Special Issue

Numerical Analysis and Iterative Methods for Fractional Differential Equations

Message from the Guest Editors

The aim of this Special Issue is to develop and analyze numerical, semi-numerical, and analytical schemes for approximating fractional differential equations, with applications across various science and engineering disciplines, including biomedical, mechanical, and chemical engineering. This Special Issue will also focus on the dynamical behaviors of numerical methods, offering insights into their convergence behaviors, stability, consistency, and efficiency. Potential research topics include, but are not limited to, the following themes:

- Numerical methods and computational techniques for fractional differential equations;
- Stability and consistency of single and multi-step methods for fractional differential equations;
- Local and global convergence of iterative methods for nonlinear fractional equations;
- Fractional-order iterative-numerical schemes for nonlinear equations;
- Hybrid fractional-order numerical iterative schemes;
- Topological methods for fractional-order nonlinear equations;
- Numerical schemes for fractional nonlinear equations in physics, biology, and engineering;
- Iterative methods for fractional differential equations in finance and economics.

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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).