

Special Issue

Advanced Numerical Methods for Differential Equations: Recent Developments, Analysis and Applications

Message from the Guest Editor

The goal of this Special Issue is to provide an overview of the recent progress in using numerical methods to solve differential equations. These include finite element methods and their extensions, including discontinuous Galerkin (DG) methods devoted to approximate the solutions for various real-world problems, such as fluid flow, solid mechanics, electromagnetics, and many others, as well as the analysis of these methods including error estimation, superconvergence, and adaptivity. Other topics include the design and analysis of new numerical schemes, as well as novel applications in any branch of engineering and science. While all contributions related to numerical methods are invited, the featured topics include: stability issues, efficient time integration, superconvergence phenomena, a priori and a posteriori error estimations, and mesh adaptivity. Contributions dealing with the applications of numerical methods for porous media flow, incompressible flow, solid mechanics, and elasticity are welcome.

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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