Special Issue

Perovskite-Based Nanomaterials for Semiconductors and Optoelectronics

Message from the Guest Editor

Perovskite-based nanomaterials have rapidly become a cornerstone in the advancement of semiconductors and optoelectronics. These materials exhibit remarkable structural, electronic, and optical properties that have driven significant progress in applications such as photovoltaic cells, light-emitting diodes (LEDs), lasers, and photodetectors. The ability to fine-tune bandgaps, coupled with high absorption coefficients and efficient fabrication methods, positions perovskites as prime candidates for next-generation electronic and optoelectronic devices. This Special Issue seeks to compile pioneering research on the synthesis, characterization, and application of perovskite-based nanomaterials. We welcome contributions that explore innovative material designs, interface engineering strategies, and device architectures that enhance performance and stability. Thus, this Special Issue will showcase the latest advancements and promote interdisciplinary collaboration, accelerating the commercialization of perovskite-based technologies.

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.

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