Special Issue

Experimental Analysis and Numerical Modelling of Heat Transfer and Fluid Flows in Energy Systems II

Message from the Guest Editors

The thermal management of energy systems plays a key role in attempts to increase overall system efficiency, thus, conversely decreasing pollutant emissions and driving researchers' efforts towards an accurate evaluation of metal temperatures by correctly estimating heat transfer and fluid flow. Newly designed experimental equipment and high-fidelity computational fluid dynamics represent fundamental tools for dealing with such a demanding outcome. Furthermore, optimization methods based on artificial intelligence are now available for the design of complex components with the potential to be realized through additive manufacturing, potentially guaranteeing high aero-thermal efficiency. Still, manufacturing uncertainty must be accounted for. Finally, the increasing usage of sustainable fuels and energy carriers (e.g., hydrogen) further complicates the situation due to the possible increase in NOx production. Several projects funded by the industry and public funding bodies have allowed for advancements in the state-of-the-art, with researchers worldwide drawing increasing attention to the issue.

Guest Editors

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Deadline for manuscript submissions

closed (30 April 2024)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/143268

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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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