

## Special Issue

# Recent Advances in Fractional Differential Equations and Their Applications, 3rd Edition

### Message from the Guest Editors

Fractional differential equations describe the dynamic systems of complex and nonlocal systems with memory. They can be developed from stochastic dynamical systems driven by non-Gaussian Levy noise, which have long tails and bursting sample routes. They feature in a wide variety of scientific and engineering sectors, including physics, biology, economics, and chemical engineering. First volume publish **17** papers and second volume publish **13** papers. Potential topics for this Special Issue include (but are not limited to) the following:

- New numerical methods for time-fractional differential equations;
- New numerical methods for space-fractional (nonlocal) differential equations;
- The relationship between stochastic differential equations and nonlocal differential equations;
- Regularity estimates and homogenization for nonlocal differential equations;
- Application of stochastic dynamics and fractional models;
- **Machine learning methods for FDEs;**
- Inverse problems in nonlocal PDE / SDE;
- Effective dynamics and reduced-order models.

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### Guest Editors

Prof. Dr. Xiaoli Chen  
Prof. Dr. Dongfang Li  
Dr. Ting Gao

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### Deadline for manuscript submissions

31 July 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

Prof. Dr. Carlo Cattani  
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### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

#### Journal Rank:

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#### Rapid Publication:

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).