

Special Issue

Fractal and Multifractal Analysis in Geophysics and Petrophysics: Theory, Methods, and Applications

Message from the Guest Editors

Key parameters such as fractal dimensions and multifractal spectra exhibit direct correlations with structural and physical characteristics in geophysics and petrophysics. Researchers have leveraged fractal theory to characterize seismic wave propagation complexity, quantify reservoir heterogeneity, identify intricate pore structures, optimize well-log curve analysis, and reveal the spatial distribution patterns of formation parameters. This interdisciplinary research domain is currently undergoing rapid expansion.

For this Special Issue “Fractal and Multifractal Analysis in Geophysics and Petrophysics: Theory, Methods, and Applications”, we are seeking original research articles which present innovative investigations and applications of fractal dimensions. Contributions may address any aspect of geophysics and petrophysics, including nonlinear analysis of geophysical field signals, quantitative characterization of multiscale rock structures, and experimental/theoretical validation of associated concepts. Our aim is to advance comprehensive and rigorous research on fractal methodologies within these disciplines.

Guest Editors

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Deadline for manuscript submissions

closed (31 March 2026)



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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.

Editor-in-Chief

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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).