Special Issue

Low-Dimensional Materials in Biosensors, Biophotonics, and Bioelectronics

Message from the Guest Editor

The recent development of low-dimensional structures, such as nanowires, nanodots, and nanofilms, in a variety of material systems, covering 2D materials, oxides, and metals, has stimulated exciting research possibilities and applications in biochemical sensors. One example is nanowires, providing a large surface-to-volume ratio that have enough reactions for chemical detection at ultra-low concentrations in resistive-type sensors. Low-dimensional metal structures also induce a plasmonic effect for the optical detection of biochemical materials. In view of this rapidly growing field, it is my pleasure to invite you to contribute in this Special Issue focused on the recent advances, future perspectives, and challenges for biochemical sensors using low-dimensional materials.

Keywords: 2D materials; metal oxide; metal nanostructures; biochemical; volatile organic compounds; resistive-type sensors; optical sensors

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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