

Special Issue

Sustainable Nanoparticles - Their Synthesis and Catalytic Applications

Message from the Guest Editors

Sustainable nanomaterials have recently attracted tremendous attention as highly functionalized nanocatalysts or catalysts in diverse catalytic areas including solid-supported nanocatalysts, graphene materials, integrated catalysts, core-shell catalysts, among others. Rapid technology progress over the recent decades has allowed advances in the development of increasingly sustainable heterogeneous catalysts. In particular, catalytic materials can now be prepared with greater precision via nanotech-enabled processes. Metal nanoparticles, which often serve as active catalytic components, can be synthesized in a more environmentally friendly manner (using benign by design approaches) with well-defined sizes, shapes, crystal facets, structure, and composition. Such measured designs could potentially lead to advanced catalytic technologies and their applications in benign processes. Furthermore, the traditional need for efficient and selective catalytic reactions that transform raw materials into valuable chemicals, pharmaceuticals and fuels, green chemistry component also strives for waste reduction, atomic efficiency and high rates of catalyst recovery.

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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.

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