Special Issue

Flow Control Techniques: Advances in Flow System Analysis, Modeling and Applications

Message from the Guest Editor

Flow control is a fascinating topic of fluid dynamics that can play a key role in the route to the CO2-neutral growth of aviation transportation. The ambitious goals involved in this road map have pushed the designers towards aggressively optimized designs of flow devices and gas turbine components, which often become more prone to instabilities or abrupt performance losses in off-design conditions. Therefore, passive and active flow control strategies can enhance the performances of aerodynamic devices and increase safety margins both in subsonic and supersonic flight. This Special Issue aims to collect the latest advances in the different techniques of passive and active flow control, including theoretical flow modeling, experimental investigations and numerical simulations of controlled/uncontrolled flow fields. Applications of classical approaches or artificial intelligence-based model reductions (e.g., by using deep learning, reinforced learning, and physically informed neural networks) are welcome.

Guest Editor

Dr. Michele Ferlauto

Department of Mechanical and Aerospace Engineering, Politecnico di Torino, 10129 Torino, Italy

Deadline for manuscript submissions

closed (31 March 2025)

Fluids

an Open Access Journal by MDPI

Impact Factor 1.8
CiteScore 4.0

mdpi.com/si/133449

Fluids
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
fluids@mdpi.com

mdpi.com/journal/fluids

Fluids

an Open Access Journal by MDPI

Impact Factor 1.8
CiteScore 4.0

mdpi.com/journal/fluids

MDPI

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, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q2 (Mechanical Engineering)