

Special Issue

Recent Advances in Finite Element Methods with Applications

Message from the Guest Editor

This Special Issue aims to collect recent advances in the construction, theoretical analysis, implementation, and application of finite element methods. We invite investigators to contribute high-quality original research articles as well as review articles on recent advances in the following methods:

- finite element algorithms and mathematical theories for both classical and new model problems;
- applications of the method for real-world problems, either on a specific problem or about the trend of a whole area, where finite element methods are used as research tools or as conceptual foundations;
- developments and principles of finite element software packages and platforms, as well as new techniques for a mid-way step, such as mesh generation.

Potential topics include, but are not limited to, Navier–Stokes equations, Magnetohydrodynamic equations, Boussinesq equations, Einstein equation, large deformation elasticity, computational biomechanics and biomathematics, medical engineering, mathematical theories of finite element methods, the interplay of finite element methods and machine learning, and so forth.

Guest Editor

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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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Rapid Publication:

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).