Special Issue

2D Semiconductor Nanomaterials and Heterostructures

Message from the Guest Editor

The previous decade has witnessed significant research activity in the area of 2D materials such as graphene, transition-metal dichalcogenides (TMDs) of the form *MX*2 (M = Mo, W, Re; X = S, Se, Te), and 2D magnets such as CrX3 (X = Cl, Br, I), Cr2X2Te6 (X = Si, Ge), Fe3GeTe2, and VSe2. Simultaneously, a new family of metal phosphorous trichalcogenides (MPT) of the type MPX3 (M = Mn, Fe, V, Zn, Co, Ni, Cd, Mg; X = S, Se) is emerging, bringing promising semiconductors (band gaps from 1.3 to 3.5 eV) with inherently present antiferromagnetic ordering effects. These materials and their heterostructures hold great potential in fundamental research, where many new low-dimensional phenomena are discovered regularly. Additionally, they hold promise in contributions to the next generation of devices such as spintronics, valleytronics, straintronics, and twistronics. The present Special Issue aims to publish state-of-the-art manuscripts concerning advancements in the area of 2D semiconductors and magnets research.

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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