



New Trends in Fractional Calculus and Applications in Engineering and Infectious Diseases

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Message from the Guest Editors

Dear Colleagues,

The need for fractional calculus in science and engineering fields in recent decades has greatly increased. Complex systems with hereditary and memory properties are best modeled using fractional calculus. This is due to the nonlocal nature of fractional order derivatives that is missing from the integer-order counterparts. Several phenomena have adopted non-integer order derivatives and integrals to capture intrinsic and hidden properties of the models involved. These applications are found in biological modeling (infectious disease modeling), viscoelasticity, control theory of dynamical systems, anomalous transport and anomalous diffusion, nanotechnology, financial modeling, and random walk.

The Special Issue aims to establish a collection of scholarly articles dealing with the new trends in fractional calculus with varieties of applications in engineering and biology (especially infectious disease modeling). Rigorous analysis and theories, computational modeling, and numerical analysis articles on the topic are welcome.





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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