

Special Issue

Emerging Two-Dimensional Materials: Inspiring Nanotechnologies for Smart Energy Management

Message from the Guest Editors

Two-dimensional (2D)-layered materials beyond graphene have a number of peculiar and innovative properties that could enable them to inherit the role previously assigned to traditional semiconductors and insulators for nanotechnologies. These materials also hold a lot of promise for so-called energy technologies, such as energy storage, conversion, and harvesting. Among these materials, consideration will be mainly given to the classes of transition metal dichalcogenides, Xenes, MXenes, and their hetero-integration, functionalization, and engineering. The present Special Issue aims to collect significant contributions in the field of the synthesis, characterization, and modeling of 2D materials beyond graphene with a special regard to their potential for energy-saving nanotechnologies. More specifically in this framework, this issue will be open to emerging 2D materials that target topics such as low energy consumption nanoelectronics, devices for light harvesting, and new solutions for energy technologies, including energy storage and conversion devices.

Guest Editors

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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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