



Nanomaterials for Energy Conversion and Storage Applications

Guest Editor:

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Deadline for manuscript submissions:
closed (30 June 2021)

Message from the Guest Editor

The use of nanomaterials in energy conversion and storage represents an opportunity to improve the performance, density, and ease of transportation in renewable resources. This Special Issue looks at the most recent research on the topic, with a particular focus on artificial photosynthesis and lithium-ion batteries as the most promising technologies to date. We call for expertise from a wide range of backgrounds, from the most fundamental perspectives of the key catalytic processes at the molecular level to device-scale engineering and optimization. Although the nature of the processes dictates that electrochemistry is a primary characterization tool, due attention is given to advanced techniques such as synchrotron studies in operando. This Special Issue looks at the gap between the performance of current technology and what is needed for the future, for example, how to improve on the lithium-ion battery and to go beyond its capabilities.





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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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