Special Issue

Nanomaterial-Based Biosensors for Biomedical Applications

Message from the Guest Editors

Recent advances in the development of functional nanomaterials with unique physical and chemical properties have paved the way for the design of new biosensors for biomedical applications. A variety of emerging inorganic (e.g., quantum dots, carbon nanotubes, liquid metal alloys, and rare-earth nanoparticles) and organic (e.g., polymeric nanoparticles) nanomaterials, as well as hybrid nanomaterials, have become the basis for high-performance biosensors with an enhanced sensitivity, selectivity, and robustness. Using these advanced nanomaterials as the core sensing elements, many nanosensors have been developed, including, but not limited, to silicon-based nanowire field-effect sensors for pH sensing, protein/DNA detection, and single viruses detection; carbon dots-based photoluminescence sensors, electrochemiluminescence sensors, chemiluminescence sensors, and enzyme sensors; liposome-based nano biosensors for pesticide detection; and surface-enhanced Raman scattering nano-biosensors with different nanomaterials.

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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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