

Special Issue

Mathematical Modeling and Models in Engineering

Message from the Guest Editors

This Special Issue aims to gather cutting-edge contributions to mathematical modeling and analysis of the physical systems relevant to engineering applications. We focus on models governed by partial differential equations (PDEs) that arise in fields such as solid and structural mechanics, wave propagation, thermomechanics, and fluid–structure interaction. Topics of interest include (but are not limited to) the following:

- Forward and inverse problems in continuum mechanics and wave phenomena;
- Mathematical modeling of elastic, acoustic, and thermoelastic systems;
- Parameter identification, source reconstruction, and optimal design;
- Variational formulations, asymptotic analysis, and model reduction;
- Coupled multiphysics problems and interface modeling;
- Numerical methods with mathematical guarantees (e.g., stability, convergence);
- Simulation of fracture, damage, and nonlinear material behavior;
- Integration of AI/machine learning techniques with mathematical models for engineering applications.

Guest Editors

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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.

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).