Special Issue

Advances and Perspectives in Nuclear Thermal Hydraulics and Nuclear Safety

Message from the Guest Editors

Significant advancements in nuclear thermal hydraulics and safety have been achieved in recent years by introducing novel computational techniques.

- Computational Fluid Dynamics (CFD) produces high-fidelity results that enhance the understanding of flow configuration and heat exchange, ultimately allowing for reduced safety margins.
- Uncertainty quantification has become increasingly important for assessing the reliability of models and simulations.
- Artificial Intelligence (AI) has emerged as a powerful tool in nuclear thermal hydraulics, enhancing predictive capabilities and optimizing reactor operations and safety assessments. Machine learning algorithms analyze vast datasets to improve simulation accuracy and the efficiency of reactor simulation tools. AI-driven models can forecast potential issues before they arise, significantly boosting safety and operational reliability.

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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