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25 - 30 January 2025
The Moscone Center
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CALL FOR PAPERS

Submit abstracts by
17 July 2024

Optical Components and Materials XXII (OE103)

Conference Chairs: **Shibin Jiang**, AdValue Photonics, Inc. (United States); **Michel J. F. Digonnet**, Stanford Univ. (United States)

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Active and passive optical components are playing key roles in current optical communication networks, optical sensors, and medical optical devices. Extensive research continues to be carried out to improve their performance and functionality, and to reduce their size and cost. Areas of research that are particularly active include high-power fiber lasers, switches, filters, ultra-short-pulse fiber lasers, as well as material research in rare-earth-doped glasses, semiconductors, and nano-particles for enabling innovative photonic devices. There is also significant activity in developing components in lightwave circuits, which will ultimately reduce manufacturing cost while integrating multiple active and passive functions on a single chip.

The purpose of this conference is to bring together researchers and engineers from academia and industry to discuss recent developments in these rapidly advancing fields. Suggested topics include:

- rare-earth-doped devices and materials
- rare-earth-doped or metal-doped glasses, crystals, polymers, semiconductors, hybrid materials, and fibers
- spectroscopy of rare-earth ions and other laser species
- graphene and carbon nanotubes
- new materials for mode-locking
- nanoparticles
- quantum dots
- fiber amplifiers design and fabrication
- waveguide lasers and amplifiers
- UV to far-infrared fiber lasers
- cladding-pumped lasers and amplifiers
- Raman laser and amplifiers
- Brillouin lasers
- broadband fiber sources
- semiconductor-based lasers and amplifiers

- optical switches, modulators, and other devices
- optical nonlinearities in fibers and waveguides
- lithium niobate bulk-optic and waveguide devices
- thermal and UV poling of silica and other glasses
- electro-optic poled sol-gels
- progress in lithium niobate electro-optic modulators
- nonlinear frequency converters
- photonic-bandgap fibers and devices
- plasmonic devices and technologies
- sub-wavelength optical elements
- photosensitivity in fibers and planar waveguides
- photosensitivity in glasses and polymers
- filters, reflectors, and other grating-based devices
- fiber and waveguide Bragg gratings
- long-period fiber gratings
- modeling glass structure and defects arising from UV irradiation
- novel passive and active components for dense WDM
- tunable filters and add-drop filters
- device packaging, testing, and reliability
- devices for optical interconnect
- detectors
- SWIR photodetectors
- single-photon detectors
- silicon-based photodetectors
- low-noise detection architectures
- unique detector materials and special spectral regions
- progress in MEMS-based detectors
- detectors with gain.

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#PhotonicsWest

CONTINUED NEXT PAGE →

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Present your research at SPIE Photonics West

Follow the instructions below to develop a successful abstract for submission to a conference and review policies for publication in the Proceedings of SPIE in the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	17 July 2024
Registration opens	October 2024
Authors notified and program posts online	7 October 2024
Submission system opens for manuscripts and poster PDFs*	25 November 2024
Poster PDFs due for spie.org preview and publication	2 January 2025
Manuscripts due	8 January 2025
Advance upload deadline for oral presentation slides**	23 January 2025

*Contact author or speaker must register prior to uploading

**After this date slides must be uploaded onsite at Speaker Check-in

What you will need to submit

- Presentation title
- Author(s) information
- Speaker biography (1000-character max including spaces)
- Abstract for technical review (200-300 words; text only)
- Summary of abstract for display in the program (50-150 words; text only)
- Keywords used in search for your paper (optional)
- Check the individual conference call for papers for additional requirements (i.e., special abstract requirements or instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

How to submit your abstract

- Visit the conference page: www.spie.org/oe103call
- Choose one conference that most closely matches the topics of your abstract. You may submit more than one abstract, but submit each abstract only once
- Click the title of the conference to view the full description and submit by clicking the "Submit an Abstract" button on that page
- Sign in to your SPIE account, or create an account if you do not already have one
- Follow the steps in the submission wizard until the submission process is completed
- If your submission is related to an application track below, indicate the appropriate track when prompted during the submission process

Application track

Listed below are the application tracks available for this meeting. Application tracks aggregate presentations and focus on emerging technical and societal needs that require a multidisciplinary approach.

- **AI/ML:** Papers that highlight the use of artificial intelligence, machine learning, and deep learning to create and implement intelligent systems across multiple sectors, technologies, and applications
- **Sustainability:** Papers that highlight the use of optics and photonics for renewable energy, natural resource management, sustainable manufacturing, and greenhouse gas mitigation in support of the UN Sustainable Development Goals
- **Brain function:** Papers that highlight the development of innovative optics and photonics technologies that increase our understanding of brain physiology and function
- **Translational research:** Papers that highlight the transition from bench to bedside using the latest photonics technologies, tools, and techniques for healthcare
- **3D printing:** Papers that highlight the innovative use of optics and photonics in multidisciplinary applications for multidimensional manufacturing
- **Photonic chips:** Papers that highlight advances in materials, design, fabrication, integration, testing and packaging of photonic components at the chip level

Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

- Register and pay the conference registration fee
- Agree to receive email messaging for the conference series
- Oral presenters: recording and publication of your onsite presentation (slides synched with voice) for publication in the Proceedings of SPIE in the SPIE Digital Library
- Poster presenters: one person may not present more than two posters in a poster session; poster presenters may submit an optional poster PDF available for preview in the online program (web and app) and for publication in the Proceedings of SPIE in the SPIE Digital Library
- Submit a manuscript by the advertised due date for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Attend the meeting
- Present at the scheduled time

Review and program placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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