

Special Issue

Numerical Methods and Simulations for Turbulent Flow

Message from the Guest Editor

We are pleased to announce this Special Issue of the journal *Mathematics* entitled, “Numerical Methods and Simulations for Turbulent Flow”. Turbulent flows are common in nature, technology, and everyday life. The modeling and simulation of turbulent flows constitute a fundamental approach to providing in-depth insights into the underlying flow physics of various turbulence mechanisms and how to apply them in various engineering applications. This Special Issue welcomes both theoretical and applied studies, as well as interdisciplinary research that combines mathematical modeling, computational methods, and experimental validations. Potential topics for submission include, but are not limited to, turbulence modeling, high-performance computing for turbulence simulations, turbulence closure models, and validation and verification of numerical methods for turbulent flow.

- turbulent flows
- turbulent boundary layer
- turbulent channel flow
- computational fluid dynamics
- fluid–structure interaction
- numerical simulations
- numerical methods
- direct numerical simulations
- large eddy simulation
- hybrid RANS–LES
- Navier–Stokes

Guest Editor

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Deadline for manuscript submissions

30 September 2026



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/184411

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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 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).