Special Issue

Multifractal Phenomena in Turbulence

Message from the Guest Editor

This Special Issue will serve as a platform for presenting and critically comparing recent developments in the microscopic theory, phenomenological modeling, and experimental validation of turbulence, with a focus on multifractal phenomena. We aim to bring together leading experts across three complementary domains:

- Microscopic theory: Contributions will include recent advances such as the Euler ensemble and loop-equation-based exact solutions of decaying turbulence, which challenge conventional assumptions and offer a rigorous, first-principles approach.
- Phenomenological modeling: We invite proponents of multifractal models to present their formulations, summarize their predictive successes, and engage with new developments from a theoretical perspective.
- Experimental and numerical studies: The issue will feature input from leading groups performing high-resolution DNS and physical experiments, enabling data-driven validation and benchmarking of competing theoretical frameworks.

Guest Editor

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Deadline for manuscript submissions

30 June 2026

Fractal and Fractional

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 6.8

mdpi.com/si/247507

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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.

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).