



Biomedical Spectroscopy, Microscopy, and Imaging III (PE117)

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Biophotonics as a research area provides and employs novel photonic technologies and tools for medical research, diagnosis and therapy. Biophotonics research aims for a deeper understanding of the processes within living cells, which is, on the other hand, a prerequisite for the improvement of early recognition and targeted treatment of diseases. The corresponding technological solutions and methods for diagnosis and therapy will be employed for an efficient and affordable health care which will help to deal with the challenges of aging societies and exploding health care costs. Resultant biophotonics systems will support not only the preservation, but even the increase of the impressive double-digit annual growth rates of the related industries. The development of such systems will require highly interdisciplinary collaboration based on an intensive dialogue between scientists from the various disciplines in order to streamline common efforts. An important part of biophotonic systems is based on spectroscopic, microscopic and imaging methods, not only for diagnostic purposes but also for surgical instruments, pathology applications and therapy control. Multimodal systems, based on combinations of different, not necessarily only photonic techniques will help to overcome the limits of the individual methods in combination with powerful deep learning and artificial intelligence based image analysis and chemometric methods.

Contributed papers are solicited concerning, but not limited to, the following areas:

- OCT, Raman- and IR-based methods, optoacoustics
- multiphoton methods (SHG, CARS, FIIM, FRET)
- fast and ultrafast imaging methods
- super-resolution imaging/adaptive optics
- optical fibers for Imaging applications
- analysis of molecules, cells/bacteria, tissues
- understanding cell processes
- image analysis, chemometrics, artificial intelligence-based methods.

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/pe17call
- 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:

- Register and pay the author registration fee
- 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: submit a poster PDF by the advertised due dates for publication in the Proceedings of SPIE in the SPIE Digital Library; poster PDFs may also be published and viewable in the spie.org programme during and immediately after the event. Each poster must have a unique presenter; one person may not present more than one poster
- 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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