Special Issue

Nonlinear Dynamics in Mechanical Engineering and Thermal Engineering

Message from the Guest Editors

Numerous physical phenomena in the field of engineering are modeled using nonlinear ordinary differential equations or partial differential equations. It is well known that there is no general theory for finding exact solutions to these equations. To solve complex nonlinear dynamic problems, it is necessary to apply approximate analytical methods and numerical or experimental methods that are efficient and simple, leading to providing explicit, conclusive results for engineering practice. Perturbative, asymptotic, homotopic, or optimal semi-numerical analytical methods are frequently used successfully to obtain approximate analytical solutions.

We are pleased to invite you to present your original new developments to this Special Issue, which aims to collect original contributions that investigate nonlinear dynamical systems in the fields of mechanical engineering and thermal engineering.

Guest Editors

Prof. Dr. Vasile Marinca

1. Department of Mechanics and Strength of Materials, University Politehnica Timisoara, 300222 Timisoara, Romania
2. Department of Electromechanics and Vibration, Center for Advanced and Fundamental Technical Research, Romanian Academy, 300223 Timisoara, Romania

Prof. Dr. Nicolae Herisanu

1. Department of Mechanics and Strength of Materials, University Politehnica Timisoara, 300222 Timisoara, Romania
2. Department of Electromechanics and Vibration, Center for Advanced and Fundamental Technical Research, Romanian Academy, 300223 Timisoara, Romania

Deadline for manuscript submissions

20 September 2025

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/228362

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)