

Special Issue

Heat and Mass Transfer in Energy Conversion and Storage Systems

Message from the Guest Editor

This Special Issue aims to explore cutting-edge research, innovative methodologies, and practical applications in this field. The scope of this issue encompasses experimental, numerical, and theoretical studies focusing on the following topics:

- Enhanced Heat Transfer: Novel materials (e.g., porous media and nanofluids) and techniques (e.g., microchannel cooling and additive manufacturing) for thermal management.
- Mass Transport Optimization: Diffusion, convection, and reactive transport in energy storage devices (e.g., batteries and supercapacitors) and conversion systems (e.g., electrolyzers and solar-thermal systems).
- Phase-Change Phenomena: Solid-liquid and solid-solid transitions in PCMs for thermal storage or regulation.
- Multiphysics Modeling: Coupled thermal-fluid-structural interactions, degradation mechanisms, and lifetime prediction in energy systems.
- Sustainable Applications: Integration of renewable energy sources (wind and solar) with storage technologies, waste heat recovery, and system-level optimization.

Guest Editor

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About the Journal

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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