Special Issue

Synthesis and Deposition of 2D Nanomaterials for Optoelectronics, Photocatalysis and Sensing

Message from the Guest Editor

The Special Issue is dedicated to highlighting relevant advances in the field of two-dimensional nanomaterials and their applications. 2D nanomaterials possess the highest surface-to-volume ratio of any materials: every atom is a surface atom. As a result, they show tremendous potential in applications where the interaction of the material with the surrounding environment is the key parameter. 2D nanomaterials show outstanding electrical and optical properties due to the ability to control the electronic state at the surface of the 2D materials and the possibility of chemical and structural modifications. This offers new opportunities to use the 2D nanomaterials in optoelectronics and catalysis in many different chemical reactions. 2D material-based sensors can clearly enhance sensing performances in terms of sensitivity and detection limits, down to the detection of single molecules using different types of transduction mechanism. This Special Issue aims to cover aspects of using 2D nanomaterials for optoelectronics, sensing, and catalysis purposes. Welcomed formats include full papers, communications, and reviews.

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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