

Special Issue

Current Trends on Fractional-Order Systems: Bifurcations, Synchronization, and Chaos

Message from the Guest Editors

Fractional calculus is an exciting and powerful tool for addressing problems involving non-integer order integration and differentiation. In fact, from a Dynamical Systems perspective, fractional calculus has helped us to understand and to model nonlinear phenomena, for example, chaotic behavior, synchronization, bifurcations, and population dynamics, among others.

This Special Issue aims to provide a forum for presenting state-of-the-art theoretical, numerical, and experimental results regarding the modeling, analysis, and implementation of dynamical systems described by fractional order differential equations as well as the study of nonlinear phenomena, for example, chaos, bifurcations, and synchronization, occurring in (networks of) fractional order systems, emerging either as a consequence of the interaction among them or due to a variation in the fractional order of the derivative.

Guest Editors

Dr. Joaquin Alvarez

Applied Physics Division, Center for Scientific Research and Higher Education at Ensenada, CICESE. Carr. Ensenada-Tijuana, 3918 Zona Playitas, Ensenada 22860, Mexico

Dr. J. Pena-Ramirez

Applied Physics Division, Center for Scientific Research and Higher Education at Ensenada, CICESE. Carr. Ensenada-Tijuana, 3918 Zona Playitas, Ensenada 22860, Mexico

Deadline for manuscript submissions

closed (15 January 2025)



Fractal and Fractional

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 6.0



mdpi.com/si/197440

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://fractalfract.com)





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 19.9 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).