

## Special Issue

# Advancements in Reactor Dynamics for Advanced Nuclear Energy Systems

### Message from the Guest Editor

Reactor dynamics is a subject in nuclear science and technology. For mining deeply, some natural nonlinear dynamic characteristics need to be further explored so as to explain sophisticated transient phenomena in practical engineering. The rapidly developing artificial intelligence (AI) is extending the border of reactor dynamics, and a set of intelligent control, observation, and detection methods is springing up. The Special Issue aims to present and disseminate the most recent advancements in reactor dynamics and their application in advanced nuclear energy systems. Topics of interest for publication include, but are not limited to, the following:

- Dynamical modeling of advanced nuclear energy systems such as small modular reactors, nuclear-renewable hybrid energy systems, and nuclear cogeneration plants
- Analysis of open-loop dynamical characteristics, such as passivity, bifurcation
- Nonlinear reactor control for guaranteeing global closed-loop stability
- State-observation, parameter estimation, and model identification
- Fault detection, diagnosis, and prognosis in reactor dynamics
- AI in dynamical modeling, control, observation, estimation, identification

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### Guest Editor

Prof. Dr. Zhe Dong

Institute of Nuclear and New Energy Technology, Collaborative Innovation Centre of Advanced Nuclear Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, Beijing 100084, China

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### Deadline for manuscript submissions

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*Energies*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[energies@mdpi.com](mailto:energies@mdpi.com)

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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

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University  
Niccolò Cusano, 00166 Roma, Italy

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