

Special Issue on  
**Advanced Biophotonics: Spectroscopic Identification,  
Characterization, and Imaging of Single Cells**

# CALL FOR PAPERS

The biology's atom is the cell, which not only is the structural and functional unit of all living organisms but is considered the basic yet complicated "unit of life." Biophysicists are working hard, by introducing novel approaches, to unravel biological mechanisms and bring new insights into the cell functions. Sensitivity, resolution, speed, and additional concerns plague the biophysicist who wants to peek inside a cell. Fluorescence microscopy, Raman imaging, CARS, and single molecule microscopy are but a few of the advanced photonic techniques emerging as powerful tools to study the response of biosystems at the level of single cells because they are noninvasive, offer high detection sensitivity, and allow functional imaging at micro- or even nanoscale resolution. Additionally, a variety of molecular and nanoparticle probes capable of tagging and highlighting the location of biological components that would otherwise be invisible under the microscope have been recently proposed. Biophotonics spectroscopic and imaging approaches are ideally suited for the early detection of diseases, including most cancers, and for assessing response to therapy.

To promote the latest advances in exploring spectroscopic/imaging approaches for probing single cells, we invite the submission of original research as well as review articles to this special issue. The articles would report new technologies or applications of photonics approaches for use in cell identification, characterization, and imaging.

Potential topics include but are not limited to the following:

- ▶ Near infrared spectroscopy and imaging
- ▶ Raman spectroscopy and imaging
- ▶ Optical absorption spectroscopy
- ▶ SERS spectroscopy and imaging
- ▶ FCS (Fluorescence Correlation Spectroscopy)
- ▶ Optical structural and functional imaging of live cells
- ▶ Optical coherence tomography
- ▶ Photothermal Raman Imaging
- ▶ Nonlinear microscopy
- ▶ CARS and SRS
- ▶ Fluorescence microscopy
- ▶ Light sheet microscopy
- ▶ Superresolution fluorescence microscopy
- ▶ Single probe tracking and localizing with fluorescent and nonfluorescent nanoparticles
- ▶ Nanocarriers for drug delivery
- ▶ Chemometrics

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jspec/apsi/>.

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**First Round of Reviews**

Friday, 24 March 2017

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