Special Issue

Biosensors Based on Nanostructured Materials

Message from the Guest Editors

Although biosensors have often been conceived as powerful screening tools, advances in nanotechnology have been essential to re-shape their definition and scope, being today of high interest in many fields of application due to their unique advantages.

Materials science has a key role in the contributions of nanotechnology to improve biosensors analytical performance and facilitate their design to fulfill the requirements of the end-user. The advanced development of new nanostructured transducers opens new insights in the design, characteristics and performance of optical, electrochemical and mass-sensitive biosensors, but also nanoelectromechanical biosystems. Apart from the signal enhancement achieved by using transducers of large surface area, nanostructured materials offer a wide range of possibilities in terms of engineering new sensing paradigms, single molecule detection, multiplexing capabilities and integration into portable devices, among others.

This Special Issue aims to cover recent advances in the development of nanostructure-based biosensors, with a special focus on highlighting the advantages of introducing structures at the nanoscale level in their design.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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