



## Multiscale Modelling in Aerospace Engineering

Guest Editor:

**Dr. Gasser Abdelal**

School of Mechanical and  
Aerospace Engineering, Queen's  
University Belfast, Ashby  
Building, Stranmillis Road,  
Belfast BT9 5AH, UK

Deadline for manuscript  
submissions:

**closed (31 March 2024)**

### Message from the Guest Editor

The state-of-the-art aerospace research studies biomaterials for aerospace applications, nanomaterials, and the use of plasma to improve material performance. The aerospace design depends on developing numerical methods. This Special Issue will cover multidisciplinary tools, including quantum mechanical methods, molecular dynamics, Monte Carlo simulations, coarse-grained simulations, dissipative particle dynamics, lattice Boltzmann, computational fluid dynamics, finite element, mathematical theory, and novel numerical methods to bridge material characterization between multiple scales. We expect the authors will use material characterization techniques (gas adsorption, microscopy, etc.) and a wide range of process analytics tools (tomography, rheometry, particle sizing, etc.) to validate their numerical studies.

Multiscale modelling often fails to efficiently combine large datasets from different sources and levels of resolution. The journal acknowledges the emergence of machine learning in multiscale modelling to manage ill-posed problems and explore massive design spaces. The journal invites researchers to publish their studies using machine learning in multiscale modelling.





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Konstantinos Kontis**

School of Engineering, University of Glasgow, James Watt Building South, University Avenue, Glasgow G12 8QQ, Scotland, UK

## 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.

## 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*, and other databases.

**Journal Rank:** JCR - Q1 (*Engineering, Aerospace*) / CiteScore - Q2 (*Aerospace Engineering*)

## Contact Us

---

*Aerospace* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

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

[mdpi.com/journal/aerospace](http://mdpi.com/journal/aerospace)  
[aerospace@mdpi.com](mailto:aerospace@mdpi.com)  
[X@Aerospace\\_MDPI](https://twitter.com/Aerospace_MDPI)