symmetry

an Open Access Journal by MDPI

IMPACT FACTOR 2.2

CITESCORE 5.4

Application of Computational Fluid Dynamics and Particle-Based Methods

Guest Editor:

Dr. Ehsan Fattahi
Research Group of Fluid Dynamics, Chair of Brewing and Beverage Technology, TUM School of Life Sciences, Technical University of Munich, Weihenstephaner Steig 20, 85354 Freising, Germany

Deadline for manuscript submissions:
closed (31 December 2021)

Message from the Guest Editor

Simulations play an ever-increasing role in several technological areas. Computational fluid dynamics (CFD) has been at the forefront of this development. Today, the main types of CFD based on discretization methods are joined by the more recent particle-based methods involving dynamical properties and symmetry characteristics, such as smooth particle hydrodynamics (SPH); dissipative particle dynamics (DPD); and kinetic-based methods including lattice Boltzmann methods (LBM), gas kinetic schemes (GKS), and quadrature-based moment methods (QMOM).

Moreover, rapidly developing methods in data science offer complimentary abilities to CFD tools. In this way, artificial intelligence (AI) techniques can be employed to extract underlying fluid mechanics from data, optimize the numerical methods, and increase stability and accuracy in complex symmetry-breaking flows...

symmetry

IMPACT FACTOR 2.2

CITESCORE 5.4

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Sergei D. Odintsov
1. Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Luis Companys, 23, 08010 Barcelona, Spain
2. Institute of Space Sciences (ICE-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.
Journal Rank: JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (General Mathematics)

Contact Us

Symmetry Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/symmetry
symmetry@mdpi.com
𝕏@Symmetry_MDPI