SPIE. PHOTONICS EUROPE

Conferences: 7–11 April 2024
Exhibition: 9–10 April 2024
Palais de la Musique et des Congrès
Strasbourg, France

Submit abstracts by
30 November 2023

Tissue Optics and Photonics III (PE121)

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Tissue optics and photonics is a field of research and development that studies propagation and interaction of light with scattering and absorbing media such as biological tissues. This is the basis for the application of optical methods to medical imaging, diagnosis, and therapy. It encompasses modeling of light transport in tissues, measurement of tissue optical transport parameters, and development of models that can explain the optical properties of tissue and their dependence on the number, size, and arrangement of the tissue compartments, such as collagen fibers, cell organelles, endogenous and exogenous chromophores and fluorophores.

Light-tissue interaction phenomena related to photothermal, photomechanical, and photochemical effects underlie biophotonics technologies and techniques, such as tissue ablation, hyperthermia, coagulation, laser-induced interstitial thermotherapy, photochemical and photodynamic therapy.

And after many years of development and outstanding achievements, the relevance and interest to tissue optics as a science and technology are still growing. The present conference focuses on the increasing attention payed by the researchers to study tissue optics in a broad wavelength range from deep UV to terahertz, to build robust models accounting for polarization anisotropy of normal and pathological tissues, to design protocols for tissue optical properties control and enhancement of light penetration depth, to understand mechanisms of tissue elasticity, to study nonlinear optics of tissues as a new field of research and biomedical applications, to design novel dynamic tissue phantoms and to develop many other areas of tissues optics and photonics listed below.

The conference will focus both on diagnosis and sensing tools as well as treatment modalities. It will include both theoretical understanding of the biophysical principles as well as present recent practical empirical achievements. Contributed papers are solicited concerning, but not limited to, the following areas:

- quantification of normal and pathological tissue optical properties
- light propagation in tissues, modelling and optical phantoms
- polarization techniques
- multimodal approaches
- tissue optical clearing
- tissue permeability for metabolic and drug molecules
- blood and Lymph flow measurements and hemodynamics
- laser speckle imaging techniques
- optical angiography, lymphography and micro-endoscopy
- UV tissue photonics and instrumentation
- terahertz tissue photonics
- hematology and glucose sensing
- drug delivery
- optical monitoring and remote diagnosis of diseases
- vibrational spectroscopy and spectroscopic probing methods
- SERS and other labeling techniques for thick tissues
- photoacoustics
- optical coherent tomography and tissue elastography
- low-level laser therapy (LLLT) and photo-thermal therapy (PTT)
- *>in silico* bio-imaging
- artificial intelligence and machine-learning technologies.

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ABSTRACT SUBMISSION GUIDELINES

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/pe121call**
- 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
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- 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

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- 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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