Special Issue

Applications of Fractional Calculus in Modern Mathematical Modeling

Message from the Guest Editors

Fractional calculus extends the notion of derivatives and integrals of arbitrary order and gives rise to a variety of complex models and analyzes. This is due to its ability to capture the effects of memory and many other effects that other forms of calculus simply cannot capture. Therefore, this Special Issue will aggregate the latest research that focuses on the most recent theoretical advances, computing methods, and wide applications of fractional calculus in the modern mathematical modeling of various fields such as physics, biology, engineering, and finance. It will be centered around the theory of fractional calculus, new analytical and numerical methods for solving fractional differential equations, fractional partial differential equations and their applications, the biological modeling of fractional calculus, control systems and engineering, the application of fractional differential calculus to financial and economic problems, the mathematics of fractional calculus methods, non-local operators in mathematical modeling, the epidemiology and treatment of infectious diseases, and the use of fractional operators and models of time-fractional derivatives.

Guest Editors

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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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