

Special Issue

Research Progress in Low-Dimensional Quantum Nanomaterials

Message from the Guest Editors

With the rapid development of nanotechnology and quantum science, low-dimensional quantum nanomaterials have emerged as a transformative platform for exploring novel physical phenomena and enabling next-generation technologies. This Special Issue aims to bring together cutting-edge research and review articles that highlight recent advances, challenges, and future prospects in the field of low-dimensional quantum nanomaterials, and seeks to provide a comprehensive overview of the latest experimental, theoretical, and computational breakthroughs in the design, synthesis, characterization, and application of low-dimensional quantum nanomaterials. We welcome contributions that address, but are not limited to, the following topics: Synthesis and fabrication of low-dimensional quantum nanomaterials; Advanced characterization techniques (e.g., spectroscopy, microscopy); Quantum transport, coherence, and entanglement phenomena; Emergent quantum phenomena; Quantum sensing and spin-based technologies; Integration of low-dimensional materials into functional devices; Theoretical modeling and computational studies; Twisted heterostructures.

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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.

Editor-in-Chief

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