

Optics and Biophotonics in Low-Resource Settings V

Saturday - Sunday 2 - 3 February 2019

This conference has an open **call for papers**:

SUBMIT AN ABSTRACT
(SIGN IN REQUIRED)

[Submission guidelines for Authors and Presenters](#)

Important Dates

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Abstract Due:
25 July 2018

Author Notification:
1 October 2018

Manuscript Due Date:
11 January 2019

Conference Committee

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Call for Papers

Approximately 85% of the world's population (6 billion people) lives outside OECD nations, where resources and facilities available to deliver medical care are limited. Optical technologies are uniquely positioned to enable emerging economies to improve the delivery of healthcare of their people. Optical methods can non-invasively assess the microstructure, function, and composition of tissues, as well as deliver targeted therapies. The revolution in digital electronics has significantly reduced both the price and size of components (sensors, light sources, computing units) critical to most optical systems. Integrating such optical components with compact microfluidics and low-cost biomarkers allows for building robust optical systems that are inexpensive and scalable.

This conference is designed to serve as a forum for those engineers, scientists, clinicians, and aid workers who are developing and delivering biophotonics-based solutions for healthcare delivery in low- resource settings. An emphasis is placed on mobility, cost-effectiveness, energy efficiency, and scalability, in pursuit of the ultimate goal of clinical validation and transitioning to the field.

Topics include:

- smartphone-based imaging, sensing and diagnostics systems
- mobile and miniature optical systems
- design adaptation for low-resource settings
- integrated optics and microfluidics
- translational research in low-resource settings
- low-cost optical and optically-guided therapeutics
- spectroscopy and spectral imaging
- low-cost optomechanical design
- energy efficient systems
- algorithms for mobile image analysis
- machine learning and computer vision for mobile imaging and sensing systems
- contrast agents for field-use or point-of-care
- mobile confocal and coherence-domain imaging
- polarization-based mobile imaging and/or detection methods.

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