Special Issue

Fractional Calculus in Bioengineering and Mathematical Biology: Novel Approaches to Biomedical Applications and Infectious Disease Dynamics

Message from the Guest Editor

Fractional calculus has emerged as a powerful mathematical framework for modeling complex biological, biomedical, and epidemiological systems characterized by memory, heredity, and anomalous dynamics. Recent advances in fractional dynamics have revealed their potential not only to improve the predictive power of models but also to provide novel strategies for diagnostics, therapeutic interventions, and public health planning.

This Special Issue aims to bring together cutting-edge research at the intersection of fractional calculus, bioengineering, and mathematical biology. Contributions will cover theoretical advances, computational methods, and practical applications that demonstrate the versatility of fractional models in biomedical contexts and epidemic dynamics. We welcome original research articles, comprehensive reviews, and case studies that highlight innovative uses of fractional dynamics in understanding complex biological processes and in addressing contemporary biomedical and epidemiological challenges.

Guest Editor

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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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