

Special Issue

Advances in Nanomaterials for Biosensing Application

Message from the Guest Editors

At the global level, great advances have been achieved towards new approaches in biosensing and bioelectronic devices suitable for application in human health monitoring. Biosensors measure biological signals and convert them into electrical signals. As in many different technological fields, nanomaterials have demonstrated their appropriateness for biosensing applications. The smart use of such nano-objects has led to clearly enhanced performances with increased sensitivities and lowered detection limits of several orders of magnitude. Specifically, nanomaterials used as transduction elements in biosensing devices include nanoparticles with high stability and high carrier capacity, nanowires and nanorods that are capable of high detection sensitivity, carbon nanotubes with a large surface area and high electrical and thermal conductivity, and quantum dots with color tunability. This Special Issue will focus on the evolution of biosensors, on the types of biosensors based on their receptors, transducers, and modern approaches employed in biosensors using nanomaterials, and the recent advances in biosensing technology with the expansion of nanotechnology.

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