CFD 2022--Recent Advances in Lattice Boltzmann Methods

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)

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.

Special issue

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

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 quarterly 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, and computation in engineering.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, ESCI (Web of Science), CAPlus / SciFinder, Inspec, dblp, and other databases.
Journal Rank: CiteScore - Q2 (*Applied Mathematics*)

Contact Us