

## Special Issue

# Advanced Modeling and Methods of Statistical Processing of Stochastic Signals in Fractional Dynamic Systems

### Message from the Guest Editors

The aim of this Special Issue is to publish original research articles and critical reviews covering advances in the theory, applications, modeling and statistical processing of non-stationary stochastic signals in fractional, non-fractional and hybrid dynamic systems, which take place in different scientific domains, including telecommunications, cybersecurity, energy, economics, biology and medicine. Scientific works related, but not limited, to fractional modeling and the processing of non-stationary signals, including both a model-based approach and a data-based (data-driven, data-oriented, data-centric) approach, as well as a combination of these approaches, are invited. Potential topics include, but are not limited to, the following:

General theory of random processes; Fractional stochastic processes; Cyclostationary random processes; Cyclic random processes; Fractional-order signal processing; Transformation of stochastic signals in fractional and hybrid dynamic systems; Model-based signal statistical processing techniques; Fractional-order machine learning and deep learning techniques in signal processing; Signal computer simulation techniques.

### Guest Editors

Prof. Dr. Serhii Lupenko

1. Faculty of Electrical Engineering, Automatic Control and Informatics, Opole University of Technology, 45-758 Opole, Poland
2. Institute of Telecommunications and Global Information Space, National Academy of Sciences of Ukraine, 02000 Kyiv, Ukraine

Prof. Dr. Jacek Leśków

1. College of Computer Sciences, Cracow University of Technology, PL-31155 Craków, Poland
2. School of Digital Technologies, American University Kyiv, 03056 Kyiv, Ukraine

### Deadline for manuscript submissions

closed (13 June 2025)



## Fractal and Fractional

an Open Access Journal  
by MDPI

Impact Factor 3.3  
CiteScore 6.0



[mdpi.com/si/182709](https://mdpi.com/si/182709)

*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/  
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 19.9 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).