



*fluids*



an Open Access Journal by MDPI

## Modelling of Reactive and Non-reactive Multiphase Flows

Guest Editors:

**Prof. Dr. Markus Klein**

Department of Aerospace  
Engineering, Institute for Applied  
Mathematics and Scientific  
Computing, University of the  
Bundeswehr Munich, 85577  
Neubiberg, Germany

**Prof. Dr. Nilanjan Chakraborty**

School of Engineering, Newcastle  
University, Newcastle-upon-Tyne  
NE1 7RU, UK

Deadline for manuscript  
submissions:

**closed (28 February 2021)**

### Message from the Guest Editors

Dear Colleagues,

Multiphase flows are found in a large number of industrial processes including power generation, pharmaceutical and the chemical or agriculture industry. Key challenges associated with the modelling of multiphase flows include their multiphysics and multiscale nature involving interactions of turbulence, interface physics, phase change and chemical reactions on temporal and spatial scales spanning several orders of magnitude. In the last two decades, progress in numerical methods and computing power have enabled impressive direct numerical simulations (DNS) of multiphase flows that considerably improved our physical understanding of such flows. However, as DNS is limited to academic configurations in the foreseeable future, the development of next-generation models for large-scale, or averaged multiphase flows is an important challenge.

The purpose of this Special Issue is to collect state-of-the-art results related to the simulation of non-reactive or reactive multiphase flows as well as their analysis and modelling.

Prof. Markus Klein  
Prof. Nilanjan Chakraborty  
*Guest Editors*



[mdpi.com/si/32629](https://mdpi.com/si/32629)

# Special Issue



*fluids*



an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. D. Andrew S. Rees**

Department of Mechanical  
Engineering, University of Bath,  
Bath BA2 7AY, UK

## Message from the Editor-in-Chief

*Fluids* (ISSN 2311-5521) is an international journal on all aspects of fluids in open access format: research articles, reviews and other contents are released on the internet immediately after acceptance. You are invited to contribute a research article or a comprehensive review for consideration and publication in *Fluids*. The scientific community and the general public have unlimited free access to the content as soon as it is published. Please consider *Fluids* as an exceptional, exciting enterprise ready to reward your trust, attention, and active participation.

## 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), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** CiteScore - Q2 (Mechanical Engineering)

## Contact Us

---

*Fluids* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/fluids](http://mdpi.com/journal/fluids)  
[fluids@mdpi.com](mailto:fluids@mdpi.com)  
[X@FluidsMdpi](https://twitter.com/FluidsMdpi)