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Nanomaterial-Based Electrode for Metal-Ion Battery

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Deadline for manuscript submissions:
closed (15 May 2023)

Message from the Guest Editors

Rechargeable batteries based on metal-ions represent the state-of-the-art among various energy storage systems to smooth the ongoing transition from traditional fossil fuel to renewable energy resources. In the past 40 years, intensive researches have been devoted to developing nano-scale electrodes with 0D to 3D nanostructures or nanophases, which feature superior surface-to-volume ratio, extraordinary electronic properties, and intriguing chemical activity. Moreover, the interaction mechanisms between nanomaterials and metal ions have also attracted great attention. Despite significant progress has been achieved in nanomaterials-based metal-ion batteries, some aspects including energy density, power density, lifetime, and safety concerns are still far from satisfying the need of large-scale energy storage.

For this Special Issue, we encourage the submission (review articles, short communications, full papers) of recent advances in all aspects of nanomaterial-based metal-ion batteries, especially in novel nanomaterials design and preparation, characterizing techniques, studies of enhanced energy storage mechanisms, suppression of self-discharge, *etc.*

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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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