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New Methods for the Growth, Processing and Characterization of Nanostructures for Advanced Photonic and Electronic Devices

Guest Editor:

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Deadline for manuscript submissions:
closed (20 March 2024)

Message from the Guest Editor

Dear Colleagues,

Electronic, optoelectronic, and optical devices are used technologies that contribute to the convenience of modern life in the spheres of information, energy, biology, environment and nano information. Nanostructures have attracted attention because they have new physical properties that are not present in bulk materials.

In contrast to nanomaterials, whose properties are inherent, nanostructures can be engineered to present unique optical and photonic properties by taking advantage of phenomena such as quantum confinement effects, localized plasmons, interference or effective media. Bottom-up nanostructures (epytaxial layers, quantum dots and wires, and bidimensional materials) and up-bottom materials (meso- and nanoporous semiconductors, and self-assembled structures) can be tailored to show the desired optical behavior for a given application.

This Special Issue will address all topics related to the design, fabrication and characterization of nanostructures, and practical use in photonic or optoelectronic applications.

See more information in: https://www.mdpi.com/si/182459

Dr. Hongbo Xu
Guest Editor

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Editor-in-Chief

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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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