Special Issue

Two-Dimensional Materials for Photocatalysis and Energy

Message from the Guest Editors

Two-dimensional (2D) materials have emerged as a transformative class of materials for energy and environmental technologies due to their unique physicochemical properties, large surface-to-volume ratio, tunable band structures, and superior charge transport characteristics. This Special Issue focuses on the recent advances in the design, synthesis, and application of 2D materials—such as MXenes, transition metal dichalcogenides (TMDs), and graphitic carbon nitrides—in photocatalytic and energy conversion/storage systems. Topics of interest include, but are not limited to, the following: 2D material-based photocatalysts for solar-driven water splitting and CO2 reduction; heterostructures for enhanced charge separation; interfacial engineering for light harvesting; 2D materials in batteries, supercapacitors, and thermoelectrics; novel synthesis methods of 2D materials; advanced spectroscopic and computational methods for elucidating the photocatalytic mechanism. We welcome original research articles and reviews, and we look forward to your participation and engagement!

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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