Special Issue

Hydrothermal Synthesis of Nanoparticles

Message from the Guest Editors

The recent developments in the preparation of nanoparticles by heterogeneous chemical solution reactions favored the production of a large number of advanced functional materials. Additionally, the particle size control enhanced by high crystallization kinetics occurring in aqueous substances provides the sufficient conditions to produce nanoparticles of various inorganic compounds. The innovation of technology triggers the challenge of optimizing the synthesis of nanostructured advanced and functional materials to overcome the requirements of the current technology. Hence, the hydrothermal synthesis (including supercritical region) of nanoparticles has emerged as a sustainable technique to produce inorganic materials on a large scale in continuous flow reactors at a relatively low cost. This Special Issue intends to gather original and review papers on scientific fundamentals and technological applications of the hydrothermal synthesis of nanoparticles of new nanomaterials for energy storage, catalysis engineering use, and environmental sustainability challenges.

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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.

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