

## Special Issue

# Artificial Intelligence and Fractional Modelling for Energy Systems

### Message from the Guest Editors

This Special Issue aims to gather original and innovative contributions that explore the application of AI and fractional modelling, with a particular emphasis on Edge AI, to address the challenges and opportunities in energy systems. We are especially interested in works that present the following:

- **Novel integrations of embedded AI** in autonomous energy devices and systems.
- **Transformative AI-driven solutions** to optimise industrial processes, the intelligent management of energy infrastructure, and resource optimisation.
- **Advanced models for self-repair and predictive maintenance** through the application of AI and fractional modelling techniques.
- **Digital twin environments** to model and anticipate the behaviour of complex energy systems.
- **Applications of AI for the monitoring and conservation of energy ecosystems**, as well as for sustainable resource management.
- **Innovative developments in circular economy models and waste management** in the energy sector powered by AI.
- **Research into energy-efficient algorithms and sustainable hardware** for the deployment of AI in distributed energy systems.

### Guest Editors

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### Deadline for manuscript submissions

30 April 2026



## Fractal and Fractional

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## About the Journal

### Message from the Editor-in-Chief

*Fractal and Fractional* (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

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### Editor-in-Chief

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### Author Benefits

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#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).