Special Issue

Harnessing 2D Structures for Next-Generation Sensing and Functional Devices

Message from the Guest Editors

In the realm of nanomaterials, 2D structures have garnered immense attention due to their exceptional properties, such as high surface-to-volume ratios, exceptional electronic behavior, and unique optical characteristics. These attributes make them prime candidates for revolutionizing a wide range of applications, spanning from electronics and photonics to advanced sensors. The essence of this research lies in the ingenious manipulation of 2D materials via innovative doping and irradiation techniques. These techniques hold the key to fine-tuning the electrical, optical, magnetic, and gas-sensing properties of these materials.

This Special Issue aims to elucidate the fundamental principles that govern the behavior of 2D materials when subjected to controlled modifications. The potential benefits are vast, including faster, more sensitive sensors, energy-efficient electronics, and novel devices with applications we are only just beginning to fathom. Review articles that describe the status of their applications are also welcome.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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