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Experiment and Simulation of Energy Storage Systems and Renewable Energy Materials

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Deadline for manuscript submissions:
closed (28 September 2023)

Message from the Guest Editors

Due to the significant progress on emerging experimental techniques and high computing power over the past decades, we can design physical chemistry experiments, utilizing experiment-enhanced simulations to capture the complex multiscale and multiphysics phenomena in advanced energy systems. To exploit and achieve the goal of accurate predictive capabilities, the innovation of mathematical and computational modeling is essential, as well as experimentation in electrochemical systems.

This Special Issue aims to investigate multiscale and multiphysics phenomena in advanced energy systems and collect major advances in experimental and modeling techniques, potential topics including, but not limited to:

- In situ and in operando investigation of battery degradation;
- Synthesis of materials for interfacial layers or coatings;
- Mechanical–electrochemical–thermal simulation of fuel cells;
- Mesoscale phase-field modeling of MEMS and NEMS;
- Modeling for electrochemistry of semiconductor;
- Synthesis of two-dimensional nanomaterials for supercapacitors.

Original research papers, as well as review articles, are welcome.

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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