Multiscale Imaging and Spectroscopy (BO105)

Conference Chairs: Paul J. Campagnola, Univ. of Wisconsin-Madison (USA); Kristen C. Maitland, Texas A&M Univ. (USA); Darren M. Roblyer, Boston Univ. (USA)

Program Committee: Ji-Xin Cheng, Boston Univ. (USA); Kevin W. Eliceiri, Univ. of Wisconsin-Madison (USA); Irene Georgakoudi, Tufts Univ. (USA); Anita Mahadevan-Jansen, Vanderbilt Univ. (USA); Andrew M. Rollins, Case Western Reserve Univ. (USA); Melissa C. Skala, Univ. of Wisconsin-Madison (USA); Alex J. Walsh, Texas A&M Univ. (USA)

Multiscale imaging and spectroscopy are increasing in popularity as groups discover they need to better link structure and function, slow and fast dynamics, physiological and molecular scales, and translational and mechanistic viewpoints. While biologist have pushed for higher resolution and faster imaging, a broader spatial or temporal context is often needed to fully characterize most complex biological systems. Additionally, as cutting-edge imaging and spectroscopy techniques acquire increasingly large data sets, there has been a drive to develop tools to visualize and identify relevant features on a variety of spatial and temporal scales.

This conference will bring together optical tool developers, basic scientists, and clinicians to present advances in multiscale imaging. Topics include the development and applications of single and multi-modality techniques that characterize biological systems over multiple temporal, spatial, or contrast scales.

TECHNOLOGIES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
• diffuse optical spectroscopy, imaging, and tomography
• lightsheet microscopy
• structured illumination microscopy
• multiphoton imaging
• optical coherence tomography
• photoacoustic imaging
• Raman, fluorescence, and absorption spectroscopy
• functional and anatomical imaging
• optical contrast agent development
• photodynamic therapy.

APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
• longitudinal monitoring of disease progression or therapy response
• optical methods to assess tissue biomechanical structure and function
• wide-field, high-resolution imaging
• visualization and analysis of large multiscale data sets
• multiscale views of neural activity, tumor biology, and immune response
• integration of preclinical and clinical data sets
• methods to integrate functional and structural optical data sets
• fractal analysis of multiscale imaging data sets.
**SUBMISSION GUIDELINES**

**Present your research at SPIE Photonics West**

Follow these instructions to develop a successful abstract and accompanying manuscript for the conference and for publication in the Proceedings of SPIE in the SPIE Digital Library.

**How to submit an abstract**

1. Browse the conference program and select the conference(s) that most closely matches the topics of the research you wish to present. *Important: each abstract may be submitted to one conference only.*

2. Click “Submit an Abstract” from within the conference you’ve chosen, and you’ll be prompted to sign in to your spie.org account to complete the submission wizard.

3. If your submission is related to an application track, indicate the appropriate track when prompted during the submission process.

**What you will need to submit**

A completed electronic submission should include the following:

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the program
- Keywords used in search for your paper (optional)
- Your decision on publishing your presentation recording to the SPIE Digital Library (slide capture and audio)
- 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 competing for awards)

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.

**Important dates**

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<td>Abstracts Submission Deadline</td>
<td>26 August 2020</td>
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<td>Acceptance Notification Sent to Contact Author</td>
<td>2 November 2020</td>
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<td>Manuscripts Due (Conferences OE506, and OE801-OE803 Only)</td>
<td>20 January 2021</td>
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<td>Manuscripts Due (All Conferences EXCEPT OE506, and OE801-OE803)</td>
<td>16 February 2021</td>
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**Submission agreement**

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
- Attend the meeting
- Present at the scheduled time
- Publish their manuscript in the SPIE Digital Library
- 100-word summary for the program
- 250-word abstract for technical review, or have instructions for competing for awards

**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 Chairs’ discretion.

**Publication of Proceedings in the SPIE Digital Library**

- 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.
- Authors must be authorized to transfer copyright of the manuscript to SPIE, or provide a suitable publication license.
- Only papers presented at the conference and received according to publication guidelines and timelines will be published in the conference Proceedings of SPIE in the SPIE Digital Library.
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- More publication information available on the SPIE Digital Library.

**Contact information**

For questions about submitting an abstract, or the meeting, contact the Conference Program Coordinator.