Special Issue

New Trends in Mesoporous Materials for Catalysis and Sensors

Message from the Guest Editors

Since the discovery of MCM-41-type ordered mesoporous silica by scientists from Mobil in 1992, considerable progress has been made in the synthesis of mesoporous materials with various structures and components. In particular, mesoporous silica and metal oxides have received a great amount of attention in heterogeneous catalysis and various types of sensors. Pioneers in this field have attempted enhance the performance of various catalytic systems, including those in the oil industry as well as in photocatalysis- and hydrogen-related systems. Although various synthesis methods have been reported, durability—for example, hydrothermal, chemical, and mechanical stability—remains a challenging barrier preventing the industrial application of mesoporous materials. This Special Issue will present a self-contained set of papers on new synthesis methods and versatile applications of mesoporous materials, providing an exploration of current state-of-the-art research in this cutting-edge field, particularly in the areas of catalysis and sensors. These submissions can take the form of mini-reviews, original research papers, or short communications describing new breakthroughs.

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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 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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