Special Issue

Advances in Two-Dimensional Materials: Design, Properties, and Applications

Message from the Guest Editor

Two-dimensional (2D) materials have attracted tremendous interest due to their extraordinary electronic, optical, mechanical, and thermal properties. Since the discovery of graphene, the family of 2D materials has expanded significantly, including transition metal dichalcogenides (TMDs), MXenes, black phosphorus, and various van der Waals heterostructures. These materials exhibit unique quantum effects and tunable properties, making them promising candidates for next-generation electronics, optoelectronics, energy storage, catalysis, and sensing applications. We welcome contributions on various topics, including, but not limited to, the following:

- Synthesis and fabrication techniques for novel 2D materials and heterostructures.
- Fundamental electronic, optical, and mechanical properties of 2D materials.
- Engineering approaches to tailor the properties of 2D materials (strain, defects, doping, etc.).
- Theoretical and computational studies of 2D material properties and transport phenomena.
- Applications in electronics, optoelectronics, energy storage, catalysis, and sensing

Guest Editor

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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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