

Special Issue

Fluorescence-Based Sensors for Bio-Analysis: Current Advances, Gaps, and Future Outlook

Message from the Guest Editor

Fluorescence-based techniques have become dominant in the field of bioimaging because of their high sensitivity and selectivity. They enable the real-time detection of bioanalytes with spatio-temporal precision, revealing the intricate molecular details of complex biological processes in living cells and organisms. This has been possible with the help of a number of strategies such as fluorescence turn-on probes, ratiometric sensing, FRET, smFRET, BRET, and fluorescence lifetime-based approaches. Biosensors can be designed using fluorescent proteins (FPs), small-molecule fluorescent organic dyes, and nanomaterials. Because of the versatile nature of fluorescence techniques, these fluorescence-based approaches are highly effective for detecting diverse analytes, including small molecules, metabolites, metal ions, proteins, DNA, and RNA. Therefore, fluorescence-based biosensing has attracted significant attention across the fields of biomedical and life sciences.

Guest Editor

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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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