

Special Issue

Advances in Hemodynamics and Related Biological Flows

Message from the Guest Editors

The heart and broad-branched vessel system contain blood, and it is their main objective to transport material to and from tissue, prevent fluid loss, and defend the body, constituting the circulatory system. Investigating and understanding the dynamics of blood flow (hemodynamics) and the fluid flow phenomena that are important in related biological flows will improve the design and performance of cardiovascular prosthetic devices and the treatment of cardiovascular disease. This Special Issue will focus on the latest advances in understanding the physics of blood flow through analytical, experimental, and computational studies of hemodynamics. Recent advances in hemolysis, in cell-level and in molecular-level treatments of hemodynamics, and in computations of fluid–structure interactions are welcome. Both fundamental and applied research, e.g., the design of medical devices, in which hemodynamics is critical to the design process, can be included in manuscripts. Moreover, manuscripts focusing on other biological flow dynamics are welcome.

Guest Editors

Dr. Mesude Avci

Department of Chemical Engineering, Cumhuriyet University, Sivas 58140, Turkey

Prof. Dr. Dimitrios V. Papavassiliou

School of Chemical, Biological, and Materials Engineering, The University of Oklahoma, Norman, OK 73019, USA

Deadline for manuscript submissions

closed (31 July 2025)



Fluids

an Open Access Journal
by MDPI

Impact Factor 1.8
CiteScore 4.0



mdpi.com/si/171734

Fluids

Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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)