Special Issue

Growth, Characterization, and Modelling of Nanostructures for Applications in Sensing

Message from the Guest Editors

Nanowires are one-dimensional nanostructures with a diameter ranging from a few to several tens of nanometres, and a length in the micrometre range. One of the most interesting applications of nanowires is the sensing of specific molecules in gases or liquids, as their peculiar small size and high surface/volume ratio permit achieving a very high sensitivity, up to parts per billion, or even more. The modifications in electrical conductivity caused by the binding of charged species to the surface of the nanowire allows for fast, efficient, and selective sensing. Surface modifications induced by specific functional groups allow for increasing the measurable interactions and enhancing the selectivity of these nanostructures towards specific analytes. This Issue will cover a wide range of research fields in the field of semiconductor nanowires for sensing. Original reviews, communications, and scientific papers focusing on these topics are welcome.

Guest Editors

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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.

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