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Emergent Quantum Phenomena in Low-Dimensional Heterostructures: From Theory to Devices

Guest Editor:

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Deadline for manuscript submissions:
closed (21 January 2021)

Message from the Guest Editor

Dear colleague,

The purpose of the Special Issue is to collect state-of-the-art contributions dealing with the characterization and modelling of low-dimensional heterostructures involving topological insulators, mesoscopic superconductors, graphene and other two-dimensional materials or thin films, and quantum dots with strong electronic correlations.

Contributions have to describe, among other potential topics, emergent quantum behaviors in low-dimensional heterostructures, such as topological phase transitions, surface or edge quantum states, proximity effects, anomalous scattering mechanisms (e.g., the Andreev reflection mechanism), etc.

Although both purely theoretical or experimental works (in the form of research papers or review articles) are welcomed, contributions in which the theoretical formulation is able to explain or provide insight into a real device response are preferred and solicited.

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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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