

## Special Issue

# Advanced Multi-Physics Modelling and Simulation for Nuclear Technology—2nd Edition

### Message from the Guest Editors

Modelling and simulation (M&S) play a significant role in nuclear engineering, since they enable reproducing the behaviour of complex nuclear systems and coupling various and different physics and scales through computational models. The design of new reactors, be they fission or fusion reactors, requires the development of new and effective approaches that successfully address the key issues of the optimization and understanding of safe design, enhance material behaviour prediction and understanding, and consider the issues that long-term operation and ageing will pose. Submissions on the following main topics are welcome:

- Multiscale/multiphysics M&S of fission and fusion nuclear energy systems;
- Design by analysis and safety analysis of NPPs (including SMRs);
- NPP advanced technology and accident tolerant fuels;
- Material ageing and LTO assessment;
- Computational fluid dynamics and applications in nuclear energy systems;
- Uncertainty analysis, validation and verification, and modelling optimization of NPP behaviour;
- High-performance computing and reduced-order modelling in nuclear energy;
- Artificial intelligence applications in nuclear energy;

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### Guest Editors

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### Deadline for manuscript submissions

5 October 2026



## Energies

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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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### Editor-in-Chief

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