



The Advances of Nonlinear Equations: Mathematical Models, Symmetry and Applications

Guest Editor:

Dr. Sunil Kumar

Department of Mathematics,
University Centre for Research
and Development (UCRD),
Chandigarh University, Mohali
140413, India

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Message from the Guest Editor

Dear Colleagues,

Solving nonlinear equations for simple roots, multiple roots and systems is a significant task that involves many areas of science and engineering. Usually, iterative methods are used when direct methods fail to solve the problem. Iterative algorithms play a fundamental role in this regard. In this area of research, the work of many researchers has led to exponential growth in the last few years.

The main theme of this Special Issue is the development of iterative algorithms, convergence analysis, and the stability and application of new iterative schemes for solving nonlinear problems generated from real-life problems. This issue includes methods with and without memory, with derivatives or derivative-free, and an analysis of their convergence that can be local, semi-local, or global. This issue also deals with the complex dynamics of iterative methods, i.e., basin of attraction, and iterative methods to optimize nonlinear functions...





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Prof. Dr. Sergei D. Odintsov

1. Institució Catalana de Recerca
i Estudis Avançats (ICREA),
Passeig Luis Companys, 23,
08010 Barcelona, Spain
2. Institute of Space Sciences
(ICE-CSIC), C. Can Magrans s/n,
08193 Barcelona, Spain

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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Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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