Special Issue

Surface Plasmon Resonance-Based Biosensors and Their Applications

Message from the Guest Editor

Surface plasmon resonance (SPR) refers to the quasiparticles of the collective oscillation of electrons and photons (electromagnetic waves) at metal-dielectric interfaces. SPR produces intense localized electromagnetic fields, leading to superior detection sensitivity. Various SPR-based methods have been shown to be information-rich tools for analyzing biological materials, with some offering exceedingly high sensitivity at the single-molecule level, and others enabling label-free, non-destructive, and in situ observation of various biological processes. SPR has also been shown to immobilize suspended entities such as biomolecules, akin in its underlying physics to the well-known optical tweezers. Significant advances have been made in biomedical diagnostics, drug discovery, food safety, environmental monitoring, and beyond. This Special Issue aims to provide a communication platform for researchers and technologists in this promising subfield of research straddling biology, physics, and engineering, and to serve as a repository of information on the pertinent aspects of engineering and technology development, as well as cases of applications.

Guest Editor

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Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

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