

Photons Plus Ultrasound: Imaging and Sensing 2022

(BO402)

Conference Chairs: **Alexander A. Oraevsky**, TomoWave Labs, Inc. (United States); **Lihong V. Wang**, Caltech (United States)

Program Committee: **Mark A. Anastasio**, Washington Univ. in St. Louis (United States); **Paul C. Beard**, Univ. College London (United Kingdom); **A. Claude Boccara**, Institut Langevin Ondes et Images (France); **Sarah E. Elizabeth Bohndiek**, Univ. of Cambridge (United Kingdom); **Peter Burgholzer**, Research Ctr. for Non Destructive Testing GmbH (Austria); **Stanislav Y. Emelianov**, Georgia Institute of Technology (United States); **Rinat O. Esenaliev**, The Univ. of Texas Medical Branch (United States); **Martin Frenz**, Univ. Bern (Switzerland); **Miya Ishihara**, National Defense Medical College (Japan); **Chulhong Kim**, Pohang Univ. of Science and Technology (Korea, Republic of); **Changhui Li**, Peking Univ. (China); **Pai-Chi Li**, National Taiwan Univ. (Taiwan); **Srirang Manohar**, Univ. of Twente (Netherlands); **Vasilis Ntziachristos**, Helmholtz Zentrum München GmbH (Germany); **Matthew O'Donnell**, Univ. of Washington (United States); **Günther Paltauf**, Karl-Franzens-Univ. Graz (Austria); **Daniel Razansky**, ETH Zurich (Switzerland); **Wiendelt Steenbergen**, Univ. of Twente (Netherlands); **Xueding Wang**, Univ. of Michigan (United States); **Roger J. Zemp**, Univ. of Alberta (Canada); **Qifa Zhou**, The Univ. of Southern California (United States); **Quing Zhu**, Washington Univ. in St. Louis (United States)

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SPECIAL ABSTRACT REQUIREMENTS

Submissions to this conference must include the following:

- 100 word text abstract (for online program) (REQUIRED)
- 250-word text abstract (for technical review) (REQUIRED)
- Optional 2-page extended abstract (**this option makes submissions eligible for the Best Paper or the Best Poster award nominations**).

The extended abstract must be submitted as a separate PDF document limited to two pages, including tables and figures. Include author names and affiliations; text; any figures, tables, or images; and sufficient data to permit committee review.

This conference will be dedicated to imaging, sensing, monitoring and spectroscopy based on the combination of light and sound by synergistically utilizing the high optical contrast and the high ultrasonic resolution at large tissue depths. The images based on optical contrast are complementary to images based on ultrasonic contrast. The hybrid technology such as optoacoustic/photoacoustic tomography can provide anatomical and functional imaging for comprehensive tissue characterization. It is also capable of providing high-resolution molecular imaging. The areas of interest include methods involving optically and thermally induced acoustic waves and acoustically modulated optical waves and a variety of laser-induced thermal and acoustic phenomena, covering basic research, instrumentation and applications. Biomedical applications include cancer detection, localization, and differentiation, detection of atherosclerotic plaques, vascular imaging and angiography.

Topics that involve a combination of light and sound include:

- microscopy
- endoscopy
- intravascular microscopy
- computed tomography
- focal scanning imaging
- image reconstruction
- signal processing
- light sources
- ultrasonic transducers
- optical sensing of pressure or displacement
- contrast agents
- sensing (non-imaging)
- spectroscopy
- microwave or RF excitation of ultrasonic waves
- laser ultrasound
- quantitative imaging
- functional imaging
- molecular imaging
- multimodality imaging
- small animal imaging
- clinical imaging
- monitoring of therapy
- guiding surgery and biopsy
- ultrasonic encoding of light
- wavefront engineering
- other technological advances.

All submissions will be reviewed by the Program Committee to determine acceptance. Extended abstracts will be used only for the purpose of review and will not be published.

Post-deadline submissions may be accepted contingent upon confirmation of exceptional quality of research as determined by the Program Committee.

BEST PAPER AWARD AND BEST POSTER AWARD

Seno Medical Instruments of San Antonio, Texas, will sponsor the “Best Paper Award” at this conference (Certificate of recognition to all coauthors and \$3,000 cash award).

Photoacoustics Journal, Elsevier, will sponsor the “Best Poster Award” at this conference (Certificate of recognition to all coauthors and \$1,500 cash award).

To qualify for the Award, authors **must submit a 2-page extended abstract at the time of Abstract submission**, present their papers at the conference (oral or poster) and publish a full manuscript in the SPIE Proceedings. A special session will be organized at the conference dedicated to The Best Paper and The Best Poster Awards. A Certificate of The Best Paper or The Best Poster will be presented at the Award Ceremony to be held as the last session of the Conference. Cash award will be delivered after the publication of the conference proceedings volume.

Present your research at SPIE Photonics West

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

Abstract submission deadline	11 August 2021
Author notification	11 October 2021
Submission system opens for presentations and manuscripts*	29 November 2021
Manuscript due date	29 December 2021
Oral presentation videos due	29 December 2021
Poster PDF and preview videos due	29 December 2021
Oral presentation slide deadline	20 January 2022

*Authors must register prior to uploading.

What you will need to submit

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the program
- Keywords used in search for your paper (optional)
- Check the individual conference Call for Papers for additional requirements (for example, some conferences require 2- to 3-page extended summary for technical review, or have 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/bo402call
- You may submit more than one abstract but submit each abstract only once.
- Click 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.

Application track

- **Brain:** Papers that describe the development of innovative technologies that will increase our understanding of brain function.
- **Translational Research:** Papers that showcase the latest photonics technologies, tools, and techniques with high potential to impact healthcare.
- **3D Printing:** Papers that showcase innovative ways to apply this multidimensional/multidisciplinary technology.
- **COVID-19 Research:** Papers that illustrate the creativity and breadth of the optics and photonics community's response to the COVID-19 pandemic.

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: Submit a presentation video by the advertised due date, or agree to the presentation capture of your presentation on site, for online conference viewing during the event and publication in the Proceedings of SPIE on the SPIE Digital Library.
- Poster Presenters: Submit a Poster PDF and optional preview video by the advertised due date, for online conference viewing during the event and publication in the Proceedings of SPIE on the SPIE Digital Library.
- Submit a 4-page-minimum manuscript by the advertised due date, for online conference viewing during the event and publication in the Proceedings of SPIE on the SPIE Digital Library.
- Obtain funding for registration fees, travel, and accommodations, independent of SPIE, through their sponsoring organizations.
- Ensure that all clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor in the USA, allow at least 60 days for clearance.
- 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.

Publication of Proceedings in the SPIE Digital Library

- SPIE will publish all presentations for viewing during the conference, as well as permanently archive all presentations in the conference proceedings on the SPIE Digital Library.
- SPIE retains rights to distribute and market the official SPIE recording of the presentation, presentation video, and/or poster.
- Most SPIE conferences follow an onsite publication model, meaning that manuscripts received by the advertised due date will be published for online viewing during the event, as well as archived in the SPIE Digital Library.
- A select few of SPIE conferences may elect to follow a Post-Meeting model of publication in order to conduct a more thorough review of manuscripts. In this model, manuscripts will be published 2-4 weeks after the event in the SPIE Digital Library, and may not be published for online viewing during the event.
- Authors must be authorized to transfer copyright of the manuscript to SPIE, or provide a suitable publication license. Authors retain the right to prepare derivative publications based on the paper.
- Conference Chairs/Editors may require manuscript revision before approving publication and reserve the right to reject for publication any paper that does not meet acceptable standards for a scientific publication.
- Conference Chair/Editor decisions on whether to allow publication of a manuscript are final.
- Only papers, presentations, and posters presented at the conference and received according to publication guidelines and due dates will be published in the conference Proceedings of SPIE on the SPIE Digital Library.
- SPIE partners with relevant scientific databases to enable researchers to find the papers in the Proceedings of SPIE easily. The databases that abstract and index these papers include Astrophysical Data System (ADS), Ei Compendex, CrossRef, Google Scholar, Inspec, Scopus, and Web of Science.
- More publication information available on the [SPIE Digital Library](http://www.spiedigitallibrary.org)

ABSTRACT SUBMISSION GUIDELINES

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