Special Issue

Nanomaterial-Based Nano-Electronic and Photonic Devices

Message from the Guest Editor

Recently, nanomaterials, including zero-dimensional (0D) quantum dots, one-dimensional (1D) nanowires, and two-dimensional (2D) thin flakes, have attracted worldwide attention due to their properties and potential applications. Materials such as various oxides, sulfides, nitrides, halides, and semiconductor nanostructures have been synthesized and used in the fabrication of photonic and optoelectronic devices (for example, lasers, light-emitting diodes, photo-detectors, photo-transistor, photo-modulators, solar cells, etc.). However, several major problems of defects, stability, interface engineering, and chip integration are slowing down the development of these nanoscaled photonic and optoelectronic devices. The Special Issue focus on comprehensive research outlining progress on the synthesis and application of nanomaterials in photonic and optoelectronic devices. Potential topics include, but are not limited to:

- low-dimensional nanomaterials
- nanomaterials characterization
- spectroscopy
- emission mechanism
- optical microcavity
- nonlinear optics
- nanophotonics
- optoelectronics nanodevices

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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