Special Issue

Nanomaterials for Advanced Batteries: Alkali Metal Ion Batteries, Aqueous Batteries, and Metal Batteries

Message from the Guest Editors

As global demand for sustainable energy solutions intensifies, the development of high-performance electrochemical energy storage systems has become increasingly important. This Special Issue titled "Nanomaterials for Advanced Batteries: Alkali Metal Ion Batteries, Aqueous Batteries, and Metal Batteries" aims to highlight the current direction of innovation across various battery platforms. This Special Issue encompasses a broad range of battery technologies, including but not limited to the following:

- Lithium-ion Batteries: Exploring new materials, electrode designs, and electrolyte formulations to enhance performance and safety.
- Sodium-ion Batteries: Focusing on the development of high-performance cathodes, anodes, and electrolytes for sustainable energy storage.
- Aqueous Batteries: Investigating the potential of water-based electrolytes for cost-effective and environmentally friendly battery systems.
- Metal Batteries: Including the study of lithium-metal, sodium-metal, and other metal-based batteries, emphasizing overcoming challenges related to dendrite formation and cycling stability.

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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.

Editor-in-Chief

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