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Special Session

Optical biosensing: from Point of Care application to intracellular nanosensing

Session Organizers:

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Session Abstract:

Optical biosensors, integrated within an optical biochip, can play a leading role in clinical applications for the development of point of care testing devices(POCT). Because of its miniaturization, low cost, and potential for large-scale automation, optical biochip can perform analysis more efficiently than currently available laboratory equipment, satisfying all the requirements of physicians for a fast and rapid determination of the clinical parameters at the patient's bedside. At the same time, the advent of nanophotonics has opened completely new perspectives and monitoring of cell metabolism and intracellular dynamic processes is becoming a reality thanks to the utilization of natural proteins, which are expressed by specific genes, that exhibit fluorescent and luminescent properties as a function of a well-defined chemical/biochemical parameter or to the internalization of specific fluorescent nanoprobe.

The special session will include, but will not be exclusively limited to, the following topics:
Optical Biosensors, Optical Intracellular Sensing, Point-of-Care and Lab-on-a-Chip Optical Platform and Solutions, Optofluidics for sensing, Micro-and Nano Optical Sensor Arrays, Optical Biosensors in Health Care.