

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

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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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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 19.9 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).