



SPIE. PHOTONICS WEST BIOS 25 - 30 January 2025
The Moscone Center
San Francisco, CA, USA

CALL FOR PAPERS

Submit abstracts by
17 July 2024

Light in Cardiology 2025 (BO103)

Conference Chairs: **Gijs van Soest**, Erasmus MC (Netherlands); **Irina V. Larina**, Baylor College of Medicine (United States); **Christos Bourantas**, St. Bartholomew's Hospital (United Kingdom)

Program Committee: **Kenton W. Gregory M.D.**, Oregon Medical Laser Ctr. (United States); **Christine P. Hendon**, Columbia Univ. (United States); **Jiawen Li**, The Univ. of Adelaide (Australia); **Laura Marcu**, Univ. of California, Davis (United States); **Guillermo J. Tearney M.D.**, Massachusetts General Hospital (United States); **Martin Villiger**, Wellman Ctr. for Photomedicine (United States)

The expanding use of optical imaging and spectroscopy techniques by clinicians in cardiovascular medicine has spurred a wave of scientific research and technical innovation towards new diagnostic modalities in this field. Characterization of coronary atherosclerotic plaque, imaging of therapeutic devices such as stents, and detection of arrhythmogenic changes in the myocardium, all benefit from the resolution and tissue type specificity offered by optics. Therapeutic use of light and lasers continues to find new, targeted applications, aiming for safer interventions with more predictable outcomes. Examples include laser angioplasty, pacemaker lead removal, and ablation of erratic conduction paths in the cardiac wall. Specialized microscopic techniques have revealed myriad details of embryonic cardiac development.

Scientists, engineers, clinical researchers and industry partners meet here to discuss new advances of using light for cardiovascular science and medicine. The aim is to benefit patients, physicians, and fundamental cardiac research. To this end, the conference stimulates collaboration and interdisciplinary exchange, which are paramount for generating new insights and for rearing new technologies towards a role in effective, safe and fast interventions.

Topics will include, but are not limited to, the following:

- imaging of coronary artery disease: OCT, fluorescence, angiography, photoacoustics
- optical characterization of atherosclerosis: polarization, spectroscopy, speckle techniques
- optical methods of assessing cardiovascular structure, biomechanics and function
- blood, coagulation and thrombogenesis
- cardiomyopathies
- myocardial ablation
- laser revascularization
- light-tissue interaction of the heart and vessels
- cardiac optogenetics
- photodynamic therapy
- cardiac development
- vascular constructs development (bioengineered tissue)
- image analysis and processing, including machine learning techniques
- new catheters/devices for diagnosis, intervention guidance and therapy
- new light sources, fibers, scanners and other components
- optical studies of the cardiovascular system in animal models
- contrast agents for cardiovascular diagnosis and therapy
- non-invasive technologies for cardiovascular health
- clinical applications
- translation of technology from bench to industry and clinic.

www.spie.org/bo103call

#PhotonicsWest

CONTINUED NEXT PAGE →

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Present your research at SPIE Photonics West

Follow the instructions below to develop a successful abstract for submission to a conference and review policies for publication in the Proceedings of SPIE in the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	17 July 2024
Registration opens	October 2024
Authors notified and program posts online	7 October 2024
Submission system opens for manuscripts and poster PDFs*	25 November 2024
Poster PDFs due for spie.org preview and publication	2 January 2025
Manuscripts due	8 January 2025
Advance upload deadline for oral presentation slides**	23 January 2025

*Contact author or speaker must register prior to uploading

**After this date slides must be uploaded onsite at Speaker Check-in

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 program (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., special abstract requirements 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/bo103call
- Choose one conference that most closely matches the topics of your abstract. You may submit more than one abstract, but submit each abstract only once
- Click the title of the conference to view the full description and submit by clicking the "Submit an Abstract" button on that 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

Listed below are the application tracks available for this meeting. Application tracks aggregate presentations and focus on emerging technical and societal needs that require a multidisciplinary approach.

- **AI/ML:** Papers that highlight the use of artificial intelligence, machine learning, and deep learning to create and implement intelligent systems across multiple sectors, technologies, and applications
- **Sustainability:** Papers that highlight the use of optics and photonics for renewable energy, natural resource management, sustainable manufacturing, and greenhouse gas mitigation in support of the UN Sustainable Development Goals
- **Brain function:** Papers that highlight the development of innovative optics and photonics technologies that increase our understanding of brain physiology and function
- **Translational research:** Papers that highlight the transition from bench to bedside using the latest photonics technologies, tools, and techniques for healthcare
- **3D printing:** Papers that highlight the innovative use of optics and photonics in multidisciplinary applications for multidimensional manufacturing
- **Photonic chips:** Papers that highlight advances in materials, design, fabrication, integration, testing and packaging of photonic components at the chip level

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 conference registration fee
- Agree to receive email messaging for the conference series
- 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: one person may not present more than two posters in a poster session; poster presenters may submit an optional poster PDF available for preview in the online program (web and app) and for publication in the Proceedings of SPIE in the SPIE Digital Library
- 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 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

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- Only manuscripts, presentations, and posters presented at the conference and received according to publication guidelines and due dates will be published in the Proceedings of SPIE in the SPIE Digital Library
- Manuscripts, presentations, and posters will be officially published after the event in the SPIE Digital Library
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Tufts Univ.
(United States)



Paola Taroni
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Rainer Leitgeb
Medizinische Univ.
Wien (Austria)



Laura Marcu
Univ. of California,
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