



Fiber Lasers and Glass Photonics: Materials through Applications IV (PE114)

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The scope of the Fiber Lasers and Glass Photonics: Materials through Applications conference is broad, aiming to promote synergies and support for a multidisciplinary audience interested in being updated both in their own research field and correlated areas. This conference aims to extensively cover main scientific and technological areas of fiber, crystal, and waveguide lasers, and photonic glasses, with particular emphasis on new laser concepts, high-power scaling, functional devices structured at the subwavelength scale, and the extension of operating wavelengths into the blue/UV and mid-infrared regions. Materials and components sessions aim to cover all type of ordered and disordered inorganic dielectric materials. In fact, fiber lasers, novel glasses, crystals, and derived photonic structures are among the forefront enabling technologies to address successfully social-economic challenges that we are facing in many fields going from health care to security, from environmental protection to advanced manufacturing. Emerging applications of lasers in the industrial, medical, energy, and scientific fields will be discussed and contributions from universities, research centers, and industrial end users are welcome. The conference will also present latest results in industrial research with focus on the laser industry value chain and special sessions on European projects are planned. Conference topics are, but not limited to:

MATERIALS AND COMPONENTS

- novel laser and luminescence material: fabrication and characterization
- novel photonic micro- and nanostructures including resonant structures
- novel glasses, glass-ceramics, composite
- inorganic materials and crystals
- upconversion/downconversion materials
- active fibers and waveguides, nonlinear fibers
- materials and components for mid-infrared sources
- high power components and their properties
- theory, modelling and simulation of materials and processes
- 3D-printing in glass photonics and fibers
- metrology for fibers and waveguides.

FIBERS AND WAVEGUIDE SOURCES

- fiber and waveguide lasers (CW, Raman, and pulsed)
- fiber and waveguide amplifiers (including Raman)
- gas filled hollow-core fiber lasers and amplifiers
- ultrafast lasers
- continuum sources
- mid-infrared laser sources
- novel visible and near-infrared lasers
- theory, modelling and simulation (including machine learning)
- metrology and testing methods for laser sources.

APPLICATIONS

- flexible photonics
- new energy applications
- green photonics
- high-power laser applications
- laser-based manufacturing
- soft material processing (including laser based polymer processing)
- biomedical applications and light-tissue interaction
- environmental applications and structural monitoring
- ultrafast science
- theory, modelling and simulation of light-matter interaction
- applications of optofunctional and hyperfrequency devices
- optical communications
- security.

INDUSTRIAL SESSION

Learn about the next wave of off-the-shelf photonic components and sources and the value chain for fiber lasers, from pump diodes through to end users.

- high-power semiconductor lasers
- optics/fibers/couplers/beam combiners
- lasers and beam delivery systems
- end users applications.

SPECIAL SESSION ON EUROPEAN PROJECTS

Session dedicated to European projects. Submissions must select the “Special Session EU Project” topic in order to be considered for this special session.

SPECIAL SESSION ON EARLY-STAGE RESEARCHERS AND WOMAN SCIENTISTS

Session dedicated to early-stage researchers and woman scientists. Submissions must select the “Special Session Early Career, Women Scientists” topic in order to be considered for this special session.

SPECIAL SESSION ON MID-INFRARED LASER SOURCES

Session dedicated to mid-infrared laser sources. Submissions must select the “Special Session Mid-Infrared Laser Sources” topic in order to be considered for this special session.

Present your research at SPIE Photonics Europe

Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	30 November 2023
Authors notified and programme posts online	25 January 2024
Registration opens	8 January 2024
Submission system opens for manuscripts and poster videos/PDFs*	5 February 2024
Manuscripts due	20 March 2024

*Contact author or speaker must register prior to uploading

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 programme (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. extended abstract PDF upload for review 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/pe114call
- You may submit more than one abstract, but submit each abstract only once
- Submit by clicking the "Submit an Abstract" button on the conference 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

Submission agreement

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

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- Email messaging for the conference series
- 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 programme 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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