

## Special Issue

# Fractal and Fractional Modelling Applied to Energy Storage

### Message from the Guest Editors

This Special Issue will showcase cutting-edge research in fractional modelling for energy applications, highlighting its ability to address some of the most pressing challenges in modern energy science and engineering. Fractional calculus, which generalises differentiation and integration to non-integer orders, offers a powerful mathematical framework for capturing memory effects, hereditary behaviour, and non-local interactions—features that classical models often fail to represent adequately.

The scope of this issue spans both fundamental advances and applied studies. Contributions will include fractional approaches to anomalous heat and mass transfer, viscoelastic modelling of energy materials and geostructures, and fractional-order control methods for renewable and hybrid energy systems. In subsurface applications such as geothermal energy, fractional models provide a natural means of describing complex thermal and fluid transport processes, where long-term memory and heterogeneity play central roles.

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### Guest Editors

Prof. Dr. Mei Yin

School of Civil Engineering, Southeast University, Nanjing 211189, China

Prof. Dr. Guozhu Zhang

School of Transportation, Southeast University, Nanjing 211189, China

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### Deadline for manuscript submissions

30 June 2026



## Fractal and Fractional

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

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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

Prof. Dr. Carlo Cattani

Engineering School (DEIM), University of Tuscia, Largo dell'Università,  
01100 Viterbo, Italy

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).