Special Issue

Harnessing Advanced Nanostructures for Catalysis/Electrocatalysis Applications

Message from the Guest Editor

Researchers are currently focusing significant effort on developing high-performance catalysts to advance innovative green and sustainable technologies. Nanostructured materials, with their synergistic combination of specifically designed electronic properties and precise architectural nanodimensions, hold transformative potential in advancing sustainable catalysis as well as electrocatalysis and photoelectrocatalysis processes. However, integrating nanotechnology into practical catalytic systems presents notable challenges. This Special Issue of *Nanomaterials* invites original research articles and review papers focused on the design, synthesis, and characterization of innovative catalytic, electrocatalytic, and photoelectrocatalytic nanostructures. The aim is to showcase advances in understanding structure–function relationships and how the resulting multifunctionality influences the catalytic performance of nanostructured materials and their heterostructures.

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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