

Special Issue

Advanced Mathematical Modeling and Numerical Solutions in Applied Mechanics and Engineering

Message from the Guest Editors

Mathematical modeling and numerical solutions are the mainstream way to represent and predict the complex scientific and engineering problems nowadays, leading to the analysis and design of engineering products and systems. The computer methods include mathematical models and numerical algorithms related to finite element, finite difference, finite volume, and meshless discretization method. In addition, artificial intelligence technology is rapidly popularized in the wide fields of science and engineering, and has enormous potential for solution of the complex physical problems. This Special Issue intends to collect advances in development and use of mathematical models and numerical methods for the solution of problems in engineering and the sciences, including solid (structures), fluids, and multiphysics. The novel mathematical models and computational methods based on finite volume, finite element, finite difference, meshless discretization methods, artificial intelligence, parallel computing, as well as probabilistic and stochastic approaches are also useful for this Special Issue.

Guest Editors

Dr. Shujin Laima

Dr. Yong Cao

Dr. Xiaowei Jin

Dr. Hehe Ren

Deadline for manuscript submissions

closed (31 August 2023)



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/100924

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

[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)





Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)



About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).