Special Issue

Numerical Simulation and Methods in Computational Fluid Dynamics

Message from the Guest Editor

We are pleased to announce this Special Issue of the journal *Mathematics* entitled "Numerical Simulation and Methods in Computational Fluid Dynamics". Computational fluid dynamics (CFD) is a branch of fluid mechanics that utilizes numerical simulations and modeling to study the behavior of fluids in various engineering and scientific applications. It plays a crucial role in understanding complex fluid dynamics, optimizing designs, and predicting the performance of fluid systems. This Special Issue welcomes papers focusing on innovative numerical methods and simulation techniques in computational fluid dynamics. We invite contributions from authors on these topics.

- computational fluid dynamics
- Taylor–Couette system
- mathematical modeling
- numerical simulation
- nonlinear dynamics
- dynamical system theory
- pattern formation
- transition to turbulence
- turbulent flow
- Navier–Stokes equations
- computational approaches
- ferrofluids
- nanofluids
- computational and mathematical physics

Guest Editor

Dr. Sebastian A. Altmeyer

Castelldefels School of Telecom and Aerospace Engineering (EETAC), Universitat Politècnica de Catalunya (UPC), 08034 Barcelona, Spain

Deadline for manuscript submissions

closed (31 March 2025)

Σ

MDPI

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.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University, The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:
indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:
JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

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).

MDPI