Special Issue

Numerical Methods in Fluid Dynamics

Message from the Guest Editor

The field of fluid dynamics plays a crucial role in engineering and applied sciences, with applications spanning aerospace, automotive design, environmental studies, and biomedical engineering. The increasing complexity of fluid flow phenomena and the need for high-accuracy solutions have driven the development of advanced numerical methods. This Special Issue aims to present cutting-edge research on computational techniques for solving problems in fluid dynamics. We welcome contributions on novel algorithms, computational frameworks, and numerical strategies that enhance accuracy, efficiency, and robustness in fluid flow simulations. Topics of interest include advances in finite element, finite volume, and spectral methods, as well as innovative approaches involving high-performance computing, turbulence modeling, and machine learning-assisted simulations. Special attention will be given to multiphase flows, compressible and incompressible fluid dynamics, and emerging trends that push the boundaries of computational fluid mechanics. Researchers are invited to submit original research articles and reviews that highlight recent progress and future directions in the field.

Guest Editor

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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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