Special Issue

Recent Developments in Nanochemistry for Heterogeneous Catalysis Advancements (2nd Edition)

Message from the Guest Editors

Heterogeneous catalysis has played an important role in the development of more sustainable chemistry for many research areas, as well as for the chemical industry, where many processes involve catalysts. Hence, any single advance in the field of catalysis. including the development of novel catalytic materials, catalyst synthesis strategies, and sustainable catalytic processes, may have a considerable impact on societal progress and will ensure a greener environment for forthcoming generations, addressing global energy and environmental challenges. The aim of this Special Issue is to cover promising recent research and novel trends in heterogeneous catalysis employing various nanostructured materials for extensive applications in the fields of thermal catalysis, photocatalysis, electrocatalysis, photoelectrocatalysis, biocatalysis, etc., in research areas ranging from environmental remediation to organic transformations and renewable energy. Submissions are welcome in the form of original research manuscripts or critical review papers that represent the scientific field.

Guest Editors

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Deadline for manuscript submissions

closed (30 April 2025)



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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 nanometerscale 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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