

Special Issue

Advances in Finite Element Methods and Boundary Value Problems

Message from the Guest Editor

Since its invention eighty years ago, the finite element method has become one of the most widely used and extremely powerful methods for numerically solving boundary value problems for differential and integrodifferential equations arising in various branches of engineering and science. The goal of this Special Issue is to collect high-quality articles highlighting new ideas and developments in boundary value problems and the finite element method in applied mathematics, solid and structural mechanics, mechanical engineering, fluid flow, heat transfer, mass transfer, electromagnetics, mathematical biology and ecology, and elsewhere. We particularly invite the submission of articles focused on microstructure modeling and nanotechnology. Papers with an emphasis on finite element methods based on neural network and machine learning techniques, as well as on reduce order methodologies, are also particularly welcome in this Special Issue.

Guest Editor

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Deadline for manuscript submissions

closed (31 December 2025)



Mathematics

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Impact Factor 2.2
CiteScore 4.6



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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 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).