Special Issue

Thermal-Hydraulic Challenges in Advanced Nuclear Reactors

Message from the Guest Editor

Nuclear reactor thermal hydraulics involves the study of fluid flow, heat and mass transfer applied to nuclear technologies. It is of fundamental importance in both the design and safety operation of nuclear reactors. We are pleased to invite you to submit papers to the journal *Energies* for a Special Issue titled "Thermal–Hydraulic Challenges in Advanced Nuclear Reactors". The purpose of the issue is to advance our understanding of flow and heat transfer phenomena in nuclear reactor systems to support new-generation reactor design as well as the safety of existing reactors. Experiments, system code analyses, and CFD simulations are all welcome. The core topics include but are not limited to:

- Single- and two-phase phenomena (convective heat transfer, boiling, onset of flow instability, flow regimes, single- and two-phase pressure drop);
- Enhancement of boiling heat transfer;
- Interphase transfer processes in two-phase flow;
- Transport of radioactive trace species and aerosols in bubbles;
- Condensation in two-phase flow systems with noncondensables;
- Hydrodynamics of countercurrent two-phase flow;
- Hydrodynamics of three-phase flow systems.

Guest Editor

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Deadline for manuscript submissions

closed (18 June 2024)

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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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