

# Special Issue

## Symmetry and Its Application in Fluid Mechanics

### Message from the Guest Editors

Multiphase flow is prevalent in nature and industrial applications, including environmental modification, water treatment, medical diagnostics and treatments, industrial transportation, atmospheric suspended matter treatments, and spray combustion. While multiphase flow has long been a focus of attention, recent advancements in new materials (active/soft materials), artificial intelligence (AI) technology, and research facilities have brought fresh potential to this field, opening the door to new discoveries. This Special Issue will provide a comprehensive overview of recent innovations in multiphase flow for both research and industrial applications. We welcome original research articles and reviews in various areas, including, but not limited to, the following:

- Multiphase flow symmetry breaking in break-up and separation;
- Microfluidics and nanofluidics;
- Droplets and bubbles and asymmetry flows;
- Active and soft materials;
- Multicomponent systems;
- Particle transport and manipulation and asymmetry migration;
- Artificial intelligence (AI) applications.

Both experimental and numerical studies are encouraged. We look forward to receiving your contributions.

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### Guest Editors

Prof. Dr. Zhenyu Ouyang  
Dr. Fangyang Yuan  
Dr. Chundong Xue

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### Deadline for manuscript submissions

31 August 2026



# Symmetry

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## 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.

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### Editor-in-Chief

Prof. Dr. Sergei Odintsov  
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