Special Issue

Highly Sensitive Biosensors Based on Two-Dimensional Materials

Message from the Guest Editors

This Special Issue is focused on the study and development of highly sensitive biosensors based on two-dimensional (2D) materials. In the past decade, tremendous progress has been made in the study of 2D materials: from h-BN and transition metal dichalcogenides to maxenes/mxenes and 2D perovskites. The exceptional mechanical, electrical, optical, and optoelectronic properties, combined with a variety of chemical properties that can be modified, as well as the large surface areas and one-to-few atom thicknesses of such materials, have made them one of the most promising platforms for the creation of highly sensitive, wearable/flexible, and integrated biosensors. The sensing materials and sensing properties are not limited; the only requirement is that the biosensor design includes 2D materials or van der Waals heterostructures. We welcome contributions on various biosensor designs combining 2D materials and van der Waals heterostructures with traditional sensing platforms such as surface plasmon resonance (SPR), surface-enhanced Raman spectroscopy (SERS), and field-effect transistor-based biosensors. Experimental, theoretical, and numerical simulation results will be considered.

Guest Editors

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Deadline for manuscript submissions

closed (25 October 2022)

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About the Journal

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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