Special Issue

Advances in the Investigation of Semiconductor Quantum Dots

Message from the Guest Editor

Quantum dots feature a semiconductor nanostructure in which excitons are bound in three spatial directions. Due to the strong quantum confinement effect, zero-dimensional semiconductor quantum dots (QDs) offer strong light absorption and bright narrowband emission across visible and infrared wavelengths. These properties are of interest for imaging, solar energy harvesting, displays, and communications. There are many application scenarios for quantum dots that have been developed, but there are many problems that still need to be tackled, such as concerns about stability and biotoxicity. This Special Issue aims to contribute to the development of semiconductor quantum dot technology and its applications in the fields of luminescence, photovoltaics, light detection, and other related fields. In this Special Issue, Research areas may include (but are not limited to) the following:

- Synthesis of perovskite and conventional quantum dots;
- Modulation of photoelectric performance by ligand engineering, component optimization, etc.;
- Photoelectric conversion devices (light-emitting diodes, photovoltaics, photodetectors, etc.);

We look forward to receiving your contributions.

Guest Editor

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Deadline for manuscript submissions

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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