Special Issue

Advanced Plasmonics and Surface-Enhanced Technologies in Biosensing Applications

Message from the Guest Editors

Recent advancements in plasmonics and surface-enhanced technologies have ushered in a new era of precision in biosensing applications. Plasmonics exploits the unique optical properties of metallic nanostructures, where the resonant oscillation of surface plasmons significantly enhances electromagnetic fields. This phenomenon allows for the sensitive detection of biomolecular interactions, even at trace levels. When combined with techniques such as surface plasmon resonance (SPR), surface-enhanced Raman spectroscopy (SERS), and surface-enhanced fluorescence (SEF), plasmonic biosensors offer unparalleled sensitivity, enabling the detection of single molecules or ultra-low concentrations of analytes. These developments hold immense promise in various fields, including medical diagnostics, environmental monitoring, and food safety. This Special Issue focuses on the latest fundamental advancements in SPR, SERS, and SEF and their biomedical and environmental sensing applications. By bringing together cutting-edge research articles, communications, and review papers, we aim to showcase the potential of these technologies to transform future biosensing strategies.

Guest Editors

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Message from the Editor-in-Chief

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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