

Special Issue

Preparation, Characterization and Application of Nanowires

Message from the Guest Editor

Semiconductor nanowires (NWs) have attracted a growing interest as building blocks for optoelectronic, photovoltaic, and sensing applications. Due to their one-dimensional geometry, NWs can exhibit structural, electrical, and photonic properties that are different from and often superior to their bulk and thin-film counterparts. For example, the absorptivity of NWs can be increased substantially by tuning the geometry of the array structures, which boosts the efficiency of NW solar cells above that of planar devices and also allows reducing material consumption and costs. Furthermore, due to relaxed lattice-match constraints, NWs can be easily grown on foreign substrates. We invite authors to submit original communications, articles, or reviews on innovative synthesis routes of NWs and also on the characterization of their unique nanoscale properties. Contributions focused on NW applications in the fields of energy production including solar cells and photoelectrochemical water splitting, light emission including LEDs and lasing, as well as sensing are also welcome.

Guest Editor

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About the Journal

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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