

Special Issue

Micro/Nano-Structure Regulation of Two-Dimensional Materials

Message from the Guest Editor

This Special Issue focuses on advancing the strategic design and molecular-level control of micro/nano-architectures in 2D materials (e.g., graphdiyne, graphene, MXenes, TMDs) to optimize their physicochemical properties. Contributions will highlight innovative approaches—including chemical synthesis, defect engineering, strain modulation, and molecular self-assembly—to tailor electronic states, surface chemistry, and interfacial dynamics. Emphasis is placed on applications in nanoelectronics, optoelectronics, energy storage, catalysts, sensors, and biomolecular devices. By elucidating atomic-scale mechanisms and structure–property correlations, this collection aims to foster breakthroughs in sustainable nanotechnology. Submissions about the molecular-level research on the materials, including integrating computational modeling, advanced characterization, or interdisciplinary material-device integration are particularly encouraged.

Guest Editor

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