Special Issue

Materials Design for Electrochemical Energy Storage

Message from the Guest Editors

Electrochemical energy storage systems play an outstanding role in a large number of applications, such as mobile devices or electric vehicles. Moreover, they will be central for the decarbonization of the energy sector and will allow flexible, decentralized and mobile concepts for energy storage. Development of tailored materials will be key to address the technological challenges of upcoming storage systems in their specific application. Electrode and electrolyte materials can be tuned with different methods and on different length scales in order to improve their electrochemical performance, as well as their thermal, mechanical and chemical stability. This Special Issue addresses theoretical and experimental work dealing with the design of novel electrode and electrolyte materials for lithium-ion and post-lithium batteries. Contributions may cover, but are not limited to:

- the design of improved battery materials;
- virtual electrode design;
- the imaging, characterization and modeling of 3D structures on multiple scales;
- process-structure-property relationships;
- simulation methods for battery cells.

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Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

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