2026 • 16:15 - 16:30 | Room 105A

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CONFERENCE 14337

Saturday–Monday 24–26 October 2026 • Room 105B

Optics in Health Care and Biomedical Optics XVI

Conference Chairs: **Qingming Luo,** Hainan Univ. (China); **Xingde Li,** Johns Hopkins Univ. (United States); **Ying Gu,** Chinese PLA General Hospital (China); **Dan Zhu,** Huazhong Univ. of Science and Technology (China)

Program Committee: **Defu Chen,** Beijing Institute of Technology (China); **Shih-Chi Chen,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Wei R. Chen,** The Univ. of Oklahoma (United States); **Yu Chen,** Fujian Normal Univ. (China); **Santhosh Chidangil,** Manipal Academy of Higher Education (India); **Euiheon Chung,** Gwangju Institute of Science and Technology (Republic of Korea); **Zhihua Ding,** Zhejiang Univ. (China); **Minbiao Ji,** Fudan Univ. (China); **Puxiang Lai,** The Hong Kong Polytechnic Univ. (Hong Kong, China); **Buhong Li,** Hainan Univ. (China); **Wenxuan Liang,** Suzhou Institute for Advanced Research (China); **Hongen Liao,** Shanghai Jiao Tong Univ. (China); **Huafeng Liu,** State Key Lab. of Modern Optical Instrumentation (China); **Hui Ma,** Tsinghua Univ. Shenzhen International Graduate School (China); **Jun Qian,** Zhejiang Univ. (China); **Haixia Qiu,** Chinese PLA General Hospital (China); **Jianan Y. Qu,** Hong Kong Univ. of Science and Technology (Hong Kong, China); **Junle Qu,** Shenzhen Univ. (China); **Oxana V. Semyachkina-Glushkovskaya,** Saratov State Univ. (Russian Federation); **Kebin Shi,** Peking Univ. (China); **Ke Si,** Zhejiang Univ. (China); **Yi-Zhou Tan,** Chinese PLA General Hospital (China); **Valery V. Tuchin,** Saratov State Univ. (Russian Federation); **Hiroki R. Ueda,** The Univ. of Tokyo (Japan); **Ruikang K. Wang,** Univ. of Washington (United States); **Xueding Wang,** Univ. of Michigan (United States); **Xunbin Wei,** Peking Univ. Health Science Ctr. (China); **Changfeng Wu,** Jilin Univ. (China); **Sihua Yang,** South China Normal Univ. (China); **Zhenxi Zhang,** Xi'an Jiaotong Univ. (China); **Wei Zheng,** Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China); **Feifan Zhou,** Hainan Univ. (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: NOVEL MICROSCOPY I

24 October 2026 • 13:30 - 15:15 | Room 105B
Session Chairs: **Ying Gu,** Chinese PLA General Hospital (China), **Xingde Li,** Johns Hopkins Univ. (United States)

14337-1
Development and application of novel two-photon microscopy *(Invited Paper)*
Wei Zheng, Shenzhen Institute of Advanced Technology (China)
24 October 2026 • 13:30 - 13:55 | Room 105B

14337-2
Tissue optical clearing for three-dimensional imaging *(Invited Paper)*
Dan Zhu, Huazhong Univ. of Science and Technology (China)
24 October 2026 • 13:55 - 14:20 | Room 105B

14337-3
Pulsed stimulated Brillouin microscopy for fast biomechanical imaging *(Invited Paper)*
Fan Yang, Shanghai Institute of Optics and Fine Mechanics (China)
24 October 2026 • 14:20 - 14:45 | Room 105B

14337-4
Adaptive optics two-photon microscope for high-resolution retinal imaging on awake mouse
Yiming Fu, Peian Xiao, Jianan Qu, Hong Kong Univ. of Science and Technology (Hong Kong, China)
24 October 2026 • 14:45 - 15:00 | Room 105B

14337-5
Thrombosis-on-a-chip: Multimodal optical analysis of platelet dynamics in engineered microenvironments
Yuqi Zhou, Yunjie Deng, The Univ. of Tokyo (Japan); Hui Min Tay, Nanyang Technological Univ. (Singapore); Huidong Wang, Hongqian Zhang, Masako Nishikawa, The Univ. of Tokyo (Japan); Yohei Miheharu, Kyoto Univ. (Japan); Eriko Morishita, Kanazawa Univ. Hospital (Japan); Yutaka Yatomi, International Univ. of Health and Welfare (Japan); Han Wei Hou, Nanyang Technological Univ. (Singapore); Keisuke Goda, The Univ. of Tokyo (Japan)
24 October 2026 • 15:00 - 15:15 | Room 105B

Tea/Coffee Break 15:15 - 15:40

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SESSION 2: NOVEL MICROSCOPY II

24 October 2026 • 15:40 - 17:40 | Room 105B

Session Chairs: **Jun Qian,** Zhejiang Univ. (China), **Jingjing Zhao,** Huazhong Univ. of Science and Technology (China)

14337-39

AI-assisted stimulated Raman histology for label-free cancer diagnosis *(Invited Paper)*

Minbiao Ji, Fudan Univ. (China)

26 October 2026 • 15:40 - 16:05 | Room 105B

14337-6

Physics-assisted light-field microscopy enables high temporal-spatial-resolution 3D observation *(Invited Paper)*

Dongyu Li, Huazhong Univ. of Science and Technology (China)

24 October 2026 • 16:05 - 16:30 | Room 105B

14337-7

Confocal Airy beam oblique light-sheet tomography with angular-dispersion compensation for brain-wide neural mapping *(Invited Paper)*

Xiaoli Qi, Tsinghua Institute of Multidisciplinary Biomedical Research, Tsinghua Univ. (China), National Institute of Biological Sciences (China); Jiayin Sun, National Institute of Biological Sciences (China)

24 October 2026 • 16:30 - 16:55 | Room 105B

14337-9

High-fidelity image-scanning microscopy via programmable line scanning with self-calibration

Wenxue Chu, Donglin Ma, Huazhong Univ. of Science and Technology (China)

24 October 2026 • 16:55 - 17:10 | Room 105B

14337-10

Intravital fluorescent labeling meets interference microscopy: A new window into platelet function and thrombus formation

Aleksandr Azarov, Fedor Fedoseev, Petrovsky Medical Univ. (Russian Federation); Irina Vasilenko, Vladislav Metelin, Petrovsky Medical Univ. (Russian Federation), A.N. Kosygin Russian State Univ. (Russian Federation); Nina Shikhina, A.N. Kosygin Russian State Univ. (Russian Federation)

24 October 2026 • 17:10 - 17:25 | Room 105B

14337-11

Automated microvessel segmentation in multiphoton images of breast cancer using a convolutional neural network

Yichen Ke, Yuxuan Luo, Zhanqi Shi, Zhen Lu, Zhangkai Chen, Jianxin Chen, Liqin Zheng, Fujian Normal Univ. (China); Shengrong Du, Fujian Medical Univ. (China)

24 October 2026 • 17:25 - 17:40 | Room 105B

SUNDAY 25 OCTOBER

SESSION 3: NOVEL MICROSCOPY III

25 October 2026 • 08:30 - 10:10 | Room 105B

Session Chairs: **Dan Zhu,** Huazhong Univ. of Science and Technology (China), **Wei Zheng,** Shenzhen Institute of Advanced Technology, CAS (China)

14337-12

Advances in NIR-II fluorescence imaging: from novel spectral windows to clinical surgical navigation *(Invited Paper)*

Jun Qian, Zhejiang Univ. (China)

25 October 2026 • 08:30 - 08:55 | Room 105B

14337-13

High-fidelity imaging flow cytometry

Kelvin C. M. Lee, The Univ. of Tokyo (Japan)

25 October 2026 • 08:55 - 09:10 | Room 105B

14337-14

High-throughput multi-angle label-free imaging flow cytometry based on linear-array spot excitation

Lingqi Jiang, Tsinghua Univ. (China); Yong Han, Fairy Life Sciences (Wuhan) Co., Ltd. (China); Lei Gao, Shenglan Yao, Linlin Liu, Wankang Zhai, Jiayi Zhou, Zheng You, Jingjing Zhao, Huazhong Univ. of Science and Technology (China)

25 October 2026 • 09:10 - 09:25 | Room 105B

14337-15

Imaging flow cytometry for sub-diffraction organelle analysis

Tianben Ding, The Univ. of Tokyo (Japan), Tohoku Univ. (Japan); Yingdong Luo, The Univ. of Tokyo (Japan); Keisuke Goda, The Univ. of Tokyo (Japan), Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

25 October 2026 • 09:25 - 09:40 | Room 105B

14337-16

Prognostic significance of macrophages infiltrating multiphoton-defined necrotic types in breast cancer

Aizhe Zhang, Zhijun Li, Fujian Normal Univ. (China); Deyong Kang, Fujian Medical Univ. (China); Jianhua Chen, Fujian Normal Univ. (China), Fujian Medical Univ. (China); Jianxin Chen, Fujian Normal Univ. (China)

25 October 2026 • 09:40 - 09:55 | Room 105B

14337-17

Application of Finite Element Simulation in Spatial Frequency Domain Imaging

Shitao Huang, Xijie Yang, Xiaolong Yin, Yichen Ke, Liqin Zheng, Lina Liu, Fujian Normal Univ. (China)

25 October 2026 • 09:55 - 10:10 | Room 105B

Tea/Coffee Break 10:10 - 10:30

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SESSION 4: TRANSLATIONAL OPTICAL TECHNIQUES FOR BASIC RESEARCH AND CLINICAL MEDICINE

25 October 2026 • 10:30 - 11:55 | Room 105B

Session Chairs: **Siwen Li,** China Pharmaceutical Univ. (China), **Dongyu Li,** Huazhong Univ. of Science and Technology (China)

14337-18

Subcellular-resolution dynamic full-field optical coherence microscopy for rapid pathology imaging in tissues and live cells *(Invited Paper)*

Jingjing Zhao, Huazhong Univ. of Science and Technology (China); Xiaobo, Qin, Ming Yan, Shuyue Zheng, Huazhong University of science & Technology (China)

25 October 2026 • 10:30 - 10:55 | Room 105B

14337-19

Design and demonstration of a MEMS-based gonioscopic OCT imaging system for localized trabecular meshwork imaging

Jia'an Jin, Jingjing Wang, Huikai Xie, Beijing Institute of Technology (China)

25 October 2026 • 10:55 - 11:10 | Room 105B

14337-21

Interactions between skin microcirculation and sweat glands during thermogenic sweating as observed by SD-OCT based on internal fingerprint tracking

Hongxiang Zhong, Zhifang Li, Shulian Wu, Fujian Normal Univ. (China); Hui Li, Fuyao Univ. of Science and Technology (China)

25 October 2026 • 11:10 - 11:25 | Room 105B

14337-22

Dynamic label-free optical measurement of biological-interface interactions

Fenni Zhang, Zhejiang Univ. (China)

25 October 2026 • 11:25 - 11:40 | Room 105B

14337-23

Pulse-wave signal monitoring by optical coherence tomography

Ulyana A. Makarenko, Aleksandr A. Markvart, Liubov D. Zavalishina, Aleksandr V. Petrov, Nikolai A. Ushakov, Peter the Great Saint-Petersburg Polytechnic Univ. (Russian Federation)

25 October 2026 • 11:40 - 11:55 | Room 105B

Lunch Break 11:55 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14337-46

Separation of structural scattering and pigment absorption in lettuce leaves: CIE L*a*b* colorimetric and Kubelka-Munk analysis of diffuse reflectance versus chlorophyll-extract absorbance

Leopoldo Jose Ramirez Landaeta, National Institute of Astrophysics, Optics and Electronics (Mexico), Univ. de Carabobo (Venezuela); Héctor N. Chavarría-Lizárraga, Jorge Castro-Ramos, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

14337-47

Fiber optic SPR-microfluidics-nanobody-based point of care detection system for cytokines

Rui Su, Kun S. Liu, Jianying S. Jing, Fengtong Zhu, Tianjin Univ. (China); Wei S. Liu, Tianjin Second People's Hospital (China)

14337-48

Simultaneous determination of diffusion coefficient and vector flow velocity by bidirectional scanning optical coherence tomography

Yun Tang, Zhihua Ding, Bingyan Zhang, Yikai Chen, Zhejiang Univ. (China)

14337-50

Optical differential neural network for real-time microscopic image classification

Tang Hanlu, Tianyu Han, Jiawei Sun, Xibin Yang, Suzhou Institute of Biomedical Engineering and Technology (China)

14337-51

Investigation of thrombus-ablation efficacy based on fiber-array dynamic-coupling technology

Linghao Meng, Beijing Information Science & Technology Univ. (China); Tong Zhang, Weiwei Wu, Beijing Tsinghua Changgung Hospital (China); Haitao Zhang, Xiaozheng Liu, Tsinghua Univ. (China)

14337-52

Polarization-multiplexed broadband achromatic Bessel metasurface for extended-depth optical coherence tomography

Jianchao Zhao, Fuzhou Univ. (China); Yuntao Pan, Zhenxuan Chen, Liwen Chen, The Hong Kong Polytechnic Univ. (Hong Kong, China); Yu Chen, Fujian Normal Univ. (China); Changyuan Yu, The Hong Kong Polytechnic Univ. (Hong Kong, China)

14337-53

Deep-learning classification of post-neoadjuvant colorectal cancer tissues using second-harmonic-generation imaging

Zhihui Chen, Jimei Univ. (China); Xuedi Mao, Jimei University (China); Zilu Lin, Jiajia He, Xiaolu Li, Guangxing Wang, Gangqin Xi, Shuangmu Zhuo, Jimei Univ. (China)

14337-54

Label-free second-harmonic-generation imaging combined with machine learning enables quantitative preoperative diagnosis of colorectal adenocarcinoma

Xuedi Mao, Zilu Lin, Jiajia He, Xiaolu Li, Guangxing Wang, Gangqin Xi, Shuangmu Zhuo, Jimei Univ. (China)

14337-55

MS-MICE: mechanism-sensitive multiple imputation by chained equations for Alzheimer's disease clinical data

Yixin Xie, Yang Wang, Fujian Normal Univ. (China); Yuanqing Zhou, Fujian Normal University (China); Hongqin Yang, Fujian Normal Univ. (China); Xuemei Ding, Univ. of Ulster (United Kingdom); Yuhua Wang, Fujian Normal Univ. (China)

14337-56

Label-free visualization of necrotic features in primary central nervous system lymphoma by multiphoton microscopy

Ruojin Chen, Fujian Medical Univ. (China); Aizhe Zhang, Yichen Ke, Key Laboratory of OptoElectronic Science and Technology for Medicine of Ministry of Education, Fujian Provincial Key Laboratory of Photonics Technology, Fujian Normal University (China); Xingfu Wang, The First Affiliated Hospital of Fujian Medical University (China); Jianxin Chen, Fujian Normal Univ. (China); Na Fang, Fujian Medical Univ. (China)

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14337-57

Depth reconstruction of infrared optical thermograms and multidimensional evaluation of electroacupuncture efficacy

Shuwang Chen, Tan Zhang, Zezhou Han, Tao An, Hebei Univ. of Science and Technology (China)

14337-58

Application progress of biomedical optical-sensing-based photoplethysmography and electrocardiographic-signal fusion in cardiovascular monitoring

Tao An, Hebei Univ. of Science and Technology (China)

14337-59

Toward precision transcranial light stimulation beyond the forehead: an integrated framework for individualized intracranial energy-delivery optimization

Keyao Zhang, Dalian Univ. of Technology (China); Chenguang Zhao, Chinese Academy of Medical Sciences & Peking Union Medical College (China)

14337-60

Defocus correction of fluorescence-microscopy images based on an improved Pix2Pix network

Pengfei Gao, Shantou Univ. (China); Wanlin Xu, Shantou University (China); Linchun Xu, Shantou Univ. Medical College (China); Meiai Lin, Shantou Univ. (China)

14337-61

Accurate screening of esophageal squamous epithelial lesions assisted by a four-class artificial intelligence diagnostic model for esophagoscopy images

Yuanqin Zhou, Fujian Normal Univ. (China); Jiaxin Shen, Fujian Medical Univ. (China); Zihan Xie, Qinlong Shen, Fujian Normal Univ. (China); Yixin Xie, Key Laboratory of Optoelectronic Science and Technology for Medicine of Ministry of Education, Provincial Key Laboratory for Photonics Technology, Fujian Normal University (China); Hongqin Yang, Kun Wang, Fujian Normal Univ. (China)

14337-62

A 1-mm side-viewing OCT–TPF catheter enabled by liquid-coupled sapphire optics

Fan Yang, Shanghai Jiao Tong Univ. School of Medicine (China); Anlan Shen, Qingyue Tan, Zihao Wang, Xuefei Hou, Fu Wang, Jigang Wu, Shengxian Tu, Shanghai Jiao Tong Univ. (China)

14337-63

Single-cell optical-imaging platform based on 3D-printed droplet microfluidics for multiparameter analysis of drug response

Yuxia Fang, Xiangjun Li, Shantou Univ. (China); Linchun Xu, Shantou Univ. Medical College (China); Meiai Lin, Shantou Univ. (China)

14337-64

A novel all-optical platform for crosstalk-free dissection of neural circuits in larval zebrafish

Gewei Yan, Hong Kong Univ. of Science and Technology (Hong Kong, China); Guangnan Tian, The Univ. of Hong Kong (Hong Kong, China), Hong Kong Univ. of Science and Technology (Hong Kong, China); Yiming Fu, Julie L. Semmelhack, Jianan Y. Qu, Hong Kong Univ. of Science and Technology (Hong Kong, China)

14337-65

Compact dual-channel intravascular Doppler OCT catheter for angle-independent flow mapping

Qingyue Tan, Biomedical Instrument Institute, Shanghai Jiao Tong Univ. (China); Fan Yang, Renji Hospital, Shanghai Jiao Tong Univ. (China); Fu Wang, Biomedical Instrument Institute, Shanghai Jiao Tong Univ. (China); Jigang Wu, Shanghai Jiao Tong Univ. (China); Shengxian Tu, Biomedical Instrument Institute, Shanghai Jiao Tong Univ. (China)

14337-66

Differential Mueller matrix-based catheter PS-OCT for rapid depth-resolved polarization characterization of atherosclerotic plaques

Zihao Wang, Shanghai Jiao Tong Univ. (China); Fan Yang, Renji Hospital (China); Jiayue Huang, Shanghai Jiao Tong Univ. (China); Yue Sun, Peking Union Medical College Hospital (China); Jigang Wu, Shanghai Jiao Tong Univ. (China); Yining Wang, Peking Union Medical College Hospital (China); Shengxian Tu, Shanghai Jiao Tong Univ. (China)

14337-67

High-resolution multiphoton imaging and light projection

Zhentao She, Jianan Qu, Hong Kong Univ. of Science and Technology (Hong Kong, China)

14337-69

A cross-scale in situ multimodal endoscopic imaging system for gastrointestinal tumors

Huirong Chen, Qiyuan Yin, Xinyu Tan, Zhong Wen, Peng Li, Liqiang Wang, Zhejiang Univ. (China); Ji Qi, Nanjing Univ. (China); Yizhou Tan, Chinese PLA General Hospital (China); Huifang Gao, China Jiliang Univ. (China); Ying Gu, Chinese PLA General Hospital (China); Qing Yang, Zhejiang Univ. (China)

14337-70

AuNRs/MoS2-functionalized WaveFlex biosensor for sensitive detection of ethoxyquin in food safety

Bowen Zhong, Huibo Han, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India)

14337-71

An optical-mechanistic perspective on why some vessels resist light-based therapies

Yidi Liu, Chinese PLA General Hospital (China)

14337-72

Label-free detection of sialic acid using a high-Q terahertz metamaterial sensor

Shihan Yin, Tianshu Li, Xiaomeng Bian, Beijing Information Science & Technology Univ. (China); Yu Zhang, Daokun Sun, Beijing Information Science and Technology University (China); Rui You, Beijing Information Science & Technology Univ. (China)

14337-73

Terahertz metamaterial biosensing for the detection of epithelial-cancer-derived exosomes

Daokun Sun, Tianshu Li, Xiaomeng Bian, Beijing Information Science & Technology Univ. (China); ShiHan Yin, Yu Zhang, Beijing Information Science and Technology University (China); Rui You, Beijing Information Science & Technology Univ. (China)

14337-74

Dual-modal laser speckle contrast and fluorescence imaging for assessing blood-flow–fluorescence divergence during renal ischemia-reperfusion in mice

Guang Han, Tiangong University (China); Siyu Liu, Tiangong Univ. (China); Rui Zeng, Yiyang Xie, Haitong Wang, Yifan Wu, Tiangong University (China)

14337-75

Frequency-domain adaptive-window laser-speckle-contrast imaging with phantom and small-animal blood-flow validation

Guang Han, Tiangong University (China); Shiyuan Liu, Tiangong Univ. (China); Rui Zeng, Sifan Guo, Zhe Zhao, Tiangong University (China)

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14337-76
Study on photosafety of rat skin exposed to ultraviolet LED irradiation
Li Yunqi, Chinese PLA General Hospital (China)

14337-77
Fabrication of temperature-self-responsive microfluidic chips via vat-polymerization 3D printing
Chaodong Lu, Fang Hui, Shenzhen Univ. (China)

14337-78
INR-ISTANet: a physics-aware framework for spatiotemporal cardiac transmembrane-potential reconstruction from magnetocardiography
Guojun Du, Zihan Wang, Huafeng Liu, Zhejiang Univ. (China)

14337-79
Raman spectroscopy combined with PCA-SVM model for the classification of pterygium
Minghui Chen, Chenjia Chen, Univ. of Shanghai for Science and Technology (China); Zhuochen Shi, University of Shanghai for Science and Technology (China)

14337-80
OCT imaging-based validation of a multiphysics model for in vitro blood coagulation dynamics
Fanyu Kong, Zhifang Li, Fujian Normal Univ. (China); Hui Li, Fuyao Univ. of Science and Technology (China); Lili Zhu, Fujian Normal Univ. (China)

14337-81
Sensitivity-enhanced tapered optical fiber sensor based on evanescent field for label-free creatinine detection
Vivek Kumar Gupta, Kuldeep Choudhary, DIT Univ. (India); Changyue Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India); Guisheng Wang, Liaocheng Univ. (China)

14337-82
Multimodal optical-dosimetry platform for image-guided photodynamic therapy: simultaneous visualization of photosensitizer distribution and tissue oxygenation
Kerui Li, Jiechen Zhang, Shun Zhi, Defu Chen, Beijing Institute of Technology (China)

14337-83
ResMNet: an efficient multiscale mixed convolutional neural network for OCT retinal image classification
Minghui Chen, Xin Qin, Chenjia Chen, Xiaorong Luo, Univ. of Shanghai for Science and Technology (China); Zhensheng Gu, Xinhua Hospital, Shanghai Jiao Tong Univ. (China); Wenfei Ma, Univ. of Shanghai for Science and Technology (China)

14337-84
Novel optical tympanostomy tube: a targeted platform for the mitigation of tympanostomy tube otorrhea
Carolina dos Anjos, Massachusetts General Hospital, Harvard Medical School (United States); Vishakha Sabharwal, Boston Medical Ctr. (United States); Soroush Shabahang, Massachusetts General Hospital, Harvard Medical School (United States); Loc Truong, Stephen Pelton, Boston Medical Ctr. (United States); Tianhong Dai, Massachusetts General Hospital, Harvard Medical School (United States)

14337-85
Non-negative matrix factorization for multi-wavelength photoacoustic structural fusion of the ex vivo eye
Deepayan Samanta, Arijit Paramanick, Mayanglambam Suheshkumar Singh, Indian Institute of Science Education and Research Thiruvananthapuram (India)

14337-86
A scalable three-dimensional mechanics-coupled digital phantom framework for compression optical coherence elastography
Tingrong Zhang, Yuxing Wang, Zhejiang Univ. (China)

SESSION 5: SPECTROSCOPY IMAGING/SENSING AND BIOMEDICAL APPLICATIONS

25 October 2026 • 14:30 - 17:25 | Room 105B
Session Chairs: **Minbiao Ji,** Fudan Univ. (China), **Chao Tian,** Univ. of Science and Technology of China (China)

14337-24
Single-beam-probed multivibrational bioimaging for mapping molecular fingerprints of metabolic stress *(Invited Paper)*
Hyeon Jeong Lee, Zhejiang Univ. (China)
25 October 2026 • 14:30 - 14:55 | Room 105B

14337-25
Development of new Raman endoscopic diagnostic methods for precision medicine
Xun Chen, Beihang Univ. (China)
25 October 2026 • 14:55 - 15:10 | Room 105B

14337-26
Portable SERS-based spectroscopy for antiplatelet-therapy effectiveness evaluation
Andrey Y. Zyubin, Elizaveta Demishkevich, Yana Byuichkova, Stanislava Zubareva, Aleksandr Anoshin, Vladimir Rafalskiy, Yulia Filimonkina, Ilia G. Samusev, Immanuel Kant Baltic Federal Univ. (Russian Federation)
25 October 2026 • 15:10 - 15:25 | Room 105B

14337-27
Surface-enhanced Raman spectroscopy for monitoring methotrexate concentration in serum
Elizaveta Demishkevich, Alexander Zozulya, Svetlana Stefanova, Andrey Y. Zyubin, Vladimir Rafalskiy, Immanuel Kant Baltic Federal Univ. (Russian Federation); Daria Frolova, Saint Petersburg State Univ. (Russian Federation); Aleksandr Anoshin, Polina Mamaeva, Ivan Lyatun, Ilia Samusev, Immanuel Kant Baltic Federal Univ. (Russian Federation)
25 October 2026 • 15:25 - 15:40 | Room 105B

14337-28
Spectroscopy for determining the platelet reactivity index
Elizaveta Demishkevich, Andrey Y. Zyubin, Stanislava Zubareva, Aleksandr Anoshin, Iuliia Fillimonkina, Vladimir Rafalskiy, Ilia Samusev, Immanuel Kant Baltic Federal Univ. (Russian Federation)
25 October 2026 • 15:40 - 15:55 | Room 105B

Tea/Coffee Break 15:55 - 16:10

14337-29
Multispectral-window hyperspectral stimulated Raman scattering imaging for quantitative profiling of liver metabolism
Wenyu Zhou, Hyeon Jeong Lee, Delong Zhang, Zhejiang Univ. (China)
25 October 2026 • 16:10 - 16:25 | Room 105B

14337-31
Super-broadband stimulated Raman scattering spectroscopy and imaging for biomedical applications
Jin Guo, Hanqing Xiong, Peking Univ. (China)
25 October 2026 • 16:25 - 16:40 | Room 105B

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14337-33

Dynamic light-scattering imaging enabling label-free analysis of cellular drug responses

Wanlin Xu, Meiai Lin, Shantou Univ. (China); Linchun Xu, Shantou Univ. Medical College (China)

25 October 2026 • 16:40 - 16:55 | Room 105B

14337-34

Biomimetic pseudocolor fusion of dual-wavelength narrow-band reflectance images for enhanced endoscopic mucosal visualization

Shipeng Zhang, Shanghai Jiao Tong Univ. (China), Tsinghua Univ. (China); Zongzhou Li, Shanghai Aohua Photoelectricity Endoscope Co., Ltd. (China), Peking Univ. (China); Yangxi Li, Fang Chen, Shanghai Jiao Tong Univ. (China); Ye Fu, Shanghai Aohua Photoelectricity Endoscope Co., Ltd. (China), Peking Univ. (China); Hongen Liao, Shanghai Jiao Tong Univ. (China), Tsinghua Univ. (China)

25 October 2026 • 16:55 - 17:10 | Room 105B

14337-35

Optothermal tweezers for programmable nanoassembly and biosensing

Jiajie Chen, Shenzhen Univ. (China)

25 October 2026 • 17:10 - 17:25 | Room 105B

MONDAY 26 OCTOBER

SESSION 6: PHOTON THERAPEUTICS

26 October 2026 • 09:00 - 10:15 | Room 105B

Session Chairs: **Oxana V. Semyachkina-Glushkovskaya,** Saratov State Univ. (Russian Federation), **Feifan Zhou,** Hainan Univ. (China)

14337-36

Innovative technologies for mass application in preventive medicine and maintaining active longevity *(Invited Paper)*

Oxana V. Semyachkina-Glushkovskaya, Saratov State Univ. (Russian Federation)

26 October 2026 • 09:00 - 09:25 | Room 105B

14337-37

Photomodulation and monitoring of meningeal lymphatic vessels *(Invited Paper)*

Feifan Zhou, Hainan Univ. (China)

26 October 2026 • 09:25 - 09:50 | Room 105B

14337-38

Non-invasive optogenetics based on iPSC-derived vesicles for Alzheimer's disease treatment *(Invited Paper)*

Siwen Li, China Pharmaceutical Univ. (China)

26 October 2026 • 09:50 - 10:15 | Room 105B

Tea/Coffee Break 10:15 - 10:30

SESSION 7: AI IN BIOMEDICAL IMAGING AND DIAGNOSTICS

26 October 2026 • 10:30 - 12:05 | Room 105B

Session Chairs: **Fan Yang,** Shanghai Institute of Optics and Fine Mechanics, CAS (China), **Delong Zhang,** Zhejiang Univ. (China)

14337-40

AI-enhanced mid-infrared photothermal imaging for label-free molecular cancer diagnosis *(Invited Paper)*

Delong Zhang, Zhejiang Univ. (China)

26 October 2026 • 10:30 - 10:55 | Room 105B

14337-41

Physics-driven deep-learning photoacoustic tomography *(Invited Paper)*

Chao Tian, Univ. of Science and Technology of China (China)

26 October 2026 • 10:55 - 11:20 | Room 105B

14337-43

Physics-model-constrained deep-learning quantitative photoacoustic tomography for deep-tissue functional monitoring

Pengwei Han, Jiao Li, Tianjin Univ. (China)

26 October 2026 • 11:20 - 11:35 | Room 105B

14337-44

Robust extraction of weak physiological biomarkers in dynamic infrared thermal fields

Shuwang Chen, Caixin Wang, Dongxue Yan, Hebei Univ. of Science and Technology (China)

26 October 2026 • 11:35 - 11:50 | Room 105B

14337-45

Two-dimensional thermal morphological analysis of electroacupuncture based on infrared imaging

Shuwang Chen, Zezhou Han, Tan Zhang, Tao An, Hebei Univ. of Science and Technology (China)

26 October 2026 • 11:50 - 12:05 | Room 105B

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CONFERENCE 14338

Saturday–Sunday 24–25 October 2026 • Room 106A

Advanced Sensor Systems and Applications XVI

Conference Chairs: **Xinyu Fan,** Shanghai Jiao Tong Univ. (China); **Chang-Seok Kim,** Pusan National Univ. (Republic of Korea); **Jianzhong Zhang,** Harbin Engineering Univ. (China); **Minghong Yang,** Wuhan Univ. of Technology (China)

Program Committee: **Gilberto Brambilla,** Univ. of Southampton (United Kingdom); **Kevin P. Chen,** Univ. of Pittsburgh (United States); **Kin-Seng Chiang,** City Univ. of Hong Kong (Hong Kong, China); **Bai-Ou Guan,** Jinan Univ. (China); **Tuan Guo,** Jinan Univ. (China); **Zuyuan He,** Shanghai Jiao Tong Univ. (China); **Huizhu Hu,** Zhejiang Univ. (China); **Shibin Jiang,** AdValue Photonics, Inc. (United States); **Wei Jin,** Shenzhen Research Institute (China); **Jianqing Li,** Macau Univ. of Science and Technology (Macao, China); **Zhengying Li,** Wuhan Univ. of Technology (China); **Deming Liu,** Huazhong Univ. of Science and Technology (China); **Qingwen Liu,** Shanghai Jiao Tong Univ. (China); **Tiegen Liu,** Tianjin Univ. (China); **Huilian Ma,** Zhejiang Univ. (China); **Yosuke Mizuno,** Yokohama National Univ. (Japan); **Li Pei,** Beijing Jiaotong Univ. (China); **Gang-Ding Peng,** The Univ. of New South Wales (Australia); **Xueguang Qiao,** Northwest Univ. (China); **Yunjiang Rao,** Univ. of Electronic Science and Technology of China (China); **Anuj K. Sharma II,** National Institute of Technology, Delhi (India); **Tingyun Wang,** Shanghai Univ. (China); **Hai Xiao,** Clemson Univ. (United States); **X. Steve Yao,** NuVision Photonics, Inc. (United States); **Shizhuo Yin,** The Pennsylvania State Univ. (United States); **Libo Yuan,** Harbin Engineering Univ. (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: FIBER INTERFEROMETRY

24 October 2026 • 13:30 - 15:20 | Room 106A
Session Chair: **Xiaomeng Feng,** Wuhan Univ. of Technology (China)

14338-1
In-fiber resonator sensors *(Invited Paper)*
Xiaobei Zhang, Shanghai Univ. (China)
24 October 2026 • 13:30 - 14:00 | Room 106A

14338-2
Temperature monitoring of car lithium battery based on fiber Bragg grating array
Guilin Zhang, Wuhan Univ. of Technology (China), Wuhan Hannan Optoelectronic Technology Co., Ltd. (China); Jiankun Peng, Nanchang Hangkong Univ. (China); Tianli Fu, Cheng Cheng, Minghong Yang, Wuhan Univ. of Technology (China)
24 October 2026 • 14:00 - 14:20 | Room 106A

14338-3
Application of parallel-coupled resonators in optical resonant gyroscope with a broadband light source
Yurii V. Filatov, Alexander A. Sevryugin, Egor V. Shalymov, Vladimir Y. Venediktov, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation)
24 October 2026 • 14:20 - 14:40 | Room 106A

14338-4
In-line Mach-Zehnder interferometric curvature sensor based on seven-core optical fiber
Yujuan Zuo, Jinglei Zhang, Haiwei Zhang, Zhihong Chen, Tianjin Univ. of Technology (China); Jialu Bi, Tianjin University of Technology (China); Lifang Xue, Tianjin Univ. of Technology (China)
24 October 2026 • 14:40 - 15:00 | Room 106A

14338-5
Theoretical correction of light propagation in non-standard parallel cavities of MEMS sensors
Hongyu Liu, Xiaoshuang Dai, Xingyu Li, Xueping Li, Haojun Lin, Xuesong Xiang, Tianxiang Sun, Junfeng Jiang, Tiegen Liu, Shuang Wang, Tianjin Univ. (China)
24 October 2026 • 15:00 - 15:20 | Room 106A

Tea/Coffee Break 15:20 - 15:50

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SESSION 2: GAS SPECTROSCOPY

24 October 2026 • 15:50 - 17:20 | Room 106A
Session Chair: **Xiaobei Zhang,** Shanghai Univ. (China)

14338-6
Multi-parameter sensor fusion for hydrogen pipeline leak detection and scenario identification using an attention-based framework *(Invited Paper)*
Xiaomeng Feng, National Engineering Research Ctr. of Fiber Optic Sensing Technology and Networks, Wuhan Univ. of Technology (China); Ruofan Wang, Zhengqing Shen, National Engineering Research Ctr. of Fiber Optic Sensing Technology and Networks, Wuhan Univ. of Technology (China), Wuhan Univ. of Technology (China); Cong Liu, Wenbin Hu, Jixiang Dai, Minghong Yang, National Engineering Research Ctr. of Fiber Optic Sensing Technology and Networks, Wuhan Univ. of Technology (China)
24 October 2026 • 15:50 - 16:20 | Room 106A

14338-8
Reference-conditioned presence prediction for exact-set identification of Raman mixtures
Zhiqiang Xu, Zhen Wang, Taotao Mu, Beijing Information Science & Technology Univ. (China)
24 October 2026 • 16:20 - 16:40 | Room 106A

14338-9
$Ti_3C_2T_x$-enhanced sensitivity and selectivity of guided-mode-resonance-based sensor toward volatile organic compound detection
Peeradon Piriya, Shu-Han Hsu, Sirindhorn International Institute of Technology (Thailand); Sakoolkan Boonruang, National Electronics and Computer Technology Ctr. (Thailand)
24 October 2026 • 16:40 - 17:00 | Room 106A

14338-10
Guided-mode resonance sensor arrays using metal oxides for highly selective VOC detection
Sakoolkan Boonruang, National Electronics and Computer Technology Ctr. (Thailand); Shu-Han Hsu, Thammasat Univ. (Thailand); Chao-An Jong, Semiconductor Research Institute (Taiwan, China); Waleed S. Mohammad, Romuald Jolivot, Bangkok Univ. (Thailand)
24 October 2026 • 17:00 - 17:20 | Room 106A

SUNDAY 25 OCTOBER

SESSION 3: BIOMEDICAL SENSING

25 October 2026 • 08:20 - 10:10 | Room 106A
Session Chair: **Fan Yang,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14338-12
Optical fiber cavity biosensors for rapid and sensitive tuberculosis diagnosis *(Invited Paper)*
M. Imran Cheema, Lahore Univ. of Management Sciences (Pakistan)
25 October 2026 • 08:20 - 08:50 | Room 106A

14338-13
Fiber-optic interferometric copper sensor using PAA/amino-modified UiO-66
Xujie Wang, Jinjiang Technology and Innovation Research Institute, The Hong Kong Polytechnic Univ. (Hong Kong, China); Abdullah Al Noman, King Fahd Univ. of Petroleum & Minerals (Saudi Arabia); Xuguang Huang, Jinjiang Technology and Innovation Research Institute, The Hong Kong Polytechnic Univ. (China); Changyuan Yu, Jinjiang Technology and Innovation Research Institute, The Hong Kong Polytechnic Univ. (Hong Kong, China)
25 October 2026 • 08:50 - 09:10 | Room 106A

14338-14
Research on ECG monitoring system based on multi-sensor fusion and denoising algorithm
Tao An, Hebei Univ. of Science and Technology (China)
25 October 2026 • 09:10 - 09:30 | Room 106A

14338-15
Smart Wearable Watch Based on Optoelectronic Sensing for Physiological Signal Acquisition
Tao An, Hebei Univ. of Science and Technology (China)
25 October 2026 • 09:30 - 09:50 | Room 106A

14338-17
Development of novel starch-based optical fiber humidity sensor using green banana extract
Subham Koley, Sunil K. Khijwania, Indian Institute of Technology Jodhpur (India)
25 October 2026 • 09:50 - 10:10 | Room 106A

Tea/Coffee Break 10:10 - 10:40

SESSION 4: OPTICAL METROLOGY

25 October 2026 • 10:40 - 12:10 | Room 106A
Session Chair: **M. Imran Cheema**, Lahore Univ. of Management Sciences (Pakistan)

14338-18
Computational all-optical ultrasound imaging: from photoacoustic tomography to non-contact laser ultrasound *(Invited Paper)*
Taeil Yoon, Korea Univ. (Republic of Korea); Muhammad Awais, Gwangju Institute of Science and Technology (Pakistan); Byeongha Lee, Gwangju Institute of Science and Technology (Republic of Korea); Wonshik Choi, Korea Univ. (Republic of Korea)
25 October 2026 • 10:40 - 11:10 | Room 106A

14338-19
An integrated temporal-spectral-domain white-light interferometric system for thickness measurement
Tianfeng Qu, Lai Yao, Yunlong Zhu, Yao Zhu, Fanyang Dang, Yonggui Yuan, Harbin Engineering Univ. (China)
25 October 2026 • 11:10 - 11:30 | Room 106A

14338-20
Research on thickness and birefringence measurement based on polarization-sensitive white-light interferometry
YunPeng Wang, ChenJie Wang, YunLong Zhu, Fanyang Dang, Yao Zhu, YongGui Yuan, Harbin Engineering Univ. (China)
25 October 2026 • 11:30 - 11:50 | Room 106A

14338-21
Fast demodulation algorithm for high-speed scanning white-light interferometry
Sichen Li, Wenkai Hu, Yunlong Zhu, Fanyang Dang, Yao Zhu, Yonggui Yuan, Harbin Engineering Univ. (China)
25 October 2026 • 11:50 - 12:10 | Room 106A

Lunch Break 12:10 - 13:30

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POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14338-27

Full-spectrum temperature-strain dual-parameter demodulation method for NFN fiber-optic sensors based on MS-PGFNet

Jialu Bi, Haiwei Zhang, Zhihong Chen, Lifang Xue, Tianjin Univ. of Technology (China); Yujuan Zuo, Tianjin University Of Technology (China); Huiru Gong, Guangxi Zhuang Autonomous Region Institute of Metrology (China)

14338-32

Performance enhancement of BOTDR sensing system based on wavelet denoising for structural health monitoring

Shutao Wang, Yanshan Univ. (China)

14338-34

Experimental study on high-sensitivity wavelength discrimination of πPSFBG based on PM-PDH demodulation

Xinyang Sun, Guangkai Sun, Beijing Information Science & Technology Univ. (China)

14338-35

A synergistic optical path difference measurement system integrating laser internal metrology and dispersed fringe sensing for space interferometer

Yibing Hou, Jianjie Yin, Yang Xie, Zhi Qu, Kailin Yin, Zhuoxi Huo, China Academy of Aerospace System and Innovation (China)

14338-36

ICEEMDAN-assisted signal processing and hybrid error compensation for precision angle sensing with a rotary inductive angle sensor

Xinxin Wang, Beijing Information Science and Technology Univ. (China)

14338-37

LADRC-based environmental adaptability study of a one-dimensional large-aperture fast-steering mirror

Shaotong Niu, Yong Lyu, Hong Gao, Lishaung Liu, Beijing Information Science & Technology Univ. (China)

14338-38

An adaptive sensor fusion strategy for space object classification under asynchronous inputs and modality over-reliance

Mengjiao Lu, Zhenou Zhao, Kuo Meng, Beijing Information Science & Technology Univ. (China)

14338-39

Antiresonant hollow-core fiber as a compact gas absorption cell for broadband optical frequency comb spectroscopy under low-vacuum conditions

Piotr Jaworski, Dorota Tomaszewska-Rolla, Wroclaw Univ. of Science and Technology (Poland); Dakun Wu, Hangzhou Institute for Advanced Study, Univ. of Chinese Academy of Sciences (China); Fei Yu, Shanghai Institute of Optics and Fine Mechanics (China); Maciej Kowalczyk, Wroclaw Univ. of Science and Technology (Poland)

14338-40

SoC-FPGA multiphase time digitization and hierarchical error compensation for high-resolution angular displacement sensing

Yuxuan Li, Yong Lyu, Yanlin Wang, Beijing Information Science & Technology Univ. (China)

14338-41

Sensitivity enhancement of fiber Bragg grating chemical sensors using metallic thin-film coatings

Tirbhuwan Narayan Yadav, Md Tauseef Iqbal Ansari, Sanjeev Kumar Raghuwanshi, Indian Institute of Technology (Indian School of Mines), Dhanbad (India)

14338-42

Hybrid LiDAR system based on a pulsed-to-CW light source

Gyeongmin Kweon, Wontae Choe, Pusan National Univ. (Republic of Korea); Sang Min Park, Agency for Defense Development (Republic of Korea); Gyeong Hun Kim, Harvard Medical School, Wellman Ctr. for Photomedicine, Massachusetts General Hospital (United States); Hwidon Lee, Chang-Seok Kim, Pusan National Univ. (Republic of Korea)

14338-43

Wide-dynamic-range optical interferometric sensor via dual-channel interferogram fusion

Yeongbin Jeon, Jaeheung Kim, Minho Kim, Hwidon Lee, Chang-Seok Kim, Pusan National Univ. (Republic of Korea)

14338-44

Nanostructure-engineered WaveFlex fiber-optic biosensor for trace-level detection of carbosulfan pesticide

Guisheng Wang, Huibo Han, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India)

14338-45

High-precision trajectory control of bolter miners using laser-INS-integrated measurement and GBO-optimized RBF-PID controller

Mingyang Tian, Beijing Information Science & Technology Univ. (China)

14338-46

Mainstream optical configurations and common optical-system technologies for laser Doppler velocimetry

Weiyi Tie, Shunyan Wang, Meihong Rao, Chenghuan Su, Southwest Institute of Technical Physics (China)

14338-47

Pulse monitoring sensor based on the four-core optical fiber

Wenyan Xu, Harbin Engineering Univ. (China); Feng Peng, Univ. of Jinan (China); Yaxun Zhang, Harbin Engineering Univ. (China); Jie Zhang, Hang Zhu, Univ. of Jinan (China)

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14338-48

Silver-titanium dioxide-lithium iodate-based surface plasmon resonance biosensor for ultrasensitive lead (Pb2+) ion detection

Jyothsna Vaadaala, Koneru Lakshmaiah Education Foundation (India); Beibei Liu, Liaocheng Univ. (China); Yesudasu Vasimalla, Ragini Singh, Santosh Kumar, K L Deemed to be Univ. (India)

14338-50

Potassium tantalate/platinum disulfide nanomaterial-enhanced SPR biosensor for ultralow β-actin sensing

Shaik Anwar Mohiddeen, Ctr. of Excellence for Nanotechnology, K L Deemed to be Univ. (India); Beibei Liu, Liaocheng Univ. (China); Vasimalla Yesudasu, Ctr. of Excellence for Nanotechnology, K L Deemed to be Univ. (India); Ragini Singh, Koneru Lakshmaiah Education Foundation (India); Santosh Kumar, Ctr. of Excellence for Nanotechnology, K L Deemed to be Univ. (India)

14338-51

A time-synchronized optical-inertial fusion method for planetary lander localization

Yinwu Xu, Chen Shaohua, Liu Li, Xinxin Wang, Beijing Information Science & Technology Univ. (China)

14338-52

All-solid-state floating wind LiDAR for marine wind field detection

Xianjiang Zeng, Wuhan Huazhong Quantum Optics Technology Co., Ltd. (China); Qian Zhang, State Electric Power Engineering Research Institute Co., Ltd. (China); Hui Yu, Hongyang Zhao, Wenhao Tang, Mixin Wang, Wuhan Huazhong Quantum Optics Technology Co., Ltd. (China)

Conference Area South Hallway, 1st Floor

14338-53

intelligent sea ice detection method based on the fusion of ship-borne active and passive optical data

Yi Shi, Huazhong Univ. of Science and Technology (China), Huazhong Institute of Electro-Optics (China); Weidong Yang, Yanting Chen, Huazhong Univ. of Science and Technology (China); Dewen Li, Lintao Lan, Huazhong Institute of Electro-Optics (China)

14338-54

Comparison of four-beam and five-beam horizontal wind retrieval from Doppler-beam-swinging measurements of a portable coherent Doppler lidar

Wenhao Tang, Wuhan Huazhong Quantum Optics Technology Co., Ltd. (China); Qian Zhang, State Electric Power Engineering Research Institute Co., Ltd. (China); Xianjiang Zeng, Hongyang Zhao, Wuhan Huazhong Quantum Optics Technology Co., Ltd. (China)

SESSION 5: ADVANCED OPTICAL SENSING AND FUSION

25 October 2026 • 14:30 - 17:20 | Room 106A

Session Chairs: **Taeil Yoon,** Korea Univ. (Republic of Korea), Chang-**Seok Kim,** Pusan National Univ. (Republic of Korea)

14338-22

Brillouin microscopy and its biomedical applications *(Invited Paper)*

Fan Yang, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 14:30 - 15:00 | Room 106A

14338-23

A wavelength-isolated arrayed fiber-optic sensor for blade tip timing with adaptive arrival-time estimation

Hao Liu, Fafu Li, Tianjin Univ. (China); Yu Fu, Guanghui Guo, Meiru Liu, AECC Sichuan Gas Turbine Establishment (China); Qi Zhou, Xiao Fu, Fajie Duan, Tianjin Univ. (China)

25 October 2026 • 15:00 - 15:20 | Room 106A

14338-24

Nanoparticle sizing using a modulated dual-beam optical trap

Haoyang Cheng, Shangran Xie, Beijing Institute of Technology (China)

25 October 2026 • 15:20 - 15:40 | Room 106A

Tea/Coffee Break 15:40 - 16:00

14338-25

Distributed vibration measurement using flying particles in anti-resonant hollow-core fibers

Zhiwen Xia, Shangran Xie, Beijing Institute of Technology (China)

25 October 2026 • 16:00 - 16:20 | Room 106A

14338-26

An embedded intelligent sensing architecture for real-time optical metrology and adaptive environmental compensation

Tao An, Hebei Univ. of Science and Technology (China)

25 October 2026 • 16:20 - 16:40 | Room 106A

14338-29

Modeling of a chirped fiber Bragg grating in a standard multimode graded-index optical fiber under axisymmetric excitation

Aleksandr A. Markvart, Liubov D. Zavalishina, Leonid B. Liokumovich, Nikolai A. Ushakov, Peter the Great Saint-Petersburg Polytechnic Univ. (Russian Federation)

25 October 2026 • 16:40 - 17:00 | Room 106A

14338-31

Micro-deformation optical fiber sensor based on anti-resonance effect

Zhiliang Huang, Yaxun Zhang, Harbin Engineering Univ. (China)

25 October 2026 • 17:00 - 17:20 | Room 106A

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CONFERENCE 14339

Sunday–Monday 25–26 October 2026 • Room 106A

Nano-optoelectronics and Micro/Nano-photonics XII

Conference Chairs: **Zhiping Zhou,** Aijie Optoelectronic Technology (China); **Kazumi Wada,** Massachusetts Institute of Technology (United States); **Shaoliang Yu,** Zhejiang Lab. (China)

Program Committee: **Min Gu,** Univ. of Shanghai for Science and Technology (China); **Xiaoyong Hu,** Peking Univ. (China); **Jianjun Liu,** Hunan Univ. (China); **Jinsheng Lu,** Harvard Univ. (United States); **Haisheng Rong,** Intel Corp. (United States); **Takasumi Tanabe,** Keio Univ. (Japan); **Limin Tong,** Zhejiang Univ. (China); **Yating Wan,** King Abdullah Univ. of Science and Technology (Saudi Arabia); **Cheng Wang,** City Univ. of Hong Kong (Hong Kong, China); **Ying Xue; Qing Yang,** Zhejiang Univ. (China); **Nan Zhang,** Beijing Institute of Technology (China)

SUNDAY 25 OCTOBER

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14339-4

Direct probing of ultrafast heterointerfacial charge transfer in Cu_2O/ZnO nanocrystalline composites

Jirong Chen, Qin Zhang, Xinping Zhang, Beijing Univ. of Technology (China)

14339-21

A noninvasive optical EEG sensing scheme based on Fano-resonance-enhanced photonic crystal microcavity

Huicheng He, Institute of Disaster and Emergency Medicine, Tianjin Univ. (China), Key Lab. of Micro Opto-electro Mechanical System Technology, Tianjin Univ. (China); Dagong Jia, Institute of Disaster and Emergency Medicine, Tianjin Univ. (China)

14339-22

Circulating flow acceleration in a ring-shaped microchannel via laser-induced Marangoni convection

Pengnian Zhao, Hangzhou Dianzi Univ. (China), Univ. of Yamanashi (Japan); Jin Chen, Hangzhou Dianzi Univ. (China); Satoshi Honma, Univ. of Yamanashi (Japan); Xiwei Huang, Hangzhou Dianzi Univ. (China); Hironori Ito, Univ. of Yamanashi (Japan)

14339-23

Plasmonic photothermal bubble-assisted propulsion of AuNP-coated glass microspheres

Lan Chen, Hangzhou Dianzi Univ. (China), Univ. of Yamanashi (Japan); Satoshi Honma, Univ. of Yamanashi (Japan); Tiansong Deng, Hangzhou Dianzi Univ. (China); Hironori Ito, Univ. of Yamanashi (Japan)

14339-24

High excitation efficiency of diamond NV magnetometer with metasurface

Changbao Xu, Electric Power Research Institute of Guizhou Power Grid Co., Ltd. (China); Shan Zhang, Lingtao Huang, Shanghai Institute of Microsystem and Information Technology (China); Houyi Zhang, Mingyong Xin, Electric Power Research Institute of Guizhou Power Grid Co., Ltd. (China); Qihui Liu, Hao Chen, Shanghai Institute of Microsystem and Information Technology (China)

14339-25

Thiol-mediated chain-like self-assembly of plasmonic gold nanoarrows

Hongtao Deng, Lan Chen, Hangzhou Dianzi Univ. (China); Jie Liu, Hangzhou Dianzi University (China); Tiansong Deng, Hangzhou Dianzi Univ. (China)

14339-26

Study on the micro-region polarization response of ReS2 based on variable-wavelength confocal Raman spectroscopy

Shunda Liu, Beijing Information Science & Technology Univ. (China); Jianbo Bai, Beijing Information Science Technology University (China); Chao Liu, Bo Wei Huang, Beijing Information Science & Technology Univ. (China)

14339-27

Toward active SNAP structures based on erbium-activated optical fibers

Natalya A. Makarova, Novosibirsk State Univ. (Russian Federation); Vitaliy Volosi, Novosibirsk State University (Russian Federation); Ilya D. Vatnik, Novosibirsk State Univ. (Russian Federation)

14339-28

Topology-protected state fluorescence with flexible wavelength tunability, narrow linewidth, and high directionality

Jiuhu Yan, Beijing Univ. of Technology (China); Ningning Liang, Yiming Chen, Yongqi Gao, Siqi Chang, Penglei Li, Beijing University of Technology (China); Zhaohui Wang, Key Laboratory of Organic Optoelectronics and Molecular Engineering (China); Tianrui Zhai, Beijing University of Technology (China)

14339-29

LSPR-enhanced WaveFlex biosensor based on a tapered MMF–SMF–MMF optical fiber for cystatin-C detection

Changyue Zhang, Yiyan Xie, Jiaqi Gao, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India)

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14339-30
Controlled self-assembly of nanoparticles for photothermal self-monitoring and synergistic photochromic microspheres
Min Zhao, Beijing Univ. of Technology (China)

14339-31
Enhanced organic compound sensing via hybrid surface plasmon resonance employing SiO_2/Ti_3C_2
Naga Jeevana Sandhya Dondapati, K L Deemed to be Univ. (India); Bowen Zhong, Liaocheng Univ. (China); Vasimalla Yesudasu, Santosh Kumar, K L Deemed to be Univ. (India)

14339-32
Liquid crystal-integrated nonmechanical metadevice for holographic display
Shuangqi Zhu, The 11th Research Institute of China Electronics Technology Group Corp. (China); Lingling Huang, Beijing Institute of Technology (China); Bo Ni, Xiaolong Bai, Yiwei Zhang, Yao Li, Hong Zhao, The 11th Research Institute of China Electronics Technology Group Corp. (China)

MONDAY 26 OCTOBER

SESSION 1: NANOSCALE OPTOELECTRONIC DEVICES I

26 October 2026 • 09:00 - 10:10 | Room 106A
Session Chair: **Junying Li,** Hangzhou Institute for Advanced Study, UCAS (China)

14339-1
Structural regulation, luminescence mechanism, and LED applications of low-dimensional hybrid metal halides *(Invited Paper)*
Ying Han, Beijing Univ. of Technology (China)
26 October 2026 • 09:00 - 09:25 | Room 106A

14339-3
Research on information encoding and photonic computing in integrated photonic devices
Guoxiang Si, Cuicui Lu, Beijing Institute of Technology (China)
26 October 2026 • 09:25 - 09:40 | Room 106A

14339-5
On-chip deterministic arbitrary-phase-controlling
Rui Ma, Peking Univ. (China)
26 October 2026 • 09:40 - 09:55 | Room 106A

14339-19
A high-sensitivity SPR biosensor with TlBr/SiC/PtSe2 for refractive-index-based brain tumor
Dondapati Naga Jeevana Sandhya, K L Deemed to be Univ. (India); Guisheng Wang, Liaocheng Univ. (China); Yesudasu Vasimalla, Koneru Lakshmaiah Education Foundation (India); Santosh Kumar, K L Deemed to be Univ. (India)
26 October 2026 • 09:55 - 10:10 | Room 106A

Tea/Coffee Break 10:10 - 10:40

SESSION 2: NANOSCALE OPTOELECTRONIC DEVICES II

26 October 2026 • 10:40 - 12:00 | Room 106A
Session Chair: **Ying Han,** Beijing Univ. of Technology (China)

14339-6
Phase-change-material-integrated silicon photonic memristors *(Invited Paper)*
Junying Li, Hangzhou Institute for Advanced Study, UCAS (China)
26 October 2026 • 10:40 - 11:05 | Room 106A

14339-7
Surface-enhanced Raman spectroscopy based on resonance engineering *(Invited Paper)*
Tinghui Xiao, Zhengzhou Univ. (China)
26 October 2026 • 11:05 - 11:30 | Room 106A

14339-8
Co-optimized solution for highly uniform Si3N4 film for Si photonics and CPO
Jiayu Sun, Kang Lin, Xuyang Wei, Tiancheng Zhang, Caigan Chen, Yanlong Guo, Zhenhua Hu, Xiaoxin Li, Yushan Chi, Lam Research Corp. (China); Qinghua Zhong, Lam Research Corp. (United States)
26 October 2026 • 11:30 - 11:45 | Room 106A

14339-9
Metasurface-based 2×2 modulation matrix for optically accelerated CNN feature compression
Yanlin Li, Zili Cai, Qi Chen, Jubo Hao, Tian Zhang, Jian Dai, Kun Xu, Beijing Univ. of Posts and Telecommunications (China)
26 October 2026 • 11:45 - 12:00 | Room 106A

Lunch Break 12:00 - 13:30

SESSION 3: METASURFACE PHOTONICS

26 October 2026 • 13:30 - 15:00 | Room 106A
Session Chair: **Zhen Chai,** Beihang Univ. (China)

14339-10
Interference-induced entanglement engineering on a metasurface *(Invited Paper)*
Mu Wang, Ruwen Peng, Yajun Gao, Rui Zhong, Nanjing Univ. (China)
26 October 2026 • 13:30 - 13:55 | Room 106A

14339-11
Polarization manipulation in low-symmetry nonlocal metasurfaces *(Invited Paper)*
Xingwang Zhang, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (China)
26 October 2026 • 13:55 - 14:20 | Room 106A

14339-12
Mechanically driven terahertz wavefront engineering with stretchable carbon nanotube metasurfaces *(Invited Paper)*
Yan Zhang, Capital Normal Univ. (China)
26 October 2026 • 14:20 - 14:45 | Room 106A

14339-14
Non-Abelian gauge field optics in the time domain
Yucheng Lai, Chinese Academy of Sciences (China)
26 October 2026 • 14:45 - 15:00 | Room 106A

Tea/Coffee Break 15:00 - 15:30

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SESSION 4: OPTICAL MANIPULATION AND SENSING

26 October 2026 • 15:30 - 16:50 | Room 106A

Session Chair: **Xingwang Zhang**, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (China)

14339-15

Ice-interface optothermal tweezers for programmable cryogenic assembly *(Invited Paper)*

Jiajie Chen, Shenzhen Univ. (China)

26 October 2026 • 15:30 - 15:55 | Room 106A

14339-16

Chip-scale nanophotonic interface for atomic sensing *(Invited Paper)*

Zhen Chai, Beihang Univ. (China)

26 October 2026 • 15:55 - 16:20 | Room 106A

14339-18

LSPR-Based Fiber-Optic WaveFlex Biosensor Using GNRs-ZnCdS for Highly Sensitive Detection of Type B Natriuretic Peptide

Beibei Liu, Huibo Han, Liaocheng Univ. (China); Ragini Singh, K L Deemed to be Univ. (India); Bingyuan Zhang, Liaocheng Univ. (China); Santosh Kumar, K L Deemed to be Univ. (India)

26 October 2026 • 16:20 - 16:35 | Room 106A

14339-20

Laser-induced photothermal-gradient-driven manipulation of polystyrene microspheres on Au-coated glass substrates

Cao ZhangShuo, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 16:35 - 16:50 | Room 106A

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CONFERENCE 14340

Saturday–Monday 24–26 October 2026 • Room 106B

Plasmonics X

Conference Chairs: **Hong Wei,** Institute of Physics, Chinese Academy of Sciences (China); **Takuo Tanaka,** RIKEN (Japan)

Program Committee: **Zheyu Fang,** Peking Univ. (China); **F. Javier García de Abajo,** ICFO - Institut de Ciències Fotòniques (Spain); **Zhipeng Li,** Capital Normal Univ. (China); **Peter Nordlander,** Rice Univ. (United States); **Ruwen Peng,** Nanjing Univ. (China); **Atsushi Taguchi,** Hokkaido Univ. (Japan); **Din Ping Tsai,** City Univ. of Hong Kong (Hong Kong, China); **Hongxing Xu,** Henan Academy of Sciences (China); **Xiulai Xu,** Peking Univ. (China); **Lei Zhou,** Fudan Univ. (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: SURFACE-ENHANCED RAMAN SPECTROSCOPY

24 October 2026 • 13:30 - 15:20 | Room 106B
Session Chair: **Hong Wei,** Institute of Physics, Chinese Academy of Sciences (China)

14340-1
SERS probing of dynamic plasmon-induced metal–molecule charge transfer (Keynote Presentation)
Zee Hwan Kim, Seoul National Univ. (Republic of Korea)
24 October 2026 • 13:30 - 14:00 | Room 106B

14340-2
Statistical quantitative SERS: from single-molecule probability to deep-learning-resolved intensity distributions *(Invited Paper)*
Zhipeng Li, Capital Normal Univ. (China)
24 October 2026 • 14:00 - 14:25 | Room 106B

14340-3
Deterministic high-sensitivity single-molecule Raman detection *(Invited Paper)*
Lihong Hong, South China Univ. of Technology (China)
24 October 2026 • 14:25 - 14:50 | Room 106B

14340-4
Skin-conformal plasmonics for wearable SERS biosensing
Limei Liu, Yangzhou Univ. (China)
24 October 2026 • 14:50 - 15:05 | Room 106B

14340-5
Surface-enhanced Raman scattering-based methods for fossil resin molecular spectra acquisition
Andrey Y. Zyubin, Elizaveta Demishkevich, Aleksander Zozulya, Stanislava Zubareva, Immanuel Kant Baltic Federal Univ. (Russian Federation); Maksim Bahdasarau, Brest State A.S. Pushkin Univ. (Belarus); Ilia Y. Samusev, Immanuel Kant Baltic Federal Univ. (Russian Federation)
24 October 2026 • 15:05 - 15:20 | Room 106B

Tea/Coffee Break 15:20 - 15:50

SESSION 2: SURFACE-ENHANCED SPECTROSCOPY AND METASURFACES

24 October 2026 • 15:50 - 17:45 | Room 106B
Session Chair: **Zee Hwan Kim,**
Seoul National Univ. (Republic of Korea)

14340-6
The SERS mechanism breaking the narrow-gap limitation *(Invited Paper)*
Xuejin Zhang, Nanjing Univ. (China)
24 October 2026 • 15:50 - 16:15 | Room 106B

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14340-7
Influence of the LSPR effect on luminescence optical nanoparticles *(Invited Paper)*
Hairong Zheng, Shaanxi Normal Univ. (China)
24 October 2026 • 16:15 - 16:40 | Room 106B

14340-8
Design of geometry-optimized gold nanopillar arrays for enhanced live-cell LSPR sensing
Dhruv Banerjee, Pietro Sainaghi, Horacio Espinosa, Northwestern Univ. (United States)
24 October 2026 • 16:40 - 16:55 | Room 106B

14340-10
The multidimensional manipulation of optical fields based on metasurfaces *(Invited Paper)*
Zhang-Kai Zhou, Sun Yat-Sen Univ. (China)
24 October 2026 • 16:55 - 17:20 | Room 106B

14340-11
Decoupled-subspace-induced flat bands in a photonic superlattice *(Invited Paper)*
Jinwei Shi, Beijing Normal Univ. (China)
24 October 2026 • 17:20 - 17:45 | Room 106B

SUNDAY 25 OCTOBER

SESSION 3: PLASMON-EXCITON COUPLING AND ULTRAFAST PLASMONICS

25 October 2026 • 09:00 - 10:20 | Room 106B
Session Chair: **Wei Zhang,** Institute of Applied Physics and Computational Mathematics (China)

14340-12
Ultrafast multimode Rabi oscillations in an open cavity probed by 2D electronic spectroscopy *(Keynote Presentation)*
Christoph Lienau, Carl von Ossietzky Univ. Oldenburg (Germany)
25 October 2026 • 09:00 - 09:30 | Room 106B

14340-13
Ultrafast coherent dynamics of self-hybridized exciton-polaritons *(Invited Paper)*
Jinhui Zhong, Southern Univ. of Science and Technology (China)
25 October 2026 • 09:30 - 09:55 | Room 106B

14340-14
Mapping plasmonic fields on the nano-femto scale *(Invited Paper)*
Jingquan Lin, Changchun Univ. of Science and Technology (China)
25 October 2026 • 09:55 - 10:20 | Room 106B

Tea/Coffee Break 10:20 - 10:45

SESSION 4: ACTIVE PLASMONICS

25 October 2026 • 10:45 - 12:00 | Room 106B
Session Chair: **Christoph Lienau,** Carl von Ossietzky Univ. Oldenburg (Germany)

14340-15
Reconfigurable organic plasmonics and metasurfaces *(Invited Paper)*
Magnus P. Jonsson, Linköping Univ. (Sweden)
25 October 2026 • 10:45 - 11:10 | Room 106B

14340-16
MEMS-enabled electrically tunable metasurfaces *(Invited Paper)*
Fei Ding, Eastern Institute of Technology, Ningbo (China), Univ. of Southern Denmark (Denmark)
25 October 2026 • 11:10 - 11:35 | Room 106B

14340-17
Dynamic plasmonics with structured alkali metals *(Invited Paper)*
Lin Zhou, Min Xiong, Nanjing Univ. (China)
25 October 2026 • 11:35 - 12:00 | Room 106B

Lunch Break 12:00 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14340-31
Advanced adaptive computational imaging improve architectures
Hua Liu, Science and Technology on Electro-Optic Control Lab. (China)

14340-32
Strong coupling between a tapered nanowire-on-mirror nanocavity with tunable resonance and monolayer WSe_2
Chunqiu Li, Institute of Physics, Chinese Academy of Sciences (China), East China Normal Univ. (China); Zhuangzhuang Zhou, Long Gao, Yijie Niu, Institute of Physics, Chinese Academy of Sciences (China); Zhipeng Li, Capital Normal Univ. (China); Ke Chen, Henan Univ. (China); Hongxing Xu, Henan Academy of Sciences (China); Hong Wei, Institute of Physics, Chinese Academy of Sciences (China)

14340-33
Optical-fiber surface-plasmon-resonance sensor enhanced by WSe_2 quantum dots
Fengtong Zhu, Jinchang Liu, Jianying Jing, Ziyihui Wang, Junfeng Jiang, Tianhua Xu, Tianjin Univ. (China); Tiegen Liu, Tianjin University (China); Kun Liu, Tianjin Univ. (China)

14340-34
WaveFlex aptasensor based on a specially tapered optical fiber for maduramicin detection
Yan Wang, Liaocheng Univ. (China); Mengyuan Li, Liaocheng University (China); Yiyan Xie, Ragini Singh, Bingyuan Zhang, Santosh Kumar, Liaocheng Univ. (China)

14340-35
Computational design and performance analysis of a novel SPR sensor for high-sensitivity organic-solvent detection employing a $TeO_2/TiO_2/ReS_2$-based structure
Anwar A. Shaik, K L Deemed to be Univ. (India); Yan Wang, Liaocheng Univ. (China); Vasimalla Yesudasu, K L Deemed to be Univ. (India); Ragini Singh, Koneru Lakshmaiah Education Foundation (India); Santosh Kumar, K L Deemed to be Univ. (India)

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SESSION 5: CHIRAL PLASMONICS AND PLASMONIC NANODEVICES

25 October 2026 • 14:35 - 17:00 | Room 106B

Session Chair: **Magnus P. Jonsson**, Linköping Univ. (Sweden)

14340-18

Modulation of chiroptics in hybrid nanostructures via the interaction effects and symmetry breaking *(Invited Paper)*

Wei Zhang, Institute of Applied Physics and Computational Mathematics (China)

25 October 2026 • 14:35 - 15:00 | Room 106B

14340-19

Chiral plasmonic microstructures for potential photothermal applications *(Invited Paper)*

Zhengqi Liu, Kuihui Li, Shuai Li, Jiangxi Normal Univ. (China)

25 October 2026 • 15:00 - 15:25 | Room 106B

14340-20

Chiral plasmonic structures with strong and dynamically tunable chiroptical responses *(Invited Paper)*

Chunhong Ye, ShanghaiTech Univ. (China)

25 October 2026 • 15:25 - 15:50 | Room 106B

14340-21

Enantioselective nonlinear chiroptic sensing: from principle to applications

Yong Tan, Tao Ding, Wuhan Univ. (China)

25 October 2026 • 15:50 - 16:05 | Room 106B

14340-22

Two-dimensional single-crystal gold for extreme nanophotonics *(Invited Paper)*

Pan Wang, Zhejiang Univ. (China)

25 October 2026 • 16:05 - 16:30 | Room 106B

14340-23

Harnessing plasmonic heating for magnetic switching

Huaiyang Yuan, Zhejiang Univ. (China); Yizheng Wu, Fudan Univ. (China); Olena Gomonay, Johannes Gutenberg Univ. Mainz (Germany)

25 October 2026 • 16:30 - 16:45 | Room 106B

14340-24

Nonlocal response of bound electrons in silicon interband plasmonics

Guangxin Liu, Lin Wu, Singapore Univ. of Technology and Design (Singapore)

25 October 2026 • 16:45 - 17:00 | Room 106B

MONDAY 26 OCTOBER

SESSION 6: NEAR-FIELD OPTICS AND PLASMONIC NANOCAVITIES

26 October 2026 • 09:10 - 10:05 | Room 106B

Session Chair: **Dangyuan Lei,** City Univ. of Hong Kong (Hong Kong, China)

14340-25

Sub-10-nm visualization of trions in ultralow-strained monolayer MoSe2 (Keynote Presentation)

Zhi-Yuan Li, South China Univ. of Technology (China)

26 October 2026 • 09:10 - 09:40 | Room 106B

14340-26

Boosting and steering excitonic emission with a plasmonic nanocavity *(Invited Paper)*

Fajun Xiao, Northwestern Polytechnical Univ. (China)

26 October 2026 • 09:40 - 10:05 | Room 106B

Tea/Coffee Break 10:05 - 10:30

SESSION 7: PLASMON-EXCITON COUPLING

26 October 2026 • 10:30 - 11:45 | Room 106B

Session Chair: **Fajun Xiao,** Northwestern Polytechnical Univ. (China)

14340-28

Plasmonic manipulation of dark excitons and valley polarization in monolayer semiconductors *(Invited Paper)*

Dangyuan Lei, City Univ. of Hong Kong (Hong Kong, China)

26 October 2026 • 10:30 - 10:55 | Room 106B

14340-29

Dual single-exciton-state strong coupling at room temperature in plasmonic nanocavities *(Invited Paper)*

Renming Liu, Henan Univ. (China)

26 October 2026 • 10:55 - 11:20 | Room 106B

14340-30

Interaction between plasmonic nanostructures and 2D transition metal dichalcogenides *(Invited Paper)*

Hong Wei, Institute of Physics, Chinese Academy of Sciences (China)

26 October 2026 • 11:20 - 11:45 | Room 106B

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CONFERENCE 14341

Saturday–Monday 24–26 October 2026 • Room 107A

Quantum and Nonlinear Optics XIII

Conference Chairs: **Qiongyi He,** Peking Univ. (China); **Chunhua Dong,** Univ. of Science and Technology of China (China)

Program Committee: **Fang Bo,** Nankai Univ. (China); **Osamu Hirota,** Tamagawa Univ. (Japan); **Kebin Shi,** Peking Univ. (China); **Xiaolong Su,** Shanxi Univ. (China); **Jianwei Wang,** Peking Univ. (China); **Jin-Shi Xu,** Univ. of Science and Technology of China (China)

SATURDAY 24 OCTOBER

OPENING CEREMONY

24 October 2026 • 08:30 - 08:50
International Hall B, 1st Floor

Join the global photonics community at the SPIE/COS Photonics Asia Opening Ceremony, where attendees will be welcomed to the conference, celebrate achievements through award presentations, and hear important conference announcements.

PHOTONICS ASIA SPOTLIGHTS

24 October 2026 • 08:50 - 12:00
International Hall B, 1st Floor

Spotlight on Optical Physics

08:50 - 09:30: **Ultrafast physics with structured light**
Yunquan Liu, Peking Univ. (China)

Spotlight on Biophotonics

09:30 - 10:10: **Brillouin microscopy: charting the mechanical landscape of life from subcellular organelles to deep tissues – a perspective on progress, challenges, and next-generation frontiers**
Vladislav V. Yakovlev, Texas A&M Univ. (United States)

Tea/Coffee Break 10:10 - 10:40

Spotlight on Optoelectronics

10:40 - 11:20: **Manipulation of generalized energy-bands for new functional optoelectronic devices**
Yidong Huang, Tsinghua Univ. (China)

Spotlight on Biophotonics

11:20 - 12:00: **Platform technologies for AI for science: intelligent imaging across biological scales**
Keisuke Goda, The Univ. of Tokyo (Japan), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan), Univ. of California, Los Angeles (United States)

Lunch Break 12:00 - 13:30

SESSION 1: QUANTUM AND NONLINEAR OPTICS I

24 October 2026 • 13:30 - 15:10 | Room 107A
Session Chair: **Qiongyi He,** Peking Univ. (China)

14341-1
Lasing-like dynamics with virtual gain *(Invited Paper)*
Wenjie Wan, Shanghai Jiao Tong Univ. (China)
24 October 2026 • 13:30 - 14:00 | Room 107A

14341-19
Soliton microcombs for chip-scale precision measurement *(Invited Paper)*
Niu Rui, Hao Tian, Harbin Insitute of Technology (China); Chunhua Dong, Univ. of Science and Technology of China (China)
24 October 2026 • 14:00 - 14:30 | Room 107A

14341-3
Generation of six-qubit GHz states using an integrated photon source for quantum information systems
Deepmala Kulshreshth, Malaviya National Institute of Technology, Jaipur (India)
24 October 2026 • 14:30 - 14:50 | Room 107A

14341-4
Quantum Optical Reservoir Processing
Youya Xu, Sanjib Ghosh, The Chinese Univ. of Hong Kong, Shenzhen (China)
24 October 2026 • 14:50 - 15:10 | Room 107A

Tea/Coffee Break 15:10 - 15:40

SESSION 2: QUANTUM AND NONLINEAR OPTICS II

24 October 2026 • 15:40 - 17:10 | Room 107A
Session Chair: **Wenjie Wan,** Shanghai Jiao Tong Univ. (China)

14341-5
Engineering chiral spin–photon coupling in a nanophotonic waveguide with magnetic fields *(Invited Paper)*
Shikai Liu, Univ. of Copenhagen (Denmark); Joan Alba, Bálint Sárközi, University of Copenhagen (Denmark); Nikolai Bart, Arne Ludwig, Ruhr-Universität Bochum (Germany); Ming Lai Chan, Peter Lodahl, University of Copenhagen; Sparrow Quantum (Denmark); Anders Sørensen, University of Copenhagen (Denmark)
24 October 2026 • 15:40 - 16:10 | Room 107A

14341-6
Detection of multipartite entanglement through data-augmented neural networks *(Invited Paper)*
Yu Xiang, Xi'an Jiaotong Univ. (China)
24 October 2026 • 16:10 - 16:40 | Room 107A

14341-7
Photonic simulation of Majorana-based quantum computation *(Invited Paper)*
Kai Sun, Univ. of Science and Technology of China (China)
24 October 2026 • 16:40 - 17:10 | Room 107A

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CONFERENCE 14341

SUNDAY 25 OCTOBER

SESSION 3: QUANTUM AND NONLINEAR OPTICS III

25 October 2026 • 08:00 - 10:20 | Room 107A

Session Chair: **Shikai Liu,** Univ. of Copenhagen (Denmark)

14341-9

Research on optical imaging methods approaching the quantum limit

Hua Liu, Science and Technology on Electro-Optic Control Lab. (China)

25 October 2026 • 08:00 - 08:20 | Room 107A

14341-10

Classifying multipartite continuous-variable entanglement structures through data-augmented neural networks *(Invited Paper)*

Xiaoting Gao, Peking Univ. (China)

25 October 2026 • 08:20 - 08:50 | Room 107A

14341-11

Quantum-state preparation and precision measurement with free-electron–light interactions *(Invited Paper)*

Fengxiao Sun, Beijing Univ. of Posts and Telecommunications (China)

25 October 2026 • 08:50 - 09:20 | Room 107A

14341-12

Four-wave mixing manifestation in the radiation statistical properties of a Raman fiber laser

Oleg A. Gorbunov, Novosibirsk State Univ. (Russian Federation)

25 October 2026 • 09:20 - 09:40 | Room 107A

14341-13

Soliton self-frequency shift appearing during compression of Raman dissipative solitons in various optical fibers

Vitaliy Volosi, Alexey Patrashkov, Institute of Automation and Electrometry (Russian Federation), Novosibirsk State Univ. (Russian Federation); Natalia Koliada, Institute of Automation and Electrometry SB RAS (Russian Federation), Institute of Laser Physics SB RAS (Russian Federation); Denis Kharenko, Institute of Automation and Electrometry (Russian Federation), Novosibirsk State Univ. (Russian Federation)

25 October 2026 • 09:40 - 10:00 | Room 107A

14341-14

Revealing the tunability of the repetition-rate difference of a polarization-multiplexed fiber laser based on polarization-angle tuning

Xixuan Huang, Junpeng Liu, Guoqing Hu, Zhe Zhang, Peng Chen, Xiao Xia, Guangwei Chen, Beijing Information Science & Technology Univ. (China); Tengfei Wu, Changcheng Institute of Metrology & Measurement (China); Zhehai Zhou, Beijing Information Science & Technology Univ. (China)

25 October 2026 • 10:00 - 10:20 | Room 107A

Tea/Coffee Break 10:20 - 10:40

SESSION 4: QUANTUM AND NONLINEAR OPTICS IV

25 October 2026 • 10:40 - 12:00 | Room 107A

Session Chair: **Chunhua Dong,**
Univ. of Science and Technology of China (China)

14341-15

Continuous-variable quantum entanglement on chip *(Invited Paper)*

Xinyu Jia, Chang You, Chonghao Zhai, Peking Univ. (China); Xiaolong Su, Shanxi Univ. (China); Jianwei Wang, Peking Univ. (China)

25 October 2026 • 10:40 - 11:10 | Room 107A

14341-16

Nonlinear optical frequency combs in thin-film lithium niobate microresonators *(Invited Paper)*

Chen Yang, Fang Bo, Nankai Univ. (China); Qi-Fan Yang, Xiaomin Lv, Binbin Nie, Ze Wang, Tianyu Xu, Peking Univ. (China)

25 October 2026 • 11:10 - 11:40 | Room 107A

14341-17

Generation and applications of on-chip lithium niobate optical frequency combs

Shuai Wan, Univ. of Science and Technology of China (China)

25 October 2026 • 11:40 - 12:00 | Room 107A

Lunch Break 12:00 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

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14341-31

Ultrafast intercoupling between multifold third-order nonlinear optical processes in single-crystal perovskites

Jiahui Ren, Xinping Zhang, Beijing Univ. of Technology (China)

14341-32

$CsPbBr_3$ perovskite quantum dots for a mode-locked fiber laser in the C-band region

Huimin Yu, Xiaohui Fang, Yanrong Song, Beijing Univ. of Technology (China)

14341-33

DFT simulation of aged polymer Raman spectra during environmental oxidation and UV degradation

Andrey Y. Zyubin, Stanislava Y. Zubareva, Aleksander Zozulya, Ilia Samusev, Immanuel Kant Baltic Federal Univ. (Russian Federation)

14341-34

Characterizing coherence in resonant transmission through a waveguide-coupled quantum dot

Tangzhi Pang, Shikai Liu, Joan Alba, Univ. of Copenhagen (Denmark); Oliver Sandberg, Sparrow Quantum ApS (Denmark); Arne Ludwig, Ruhr-Univ. Bochum (Germany); Alexey Tiranov, Sparrow Quantum ApS (Denmark); Peter Lodahl, Anders S. Sørensen, Univ. of Copenhagen (Denmark)

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14341-35

Uniform magnetic coupling with a dual-layer microwave antenna for high-sensitivity magnetic-field sensing using diamond NV centers

Ximing Gao, China Southern Power Grid (China); Chengyu Yang, Nanjing Univ. of Science and Technology (China); Qihui Liu, Shanghai Institute of Microsystem and Information Technology (China); Chun Li, Maoheng Jing, Qiang Gan, Chunlong He, Xiong Xiao, China Southern Power Grid (China); Hao Chen, Shanghai Institute of Microsystem and Information Technology (China)

14341-36

Enhancement of the photon spin Hall effect with quantum surface-plasmon excitations from Tongling Polytechnic and Nanjing University of Posts and Telecommunications

Changsuo Yu, Tongling Polytechnic Univ. (China), Nanjing Univ. of Posts and Telecommunications (China); Xianwu Tang, Nanjing Univ. of Posts and Telecommunications (China)

14341-37

Suppressing light shifts in pulsed CPT atomic clocks with combined error signals and beam shaping

Daba A. Radnatarov, Ivan Gromov, Sergey Kobtsev, Maxim Basalaev, Valera Yudin, Novosibirsk State Univ. (Russian Federation)

14341-38

Fast heterodyne probing of temporal–spectral dynamics in a random fiber laser

Ilya D. Vatnik, Dmitry V. Kudashkin, Oleg A. Gorbunov, Dmitry V. Churkin, Novosibirsk State Univ. (Russian Federation)

14341-39

Repetition-rate-switchable mode-locked fiber lasers based on polarization control

Xixuan Huang, Junpeng Liu, Guoqing Hu, Guangwei Chen, Zhe Zhang, Xia Xiao, Linhao Zheng, Wenxuan Tan, Zhehai Zhou, Beijing Information Science & Technology Univ. (China)

14341-40

Elliptical-hole polarization-maintaining photonic-crystal fiber for enhancing birefringence and supercontinuum generation

Xueke Yu, Hongbo Zhang, Lishui Univ. (China); Yitong Song, Tianmushan Laboratory, Beihang University (China)

14341-41

Research on the spectral-contraction suppression method for multipulse-pumped supercontinuum in the normal-dispersion region based on fiber-parameter management

Jian Sun, Weiyi Meng, Jun Qin, Yueqin Li, Chenyu Peng, Beijing Information Science & Technology Univ. (China); Kejia Zhu, Beijing Jiaotong Univ. (China); Ran Liang, Beijing Information Science & Technology Univ. (China); Muguang Wang, Beijing Jiaotong Univ. (China)

14341-42

Ultra-low-threshold self-sustained optomechanical oscillation in optical fibers

Yang Li, Weichun Qu, Zihan Yu, Dinghao Zhou, Yu Cai, Zuxing Zhang, Nanjing Univ. of Posts and Telecommunications (China)

14341-43

Gate control of nonlinear normal-mode interactions in a graphene mechanical chain

Hui Chen, Guangwei Deng, Univ. of Electronic Science and Technology of China (China)

14341-44

Quantum-enhanced photonic sensing and metrology: from quantum resources to integrated quantum sensors

Ashish Kulshrestha, Malaviya National Institute of Technology, Jaipur (India); Deepmala Kulshreshth, Malaviya National Institute of Technology Jaipur (India); Santosh Kumar, Koneru Lakshmaiah Education Foundation, Guntur, Andhra Pradesh (India); Phuong T. Tran, Ton Duc Thang University, Ho Chi Minh City, Vietnam (Vietnam); Ankit Ankit, Ghanshyam Singh, Malaviya National Institute of Technology Jaipur (India)

14341-45

Which transition can be used in sodium mirrorless lasing for mesospheric magnetometry?

Yucheng Yang, State Key Lab. of Spatial Datum (China), State Key Lab. of Photonics and Communications, Peking Univ. (China); Chunyang Lei, AthenaEyes Co., Ltd. (China); Kai Guo, Institute of Systems Engineering, AMS (China); Chi Peng, State Key Lab. of Spatial Datum (China)

14341-46

Extended superradiance through modal field engineering in silicon nitride photonic crystals

Muhammad Tegar Pambudi, Nanyang Technological Univ. (Singapore); Adrien Debacq, Univ. de Namur (Belgium); Emmanuel Lassalle, A*STAR Institute of Materials Research and Engineering (Singapore); Louys Bertrand, Univ. de Namur (Belgium); Lu Ding, A*STAR Institute of Materials Research and Engineering (Singapore); Michaël Lobet, Univ. de Namur (Belgium)

SESSION 5: QUANTUM AND NONLINEAR OPTICS V

25 October 2026 • 14:40 - 16:40 | Room 107A

Session Chair: **Xiaolong Su,** Shanxi Univ. (China)

14341-18

Principles of optics in Fock space *(Invited Paper)*

Ming Li, Univ. of Science and Technology of China (China)

25 October 2026 • 14:40 - 15:10 | Room 107A

14341-2

Large-scale integrated quantum information processing *(Invited Paper)*

Jueming Bao, Nanjing Univ. (China)

25 October 2026 • 15:10 - 15:40 | Room 107A

14341-20

Research on optical frequency combs in microcavities

Jin Li, Chunhua Dong, Univ. of Science and Technology of China (China)

25 October 2026 • 15:40 - 16:00 | Room 107A

14341-22

Mode analysis of supercontinuum generation in GRIN multimode fiber accompanied by Kerr beam self-cleaning

Nikita Bochkarev, Mikhail Gervaziev, Denis Kharenko, Sergey Babin, Novosibirsk State Univ. (Russian Federation), Institute of Automation and Electrometry (Russian Federation); Stefan Wabnitz, Novosibirsk State Univ. (Russian Federation), Sapienza Univ. di Roma (Italy)

25 October 2026 • 16:00 - 16:20 | Room 107A

14341-23

Resolution limits of spectral-domain biphoton interferometry

Tatiana A. Makovetskaya, Yue Hongqun, Liubov D. Zavalishina, Aleksandr A. Markvart, Nikolai A. Ushakov, Peter the Great Saint-Petersburg Polytechnic Univ. (Russian Federation)

25 October 2026 • 16:20 - 16:40 | Room 107A

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CONFERENCE 14341

MONDAY 26 OCTOBER

SESSION 6: QUANTUM AND NONLINEAR OPTICS VI

26 October 2026 • 08:30 - 10:00 | Room 107A

Session Chair: **Fang Bo,** Nankai Univ. (China)

14341-25

Continuous-variable quantum-sensing network *(Invited Paper)*

Zhihui Yan, Shanxi Univ. (China)

26 October 2026 • 08:30 - 09:00 | Room 107A

14341-26

Advances in quantum optomechanical systems: From acoustic quantum states to quantum-enhanced sensing *(Invited Paper)*

Guangwei Deng, Univ. of Electronic Science and Technology of China (China)

26 October 2026 • 09:00 - 09:30 | Room 107A

14341-27

Entanglement manipulation via non-Hermitian exceptional points *(Invited Paper)*

Xinyao Huang, Beihang Univ. (China)

26 October 2026 • 09:30 - 10:00 | Room 107A

Tea/Coffee Break 10:00 - 10:30

SESSION 7: QUANTUM AND NONLINEAR OPTICS VII

26 October 2026 • 10:30 - 12:00 | Room 107A

Session Chair: **Jin-Shi Xu,**
Univ. of Science and Technology of China (China)

14341-28

Parametric phononic amplification and oscillation in ultralow-loss membranes *(Invited Paper)*

Xiang Xi, Univ. of Copenhagen (Denmark), Zhejiang Univ. (China)

26 October 2026 • 10:30 - 11:00 | Room 107A

14341-29

Quantum information processing with individual quanta of sound *(Invited Paper)*

Hong Qiao, Peking Univ. (China)

26 October 2026 • 11:00 - 11:30 | Room 107A

14341-30

Fiber-optomechanical sensors *(Invited Paper)*

Qiang Zhang, Shanxi Univ. (China)

26 October 2026 • 11:30 - 12:00 | Room 107A

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CONFERENCE 14342

Sunday–Monday 25–26 October 2026 • Room 103B

Infrared, Millimeter-Wave, and Terahertz Technologies XIII

Conference Chairs: **Cunlin Zhang,** Capital Normal Univ. (China); **Xi-Cheng Zhang,** The Institute of Optics, Univ. of Rochester (United States); **Masahiko Tani,** Univ. of Fukui (Japan)

Program Committee: **M. Hassan Arbab,** Stony Brook Univ. (United States); **Juncheng Cao,** Shanghai Institute of Microsystem and Information Technology (China); **Jian Chen,** Nanjing Univ. (China); **Yiwen E,** The Institute of Optics, Univ. of Rochester (United States); **Vladimir Yu Fedorov,** Texas A&M Univ. at Qatar (Qatar); **Jiaguang Han,** Ctr. for Terahertz Waves of Tianjin Univ. (China); **Zhi Hong,** China Jiliang Univ. (China); **Yen-Chieh Huang,** Tsing Hua Univ. in Hsinchu(Taiwan, China); **Tae-In Jeon,** Korea Maritime and Ocean Univ. (Republic of Korea); **Biaobing Jin,** Nanjing Univ. (China); **Weiqi Jin,** Beijing Institute of Technology (China); **Olga G. Kosareva,** M. V. Lomonosov Moscow State Univ. (Russian Federation); **Rajib Kumar Mitra,** S.N. Bose National Ctr. for Basic Sciences (India); **Fengqi Liu,** Institute of Semiconductors, Chinese Academy of Sciences (China); **Weiwei Liu,** Nankai Univ. (China); **Chih Wei Luo,** Yang Ming Chiao Tung Univ. (Taiwan, China); **Yungui Ma,** Zhejiang Univ. (China); **Hiroaki Minamide,** RIKEN (Japan); **Makoto Nakajima,** Osaka Univ. (Japan); **Chiko Otani,** RIKEN (Japan); **Hua Qin,** Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (China); **Shengcai Shi,** Purple Mountain Observatory, Chinese Academy of Sciences (China); **Alexander P. Shkurinov,** M.V. Lomonosov Moscow State Univ. (Russian Federation); **Joo-Hiuk Son,** The Univ. of Seoul (Republic of Korea); **Anton N. Tsypkin,** ITMO Univ. (Russian Federation); **Masayoshi Tonouchi,** Osaka Univ. (Japan); **Withawat Withayachumnankul,** The Univ. of Adelaide (Australia); **Xiaojun Wu,** Beihang Univ. (China); **Xinlong Xu,** Northwest Univ. (China); **Yuping Yang,** Minzu Univ. of China (China); **Dongwen Zhang,** National Univ. of Defense Technology (China); **LiangLiang Zhang,** Capital Normal Univ. (China); **Yan Zhang,** Capital Normal Univ. (China); **Yaxin Zhang,** Univ. of Electronic Science and Technology of China (China); **Zengxiu Zhao,** National Univ. of Defense Technology (China); **Zhenyu Zhao,** Shanghai Normal Univ. (China); **Li-Guo Zhu,** China Academy of Engineering Physics (China); **Yiming Zhu,** Univ. of Shanghai for Science and Technology (China)

SUNDAY 25 OCTOBER

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14342-18

A lock-in thermal-wave thickness measurement system based on single-point infrared detection and its experimental validation

Xuhui Duan, Beijing Information Science & Technology Univ. (China); Jinwen Zhang, Yining Feng, Peiyuan Zhou, Haitao Zhang, Tsinghua Univ. (China)

14342-20

3D-printed terahertz metasurface quarter-wave plate: infill-rate modulation of ABS optical constants and device-design verification

Xinru Zhang, Kang Zhang, Shunda Liu, Yifan Yang, Yandong Gong, Beijing Information Science & Technology Univ. (China)

14342-21

Dielectric-constant profile reconstruction of GPR B-scan images for underground pipelines based on an improved U-Net

Zhipeng Lin, Feng Liu, Beijing Information Science & Technology Univ. (China); Yajun Liu, Beijing Polytechnic University (China); Sheng'an Liu, Beijing Information Science and Technology University (China)

14342-22

Design and simulation of a desktop submillimeter-wave imaging system for multiband superconducting detectors

Zhewen Ni, Institute of Precision Optical Engineering. Tongji Univ. (China); Jingyan Zhang, Global College, Shanghai Jiao Tong University (China); Rongkun Zhou, Shanghai Normal Univ. (China); Kangqiao Xia, School of Physics Science and Engineering, Tongji University (China); Rui Du, Shanghai Normal Univ. (China); Zhe Yuan, Institute of Precision Optical Engineering, Tongji Univ. (China); Weijie Du, Shanghai Normal Univ. (China); Zhengxiang Shen, Institute of Precision Optical Engineering, Tongji Univ. (China)

14342-23

Design and optimization of an optoelectronic oscillator for ultrastable microwave-signal generation

Paritosh Shukla, Prashant Kumar, Sanjeev Kumar Raghuwanshi, Indian Institute of Technology (Indian School of Mines), Dhanbad (India)

14342-24

High-purity terahertz-signal generation using a dual-parallel Mach–Zehnder-modulator-based optoelectronic oscillator for 6G wireless applications

Prashant Kumar, Paritosh Shukla, Sanjeev Kumar Raghuwanshi, Indian Institute of Technology (Indian School of Mines), Dhanbad (India)

14342-25

Optical neural-network design of a 600 GHz Dammann-grating metalens for 6 × 6 terahertz split focusing

Shengji Wang, Tsinghua Univ. (China); Yihao Li, Nanjing Univ. of Science and Technology (China); Zhengyang You, Xiaojiao Deng, Xinhua Li, Tsinghua Univ. (China)

14342-26

Device-aware simulation of a terahertz diffractive optical autoencoder for robust handwritten-digit recognition

Jiangpeng Song, Lin Liu, Miao Yu, Beijing Aerospace Institute for Metrology & Measurement Technology (China); Hua Liu, Beijing Aerospace Institute for Metrology and Measurement Technology (China)

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14342-27

Tunable terahertz absorption in a graphene double-ring metasurface through Fermi-level modulation

Fan Wu, Mengyao Tian, Beijing Information Science & Technology Univ. (China); Dawei Wang, Xinjian Lu, AVIC Chengdu Aircraft Industrial (Group) Co., Ltd. (China); Misheng Liang, Rui You, Beijing Information Science & Technology Univ. (China)

14342-28

Spectrally selective multiband mid-infrared metasurface absorber for NDIR multigas sensing

Hailong Liu, Xiangyang Wei, Jiayu Kong, Rui You, Beijing Information Science & Technology Univ. (China)

14342-29

Spectrally efficient optical OFDM system for mitigating high peak to average power ratio in a microwave photonic link

Megha Kumari, Shri Phanishwar Nath Renu Engineering College (India); Bowen Zhong, Shandong Key Laboratory of Optical Communication Science and Technology, School of Physics Science and Information Technology, Liaocheng University (China); Priyatam Kumar, Rajkumar Sharma, Shri Phanishwar Nath Renu Engineering College (India); Santosh Kumar, K L Deemed to be Univ. (India)

14342-30

Cascaded stimulated polariton scattering for enhanced terahertz generation in a dual-Stokes cavity parametric oscillator

Mingzhe Jiang, Qi Song, Yiyan Xie, Bingyuan Zhang, Feilong Gao, Liaocheng Univ. (China)

14342-31

Review of Integrated Optical Communication and Sensing Technology

Liu Zheng-Hao, Capital Normal Univ. (China)

14342-32

FPGA-oriented robust spatio-temporal blind-pixel detection for infrared focal-plane arrays

Junjie Xiao, Xu Zhang, Beijing Information Science & Technology Univ. (China); Zheng Lv, State Grid Beijing Chaoyang Power Supply Co. (China); Wanlin Niu, Yinwu Xu, Mingli Dong, Beijing Information Science & Technology Univ. (China)

MONDAY 26 OCTOBER

SESSION 1: TERAHERTZ-MATTER INTERACTIONS, SPECTROSCOPY, AND IMAGING

26 October 2026 • 08:50 - 10:15 | Room 103B

Session Chair: **Hai Zhang,** Harbin Institute of Technology (China)

14342-1

Weak electron-ion coupling in warm dense gold revealed with single-shot terahertz time-domain spectroscopy *(Invited Paper)*

Dongwen Zhang, Zengxiu Zhao, Jianmin Yuan, National Univ. of Defense Technology (China)

26 October 2026 • 08:50 - 09:15 | Room 103B

14342-2

Learning-based low-light terahertz focal-plane imaging enhancement

Junfei Cao, Zehao He, Yan Zhang, Capital Normal Univ. (China)

26 October 2026 • 09:15 - 09:30 | Room 103B

14342-3

Research on terahertz detection of crack defects in high-voltage ceramic bushings

Di Zhai, Yang Lu, Wei Bai, Donglei Zhang, Ruiyi Li, China Electric Power Research Institute (China)

26 October 2026 • 09:30 - 09:45 | Room 103B

14342-4

Detection and imaging of disbond defects in GFRP-bonded structures based on terahertz time-domain spectroscopy

Jiayu Liu, Yuxin Li, Xiuzhen Tang, Capital Normal Univ. (China); Ruiqi Ma, Beijing Institute of Technology (China); Baiqiang Sun, Wenhui Yan, Zhenwei Zhang, Capital Normal Univ. (China)

26 October 2026 • 09:45 - 10:00 | Room 103B

14342-5

Non-destructive testing of wind-blade defects using 120 GHz FMCW radar and THz-TDS imaging systems

Ruiqi Ma, Beijing Institute of Technology (China); Baiqiang Sun, Wenhui Yan, Jiayu Liu, Capital Normal Univ. (China); Huiying Wang, Beijing Institute of Technology (China); Zhenwei Zhang, Capital Normal Univ. (China)

26 October 2026 • 10:00 - 10:15 | Room 103B

Tea/Coffee Break 10:15 - 10:45

SESSION 2: TERAHERTZ SOURCES, DETECTORS, AND SENSORS

26 October 2026 • 10:45 - 14:15 | Room 103B

Session Chair: **Dongwen Zhang,** National Univ. of Defense Technology (China)

14342-6

Mode analysis of a terahertz quantum cascade laser using multiple-plane phase retrieval *(Invited Paper)*

Elizaveta G. Tsiplakova, ITMO Univ. (Russian Federation), Harbin Engineering Univ. (China); Ilia G. Stepanov, Aleksey V. Chernykh, ITMO Univ. (Russian Federation); Ivan E. Rykov, Maxim V. Maytama, Igor A. Glinskiy, Moscow Institute of Physics and Technology (Russian Federation); Dmitriy A. Belov, Moscow Institute of Physics and Technology (Russian Federation), M. V. Lomonosov Moscow State Univ. (Russian Federation); Anton V. Ikonnikov, M. V. Lomonosov Moscow State Univ. (Russian Federation), Moscow Institute of Physics and Technology (Russian Federation); Dmitry S. Ponomarev, National Research Ctr. “Kurchatov Institute” (Russian Federation); Li Li, Hao Tian, Harbin Institute of Technology (China); Rustam A. Khabibullin, Moscow Institute of Physics and Technology (Russian Federation); Nikolay V. Petrov, ITMO Univ. (Russian Federation), Harbin Institute of Technology (China)

26 October 2026 • 10:45 - 11:10 | Room 103B

14342-7

Pixel-controlled programmable metasurface as a phase-type spatial terahertz modulator

Yan Zhang, Guibin Li, Zehao He, Xinke Wang, Capital Normal Univ. (China)

26 October 2026 • 11:10 - 11:25 | Room 103B

14342-8

Enhancement of plasma-wave resonance in GaN HEMTs through dispersive ferroelectric gate dielectrics

Lincoln D. Hogan, North Carolina State Univ. (United States)

26 October 2026 • 11:25 - 11:40 | Room 103B

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14342-9

Simultaneous terahertz amplitude and phase control of co- and cross-polarized reflection using a coupled plasma system

Mai Liu, Tianjin Univ. (China)

26 October 2026 • 11:40 - 11:55 | Room 103B

Lunch Break 11:55 - 13:15

14342-10

SPEED: A novel optoacoustic image sensor architecture for ultrafast THz imaging

Nicole Delgadillo, Rodrigo Rojo, Álvaro Jiménez, Sergio Contador Pachon, Juan Aguirre Bueno, Univ. Autónoma de Madrid (Spain), Instituto de Investigación Sanitaria de la Fundación Jiménez Díaz (Spain)

26 October 2026 • 13:15 - 13:30 | Room 103B

14342-11

Terahertz super-resolution tomography via multiple-signal-classification-guided full-waveform inversion

Xingyu Zhu, Yan Zhang, Capital Normal Univ. (China)

26 October 2026 • 13:30 - 13:45 | Room 103B

14342-12

High-sensitivity terahertz detection in a YBCO microbridge operating up to 45 K

Yunyang Yu, Kangmin Zhou, Wei Miao, Qiang Zhi, Jiameng Wang, Siyuan Zhao, Purple Mountain Observatory (China), Univ. of Science and Technology of China (China); Haotian Bai, Purple Mountain Observatory (China), University of Science and Technology of China (China); Jiaqiang Zhong, Purple Mountain Observatory (China), Univ. of Science and Technology of China (China); Jie Hu, Purple Mountain Observatory (China); Wen Zhang, Jing Li, Shengcai Shi, Purple Mountain Observatory (China), Univ. of Science and Technology of China (China)

26 October 2026 • 13:45 - 14:00 | Room 103B

14342-33

Toward a single-device optical beat source for CW THz photomixing: experimental comparison of semiconductor laser systems

Yinghui Hu, Carsten Brenner, Martin R. Hofmann, Ruhr-Univ. Bochum (Germany)

26 October 2026 • 14:00 - 14:15 | Room 103B

Tea/Coffee Break 14:15 - 14:40

SESSION 3: INFRARED SENSING, SPECTROSCOPY, AND IMAGING

26 October 2026 • 14:40 - 16:35 | Room 103B

Session Chair: **Cunlin Zhang,** Capital Normal Univ. (China)

14342-13

Depth-selective photothermal diffusion-wave imaging of surface micro-relief on weathered stone inscriptions *(Invited Paper)*

Yinuo Ding, Zhiyang Zhang, Harbin Institute of Technology (China); Lin Wang, Zhiqiang Shi, Ningbo Cultural Heritage Management Institute (China); Elena Marini, Stefano Sfarra, Univ. degli Studi dell'Aquila (Italy); Andreas Mandelis, Univ. of Toronto (Canada); Hai Zhang, Harbin Institute of Technology (China)

26 October 2026 • 14:40 - 15:05 | Room 103B

14342-14

Physics-informed neural operator modeling for laser response of HgCdTe infrared detectors

Rui Yu, Jining Li, Dong Wang, Yifei Fan, Yuhang Yin, Shimin Yang, Kai Chen, Kai Zhong, Degang Xu, Tianjin Univ. (China), Key Lab. of Optoelectronics Information Technology (China)

26 October 2026 • 15:05 - 15:20 | Room 103B

14342-15

Photon-counting time-resolved Fourier-transform mid-infrared photoluminescence spectroscopy with broadband SNSPDs

Mingzhong Hu, Hongrui Gan, Tsinghua Univ. (China); Zhiyun Shu, Hao Li, Lixing You, Shanghai Institute of Microsystem and Information Technology (China); Yidong Huang, Wei Zhang, Tsinghua Univ. (China), Beijing Academy of Quantum Information Sciences (China)

26 October 2026 • 15:20 - 15:35 | Room 103B

14342-16

Residual quadratic-phase compensation for dynamic millimeter-wave antenna measurement under imperfect dechirping

Jiang Sheng, Peng Sun, RongHao Jia, Beijing Information Science & Technology Univ. (China); Kuai Yu, Institute of Remote Sensing Satellite, China Academy of Space Technology (China); Wei Zhuang, MingLi Dong, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 15:35 - 15:50 | Room 103B

14342-17

A tunable flexible graphene-based metasurface for broadband microwave absorption

Fan Wu, Mengyao Tian, Beijing Information Science & Technology Univ. (China); Shuntao Liu, Xiaoqiang Feng, Chengdu Aircraft Industrial Group Co. Ltd. (China); Misheng Liang, Rui You, Beijing Information Science & Technology Univ. (China)

26 October 2026 • 15:50 - 16:05 | Room 103B

14342-19

A low-noise 460 GHz multibeam SIS mixer for submillimeter-wave astronomy

Hengyu Zhang, Dong Liu, Zheng Wang, Boliang Liu, Jing Li, Shengcai Shi, Purple Mountain Observatory (China)

26 October 2026 • 16:05 - 16:20 | Room 103B

14342-34

Development of superlattice detector technology for space applications

Ruiqing Chai, Beijing Institute of Space Mechanics and Electricity (China)

26 October 2026 • 16:20 - 16:35 | Room 103B

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CONFERENCE 14343

Sunday–Monday 25–26 October 2026 • Room 107B

Artificial Intelligence in Photonics II

Conference Chairs: **Liangcai Cao,** Tsinghua Univ. (China); **Partha P. Banerjee,** Univ. of Dayton (United States); **Lilin Yi,** Shanghai Jiao Tong Univ. (China); **Bo Gu,** Bos Photonics (United States)

Program Committee: **Amit K. Agrawal,** Univ. of Cambridge (United Kingdom); **Wei Cheng,** Wuhan Huagong Laser Engineering Co., Ltd. (China); **Peter R. Herman,** Univ. of Toronto (Canada); **Guangwei Hu,** Nanyang Technological Univ. (Singapore); **Seung Ah Lee,** Seoul National Univ. (Republic of Korea); **Ting Mei,** Northwestern Polytechnical Univ. (China); **Evan Y. Peng,** The Univ. of Hong Kong (Hong Kong, China); **Yonglin Song,** Soochow Univ. (China); **Kaiwei Wang,** Zhejiang Univ. (China); **Dawei Zhang,** Univ. of Shanghai for Science and Technology (China); **Xiaoshi Zhang,** Yunnan Univ. (China); **Xuping Zhang,** Nanjing Univ. (China); **Chao Zuo,** Nanjing Univ. of Science and Technology (China)

SUNDAY 25 OCTOBER

SESSION 1: INTELLIGENT IMAGING AND SENSING I

25 October 2026 • 09:00 - 10:20 | Room 107B

Session Chair: **Liangcai Cao,** Tsinghua Univ. (China)

14343-1

Minimalist optical imaging *(Invited Paper)*

Yuanmu Yang, Tsinghua Univ. (China)

25 October 2026 • 09:00 - 09:30 | Room 107B

14343-2

High-speed structured-light 3D imaging empowered by deep learning *(Invited Paper)*

Chao Zuo, Nanjing Univ. of Science and Technology (China)

25 October 2026 • 09:30 - 10:00 | Room 107B

14343-3

Ultra-low-light laser speckle contrast imaging for stable in vivo cerebral perfusion tracking

Mingliang Xu, Univ. of Science and Technology of China (China); Fei He, Fangyuan Li, Guanyi Zhu, Shanghai Institute of Optics and Fine Mechanics (China); Haoran Ma, Univ. of Science and Technology of China (China)

25 October 2026 • 10:00 - 10:20 | Room 107B

Tea/Coffee Break 10:20 - 10:50

SESSION 2: INTELLIGENT IMAGING AND SENSING II

25 October 2026 • 10:50 - 12:00 | Room 107B

Session Chair: **Nagendra Kumar,** Indian Institute of Information Technology Vadodara (India)

14343-4

Real-time deep learning framework for Shack-Hartmann wavefront reconstruction under atmospheric turbulence *(Invited Paper)*

Vinay Yadav, Gungun Agarwal, Sakshi Kumari, Navaneeth V. Munavalli, Nagendra Kumar, Indian Institute of Information Technology Vadodara (India)

25 October 2026 • 10:50 - 11:20 | Room 107B

14343-5

Learning deep video priors for motion-resolved computational microscopy

Yunhui Gao, Liangcai Cao, Tsinghua Univ. (China)

25 October 2026 • 11:20 - 11:40 | Room 107B

14343-6

Simulation-to-reality neural operators for multiple-scattering optical diffraction tomograph

Hao Hu, Sun He, Peking Univ. (China)

25 October 2026 • 11:40 - 12:00 | Room 107B

Lunch Break 12:00 - 13:30

POSTER SESSION

13:00 - 14:30 | Conference Area South Hallway, 1st Floor

Join fellow attendees for the Sunday afternoon poster session to explore the latest research, engage directly with authors, and network with colleagues from across the photonics community. Poster presenters will be available to discuss their work and answer questions. Conference registration badges are required for admission.

Poster Setup: . . . . . Sunday 10:00 – 13:00

View poster presentation guidelines and set-up instructions at

http://spie.org/PA/poster-presentation-guidelines

14343-24

Target-adaptive data augmentation based on a full-view dual-modal library

Hangjie Chen, Lili Jia, Beijing Institute of Technology (China); Qun Hao, Beijing Institute of Technology (China), Changchun Univ. of Science and Technology (China); Yong Huang, Beijing Institute of Technology (China)

14343-26

Physics-informed neural networks for electromagnetic metasurface design: a new paradigm of physical intelligence

Jingyi Zhu, Yifan Yang, Kang Zhang, Shunda Liu, Yandong Gong, Beijing Information Science & Technology Univ. (China)

14343-29

Camera-calibrated optical detection and recognition of Chinese IME for web automation testing

Xiting Gao, Yunxiang Zhu, Soochow Univ. (China); Donghan Kim, Kyung Hee Univ. (Republic of Korea); Zhenzhou Shao, Capital Normal Univ. (China); Yibo Zou, Soochow Univ. (China)

14343-30

Optical computing architecture based on 32×32 arrayed waveguide grating routers and convolution acceleration application in LeNet-5

Tianyue Yu, Xu Liu, Biaohan Liu, Qixuan Liu, Jian-Jun He, Zhejiang Univ. (China)

14343-31

Diffractive neural networks for single-channel RF interference mitigation

Yulin Li, Guang Chen, Lidan Lu, Senyan Chun, Yingjie Xu, Fengyu She, Guangpin Zhong, Beijing Information Science & Technology Univ. (China)

14343-32

High-fidelity inverse design of nanophotonic metamaterials via progressively trained conditional GANs

Senyan Chun, Guang Chen, Lidan Lu, Yulin Li, Fengyu She, Guangpin Zhong, Beijing Information Science & Technology Univ. (China)

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14343-33

A Pansharpening Network Based on Wavelet Multi-Frequency Attention and Lightweight Residual Detail Enhancement

Mingyang Zhang, Jinying Ma, Jiaqi Cao, Debin Zhou, Tianjin Univ. of Technology and Education (China)

14343-34

Artificial intelligence in additive manufacturing: applications, challenges, and perspectives

Yongxin Cui, Yugui Zeng, Shunli He, Jianli Song, Beijing Information Science & Technology Univ. (China)

14343-35

Deep-learning-assisted inverse design for efficient shadow sphere lithography

Jinglan Zhang, Bin Ai, Chongqing Univ. (China)

14343-36

Efficient LiDAR-radar fusion for space object classification via geometry-aware state space models

Zhenou Zhao, Mengjiao Lu, Kuo Meng, Beijing Information Science & Technology Univ. (China)

14343-37

SPG-RegNet: speckle-phase-geometry-guided target-free multi-view registration for structured-light 3D measurement

Jialin Ren, Yibo Xing, Pengjiao Su, Xiaohao Wang, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14343-38

Anomaly diagnosis and local repair for multi-anchor scanline phase unwrapping in fringe projection profilometry

Qianhao Nie, Xinghui Li, Tsinghua Univ. Shenzhen International Graduate School (China)

14343-39

Computational spectral reconstruction based on an improved U-Net

Shuo Chen, Tong Zhou, Yumeng Deng, Zan Zhang, Chang'an Univ. (China)

14343-40

Dual-feature collaborative detection of low-slow-small targets via deep-learning-enhanced time-sequential polarimetric infrared imaging

Benhao Gao, Beijing Information Science & Technology Univ. (China); Kaichun Zhao, Tsinghua Univ. (China)

14343-43

High-speed speckle-reconstruction near-infrared wavemeter using a Blu-ray optical disc as a composite scattering encoder

Yanting Guo, National Univ. of Defense Technology (China)

SESSION 3: OPTICAL NEURAL NETWORKS

25 October 2026 • 14:40 - 18:00 | Room 107B

Session Chair: **Yuanmu Yang,** Tsinghua Univ. (China)

14343-7

Research on optical diffractive neural network *(Invited Paper)*

Jie Lin, Yuedong Xu, Zitao Wen, Peng Jin, Harbin Institute of Technology (China)

25 October 2026 • 14:40 - 15:10 | Room 107B

14343-8

Simulation-driven deep-learning-enabled active alignment for high-efficiency large-scale optical lens manufacturing

Wenyong Li, Qi Jiang, Weijian Hu, Zhejiang Univ. (China); Kailun Yang, Hunan Univ. (China); Kaiwei Wang, Zhejiang Univ. (China); Zhanjun Zhang, Dongguan Yutong Optical Technology Co., Ltd. (China)

25 October 2026 • 15:10 - 15:30 | Room 107B

14343-9

SA-CycleGAN: An intensity-independent structure prior for unpaired virtual H and E staining of two-photon autofluorescence imaging

Zhengyuan Pan, Shanghai Jiao Tong Univ. (China)

25 October 2026 • 15:30 - 15:50 | Room 107B

14343-10

Moiré-superlattice-based artificial optoelectronic neuro-synapses for long-term information retention

Chang Xu, Shanghai Institute of Optics and Fine Mechanics (China)

25 October 2026 • 15:50 - 16:10 | Room 107B

Tea/Coffee Break 16:10 - 16:30

14343-11

Programmable diffractive neural networks for information sensing, processing, and computing in electromagnetic space *(Invited Paper)*

Qian Ma, Southeast Univ. (China)

25 October 2026 • 16:30 - 17:00 | Room 107B

14343-12

AI-enhanced ultra-wide-field multi-view endoscopic imaging

Zhang Xuhui, Univ. of Shanghai for Science and Technology (China)

25 October 2026 • 17:00 - 17:20 | Room 107B

14343-13

Video-rate isotropic volumetric refractive-index microscopy with generative priors and programmable illumination

Shaochi Ren, Zhiru Liu, He Sun, Peking Univ. (China)

25 October 2026 • 17:20 - 17:40 | Room 107B

14343-14

Handwritten numeral recognition via a dual-delay photonic reservoir computing system

Xinyao Yang, Yueqin Li, Jian Sun, Jun Qin, Zhensong Li, Junchen Dong, Beijing Information Science & Technology Univ. (China)

25 October 2026 • 17:40 - 18:00 | Room 107B

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CONFERENCE 14343

MONDAY 26 OCTOBER

SESSION 4: AI-DRIVEN PHOTONIC DEVICES

26 October 2026 • 09:00 - 10:20 | Room 107B

Session Chair: **Jie Lin,** Harbin Institute of Technology (China)

14343-15

2D material-based optoelectronic devices for AI applications *(Invited Paper)*

Jun Wang, Shanghai Institute of Optics and Fine Mechanics (China)

26 October 2026 • 09:00 - 09:30 | Room 107B

14343-16

AI-assisted MZI optical computing: from programmable photonic chips to deployable optical inference systems *(Invited Paper)*

Jiashu Li, Kangjian Di, Ningmu Zou, Andy Liu, Nanjing Univ. (China)

26 October 2026 • 09:30 - 10:00 | Room 107B

14343-17

LensMind: Enabling automated optical design models through large-scale lens databases

Weijian Hu, Yao Gao, Shuhang Xie, Yuyu Geng, Xin Wang, Kaiwei Wang, Zhejiang Univ. (China)

26 October 2026 • 10:00 - 10:20 | Room 107B

Tea/Coffee Break 10:20 - 10:50

SESSION 5: AI FOR COMPUTATIONAL OPTICS I

26 October 2026 • 10:50 - 12:00 | Room 107B

Session Chair: **Jun Wang,** Shanghai Institute of Optics and Fine Mechanics, CAS (China)

14343-18

Physics-aware volumetric reconstruction framework for high-resolution light-field cell imaging *(Invited Paper)*

Xuanwen Hua, Georgia Institute of Technology (United States), SiRIUS Institute of Medical Research, Tohoku Univ. (Japan); Shu Jia, Georgia Institute of Technology (United States)

26 October 2026 • 10:50 - 11:20 | Room 107B

14343-19

AI-enabled optical degradation representation and restoration for computational aberration correction

Xiaolong Qian, Zhonghua Yi, Yao Gao, Qi Jiang, Kaiwei Wang, Bo Gu, Zhejiang Univ. (China)

26 October 2026 • 11:20 - 11:40 | Room 107B

14343-20

Zero-prior on-machine learning for active optical assembly

Yuhan Bao, Wenyong Li, Weijian Hu, Kaiwei Wang, Bo Gu, Zhejiang Univ. (China)

26 October 2026 • 11:40 - 12:00 | Room 107B

Lunch Break 12:00 - 13:30

SESSION 6: AI FOR COMPUTATIONAL OPTICS II

26 October 2026 • 13:30 - 14:50 | Room 107B

Session Chair: **Shijie Feng,** Nanjing Univ. of Science and Technology (China)

14343-21

Generalizable intelligent structured-light 3D imaging across domains *(Invited Paper)*

Shijie Feng, Nanjing Univ. of Science and Technology (China)

26 October 2026 • 13:30 - 14:00 | Room 107B

14343-22

Research on inverse design method of photonic devices based on deep learning *(Invited Paper)*

Tao An, Hebei Univ. of Science and Technology (China)

26 October 2026 • 14:00 - 14:30 | Room 107B

14343-23

Illumination design by learning: An end-to-end framework for optimal single-shot structured-light 3D reconstruction

Shengqi Yu, Wei Yin, Shijie Feng, Cao Zuo, Nanjing Univ. of Science and Technology (China)

26 October 2026 • 14:30 - 14:50 | Room 107B

Tea/Coffee Break 14:50 - 15:00

SESSION 7: AI FOR COMPUTATIONAL OPTICS III

26 October 2026 • 15:00 - 16:00 | Room 107B

Session Chair: **Xuanwen Hua,** Georgia Institute of Technology (Japan)

14343-27

Adaptive high-quality imaging with single lens based on physics-informed neural network

Zihui Ding, Liangcai Cao, Tsinghua Univ. (China)

26 October 2026 • 15:00 - 15:20 | Room 107B

14343-44

An autonomous optical design agent via guided experience distillation

Haoqiang Wang, Xingyu Huang, Zhijie He, Jiaxin Zhang, Shenzhen Univ. (China); Jiayi Yang, Tsinghua Univ. (China); Lei Lei, Shenzhen Univ. (China); Yi Luo, Tsinghua Univ. (China)

26 October 2026 • 15:20 - 15:40 | Room 107B

14343-42

Fast-CISE: A real-time deep-learning approach for cell identification and signal extraction in low-resolution single-photon calcium imaging of in vitro biological neural networks

Jubo Hao, Yihang Lai, Linzi Liu, Zili Cai, Tian Zhang, Jian Dai, Kun Xu, Beijing Univ. of Posts and Telecommunications (China)

26 October 2026 • 15:40 - 16:00 | Room 107B

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Onsite Services

Onsite registration and badge pick-up hours

Nantong International Convention Center

Friday 23 October . . . . . 13:00 - 17:00
Saturday 24 October . . . . . 07:30 - 17:00
Sunday 25 October . . . . . 08:00 - 17:00
Monday 26 October . . . . . 08:00 - 12:00

SPIE/COS Photonics Asia registration

Nantong International Convention Center - Registration Area

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Badge Corrections

Can be made at the COS Registration desk.

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There is a US $75 service charge for processing refunds for international attendee registrations. Requests for international registration refunds must be received by SPIE on or before 2 October 2026; all registration fees will be forfeited after this date. SPIE Membership dues, SPIE Digital Library subscriptions, or special events purchased are not refundable. Please see the COS registration desk or contact COS directly for information about the refund policy for Mainland China attendees.

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All conference rooms have a computer workstation, projector, screen, lapel microphone, and laser pointer. All presenters are requested to upload and test their presentations to the computer in the conference room where they will be presenting, either before the conference begins, or during one of the session breaks.

Poster setup instructions

Sunday 25 October

Poster setup . . . . . 10:00 - 13:00
Poster session. . . . . 13:00 - 14:30

Poster authors can set up presentations between 10:00 and 13:00. Posters that are not set up by 13:00 will be considered a No-Show and will not be published in the conference proceedings on the SPIE Digital Library.

View the Poster presentation guidelines at:

https://spie.org/PA/poster-presentation-guidelines

Tea and coffee breaks

Nantong International Convention Center

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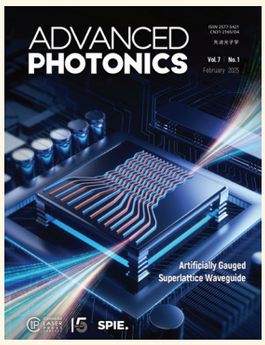
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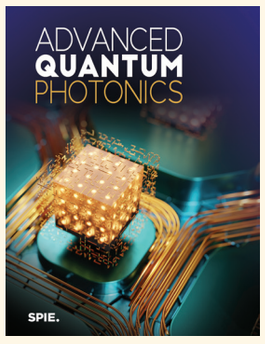
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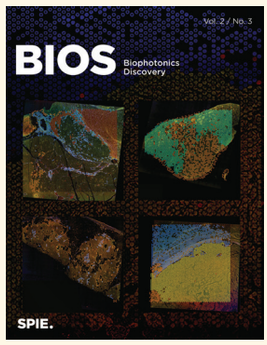
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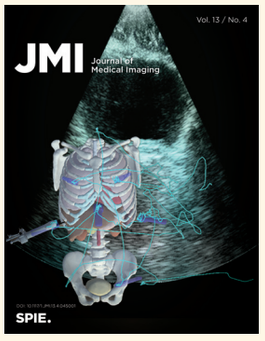




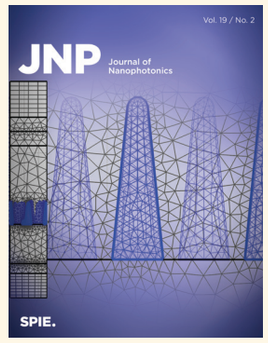


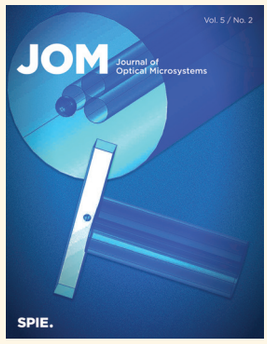




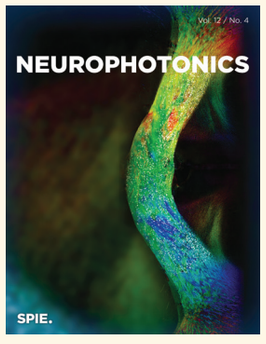


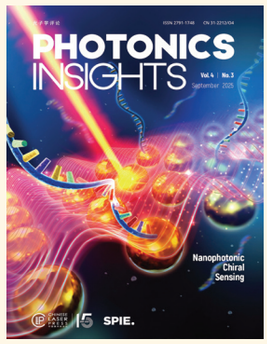












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Orientation系列紫外飞秒激光器采用奥创自主研发的固体放大方案，强化版本的激光器可提供30W的平均功率，脉冲宽度小于500fs，最大可输出37.5μJ的单脉冲能量，可实现800kHz-1MHz重复频率连续可调，24小时功率波动小于等于1%，采用高效的三次谐波产生技 输出 343nm紫外波长光。



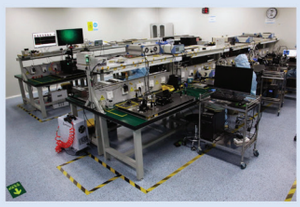
OR-60-GN：60W绿光飞秒激光器

Orientation系列绿光飞秒激光器采用奥创自主研发的固体放大方案，标准化版本的激光器可提供60W的平均功率，脉宽小于500fs，最大可输出600μJ的单脉冲能量，可实现100kHz-1MHz重复频率连续可调，24小时功率波动小于等于1%，外置谐波发生器输出515nm绿光，全系标配burst功能。

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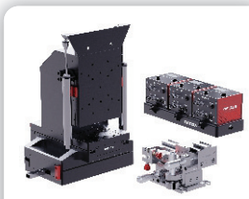
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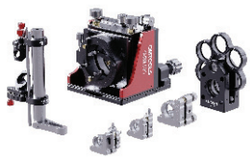
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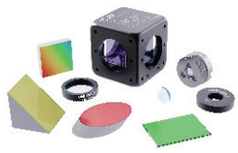
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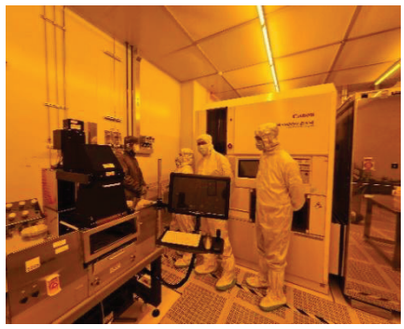
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