Special Issue

Modeling and Optimization of Heat Exchangers, Refrigeration and Heat Pump Systems

Message from the Guest Editors

Refrigeration and heat pump systems are extensively used in air conditioning, food storage and transportation, space heating and many kinds of industrial applications, and consume a large amount of energy. Thus, there is a continuous need for the design optimization of refrigeration and heat pump systems to improve system efficiency, mitigate environmental impacts and reduce costs. In order to achieve these goals, a large number of system designs need to be evaluated through theoretical analysis, numerical simulation or experimental methods, but this is usually a difficult and time-consuming process. Among those approaches, numerical modeling is a powerful and efficient way to help engineers to properly select design parameters and optimize heat exchanger and system designs, which can save a lot of costs and time. Topics of interest include, but are not limited to, the following:

- Optimal design of heat exchangers;
- System and component modeling;
- Optimization method;
- Experimental investigation;
- Compact heat exchangers;
- Alternative refrigerant-based cycles and systems;
- Optimal control of refrigeration and heat pump systems

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Deadline for manuscript submissions

closed (17 April 2025)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/176549

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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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