Novel Symmetry Analysis and Numerical Methods for Solving Nonlinear Differential and Integral Equations

Guest Editor:

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Deadline for manuscript submissions:
closed (15 August 2024)

Message from the Guest Editor

Dear Colleagues,

Over the years, it has been apparent that the application of classical concepts in differential integral and calculus equations and symmetry analysis in describing new applied problems requires a kind of general and fundamental overhaul. This Special Issue is so important that it may introduce new and various definitions into these fields. The Special Issue on "Novel symmetry analysis and numerical methods for solving nonlinear differential and integral equations" invites original manuscripts and review articles that deal with the new basic concepts, materials, experimental, and applied aspects of solving nonlinear differential and integral equations in one or more of the following areas:

- Analytical methods;
- Exact solutions;
- Chaos and bifurcation;
- Meshfree methods;
- Fractional differential equations;
- Modified fractional reduced differential transform method;
- Wavelet analysis;
- Operational matrices with function approximation.

Special Issue

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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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