

Frontiers in Biological Detection: From Nanosensors to Systems XI

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

SUBMIT AN ABSTRACT

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[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 Cosponsors



Conference Committee

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Call for Papers

Detection of biological materials, from DNA strands, to proteins, to whole pathogens, is increasingly becoming a concern throughout society, not only in diagnostic laboratories in hospitals but also for on-site uses by health care providers or soldiers. From monitoring incidence of drug-resistant bacteria in hospitals and detecting harmful pathogens for homeland security to ensuring that our food is safe and our water clean, new, simple, inexpensive, sensitive, and fast methods of identifying biological molecules and pathogens are a pressing need. Optical solutions promise to provide many of these advantages and as a result many platforms for optical detection are being demonstrated in the laboratory. The deployment of bio-detection systems however requires that stringent specifications be met, for example in terms of sensitivity, false-positive and false-negative assessments, automated sample processing and analysis, system design and integration, and low cost.

This conference seeks to gather scientists, engineers and users active in biological detection. Contributions are sought in all areas, from novel optical detection platforms to nanosensors to system integration and commercialization.

Topics of interest include but are not limited to:

- new sensing platforms
- ultrasensitive (single pathogen) detection methods
- utilization of nanomaterials and new optically responsive materials for pathogen detection
- miniaturized optic components such as microring resonators, photonic crystals, integrated optical waveguides, and nanoparticles
- label-free vs. tagged detection systems
- organic and inorganic platforms
- probe design
- strategies to eliminate non-specific binding
- integration of optics and microfluidics
- systems demonstrations
- integrated photonics systems and manufacturing
- new applications for environmental, medical, and food testing.

A portion of the conference will focus on integrated photonic sensors; submissions in this topic area are particularly encouraged.

Limited assistance with travel costs is available for junior faculty presenting in this conference. Please contact the conference organizers when submitting your abstract to be considered for this. The conference will also be presenting awards for the best oral presentation by a student.

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