

## Special Issue

# Analytical and Computational Fluid Dynamics of Combustion and Fires

### Message from the Guest Editor

Often a useful tool, but occasionally a disaster, fire has accompanied humankind for millennia. Protecting from coldness, darkness, predators, and stomach bacteria, combustion brought primitive, tribal humans into modern industrial civilization, and it will likely remain the major provider of energy for industry, heating, and transportation in the foreseeable decades. Next-generation combustion technologies are expected to be environmentally friendly, safe, and energy-efficient, and the role of numerical methods is emerging in the design and development of such advances today.

The aim of this Special Issue is to collect recent analytical and computational advances in the fields of reacting fluids, including, but not limited to, premixed flame dynamics and morphology, turbulent burning, flame acceleration, and combustion instabilities.

---

### Guest Editor

Dr. Vyacheslav Akkerman

Mechanical & Aerospace Engineering, West Virginia University,  
Morgantown, WV 26506, USA

---

### Deadline for manuscript submissions

closed (31 October 2024)



## Fluids

---

an Open Access Journal  
by MDPI

---

Impact Factor 1.8  
CiteScore 4.0



[mdpi.com/si/197798](https://mdpi.com/si/197798)

*Fluids*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[fluids@mdpi.com](mailto:fluids@mdpi.com)

[mdpi.com/journal/  
fluids](https://mdpi.com/journal/fluids)





# Fluids

---

an Open Access Journal  
by MDPI

---

Impact Factor 1.8  
CiteScore 4.0



[mdpi.com/journal/  
fluids](https://mdpi.com/journal/fluids)



## About the Journal

### 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.

---

### Editor-in-Chief

Prof. Dr. D. Andrew S. Rees

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

---

### 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, CAPIus / SciFinder, and other databases.

#### Journal Rank:

CiteScore - Q2 (Mechanical Engineering)