

Special Issue

Next-Generation Phase Change Materials for Heat Transfer

Message from the Guest Editor

This Special Issue aims to provide a comprehensive overview of the recent progress in next-generation phase change materials for heat-transfer. It seeks to highlight the interplay between material innovation, heat transfer mechanisms, and system-level integration, with a particular emphasis on energy-related applications. Contributions that bridge fundamental material development with practical energy systems are especially encouraged, in alignment with the scope of *Energies*. Topics of interest include, but are not limited to, the following:

- Advanced phase change materials for thermal energy storage;
- Composite and nano-enhanced phase change materials for thermal energy storage and heat-transfer enhancement in energy systems;
- Encapsulation and stabilization strategies for reliable PCM deployment in thermal energy storage and thermal management applications;
- Heat-transfer enhancement strategies in PCM-integrated systems;
- Modeling and simulation of phase change heat transfer;
- PCM-based thermal management for electronics and data centers with emphasis on reducing cooling-energy demand and improving operational efficiency;
- Reliability, cycling stability, and degradation of PCMs;

Guest Editor

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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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