

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.

Guest Editors

Dr. Timo Danner

1. Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Pfaffenwaldring 38-40, 70569 Stuttgart, Germany
2. Helmholtz Institute Ulm (HIU), Helmholtzstrasse 11, 89081 Ulm, Germany

Dr. Matthias Neumann

Institute of Stochastics, Ulm University, 89069 Ulm, Germany

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
batteries@mdpi.com

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Editor-in-Chief

Prof. Dr. Karim Zaghib

Department of Chemical and Materials Engineering, Concordia
University, Montréal, QC H3G 1M8, Canada

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