Special Issue

Current Trends in Nanostructured Biosensors: A Journey into the Future of Detection and Innovation

Message from the Guest Editor

Nanotechnology is pivotal to advancing the field of biosensors. The advent of nanostructured materials has opened new avenues for the development of next-generation biosensors. By enabling precise control over the design of electrode interfaces at the nanoscale and harnessing the unique properties of nanomaterials, we can create innovative biosensing platforms with significantly improved capabilities. In recent years, biosensor devices employing diverse materials and operating through various modes have gained considerable attention due to their broad array of applications. These include clinical laboratories, food analysis, environmental monitoring, protein engineering, drug discovery, and security. We invite contributions that explore recent approaches to constructing label-free nanostructured biosensors, including the use of self-assembled peptide nanostructures as building blocks. We particularly welcome studies focused on the development of portable point-of-care electronic devices for applications ranging from environmental analysis to biomedical diagnostics. This Special Issue will encompass both review articles and original research papers on this topic.

Guest Editor

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
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