Special Issue

Development and Application of Nanomaterials for Advanced Water Treatment

Message from the Guest Editor

A wide range of nanomaterials and nanocomposites are used in water purification technologies for detecting, quantifying and removing chemical pollutants and harmful microbes. Pollutants are usually removed from water either via catalytic degradation or adsorption on the nanoadsorbent surface. The most common nanomaterials used in water purification include metal or metal oxide nanostructures, nanofibers, coatings, carbon-based nanomaterials, 2D materials and nanocomposites. The chemical pollutants removed from water usually comprise dyes, heavy metals, antibiotics, other emerging contaminants and various pathogens. Recently, engineered nanomaterials have also been found to accumulate in the environment through improper waste disposal and to induce harm to living organisms. Many purification methods have also been developed to remove nanopollutants from water. This Special Issue focuses on water purification methods involving different nanomaterials as adsorbents or catalysts for removing different types of pollutants, mechanistic studies and other methods used to remove nanopollutants from water.

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.

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