Special Issue

Nanomaterial-Based (Bio)Electrochemical Energy and Storage Systems

Message from the Guest Editors

Electrochemical energy storage and conversion (EESC) devices have garnered significant interest due to their potential to protect the natural and human environment, though challenges remain in materials and processes for their implementation. The use of nanomaterials in (bio)electrochemical energy conversion and storage represents a promising area for both academic and commercial research. Nanostructured materials, with their inherent morphological properties, offer a high electroactive surface area that enhances charge transfer mechanisms and energy storage capacity compared to bulk materials. Designing highly efficient catalysts for energy storage and conversion often necessitates the use of nanostructured materials, and nanomaterials are also essential for the development of next-generation ion exchange membranes. The special issue titled “Nanomaterials Based (Bio) Electrochemical Energy and Storage Systems” aims to summarize recent advances and new developments in the design and application of nanomaterials for highly efficient, innovative (bio)electrochemical energy production and storage.

Guest Editors

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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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