Special Issue

Advanced Analytical and Numerical Methods for Fractional Initial and Boundary Value Problems with Symmetry/Asymmetry

Message from the Guest Editors

The literature reveals that numerous real-life phenomena are influenced by symmetry and are treated in different branches of science governed by highly nonlinear fractional initial and boundary value problems with unknown analytical solutions. Therefore, such problems have received a great deal of attention from scientists with the aim of finding or approximating their analytical solutions. The main goal of this Special Issue is to create a multidisciplinary forum of discussions on the most recent results in the field of fractional calculus. More precisely, we will focus on recent symmetric analytical and numerical studies on fractional initial and boundary differential equations related to physics, biology, and engineering. In addition, the well-developed analysis of existing symmetric numerical algorithms in terms of efficiency, applicability, convergence, stability and accuracy is important. A discussion of nontrivial analytical numerical examples is especially encouraged.

Guest Editors

Prof. Dr. Muhammad I. Syam

Prof. Dr. Abdul-Majid Wazwaz

Prof. Dr. Mohammed Al-Refai

Deadline for manuscript submissions

closed (30 April 2024)

Symmetry

About the Journal

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.

Editor-in-Chief

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