Special Issue

The Application of Nanomaterials in Heavy Metal Detection and Removal

Message from the Guest Editors

Detecting, identifying, and removing particular contaminants, such as heavy metals, in complex wastewater is challenging. Nanomaterials have been widely explored as a method to detect and eliminate heavy metals due to their small size and large surface area. Recently, tailored nanomaterials have shown great potential in the scavenging of heavy metals due to their selective adsorption properties for heavy metals. The present Special Issue will focus on comprehensive research outlining progress on the synthesis and application of nanomaterials in detecting and removing heavy metals from wastewaters. We invite researchers from academics and industries to contribute original research articles and review articles. Potential topics include, but are not limited to:

- Advanced hybrid nanomaterials for heavy metal removal;
- Nanomaterials for the detection of heavy metals;
- Advanced modeling for heavy metal adsorption;
- Reduction of heavy metals using nanomaterials;
- Nanomaterials embedded in thin films and membranes for the detection and removal of the heavy metals;
- Simulation and optimization of nanomaterials application for heavy metals detection and removal.

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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