

Special Issue

Graphene and Other 2D Layered Based Nanomaterials for Energy Applications

Message from the Guest Editor

During the last decades, the world-wide power consumption has grown almost 15-fold. One of the basic problems of the modern power industry is to find alternative renewable power sources (e.g., hydrogen). On the other hand, it is necessary to develop strategies for more efficient power storage, transmission, and conversion. In this view, graphene and other 2D Layered based nanomaterials that are characterized by unique atomic and electronic structures offer a broadest diversity of solutions and strategies in the field of energy applications. Chemical and physical properties of these materials may be efficiently designed, engineered and tuned for each specific energy application by using the controllable synthesis procedure, structure modification by chemical and physical methods, introducing impurities or creating defects, and also by combining them in hybrid structures. The area of interest of the Special Issue is very broad. We expect contributions on the following topics: 2D materials; layered materials; 2D carbon-based nanocomposite and nanostructures; graphene and graphene derivatives (GO, rGO, etc.); carbon nanotubes and their derivatives, 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.

Editor-in-Chief

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