Special Issue

Analysis and Numerical Computations of Nonlinear Fractional and Classical Differential Equations

Message from the Guest Editors

Nonlinear and liner differential equations are used to deal with the real-world problems in natural sciences. There are still many unsolved problems in the dynamical systems theory of nonlinear PDEs of integer and fractional orders. The Special Issue invites submissions of original research articles, reviews, and perspectives on the latest developments in the analysis and numerical computations of nonlinear fractional and classical differential equations, including but are not limited to, the following: analysis, similarity solution for nonlinear PDEs;

analysis of general fractional PDEs;

analysis of fractional mathematical models; integral transforms for nonlinear problems; analysis, special functions, numeral methods, raveling wave solutions;

series expansion method, finite element method, finite difference method, traveling wave solutions, group analysis, reduced differential transform method, differential transform method, residual power series method, homotopy analysis method, decomposition method, homotopy perturbation method, asymptotic perturbation solution, variational iteration method and coupling methods for fractional PDEs.

Guest Editors

Prof. Dr. Xiao-Jun Yang Prof. Dr. Wenxue Zhou Dr. Sunil Dutt Purohit Dr. Ali Turab Dr. Ahmed Refaie Ali

Deadline for manuscript submissions

31 July 2025



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Fractal and Fractional Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 fractalfract@mdpi.com

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Editor-in-Chief

Prof. Dr. Carlo Cattani Engineering School (DEIM), University of Tuscia, Largo dell'Università, 01100 Viterbo, Italy

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