

## Special Issue

# Anomalous Diffusion and Relaxations in Liquid Crystals: Fractal and Fractional Behavior

### Message from the Guest Editors

This Special Issue is dedicated to delving into the anomalous diffusion and relaxation processes within liquid crystal materials. This expansive and captivating topic lies at the core of cutting-edge applications of liquid crystals, including the development of molecular motors and responsiveness to external stimuli. Contributors are warmly welcomed to explore anomalous behaviors in liquid crystals stemming from factors such as doping, geometric confinement, active dopants, external stimuli, defect coarsening, and more. Submissions are encouraged on a broad spectrum of topics, including (but not limited to):

- Diffusion through modulated and non-modulated liquid crystal media;
- Coarsening defect dynamics;
- Fractal aspects of liquid crystal phases;
- Polymer growth and anomalous relaxation of polymer-stabilized phases;
- Anomalous shear-induced dynamics;
- Anomalous response time;
- Anomalous viscoelasticity and scaling;
- Applications of anomalous behavior in liquid crystals;
- Fractal and fractional modeling of liquid crystals.

---

### Guest Editors

Prof. Dr. Rafael Soares Zola

Departamento de Física, Universidade Tecnológica Federal do Paraná, Campus de Apucarana, Apucarana 86812-460, PR, Brazil

Prof. Dr. Ervin K. Lenzi

Departamento de Física, Universidade Estadual de Ponta Grossa, Ponta Grossa 84030-900, PR, Brazil

---

### Deadline for manuscript submissions

closed (31 December 2024)



## Fractal and Fractional

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 6.0



[mdpi.com/si/192299](https://mdpi.com/si/192299)

*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).