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Preparation of Energy Storage Nanomaterials and their Applications in Supercapacitors and Batteries

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Message from the Guest Editor

Dear Colleagues,

Over the past few decades, nanomaterials have been extensively utilized for realizing high-efficiency energy storage devices, owing to their unique materials' properties.

Supercapacitors and batteries represent the main energy storage devices that can meet increasing global demands to power various electronics, including cellular phones, laptop computers, and digital cameras. Supercapacitors are energy storage devices that bridge the gap between conventional capacitors and batteries. Batteries store energy through electrochemical reactions. The performance of a battery is largely determined by the materials used in the electrodes and electrolytes.

In this Special Issue we aim to cover the recent advancements in the preparation of nanomaterials for supercapacitors and batteries. Research areas may include (but are not limited to) the following: the preparation and characterization of nanomaterials for energy storage devices; emerging preparation or characterization techniques for nanomaterials utilizing operando techniques; and density functional theories and quantum computation for those energy devices.

Prof. Dr. Joonho Bae,

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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