Special Issue

Two Dimensional Nanostructures with Efficient Catalytic Performance for Energy and Environment Applications

Message from the Guest Editors

The urgent need for sustainable energy solutions and environmental remediation has driven the exploration of innovative technologies, among which functional nanocatalysts stand out for their pivotal role in energy conversion and environmental applications. Potential topics in this Special Issue include, but are not limited to, the following: CO2 capture and reduction strategies;
Electrocatalytic oxygen evolution reactions (OERs), oxygen reduction reactions (ORRs), and hydrogen evolution reactions (HERs);
The photoreduction of pollutants;
Nitrogen fixation for sustainable agriculture;
The synthesis of value-added chemicals from renewable resources;
Carbon-based materials (graphene and carbon nanotubes) for energy-related and environmental applications;
Membrane technologies used for water purification and gas separation;
The green synthesis of nanoparticles and their applications in catalysis;
The design of core–shell structures and heterojunctions for boosting catalytic performance;
Machine learning and AI in the discovery and optimization of nanomaterials.

Guest Editors

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Dr. Yong Li

Prof. Dr. Yuanhao Wang

Deadline for manuscript submissions

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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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