Special Issue

Symmetry and Asymmetry in CFD, Fluid Dynamics, and Heat Transfer: Theoretical and Computational Perspectives

Message from the Guest Editor

Symmetry and asymmetry are fundamental in fluid dynamics and heat transfer, impacting turbulence, energy transport, and stability. CFD is vital for analyzing these effects, aiding in modeling, simulations, and system optimization. This Special Issue explores symmetry and asymmetry in CFD, fluid flow, and heat transfer, spanning from theory to engineering. We invite original research and reviews on theoretical, numerical, and experimental advancements. Topics include:

- Turbulence modeling (vortex dynamics, coherent structures, drag reduction).
- Computational and mathematical symmetry in fluid flow (group theory, similarity solutions, reduced-order modeling).
- Advanced CFD and numerical simulations.
- Symmetry's role in energy-efficient thermal systems (heat exchangers, passive cooling, convective transport).
- Multiphase and non-Newtonian flows.
- Optimization and computational methods for symmetry analysis.

This issue underscores symmetry's importance in advancing CFD and heat transfer, fostering innovative theoretical and computational approaches.

Guest Editor

Prof. Dr. Jamal-Eddine Salhi

1. Higher School of Technology of Tétouan, Abdelmalek Essaadi University, Tetouan 93000, Morocco
2. Laboratory of Energetics (LE), Faculty of Sciences, Abdelmalek Essaadi University, Tetouan 93000, Morocco

Deadline for manuscript submissions

31 October 2026

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.2

mdpi.com/si/235344

Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

mdpi.com/journal/symmetry

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.2

mdpi.com/journal/symmetry

MDPI

About the Journal

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.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)