CFD 2022--Recent Advances in Lattice Boltzmann Methods

Message from the Guest Editor

This Special Issue is concerned with recent advances in the Lattice Boltzmann Method (LBM). The LBM has recently matured as a viable alternative to conventional Computational Fluid Dynamics (CFD) approaches that employ Finite Volume, Finite Difference or Finite Element approximations of continuum physics equations, mostly Navier-Stokes (NS). Whilst modeling essentially similar physics as classical continuum mechanics NS procedures, LBM features a number of advantages, particularly concerning data locality and parallel computing, but also in terms of stability and dispersion properties. As the method originates from the Boltzmann equation (being a superset of NS), multi-scale modeling (even up to specific kinetic turbulence models) is possible. This Special Issue aims at highlighting the current state-of-the-art in the field of LBM and future research directions. Both submissions with an academic background as well as more application-oriented contributions are welcome.

Guest Editor

Dr. Christian F. Janßen

Institute for Fluid Dynamics and Ship Theory, Hamburg University of Technology (TUHH), Am Schwarzenberg-Campus 4, 21073 Hamburg, Germany

Deadline for manuscript submissions

closed (31 August 2023)

Computation

an Open Access Journal by MDPI

Impact Factor 1.9
CiteScore 4.1

About the Journal

Message from the Editor-in-Chief

You are invited to submit the results of your research for consideration and publication in *Computation,* an international open access journal, which is published monthly online by MDPI.
The editorial board and staff of *Computation* are dedicated to establishing a benchmark journal for the world scientific and engineering communities for original research articles, reviews, conference proceedings (i.e., peer reviewed full articles), and communications, in the cutting-edge areas of computational biology, computational chemistry, computational social science and computational engineering.

Editor-in-Chief

Prof. Dr. Ali Cemal Benim
Center of Flow Simulation (CFS), Department of Mechanical and Process Engineering, Duesseldorf University of Applied Sciences, D-40476 Duesseldorf, Germany

Author Benefits

High Visibility:
indexed within Scopus, ESCI (Web of Science), CAPlus / SciFinder, Inspec, dblp, and other databases.

Journal Rank:
JCR - Q2 (Mathematics, Interdisciplinary Applications) / CiteScore - Q1 (Applied Mathematics)

Rapid Publication:
manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.7 days after submission; acceptance to publication is undertaken in 5.6 days (median values for papers published in this journal in the first half of 2025).

MDPI