

## Special Issue

# Nonlinear Equations Driven by Fractional Laplacian Operators

### Message from the Guest Editors

Fractional Differential Equations, an extension of the usual differential equations, broaden the scope of differentiation and integration to encompass arbitrary real or complex orders. Moreover, this topic has been attracting the attention of numerous researchers due to its rich applicability across several branches of science and technology. These equations play a pivotal role in describing various phenomena, including anomalous diffusion, viscoelasticity, fractional quantum mechanics, fractional dynamical systems, control theory, signal processing, and others in the fields of physics, biology, chemistry, economics, geophysics, engineering, and beyond. Unlike classical methods, problems involving fractional operators adeptly capture non-local and memory effects in complex systems, providing accurate models where traditional approaches fall short.

This Special Issue aims to pave the way for innovative solutions and breakthroughs in the intricate new realm of equations driven by fractional operators, addressing real-world challenges and/or abstract mathematical problems.

---

### Guest Editors

Dr. J. Vanterler Da C. Sousa

Department of Mathematics, Aerospace Engineering, PPGEA-UEMA, DEMATI-UEMA, São Luís 65054, Brazil

Dr. Leandro Tavares

Center of Sciences and Technology, Federal University of Cariri, Juazeiro do Norte, Ceará 63048-080, Brazil

---

### Deadline for manuscript submissions

closed (31 October 2024)



## Fractal and Fractional

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 6.0



[mdpi.com/si/196545](https://mdpi.com/si/196545)

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

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