Special Issue

Vibration Analysis of Nonlinear Mechanical Systems

Message from the Guest Editors

Nonlinearity is widespread in mechanical systems, especially under the influence of material and geometric nonlinearities, where nonlinear mechanical systems exhibit complex dynamic characteristics. Vibration analysis plays a critical role in the design, optimization, and maintenance of nonlinear mechanical systems, as it helps reveal the nonlinear behavior, dynamic properties, and underlying relationships between parameters.

This Special Issue aims to present the latest research results and trends regarding vibration analyses of nonlinear mechanical systems. Key topics include nonlinear dynamic modeling, vibration analysis methods, numerical simulation techniques, the bifurcation and chaos phenomena, and vibration control technology of nonlinear mechanical systems. We welcome original research and review papers that will further advance this field.

Guest Editors

Dr. Yong Wang

1. Automotive Engineering Research Institute, Jiangsu University, Zhenjiang 212013, China
2. School of Aeronautics, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

Dr. Pavlo Krot

Digital Mining Center, Faculty of Geoengineering, Mining and Geology, Wroclaw University of Science and Technology, Na Grobli 13, 50-421 Wroclaw, Poland

Deadline for manuscript submissions

20 November 2025

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/239293

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

mdpi.com/journal/applsci

MDPI

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)