# **Special Issue**

# Aerodynamics Design of Multirotor UAVs

# Message from the Guest Editor

Multirotor UAVs are vertical takeoff and landing vehicles featuring complex aerodynamic interactions among multiple rotors, unsteady wake dynamics, and tight coupling between propulsion and control systems. This Special Issue invites original research to advance aerodynamic design using high-fidelity computational and experimental methods. Topics include CFD, vortex particle methods, rotor-to-rotor and rotor-to-wing flow interactions, turbulence, and wake dynamics. Submissions on aerodynamic coefficients, dynamic derivatives, surrogate and reduced-order modeling, hybrid simulation-experiment paradigms, wind tunnel tests, flight data analysis, and uncertainty quantification are welcome. Innovative rotor geometries, optimization methods, and data-driven or machine learning-enabled design solutions are encouraged. Studies linking aerodynamic performance with energy efficiency or environmental impact are also valued. This issue aims to foster interdisciplinary collaboration to develop safe, efficient, and high-performance multirotor systems.

### **Guest Editor**

Dr. Alessandro Cocco

Department of Aerospace Engineering, University of Maryland, College Park, MD 20742, USA

## Deadline for manuscript submissions

30 April 2026



# **Machines**

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 4.7



mdpi.com/si/240302

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

mdpi.com/journal/machines





an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 4.7



# **About the Journal**

# Message from the Editor-in-Chief

*Machines* is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

# **Editor-in-Chief**

Prof. Dr. Antonio J. Marques Cardoso

CISE - Electromechatronic Systems Research Centre, University of Beira Interior, Calcada Fonte do Lameiro, P-6201-001 Covilhã, Portugal

#### **Author Benefits**

## **High Visibility:**

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

### Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1 (Control and Optimization)

## **Rapid Publication:**

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.9 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).

