Special Issue

Mathematical Description of Human Nervous System Using Fractals, Fractional and Integer Order Calculus

Message from the Guest Editor

The vision of this Special Issue encompasses the most relevant developments in using novel approaches in neurosciences, including conceptual and theoretical approaches, as well as numerical methods that can be applied in neuroscience. This type of modeling of structure and processes, biomedical signal and image analyses, and experimental research illustrates how to solve specific challenges. Topics of interest include, but are not limited to, the following:

Fractal nature of the nervous system and fractals in the nervous system;

Fractals in neuroscience, general principles, basic neuroscience, clinical applications;

Investigating fractal analysis as a diagnostic tool;

Recurrent fractal neural networks;

Fractal character of the neural spike train;

Fractals and chaotic dynamics of the nervous system;

Fractal analysis of the resting state;

Fractal analysis and spontaneous activity;

Finally, We would like to thank Andreea Valentina Cojocaru and her valuable work for assisting us with this Special Issue.

Guest Editor

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Deadline for manuscript submissions

closed (28 February 2025)

Fractal and Fractional

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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 19.9 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).

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