

Special Issue

Data-Driven Aerodynamic Modeling

Message from the Guest Editors

Data-driven modeling in general and machine learning techniques in particular have transformed our everyday life over the past few years. In areas for which vast amounts of data are available, the aforementioned techniques have achieved remarkable success, especially when mathematical models are lacking. Instead, aerodynamic tools such as computational fluid dynamics solvers rely on first principles that directly enable us to describe and investigate system behavior. Numerical simulation tools derived from these principles have become invaluable in aircraft design and are about to significantly contribute to the green transformation of the aviation sector. However, such tools are far from perfect and suffer from several shortcomings, e.g., computational cost may become prohibitive once a large number of simulations are required, or there is the problem of deriving accurate and reliable turbulence models to describe small-scale turbulent flow behavior. Data-driven modeling is generally regarded as a promising approach to enhance and complement existing aerodynamic methods and tools to circumvent some of these shortcomings and to improve physical modeling.

Guest Editors

Dr. Philipp Bekemeyer

Team Leader Surrogates and Uncertainty Management, Institute of Aerodynamics and Flow Technology, German Aerospace Center (DLR), 38108 Braunschweig, Germany

Prof. Dr. Stefan Görtz

Head of C2A2S2E Department (Center for Computer Applications in AeroSpace Science and Engineering), Institute of Aerodynamics and Flow Technology, German Aerospace Center (DLR), 38108 Braunschweig, Germany

Deadline for manuscript submissions

closed (30 April 2024)



Aerospace

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.0



mdpi.com/si/176100

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

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





Aerospace

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.0



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



About the Journal

Message from the Editor-in-Chief

You are welcome to contribute a research article or a comprehensive review for consideration and publication in *Aerospace* (ISSN 2226-4310), an on-line, open access journal.

Aerospace adheres to rigorous peer-review as well as editorial processes and publishes high quality manuscripts that address both the fundamentals and applications of aeronautics and astronautics. Our goal is to enable rapid dissemination of high impact works to the scientific community.

Editor-in-Chief

Prof. Dr. Konstantinos Kontis
School of Engineering, University of Glasgow, James Watt Building
South, University Avenue, Glasgow G12 8QQ, Scotland, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Aerospace) / CiteScore - Q2
(Aerospace Engineering)