Special Issue

Electronic and Optoelectronic Applications Based on 2D Nanomaterials

Message from the Guest Editor

With attributes such as high electron mobility, flexibility, transparency, and strong light–matter interactions, 2D nanomaterials are rapidly emerging as the bedrock for next-generation transistors, photodetectors, modulators, and light-emitting devices. Furthermore, their ability to form van der Waals heterostructures allows for the crafting of bespoke materials with tailored electronic and optoelectronic properties, opening doors to a multitude of novel application avenues. In this Special Issue titled "Electronic and Optoelectronic Applications Based on 2D Nanomaterials", we aim to create a confluence of pioneering research efforts addressing both the incredible advancements and existing challenges in the field. We invite contributions that delve into the synthesis, characterization, theoretical modeling, and application of 2D nanomaterials in electronic and optoelectronic devices. Together, let us illuminate the pathways of this vibrant research arena and pave the way for the next epoch of electronic and optoelectronic innovations.

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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