Special Issue

Cutting-Edge Research in Heat Transfer and Fluid Dynamics: Modeling, Design and Innovation

Message from the Guest Editor

Heat transfer and fluid mechanics are vital aspects of engineering, making it possible to build, improve, and run energy systems, industrial processes, and new technologies. These fields are crucial to addressing difficulties in energy efficiency, sustainability, and environmental impact. The goal of this Special Issue is to showcase and inform on the most recent progress in the theory, design, modelling, use, and improvement of heat transfer and fluid mechanics. Topics of interest for publication include, but are not limited to, the following:

- Computational Fluid Dynamics (CFD) and Artificial Intelligence (AI)-based modelling;
- Heat transfer in renewable energy systems (solar, geothermal, wind, etc.);
- Energy storage and cooling systems that use phase-change materials (PCMs);
- Thermal control in micro- and nanoscale systems;
- Fluid–structure interaction and turbulence modelling;
- Improving energy systems and heat exchangers;
- Environmental applications, including pollutant dispersion and thermal pollution control.
- Experimental innovations in thermal-fluid research;
- Incorporation of machine learning in heat transfer and fluid dynamics.

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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