

Special Issue

Fractional-Order Systems: Modeling and Control Applications in Engineering

Message from the Guest Editors

This Special Issue seeks to highlight the latest research on fractional-order controlled systems, encompassing both theoretical advancements and practical applications. We invite original research articles, reviews, and case studies on all aspects of fractional-order systems, including but not limited to the following:

Theoretical Developments:

- Mathematical formulations
- Stability and controllability analysis
- Fractional-order transfer functions and system identification
- Extension of classical control theories
- Numerical methods

Methods and Techniques:

- Design and analysis
- Optimization techniques
- Stability and robustness analysis
- Numerical simulations and approximation methods
- Hybrid and adaptive control approaches

Applications:

- Robotics and Automation
- Power and Electrical Systems
- Mechanical Systems
- Biomedical Engineering
- Environmental Systems
- Signal Processing and Communications

Emerging Trends and Challenges:

- Applications in high-dimensional systems, multi-agent systems, and complex networks.
- Computational challenges in real-time implementation
- Internet of Things (IoT) and Industry 4.0

Guest Editors

Prof. Dr. Jianwen Zhou

Department of Mathematics, Yunnan University, Kunming 650091, China

Dr. Tianwei Zhang

Department of Mathematics, Yunnan University, Kunming 650091, China



Fractal and Fractional

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 6.0



mdpi.com/si/231090

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

[mdpi.com/journal/
fractalfract](https://mdpi.com/journal/fractalfract)





Fractal and Fractional

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 6.0



[mdpi.com/journal/
fractalfract](https://mdpi.com/journal/fractalfract)



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.

Editor-in-Chief

Prof. Dr. Carlo Cattani

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

Author Benefits

High Visibility:

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

Journal Rank:

JCR - Q1 (Mathematics, Interdisciplinary Applications) /
CiteScore - Q1 (Analysis)

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).