

Special Issue

Numerical Modeling and Simulation of Multiphase Flows in Industrial and Environmental Applications

Message from the Guest Editors

This Special Issue, “Numerical Modeling and Simulation of Multiphase Flows in industrial and environmental applications”, invites original research and review articles showcasing recent progress in multiphase flow modeling, simulation, and analysis. We welcome contributions that address fundamental advances, practical applications, or methodological innovations in numerical modeling and simulation of multiphase flows, particularly those that enhance predictive capabilities or reduce computational costs. Topics of interest include, but are not limited to:

- Development, verification, and validation of advanced CFD models (e.g., particle-resolved DNS, DEM/CGDEM, two-fluid models, MPPIC);
- Modeling and simulations of turbulent multiphase flow, both reactive and non-reactive;
- Heat and mass transfer in multiphase flows;
- Multiscale modeling and simulation strategies (micro, meso, macro);
- Applications of CFD to reactor design, optimization, and scale-up;
- Integration of machine learning with CFD models;
- High-performance computing (e.g., parallel computing, GPU acceleration, hybrid CPU-GPU frameworks).

Guest Editors

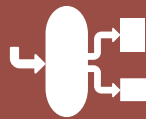
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You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

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