Special Issue

ZnO Nanowires: Growth, Properties, Energy and Environmental Applications

Message from the Guest Editor

As an abundant and biocompatible compound semiconductor with a high aspect ratio at nanoscale dimensions, ZnO in the form of nanowires has emerged as a potential building block in a wide variety of devices. However, there is still a significant need for exploring the growth of ZnO nanowires, elucidating and monitoring their fundamental properties, and improving their integration into nanoscale devices, specifically in the fields of energy conversion and storage as well as the environment. This Special Issue will address the following topics: (i) growth and nucleation mechanisms of ZnO nanowires using chemical and physical deposition techniques; (ii) fundamental properties of ZnO nanowires, including doping, polarity, surfaces, and interfaces; (iii) energy applications such as photovoltaic cells, piezoelectric devices, self-powered devices, and batteries; and (iv) environmental applications such as gas sensors and photocatalytic devices for water remediation.

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

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