

## Special Issue

# Fractional Calculus Applied in Environmental Biosystems

### Message from the Guest Editors

Dear Colleague,

In recent years, significant strides have been made in the mathematical modeling of environmental biosystems, spanning diverse areas such as complex ecosystems, epidemiology, climate change impact assessment, bioremediation, and ecosystem conservation. These advancements are underpinned by enhanced access to detailed data and refined analytical techniques. Fractional calculus has emerged as a pivotal tool in this progress, offering heightened precision in modeling biological systems. This technique adeptly captures the nonlinear and intricate behaviors exhibited by many biological systems, addressing non-local phenomena and long-memory processes. By adapting to model multiscale phenomena, fractional calculus allows for a more nuanced analysis, particularly in cases involving anomalous behaviors. We invite researchers to submit their original research articles, reviews, and theoretical contributions on the theme of "Fractional Calculus Applied in Environmental Biosystems."

### Guest Editors

Dr. Diogo Francisco Rossoni

Department of Statistics, Biostatistics Postgraduate Program (PBE),  
State University of Maringá, Maringá, Av. Colombo, 5790, Maringá  
87020-900, Brazil

Dr. Gustavo de Souza Matias

Industrial Engineering Department, Universidade Estadual Do Paraná,  
R. Comendador Correia Júnior, 117, Paranaguá 83203-560, Brazil

### Deadline for manuscript submissions

31 October 2025



## Fractal and Fractional

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 6.0



[mdpi.com/si/191957](https://mdpi.com/si/191957)

*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).