

Special Issue

Silicon Nanocrystals: From Fundamentals to Applications

Message from the Guest Editor

Research in silicon nanocrystals (Si NCs) has over thirty years of history; nevertheless, it still attracts significant attention today. Initially, a great effort was devoted to extending the use of silicon in optoelectronics for the realization of Si-based light-emitting devices, especially lasers. However, many challenges still remain, such as the precise control of the optical properties of Si NCs by tuning of the quantum confinement, surface, and doping effects, and their integration within devices. This Special Issue aims to cover a broad range of subjects, from Si NC synthesis, to surface engineering, and to the design and characterization of devices. In particular, we invite authors to contribute original research articles, letters, as well as comprehensive review articles covering the most recent progress and perspective views on fundamental issues and properties of Si NCs as well as the potential and challenges in the incorporation of Si NCs into various efficient optoelectronic devices, such as light-emitting diodes, sensors, photodetectors, solar cells, etc.

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

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