Congress Information and Agenda of Sessions

FiO LS

Frontiers in Optics + Laser Science

23 – 26 September 2024
Denver, Colorado, USA

Sponsored by Optica and American Physical Society – Division of Laser Science

FrontiersinOptics.org
#fiols24

Download the Optica Events App

Up-to-date session information
Speakers and locations
Papers

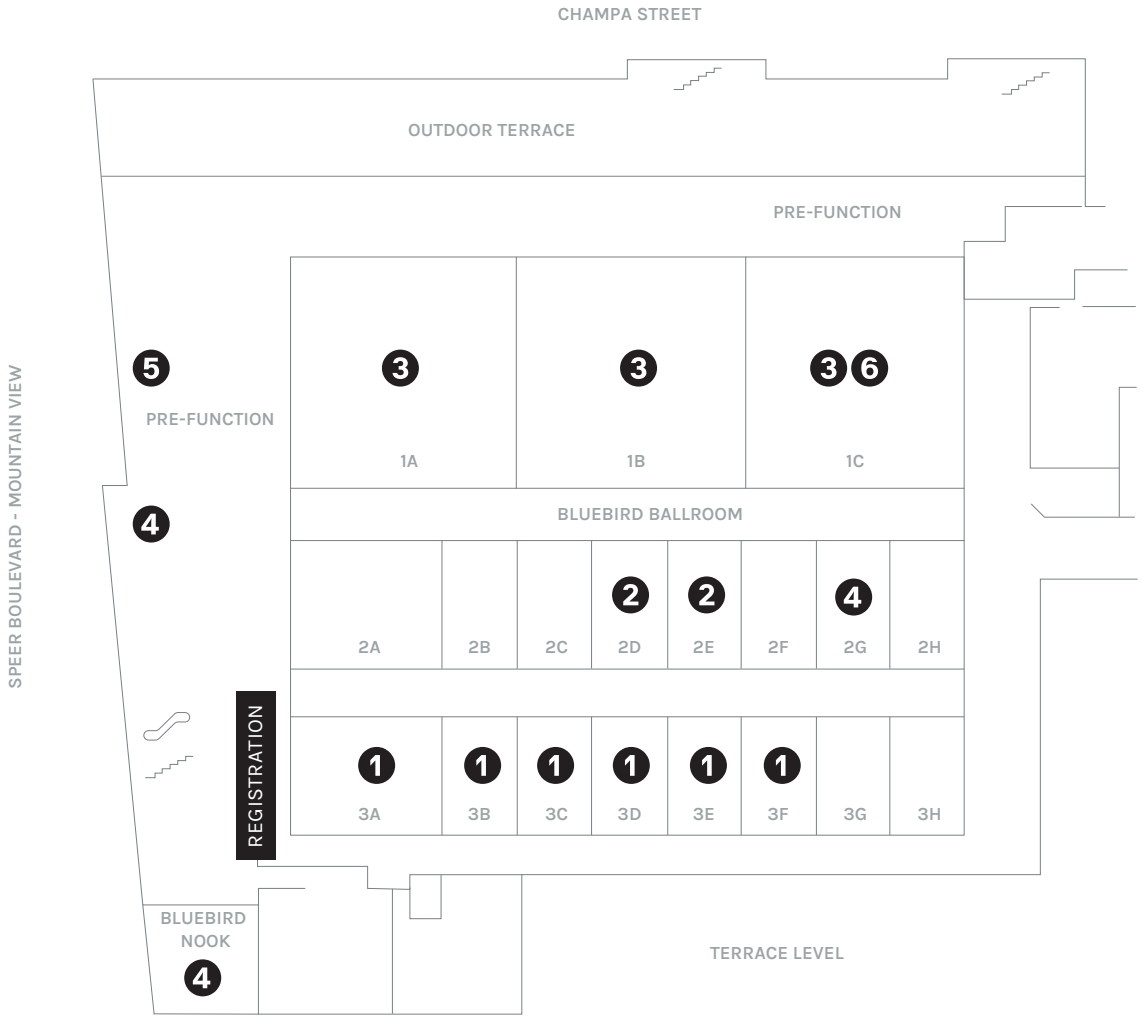
Wi-Fi Network

Network: FIOLS
Password: FIOLS2024

OPTICA

Floor Plan

Terrace Level



1 Technical Sessions
2 Poster Sessions
3 Science+Industry Showcase
4 Coffee Breaks
5 Optica Member Lounge
6 Awards Ceremony
Plenary Sessions
Showcase Theater

Awards, Honors and Special Recognitions

Optica, the Optica Foundation, and APS/Division of Laser Science congratulate the following award and honor recipients.

Optica 2024 Awards and Honors

Frederic Ives Medal/Jarus W. Quinn Prize

Kenichi Iga, *Tokyo Institute of Technology, Japan*

The Ives Medal/Quinn Prize recognizes overall distinction in optics and is Optica's highest award. It was endowed by charter member Herbert Ives, in honor of his father, photography pioneer Frederic Ives. A subsequent endowment in honor of long-time Executive Director Jarus Quinn funds the prize.

Optica honors Iga for pioneering contributions and visionary leadership in the field of semiconductor lasers and optoelectronics, and a dedication to training and educating future generations.

Iga retired as the Director of Institute Library and Director of the P&I Microsystem Research Center, Japan and is an Honorary Professor at Tokyo Institute of Technology, Japan. He received his Dr. Eng. Degree Tokyo Institute of Technology and joined the P&I Lab at the Tokyo Institute, eventually becoming a full professor and the Teiichi Yamazaki Chair Professor. Iga first proposed a unique semiconductor laser, a vertical-cavity surface-emitting laser (VCSEL) with a cavity surface normal to the crystal plane in 1977. He is an active proponent of microoptics, utilizing gradient-index microlens arrays, and has been working toward the dream of realizing 2-D arrayed optical devices in combination with surface emitting lasers. He is the author of several books, including Fundamentals of Microoptics, Fundamentals of Laser Optics, Introduction to Optical Fiber Communication, Process Technology for Semiconductor Lasers, and Surface Emitting Lasers.

Iga is a Fellow of IEEE and Optica, and he is active in both societies. He has received numerous awards, including the Inada Memorial Prize, the Sakurai Memorial Prize, the IEEE Premium Award, the Ichimura Award, the Toray Award, the Asahi Award, the John Tyndall Award, the Millennium Medal, the Rank Prize, and the IEEE Edison Medal. He received the Purple Ribbon Medal from the Japanese Emperor and was named a Person of Cultural Merit from the Japanese government.

Optica Honorary Member

The most distinguished of all Optica Member categories, Honorary Membership is awarded for unique, seminal contributions to the field of optics, and is confirmed by the Awards Council and Optica Board of Directors .

Sir Peter L. Knight, *Imperial College London, UK*

Knight is recognized for his remarkable and varied contributions to quantum optics, ranging from foundations to applications, and his unique combination of educational, organizational, and globally active leadership skills.

Knight is currently an Emeritus Professor in the Department of Physics, Imperial College London, UK; Chair of the UK National Quantum Technology Programme Strategic Advisory Board; and Chair of the National Physical Laboratory Quantum Metrology Institute.

He received his doctorate from Sussex University, UK. Before joining the Imperial College faculty, he was a Research Associate at the University of Rochester, USA and Stanford University, USA. He retired from Imperial College as Deputy Rector (Research) in 2010, where he was responsible for research strategy. He was previously a member of the Imperial College Management Board and Council and a Professor of Quantum Optics. He has been a Visiting Professor at the University of Louvain-la-Neuve, Belgium, a Humboldt Research Award holder at the University of Konstanz, Germany, and a Visiting Scholar at the University of Texas at Austin, USA.

He is a Thomson-ISI Highly Cited Author and has won numerous prizes and awards, including the Thomas Young Medal, Glazebrook Medal, Faraday Medal, Royal Medal of the Royal Society, the Herbert Walther Award, and the Frederic Ives Medal / Jarus W. Quinn Prize. He is a Fellow of Optica, the Institute of Physics, and the Royal Society. He was knighted in the Queen's Birthday Honours List in 2005 for his work in optical physics.

A dedicated volunteer, Knight has served the optics community in many roles, including as Optica President in 2004; Institute of Physics President; chair of the EPS Quantum Electronics and Optics Division; member of the Optica Foundation Board, Optica Board and Strategic Planning Council; editor of both the Journal of Modern Optics and Contemporary Physics; and member of the Defence Scientific Advisory Council at the UK Ministry of Defence and the Science and Technology Facilities Council.

Esther Hoffman Beller Medal

Anurag Sharma, *Indian Institute of Technology Delhi, India*

The Beller Medal recognizes outstanding contributions to education in optical science and engineering. Sharma is recognized for outstanding contributions to optics and photonics teaching, research and leadership and in creating India's first dedicated Optics and Photonics Centre at Indian Institute of Technology Delhi.

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Max Born Award

Andrea Alù, *City University of New York, USA*

The Born Award is presented to a person who has made outstanding contributions to physical optics, theoretical or experimental. Alù is recognized for pioneering contributions to linear, nonlinear and nonreciprocal photonic metamaterials.

Stephen D. Fantone Distinguished Service Award

Joseph Mait, *Univ. of Delaware, Univ. of Maryland, Univ. of Rochester, USA*

The Fantone Distinguished Service recognizes outstanding service to Optica. Mait is honored for decades of dedicated service and leadership across multiple Optica programs, including introducing innovative programs that support diversity, equity, and inclusion awareness processes for Optica publications and conferences.

Michael S. Feld Biophotonics Award

Zhongping Chen, *University of California, Irvine, USA*

The Feld Award recognizes individuals for their innovative and influential contributions to the field of biophotonics, regardless of their career stage. Chen is honored for pioneering research, development, and clinical translation of Doppler optical coherence tomography (OCT), OCT angiography, OCT elastography, and multimodality intravascular imaging.

Joseph Fraunhofer Award/Robert M. Burley Prize

Carmen Menoni, *Colorado State University, USA*

The Fraunhofer Award/Burley Prize recognizes significant research accomplishments in the field of optical engineering. It is presented to Menoni for seminal contributions to the materials aspects and engineering of amorphous oxides for optical coatings of high intensity lasers and gravitational wave detectors.

Nick Holonyak Jr. Award

Theodore D. Moustakas, *Boston University, USA*

The Holonyak Award recognizes contributions to optics based on semiconductor-based devices and optical materials, including basic science and technological applications. Moustakas is honored for pioneering contributions to nitride semiconductor materials and optical devices that helped build the foundation for blue and UV LEDs.

Edwin Land Medal

Rama Chellappa, *Johns Hopkins University, USA*

The Land Medal, co-presented with the Society for Imaging Science and Technology, recognizes pioneering work empowered by scientific research to create inventions, technologies, and products. It is presented to Chellappa for seminal contributions to the theory and practice of image/video processing and computer vision arenas resulting in inventions, technologies, and systems that have improved the lives of many worldwide.

Sang Soo Lee Award

Boon S. Ooi, *KAUST, Saudi Arabia*

The Lee Award, co-presented with the Optical Society of Korea, recognizes outstanding leadership in founding or growing an optics and photonics community. Ooi is recognized for pioneering the field of optoelectronic devices and systems and growing the optics and photonics community in Saudi Arabia.

Emmett N. Leith Medal

Ting-Chung Poon, *Virginia Tech, USA*

The Leith Medal recognizes seminal contributions to the field of optical information processing. Poon is recognized for seminal contributions to digital holography and optical information processing.

Ellis R. Lippincott Award

Steven Boxer, *Stanford University, USA*

The Lippincott Award, co-presented with the Coblentz Society and the Society for Applied Spectroscopy, recognizes contributions to vibrational spectroscopy. Boxer is recognized for his development of vibrational Stark spectroscopy as a revolutionary tool to understand molecular interactions at the fundamental level, and for its application in enzyme catalysis to answer the century-old question of how enzymes work.

Adolph Lomb Medal

Deep Jariwala, *University of Pennsylvania, USA*

The Lomb Medal recognizes noteworthy contributions made to optics at an early career stage. Jariwala is recognized for seminal contributions to nano-optics of low-dimensional semiconductors and development of excitonic meta-materials.

Leonard Mandel Quantum Optics Award

H. Jeff Kimble, *California Institute of Technology, USA*

The Mandel Quantum Optics Award recognizes distinguished contributions to the foundations of statistical and quantum optics, and/or applications in advanced technologies. Kimble, the inagutal winner of the award is honored for his groundbreaking work on the quantum interactions of light and matter, and for establishing the core technologies based on squeezed light for quantum sensing and quantum communication.

Edgar D. Tillyer Award

Gordon E. Legge, *University of Minnesota Twin Cities, USA*

The Tillyer Award recognizes distinguished work in the field of vision. It is presented to Legge for revolutionizing the field of low vision research and applying this knowledge to aid and improve reading and mobility in people with low vision.

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Optica Treasurer's Award

Nathaniel Jones, *Optica, USA*

The Treasurer's Award recognizes an Optica employee who contributes significantly to organizational excellence, promotes and enacts innovative solutions, and/or exemplifies inspirational leadership. Jones is recognized for outstanding dedication to maintaining the Optica headquarters and invaluable support of staff through a variety of projects ranging from meeting set-up to package delivery.

R. W. Wood Prize

Rick Trebino, *Georgia Institute of Technology, USA*

The Wood Prize recognizes an outstanding discovery, scientific or technical achievement, or invention in the field of optics. Trebino is recognized for his invention and development of techniques for the ever more complete and rigorous measurement of ultrashort light pulses, which have enabled a wide range of new applications across many fields.

The following award and medal recipients were presented earlier this year:

Joseph W. Goodman Book Writing Award

***Introduction to Infrared and Electro-Optical Systems*, Third Edition**

Ronald G. Driggers, *Univ. of Arizona, USA;* Melvin H. Friedman, *Night Vision Lab, USA;* John W. Devitt, *RVS Tactical Products, USA;* Orges Furxhi, *Self-employed, USA;* Anjali Singh, *Self-employed, USA*

The Goodman Book Writing Award recognizes authorship of an outstanding book in the field of optics and photonics, published in the last six years, that has contributed significantly to research, teaching, or the optics and photonics industry.

Robert E. Hopkins Leadership Award

Kramer Akli, *Department of Energy, Office of Science, USA*

The Hopkins Award recognizes an individual or group who has had a significant impact on the global optics and photonics community or on society as a whole stemming from non-research oriented activities. It is presented to Akli for leadership and vision in establishing North America's first high intensity laser research network, providing students and scientists worldwide with access to state of the art high power laser experimental facilities and photonics technologies.

C.E.K. Mees Medal

Naomi Halas, Rice University, USA

The Mees Medal recognizes an original use of optics across multiple fields. Halas is recognized for her design, fabrication, and demonstration of nanoparticles with specific optical and physical properties, the widespread application of which enables advances in fields including cancer therapy, water security, and light-driven chemistry.

William F. Meggers Award

Nathalie Picqué, *Max-Born Institute, Germany*

The Meggers Award recognizes outstanding work in spectroscopy. Picqué is honored for pioneering broadband molecular spectroscopy with interfering frequency combs.

David Richardson Medal

Radhakrishnan Nagarajan, *Marvell Semiconductor Inc., USA*

The Richardson Medal recognizes significant contributions to optical engineering, primarily in the commercial and industrial sector. Nagarajan is honored for the successful manufacturing and commercialization of InP and Si-based photonic integrated circuits for use as optical interconnects with a wide range of applications.

Kevin P. Thompson Optical Design Innovator Award

Samuel Steven, *Apple Inc., USA*

The Thompson Award recognizes contributions to lens design, optical engineering, or metrology at an early career stage. It is presented to Steven for the introduction of nodal aberration theory to the design of ophthalmic imaging instrumentation and the generalization of the Alvarez lens to achieve tunable correction of chromatic aberrations.

Charles Hard Townes Medal

Franco Nori, *RIKEN, Japan, and University of Michigan, USA*

The Townes Medal recognizes contributions to quantum electronics. It is presented to Nori for his many fundamental contributions to quantum optics, quantum information processing, and quantum circuits, and for the development of key quantum software tools.

John Tyndall Award

David Richardson, *Microsoft, UK*

The Tyndall Award, co-presented with the IEEE/Photonics Society, recognizes contributions to fiber optic technology. It is presented to Richardson for pioneering contributions to the development of optical fibres and their applications and commercialization in fiber lasers and optical communications.

Herbert Walther Award

Olga Kocharovskaya, *Texas A&M University, USA*

The Walther Award, co-presented with Deutsche Physikalische Gesellschaft, recognizes distinguished contributions in quantum optics and atomic physics as well as leadership in the international scientific community. Kocharovskaya is honored for field-opening contributions to lasing without inversion and electromagnetically induced transparency and for theory and experiments that initiated the field of gamma-ray quantum optics.

Optica Fellows

129 Fellows, from 26 countries, were elected in 2024 for their significant contributions to the advancement of optics and photonics through education, research, engineering, business leadership, and service . The Fellows listed below are being recognized at FiO. View a full list of Fellows at optica.org/2024Fellows .

Michael Chini, *Ohio State University, USA*
For outstanding contributions to ultrafast optics including generation, characterization, and application of isolated attosecond pulses and few-cycle infrared pulses

Shambhu Ghimire, *SLAC National Accelerator Laboratory, USA*
For pioneering contributions to strong-field and attosecond physics in condensed matter, including nonperturbative high-harmonic generation from band-insulators and quantum materials

Oliver Graydon, *Nature Photonics, Springer Nature, UK*
For outstanding support of optics worldwide through scientific publishing leadership and for extensively promoting the importance of photonics to society

Jennifer E. Hastie, *University of Strathclyde, UK*
For leadership in the photonics and quantum technology community and pioneering technical contributions in the area of narrow-linewidth lasers

Yehia Massoud, *King Abdullah University for Science and Technology, Saudi Arabia*
For outstanding and sustained contributions to modeling and design of plasmonic and nanophotonic devices

Otto Muskens, *University of Southampton, UK*
For outstanding and sustained contributions to nanophotonics research, particularly developing material platforms for tuning, switching, and programming of photonic devices

Jessica Ramella-Roman, *Florida International University, USA*
For pioneering contributions to the study of polarized light transport in biological media through experimental and computational approaches

Prof Peter G.R. Smith, *University of Southampton, UK*
For pioneering research and commercialisation in nonlinear optics and Bragg gratings, with applications in quantum science, sensors and optical fabrication

Abbie Watnik, *US Naval Research Laboratory, USA*
For technical leadership at NRL in imaging through turbulence and scattering media, and for outstanding service to Optica

Winnie Ye, *Carleton University, Canada*
For exemplary volunteer leadership and outstanding contributions to silicon photonics research and technology including pioneering investigations in waveguide stress engineering

Diversity & Inclusion Advocacy Recognition

This program acknowledges the outstanding dedication and accomplishments of Optica members, companies, and organizations to foster greater appreciation, advancement, and celebration of diversity and inclusivity. This can be achieved through community service, professional development, hiring practices, or programming that enhances opportunities to understand and include people of diverse cultures, backgrounds, and experiences. Learn more at optica.org/DivRec.

Spanish National Research Council - Institute of Optics, *Spain*

Rosario Porras-Aguilar, *University of North Carolina at Charlotte, USA*

Optica Technical Group Prizes

Optica technical groups bring together members from around the globe to help foster lasting, valuable connections. Each year over 200 Optica members volunteer their time to organize a wide range of activities to bring our community closer together. These prizes recognize the outstanding work being done by our technical group volunteers. We are pleased to recognize the following groups for their efforts in 2023.

Most Active Technical Group

Short Wavelength Sources and Attosecond/High Field Physics Technical Group, Chair: Balázs Major, *ELI-ALPS, University of Szeged, Hungary*

Most Popular Activity

"When and How Will Hollow Core Fiber Be Employed in Fiber Optic Networks?" Panel Discussion at OFC hosted by the Fiber Optics Technology & Applications Technical Group, Chair: Deepak Jain, *Indian Institute of Technology Delhi, India*

"Space Week 2023 Celebration" hosted by the Space Optics Technical Group, Chair: Hakimeh Mohammadhosseini, *Antwerp Space N.V., Belgium*

Greatest Growth in Activity

Lasers in Manufacturing Technical Group, Chair: Qiang Fu, *University of Southampton, UK*

Innovation Prize

Optical Fabrication and Testing Technical Group, Chair: Christopher Holmes, *University of Southampton, UK*

Optica Foundation Honorees

Established in 2002, the Optica Foundation carries out charitable activities in support of the society's student and early career members. We cultivate the next generation of leaders and innovators as they navigate advanced degree programs and become active members of research, engineering and business communities worldwide. The Foundation also works to secure the endowments for Optica's awards and honors programs. For more information, visit optica.org/Foundation.

Optica Foundation Challenge

The Optica Foundation recognizes ten early-career professionals with exceptional ideas to leverage optics and photonics and address global challenges. These individuals drive new, impactful scientific discoveries with the potential to transform our world. We consider proposals for problem-solving solutions resulting from basic research and development or enhancements of photonics-based technology in three categories: Environment, Health and Information.

Environment

Kai Wang
McGill University, Canada
Meta spectral imaging for wildfire monitoring

Health

Viktor Dremin
Aston University, UK
Targeting retina microvasculature to identify the link between diabetes and neurodegenerative diseases (Vasculink)

Danielle Harper
University of Cambridge, UK
Optically guided intraoperative assessment of surgical margins in cancer

Dickson Kinyua
Kirinyaga University, Kenya
Development of Robotic Microscopy for rapid and cost-effective malaria diagnosis

Rijan Maharjan
Phutung Research Institute, Nepal
Developing a portable and low-cost device using dynamic light scattering for Rotavirus detection in environmental and drinking water

Fay Nicolson
Dana-Farber Cancer Institute and Harvard Medical School, USA
Enhancing surgical precision: automated SESORRS for improved tumor detection and resection

Alba Paniagua-Diaz
University of Murcia, Spain
C-SMART: a wearable solution to cataracts

Information

Saroch Leedumrongwatthanakun
Prince of Songkla University, Thailand
Quantum-enhanced optical learning machine

Ugur Tegin
Koç University, Turkey
Inverse-designed energy-efficient nonlinear photonic multichannel neural network

Chiara Trovatello
Columbia University, USA
Quantum-entangled Photon-pairs On-chip based on Layered Integrated Semiconductors (q-POLIS)

Ivan Kaminow Outstanding Early-Career Professional Prize

This prize honors Ivan Kaminow for his many contributions to the field of optics and photonics, as well as his dedication to mentoring and inspiring early career researchers. Learn more at optica.org/Kaminow.

Guillermo Ezequiel Sánchez Guerrero
Universidad Autónoma de Nuevo León, México
For his dedication to fostering a global community of optics researchers through impactful local science education and outreach.

Milton and Rosalind Chang Pivoting Fellowship

This fellowship provides unrestricted funding to talented, early-career optical scientists and engineers who believe their expertise can improve society outside the lab. Recipients receive funding to advance science through non-traditional career paths such as public policy, government, and journalism. Learn more at optica.org/Pivoting.

Elvin Chizenga
Lightaceutics, South Africa
For his entrepreneurial AI-based approach to combating misinformation about biophotonic devices while developing and promoting research-backed biomedical optics solutions for public health challenges in emerging economy countries.

APS/Division of Laser Science Awards and Honors

Arthur L. Schawlow Prize in Laser Science

Howard M. Milchberg, *University of Maryland, USA*

Milchberg is honored for pioneering several areas in laser sciences, among them the fields of parity-time non-Hermitian optics, accelerating Airy waves, and discrete solitons in periodic media.

The Schawlow Prize recognizes outstanding contributions to basic research using lasers to advance our knowledge of the fundamental physical properties of materials and their interaction with light. Milchberg is recognized for pioneering contributions in the fields of plasma optics, guiding ultra-intense laser beams, and developing compact, high-gradient laser-driven accelerators.

Milchberg is a professor of physics and electrical and computer engineering at the University of Maryland, USA, and affiliated with the Institute for Research in Electronics and Applied Physics, where his labs are located. His research in high-intensity laser physics spans the fields of plasma and high energy density physics, advanced particle accelerators and light sources, atomic physics, nonlinear optics, and structured light. He received a B. Eng. from McMaster University, Canada, and a Ph.D. from Princeton University, USA, after which he became a postdoctoral member of staff at Bell Labs in Murray Hill, NJ, USA, and, following that, a faculty member at the University of Maryland.

Carl E. Anderson Division of Laser Science Dissertation Award

This award recognizes doctoral research in the area of laser science and encourages effective written and oral presentation of research results. The finalists will present their work at a special session of the annual APS DLS Laser Science conference.

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Special Events

Student Leadership
Sunday, 22 September, 07:30–21:00
(Invitation Only)

Amplify Optics Immersion Program
Sunday, 22 September, 07:30–21:00
(Invitation Only)

Optica Publishing Group Meet the Journal Editors
Monday, 23 September, 10:00–11:00
Bluebird Nook

Optica Technical Group Lightning Laser Science Talks
Monday, 23 September, 12:30–13:30
Room 3G/H

Optica NonImaging Optical Design Technical Group Special Talks
Monday, 23 September, 12:45–13:45
3B

Optica Annual Business Meeting
Monday, 23 September, 16:30–17:15
109-111

FiO + LS Awards Ceremony and Reception
Monday, 23 September, 18:15–21:30 *(Invitation Only)*

Optica Technical Group Poster Competition
Monday, 23 September, 18:30–20:00
Bluebird 2A

Impacts of Quantum Technologies on Society–Quantum for Good?
Tuesday, 24 September, 11:45–12:45
Science + Industry Showcase Theater

Optica Polarization Management and Propagation Technical Group Networking Event
Tuesday, 24 September, 13:00–14:00
Room 103

Academia, Industry, Government… What's Right For You?
Tuesday, 24 September, 13:30–14:30
Science + Industry Showcase Theater

Did You Know?
Tuesday, 24 September, 14:45–15:45
Science + Industry Showcase Theater

About CPIA
Tuesday, 24 September, 16:00–16:30
Science + Industry Showcase Theater

CPIA Happy Hour
Tuesday, 24 September, 16:30–18:00
Science + Industry Showcase, Booths 117 and 319

DLS Business Meeting
Tuesday, 24 September, 17:30–18:30
Room 3F

Conference Reception
Tuesday, 24 September, 18:30–20:00
Bluebird Terrace

Tech Talk: Precision Redefined Quantum Sensing and Metrology in Optical Clocks
Wednesday, 25 September, 11:45–12:45
Science + Industry Showcase Theater

Photonics in Emerging Economies
Wednesday, 25 September, 13:30–14:30
Science + Industry Showcase Theater

Tech Talk: Physics-Assisted Machine Learning and Semiclassical Approaches to Quantum System Modeling
Wednesday, 25 September, 14:45–15:30
Science + Industry Showcase Theater

The 3-Minute Thesis
Wednesday, 25 September, 16:00–16:30
Science + Industry Showcase Theater

Optica Display Technology Technical Group Networking Event
Wednesday, 25 September, 19:00–20:00
Bluebird Nook

FiO Movie Night
Wednesday, 25 September, 19:30–21:00
3G

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Plenary & Visionary Speakers

David Boas
Director of Neurophotonics Center, Boston University, USA

Plenary Speaker: **Using Light Absorption and Laser Speckle Dynamics to Measure Human Brain Function**

Tuesday, 24 September, 10:30-11:30, *Showcase Theater*

Light absorption by hemoglobin has been used to measure blood volume and oxygenation indications of human brain function for 30 years. More recently, laser speckly dynamics are being exploited to measure blood flow indications of brain function. Combined these methods provide a unique and robust measure of the functioning brain.

About the Speaker: David Boas directs the Neurophotonics Center and the Arthur G.B. Metcalf Endowed Chair at Boston University. He received his BS in Physics at Rensselear Polytechnic Institute and PhD in Physics at the University of Pennsylvania. During his academic career, he has published over 300 papers that have received over 50,000 citations and an h-index of 126. He was awarded the Britton Chance Award in Biomedical Optics in 2016 for his development of several novel, high-impact biomedical optical technologies in the neurosciences, as well as following through with impactful application studies, and fostering the widespread adoption of these technologies.

Margaret Murnane
STROBE NSF Science and Technology Center, University of Colorado Boulder, USA

Plenary Speaker: **Putting High Harmonic Quantum Technologies to Work**

Wednesday, 25 September, 10:30-11:30, *Showcase Theater*

Next-generation nano and quantum devices have increasingly complex 3D 3D structure. As dimensions shrink, their performance is often governed by interface quality or precise chemical, interfacial or dopant composition. However, directly probing functional properties at high spatial and temporal resolution is challenging. High harmonic upconversion of femtosecond lasers provides an exquisite source of short wavelength light, with unprecedented control over the spectral, temporal, polarization and orbital angular momentum (OAM) of the emitted waveforms, from the UV to the keV photon energy region. These advances are providing powerful new tools for near-perfect (diffraction limited) functional imaging, for engineering the illumination, and for ultra-sensitive metrologies in support of next-generation energy-efficient devices.

About the Speaker: Margaret Murnane directs the STROBE NSF Science and Technology Center, and is a Fellow of JILA and a Distinguished Professor at the University of Colorado. She runs a joint, multi-disciplinary, research group with her husband, Prof. Henry Kapteyn. She received a B.S and M.S. degrees from University College Cork, Ireland, and a Ph.D. degree from UC Berkeley. Margaret, with her group and collaborators, develops coherent beams of VUV, EUV and soft x-ray light to capture and manipulate the structure and interactions in materials at the nanoscale. She is a Fellow of Optica, the American Physical Society, and the AAAS, and a member of the National Academy of Sciences and the American Philosophical Society.

Naomi Ginsberg
Professor of Chemistry and Physics, University of California, Berkley, USA

Laser Science Visionary Speaker:
Thursday, 26 September, 09:15–10:00, *Room 3F*
Imaging Charge Carrier, Heat, and Ion Transport at the Nanoscale

Howard Milchberg
Professor of Physics & Electrical and Computer Engineering, University of Maryland, College Park, USA

Laser Science Visionary Speaker:
Wednesday, 25 September, 09:15–10:00, *Room 3F*
Optical Guiding of Ultrahigh Intensity Light: Overview and Applications

Junko Yano
Division Director, Molecular Biophysics and Integrated Bioimaging Division, Lawrence Berkeley National Laboratory, USA

Laser Science Visionary Speaker:
Tuesday, 24 September, 09:15–10:00, *Room 3F*
Application of X-ray Free Electron Lasers to Biological Research

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Machine Learning Theme: The theme program provides an interdisciplinary platform to learn about and discuss a wide range of optics and photonics topics that machine learning has recently impacted. The theme features two Visionary Speakers and invited speakers spanning academia, industry and government institutions.

Wednesday, 25 September, 08:00–19:00;
Thursday 26 September, 08:00–12:30.

Dirk Englund
Professor of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA

Visionary Presentation:
Thursday, 26 September, 09:15–10:00,
Room 3A
Compiling Machine Intelligence on Optoelectronic Systems

Quantum Technologies Theme: Quantum-related topics have quickly become an essential component of conference technical content — a recognition of its promise of stronger encryption, enhanced computational power and improved and novel sensors, as well as increased funding for quantum initiatives throughout the world. FiO presents two dedicated topic categories that examine the latest theoretical developments and experimental implementations in areas such as quantum computing, quantum sensing for industry and fundamental physics and quantum communications.

Monday, 23 September, 08:00-1800;
Wednesday, 25 September, 09:15-10:00

Carmen Palacios-Berraquero
Founder and CEO, Nu Quantum, UK

Visionary Presentation:
Monday, 23 September, 09:15–10:00,
Room 3A
Building the Entanglement Fabric to Scale Quantum Computing

Sir Peter Knight
Chair of the UK National Quantum Technology Strategic Advisory Board and UK National Physical Laboratory Quantum Metrology Institute, UK

Visionary Presentation:
Wednesday, 25 September, 09:15–10:00,
Room 3A
Quantum Technologies: From Inspiration to Economic and Societal Value

Virtual Reality and Augmented Vision Theme: This theme program provides a gateway to learning about unique and long-standing optical and computational challenges for displays. Today's devices are only at the beginning of a long journey; numerous future optical innovations could help us reach perceptually realistic images with devices that ultimately appear to be ordinary eyeglasses.

Tuesday, 24 September, 08:00-17:00;
Wednesday, 25 September, 08:00-17:00

Matthew Colburn
R & D Director, Meta Reality Labs Research, USA

Visionary Presentation:
Tuesday, 24 September, 09:15–10:00,
Room 3A
The Transforming Landscape of Augmented Reality

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

2024 Frontiers in Optics + Laser Science
23–26 September 2024

Colorado Convention Center, Denver, Colorado, USA

Frontiers in Optics + Laser Science will be presented as an in-person event with on-demand content.

Mountain Time (UTC –06:00)

Agenda of Sessions — Monday, 23 September

Mountain Time (MT, UTC –06:00)	FiO Room 3A	FiO Room 3B	FiO Room 3C	FiO Room 3D	FiO Room 3E	LS Room 3F
07:00–18:00	**Registration,** *Bluebird Pre-Function*					
07:30–08:30	**Partner and Grow at Optica: Connecting Student Chapters and Technical Groups,** *Room 103*					
08:00–09:00	**FM1A • Quantum Technologies Theme: Quantum Sensors**	**FM1B • Computational Optics for Biological Applications**	**FM1C • State-Of-The-Art High-Speed Optical Interconnects for Data Centers**	**FM1D • Advanced Optics in Vision and Biology**	**FM1E • Frequency Combs, High-Harmonic Generation, and Attoscience I**	**LM1F • Anderson Dissertation Award Presentations**
09:00–09:15	**Break**					
09:15–10:00	**FM2A • FiO Quantum Technologies Visionary Session I,** *Room 3A*					
10:00–10:30	**Coffee Break,** *Bluebird Pre-Function*					
10:00–11:00	**Optica Publishing Group Meet the Journal Editors,** *Bluebird Nook*					
10:30–12:30	**Optica Foundation Challenge Information Symposia,** *3GH*					
10:30–12:30	**FM3A • Quantum Technologies Theme: Quantum Computing Hardware**	**FM3B • Holographic Acquisition and Imaging, and Optical Processing**	**FM3C • Advances in Free Space Optical Communications and Quantum Networking**	**FM3D • Advanced Optics in Label-Free Imaging**	**FM3E • Integrated Devices and Systems for Nonlinear Optics**	**LM3F • Nanoscale Excitations and Dynamics**
12:00–18:00	**Laser Science Symposium on Undergraduate Research,** *Bluebird 2GH*					
12:30–13:30	**Optica Technical Group Lightning Laser Science Talks,** *Room 3GH*					
12:30–14:00	**Lunch on Own**					
12:45–13:45	**Optica NonImaging Optical Design Technical Group Special Talks,** *Room 3B*					
14:00–15:00	**Optica Foundation Challenge Environment Symposia,** *Room 3GH*					
14:00–15:30	**FM4A • Quantum Technologies Theme: Quantum Computing Applications**	**FM4B • Optical Encoding, Diffracitve Processors and Neural Networks**	**FM4C • Utilizing Optical Fiber Networks for Sensing and Time Transfer**	**FM4D • Advanced Neuro-Optics and Optical Fabrication**	**FM4E • Frequency Combs, High-Harmonic Generation, and Attoscience II**	**LM4F • Attosecond and X-ray Light Sources**
15:30–16:00	**Coffee Break,** *Bluebird Pre-Function*					
16:00–18:00	**FM5A • Quantum Technologies Theme: Quantum Networking and Photonic Integrated Circuits**	**FM5B • Wavefront Techniques, and Intelligent Optics**	**FM5C • Photonic and Atomic Quantum Technologies**	**FM5D • Advanced Optics in Microscopy and Sensing**	**FM5E • Silicon Photonics and Heterogeneous Integration**	**LM5F • Strong-Field Driven Quantum Phenomena in Materials and Gases**
16:30–17:15	**Optica Annual Business Meeting,** *Rooms 109-111*					
18:15—21:30	**FiO + LS Awards Ceremony and Reception (Invitation Only),** *Bluebird Terrace*					
18:30–20:00	**Optica Technical Group Poster Competition,** *Bluebird 2A*					

Key to Conference Abbreviations

F – Frontiers in Optics L – Laser Science Sp – Special Event J – Joint Session

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Agenda of Sessions — Tuesday, 24 September

Mountain Time (MT, UTC –06:00)	FiO Room 3A	FiO Room 3B	FiO Room 3C	FiO Room 3D	FiO Room 3E	LS Room 3F
07:00–18:00	**Registration,** *Bluebird Pre-Function*					
08:00–09:00	**FTu1A • Virtual Reality and Augmented Vision Theme: Perception**	**FTu1B • Surface and Nanostructure Metrology**	**FTu1C • Nano-Devices and Applications**	**FTu1D • Photonic Computing and Sensing on Integrated Platform**	**FTu1E • Laser-Plasma Based Acceleration, Light Sources, and Frequency Comb**	**LTu1F • Ultrafast and Nonlinear Probes of Quantum Materials**
09:00–09:15	**Break**					
09:15–10:00	**FTu2A • FiO Virtual Reality and Augmented Vision Visionary Session,** *Room 3A*					**LTu2B • Laser Science Visionary Session I**
10:00–17:30	**Science + Industry Showcase,** *Theater, Bluebird Ballroom 1-2*			**Science + Industry Showcase,** *Exhibit Hall, Bluebird Ballroom 1-2*		
	JTu3A • Joint Plenary Session I, 10:30–11:30 **Impacts of Quantum Technologies on Society – Quantum for Good?,** 11:45–12:45 **Academia, Industry, Government… What's Right for You?,** 13:30–14:30 **Did You Know?,** 14:45–15:45			**Coffee Break with Exhibitors,** 10:00–10:30 *Sponsored by American Institute of Physics, Reality Labs Research, and Optimax Systems, Inc.* **American Physical Society Division of Laser Science,** *Booth 405*, 10:00–17:30 **Optica Career Zone,** *Booth 209*, 10:00–17:30 **Optica Booth,** *Booth 117*, 10:00–17:30 **JTu4A • Joint Poster Session I,** 11:30–13:00 **Lunch with Exhibitors,** 13:00–14:00 **JTu5A • Joint Poster Session II,** 14:00–15:30 **Coffee Break with Exhibitors,** 15:00–15:30 *Sponsored by American Institute of Physics, Reality Labs Research, and Optimax Systems, Inc.* **About CPIA (Colorado Photonics Industry Association),** *Optica Booth 117*, 16:00–16:30 **Colorado Photonics Industry Association Happy Hour,** 16:30–18:00, *Optica Booths 117 and 319*		
13:00–14:00	**Optica Holography and Diffractive Optics Technical Group Networking Event,** *Room 104* **Optica Polarization Management and Propagation Technical Group Networking Event,** *Room 103*					
15:30–17:00	**Optica Foundation Challenge Health Symposia,** *3GH*					
15:30–17:00	**FTu6A • Virtual Reality and Augmented Vision Theme: Enabling Technologies**	**FTu6B • Cytometry, Deflectormetry and Diffractive Networks**	**FTu6C • Quantum Information, Communication, and Sensing**	**FTu6D • Metasurfaces and Nanophotonics**	**FTu6E • Ultrafast Lasers and Applications I**	**LTu6F • Laser-Based Precision Metrology**
17:00–17:30	**Break**					
17:00–18:00	**Meet the Optica Foundation Challenge Winners Happy Hour,** *Room 3GH*					
17:30–18:30	**JTu7A • Joint Postdeadline Paper Session,** *Room 3A*					**DLS Business Meeting**
18:30–20:00	**Conference Reception,** *Bluebird Terrace*					

Key to Conference Abbreviations
F – Frontiers in Optics L – Laser Science Sp – Special Event J – Joint Session

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Agenda of Sessions — Wednesday, 25 September

Mountain Time (MT, UTC –06:00)	FiO Room 3A	FiO Room 3B	FiO Room 3C	FiO Room 3D	FiO Room 3E	LS Room 3F
07:30–18:00	**Registration,** *Bluebird Pre-Function*					
08:00–09:00	**FW1A • Virtual Reality and Augmented Vision Theme: Applications I**	**FW1B • Machine Learning Theme: Biomedical Applications I**	**FW1C • Laser and Optical Technologies**	**FW1D • MEMS and Piezo-Optomechanical Devices**	**FW1E • Optical Interactions**	**LW1F • Quantum Computing and Sensing**
09:00–09:15	**Break**					
09:15–10:00	**FW2A • FiO Quantum Technologies Visionary Session II,** *Room 3A*					**LW2B • Laser Science Visionary Session II**
10:00–17:30	**Science + Industry Showcase,** *Theater, Bluebird Ballroom 1-2*			**Science + Industry Showcase,** *Exhibit Hall, Bluebird Ballroom 1-2*		
	JW3A • Joint Plenary Session II, 10:30–11:30 **Tech talk: Precision Redefined Quantum Sensing and Metrology in Optical Clocks,** 11:45–12:45 **Photonics in Emerging Economies,** 13:30–14:30 **Tech Talk: Physics-Assisted Machine Learning and Semiclassical Approaches to Quantum System Modeling,** 14:45–15:30 **The 3-Minute Thesis,** 16:00–16:30			**Coffee Break with Exhibitors,** 10:00–10:30 *Sponsored by American Institute of Physics, Reality Labs Research, and Optimax Systems, Inc.* **American Physical Society Division of Laser Science,** *Booth 405,* 10:00–17:30 **Optica Career Zone,** *Booth 209,* 10:00–17:30 **Optica Booth,** *Booth 117,* 10:00–17:30 **JTu4A • Joint Poster Session III,** 11:30–13:00 **Lunch with Exhibitors,** 13:00–14:00 **JTu5A • Joint Poster Session IV,** 14:00–15:30 **Coffee Break with Exhibitors,** 15:00–15:30 *Sponsored by American Institute of Physics, Reality Labs Research, and Optimax Systems, Inc.*		
15:30–17:00	**FW6A • Virtual Reality and Augmented Vision Theme: Applications II**	**FW6B • Machine Learning Theme: Optical Design Applications**	**FW6C • Quantum Computing and Communication**	**FW6D • Imaging Exploiting Encoding and Decoding**	**FW6E • Ultrafast Optical Interactions in Nanostructured Materials**	**LW6F • Quantum Photonics and Entanglement**
17:00–17:30	**Break**					
17:30–19:00	**FW7A • Virtual Reality and Augmented Vision Theme: Systems Design**	**FW7B • Machine Learning Theme: Photonic Design Applications**	**FW7C • Photonic Design and Quantum Optics**	**FW7D • Integrated Devices and Systems for Quantum Applications**	**FW7E • Optical Interactions and Resonators**	**LW7F • Metamaterials I** (ends at 19:30)
19:00–20:00	**Optica Display Technology Technical Group Networking Event,** *Bluebird Nook*					
19:30–21:00	**FiO Movie Night,** *Room 3G*					

Key to Conference Abbreviations
F – Frontiers in Optics L – Laser Science Sp – Special Event J – Joint Session

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

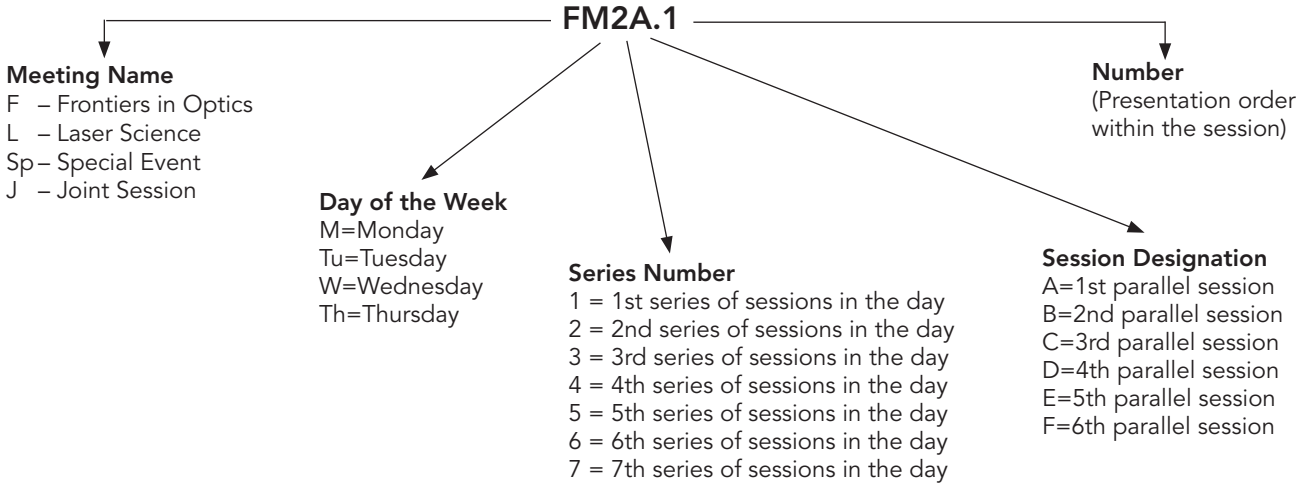
Agenda of Sessions — Thursday, 26 September

Mountain Time (MT, UTC –06:00)	FiO Room 3A	FiO Room 3B	FiO Room 3C	FiO Room 3D	FiO Room 3E	LS Room 3F
07:30–10:30	**Registration,** *Bluebird Pre-Function*					
08:00–09:00	**FTh1A • Machine Learning Theme: Biomedical Applications II**	**FTh1B • Quantum Information Control**	**FTh1C • Interferometry and Frequency Combs**	**FTh1D • Advanced Integration and Fabrication**	**FTh1E • Ultrafast Lasers and Applications II**	**LTh1F • Metamaterials II**
09:00–09:15	**Break**					
09:15–10:00	**FTh2A • FiO Machine Learning Visionary Session,** *Room 3A*					**LTh2B • Laser Science Visionary Session III**
10:00–10:30	**Coffee Break,** *Bluebird Pre-Function*					
10:30–12:30	**FTh3A • Machine Learning Theme: Computational Imaging and Machine Learning**	**FTh3B • Novel Optical Fiber Design**	**FTh3C • Waveguides and Nanostructures**	**FTh3D • Integrated Devices on Silicon and SiN Platform**	**FTh3E • Complex States of Light**	**LTh3F • Nanophotonics**

Key to Conference Abbreviations
F – Frontiers in Optics L – Laser Science Sp – Special Event J – Joint Session

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

Explanation of Session Codes



The first letter of the code signifies the topical. The second letter of the code denotes the day of the week (Monday=M, Tuesday=Tu, etc.). The third element indicates the session series in that day. For instance, 1 would denote the first parallel sessions in that day. Each day begins with the letter A in the fourth element and continues alphabetically through a series of parallel sessions. The number on the end of the code (separated from the session code with a period) signals the position of the talk within the session (first, second, third, etc.). For example, a presentation coded FM2A.1 indicates that this FiO paper is being presented on Monday (M) in the second series of sessions (2), and is the first parallel session (A) in that series and the first paper (1) presented in that session.

Online Access to Technical Digest

Full Technical Attendees have both EARLY and FREE perpetual access to the digest papers through the Optica Publishing Group platform.

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

FiO + LS Committees

Thanks to the technical program committee members! Your time and efforts are appreciated!

Frontiers in Optics General Chairs

Andrew Forbes, *University of the Witwatersrand, South Africa*
Alexey Turukhin, *Cisco Systems, USA*

FiO Theme Coordinators

Machine Learning

Groot Gregory, *Synopsys Inc., USA*

Quantum Technologies

Eric Hudson, *University of California, Los Angeles, USA*
Chris Myatt, *Entrepreneur, USA*

Virtual Reality and Augmented Vision

Praneeth Chakravarthula, *University of North Carolina at Chapel Hill, USA*
Sunny Jolly, *Apple, USA*

FiO Program Committees

FiO 1: Fabrication, Design and Instrumentation

Jürgen Czarske, *TU Dresden, Germany,* ***Subcommittee Chair***
Liangcai Cao, *Tshinghua University, China*
Tomasz Kozacki, *Warsaw University of Technology, Poland*
Guoqiang Li, *Fudan University, China*
Yuan Luo, *National Taiwan University, Taiwan*
Sung Wook Min, *Kyung Hee University, Republic of Korea*
Heidi Ottevaere, *Vrije Universiteit Brussel, Belgium*
Wei Ren, *Chinese University of Hong Kong, Hong Kong*
Raktim Sarma, *Sandia National Lab, USA*
Guohai Situ, *Shanghai Institute of Optics and Fine Mechanics, China*
Florian Wilomitzer, *Northwestern University, USA*
Lan Yang, *Washington University in St. Louis, USA*

FiO 2: Optical Interactions

Lyuba Kuznetsova, *San Diego State University, USA,* **Subcommittee Chair**
Ayman Abouraddy, *University of Central Florida, CREOL, USA*
Angela Dudley, *University of Witwatersrand, South Africa*
Kayn Forbes, *University of East Anglia, UK*
Khanh Kieu, *University of Arizona, College of Optical Science, USA*
Erik Schartner, *University of Adelaide, Australia*
Shawn Sederberg, *Simon Fraser University, Canada*
Luat Vuong, *University of California, Riverside, USA*

FiO 3: Quantum Electronics

Xue Huang, *Cisco Systems, USA,* **Subcommittee Chair**
Ehab Awad, *King Saud University, Saudi Arabia*
Robert Fickler, *Tampere University, Finland*
Jiawen Liu, *EPFL, Switzerland*
Bienvenu Ndagano, *INRS, Canada*
Jason Orcutt, *IBM TJ Watson Research Center, USA*
Shima Rajabali, *Harvard University, USA*
Tim Schröder, *Humboldt University of Berlin, Germany*
Jianwei Wang, *Peking University, China*

FiO 4: Fiber Optics and Optical Communications

Giovanni Milione, *NEC Laboratories America Inc., USA,* ***Subcommittee Chair***
Di Che, *Nokia Bell Labs, USA*
Lawrence Chen, *McGill University, Canada*
Stanley Cheung, *Hewlett Packard Labs, USA*
Julia Larikova, *Infinera Corporation, USA*
Robert Proietti, *University of California, Davis, USA*
Rachel Sampson, *MIT Lincoln Labs, USA*
Xinru Wu, *Intel Corporation, USA*
Mengjie Yu, *University of Southern California, USA*
Chen Zhu, *Baidu Inc., China*

FiO 5: Integrated Devices for Computing, Sensing and Other Applications

Yu Li, *Shanghai Jiao Tong University, China,* ***Subcommittee Chair***
Nathan Lin, *AIM Photonics, USA*
Arka Majumdar, *University of Washington, USA*
Aseema Mohanty, *Tufts University, USA*
Wounjhang Park, *University of Colorado Boulder, USA*
Yiwei Peng, *Hewlett Packard Enterprise, USA*
Cheng Wang, *City University of Hong Kong, Hong Kong, China*
Xiaoxi (Josh) Wang, *Intel, USA*
Chao Xiang, *University of Hong Kong, Hong Kong*
Weidong Zhou, *University of Texas at Arlington, USA*

FiO 6: Optics in Biology, Medicine, Vision and Color

Wu Yuan, *Chinese University of Hong Kong, Hong Kong,* ***Subcommittee Chair***
Timothy Baran, *University of Rochester, USA*
Judith Birkenfeld, *Instituto de Óptica "Daza de Valdés" (IO-CSIC), Spain*
Donghyun Kim, *Yonsei University, Republic of Korea*
Hatice Ceylan Koydemir, *Texas A&M University, USA*
Sanathana Konugolu Venkata Sekar, *Tyndall National Institute, Ireland*
Jing Yuan, *Wuhan National Lab for Optoelectronics, China*

Current as of 13 September 2024. The updated schedule is available in the mobile app, and the online schedule.

FiO 7: Information Acquisition, Processing and Display

Partha Banerjee, *University of Dayton, USA*, ***Subcommittee Chair***
Basanta Bhaduri, *Tokyo Electric America, USA*
Prathan Buranasiri, *KMITL, Thailand*
Pietro Ferraro, *CNR, Italy*
Mallik Hussain, *Halo Industries, USA*
George Nehmetallah, *Catholic University America, USA*
Naveen Nishchal, *Indian Institute of Technology Patna, India*
Elena Stoykova, *Bulgarian Academy of Sciences, Bulgaria*
Ching-Cherng Sun, *Central Taiwan University, Taiwan*
Hiroshi Yoshikawa, *Nihon University, Japan*
Yaping Zhang, *Kunming U. Science and Technology, Thailand*
Wenjing Zhou, *Shanghai University, China*

Laser Science Chairs

Susan Dexheimer, *Washington State University, USA*
Robert Kaindl, *Arizona State University, USA*

Laser Science Subcommittee 1: Nanophotonics, Plasmonics and Metamaterials

Alexandra Boltasseva, *Purdue University, USA*, ***Subcommittee Chair***

Laser Science Subcommittee 2: Quantum Science

Galan Moody, *University of California, Santa Barbara, USA*, ***Subcommittee Chair***

Laser Science Subcommittee 3: Ultrafast Dynamics in Complex Systems

Matthew Graham, *Oregon State University, USA*, ***Subcommittee Chair***

Laser Science Subcommittee 4: Attosecond, Strong-Field and XFEL Science

Shambhu Ghimire, *SLAC National Accelerator Laboratory, USA*, ***Subcommittee Chair***

Thank You to Our Exhibitors and Sponsors!

ALPAO
Booth 403
www.alpao.com
marketing@alpao.fr

American Elements
Sponsor
www.americanelements.com
customerservice@americanelements.com

American Institute of Physics
Sponsor
www.aip.org
membersocieties@aip.org

American Physical Society
Division of Laser Science
Booth 405, Co-Sponsor
www.aps.org
membership@aps.org

Avantes Inc.
Booth 107
www.avantesusa.com
infousa@avantes.com

BLUE RIDGE OPTICS
Booth 308
www.blueridgeoptics.com
sales@blueridgeoptics.com

Colorado Photonics Industry Association (CPIA)
Booth 319
www.coloradophotonics.org
cpia@coloradophotonics.org

Cryslaser Inc.
Booth 400
www.cryslaser.com
sales@cryslaser.com

Femtum
Booth 111
www.femtum.com

Hamamatsu Corporation
Booth 416
www.hamamatsu.com
photonics@hamamatsu.com

HOLOEYE Photonics AG
Booth 305
www.holoeye.com
contact@holoeye.com

KMLabs, Inc.
Booth 402
www.kmlabs.com
support@kmlabs.com

Liquid Instruments
Booth 306
www.liquidinstruments.com
info@liquidinstruments.com

Meadowlark Optics
Booth 302
www.meadowlark.com
sales@meadowlark.com

Menlo Systems Inc.
Booth 113
www.menlosystems.com
ussales@menlosystems.com

Mesa Photonics
Booth 303
www.mesaphotonics.com
info@mesaphotonics.com

National Society of Black Physicists, Inc. (NSBP)
Booth 100
www.nsbp.org
conference@nsbp.org

*Exhibitor List last updated on 09/17/2024

Thank You to Our Exhibitors and Sponsors!

NextCorps Luminate
Booth 321
www.luminate.org
info@nextcorps.org

NKT Photonics Inc
Booth 300
www.nktphotonics.com
sales@nktphotonics.com

Octave Photonics
Booth 317
www.octavephotonics.com
info@octavephotonics.com

Optica
Booth 117, Co-Sponsor
www.optica.org
booth@optica.org

Optical Perspectives Group, LLC
Booth 420
www.opticalperspectives.com
support@optiper.com

Optimax Systems, Inc.
Sponsor
www.optimaxsi.com
sales@optimaxsi.com

OptoSigma Corporation
Booth 310
www.optosigma.com
marketing@optosigma.com

PHASICS Corp.
Booth 404
www.phasics.com
contact@phasics.com

Reality Labs Research
Sponsor
www.about.meta.com/realitylabs/

Santec USA Corporation
Booth 207
www.santec.com
info_usa@santec.com

Single Quantum
Booth 312
www.singlequantum.com
info@singlequantum.com

Stable Laser Systems
Booth 409
www.stablelasers.com
purchasing@stablelasers.com

Thorlabs
Booth 418
www.thorlabs.com
sales@thorlabs.com

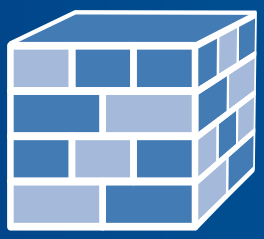
TOPTICA Photonics
Booth 401
www.toptica.com
sales@toptica-usa.com

UltraFast Innovations GmbH
Booth 213
www.ultrafast-innovations.com
info@ultrafast-innovations.com

Vescent
Booth 301
www.vescent.com
media@vescent.com

*Exhibitor List last updated on 09/17/2024

LEVEL UP YOUR FUTURE



Build your network and become an APS Division of Laser Science member

Publish your research in high-impact Physical Review Journals

Snag the best freebies on the exhibit floor

Booth 405

MEMBERSHIP • PHYSICAL REVIEW JOURNALS • PRIZES

APS