EDITORIAL

Charting the Future of Aerospace

Chengxi Zhang[1,*]

[1] School of Internet of Things Engineering, Jiangnan University, Wuxi 214122, China

Abstract

Inaugural Editorial: A welcome message from the Editor-in-Chief of *Aerospace Engineering Communications*.

Keywords: aerospace, aerospace engineering.

It is with great pleasure and a profound sense of responsibility that I assume the role of Editor-in-Chief for *Aerospace Engineering Communications*. We stand at the threshold of a new era in aerospace—a period of unprecedented innovation driven by the convergence of digital technologies, the urgent need for sustainability, and a renewed ambition for space exploration [1, 2]. From the electrification of aircraft to the rise of autonomous systems and the burgeoning commercial space economy, the pace of change is accelerating. In this dynamic environment, the rapid and effective communication of groundbreaking ideas is not just beneficial; it is essential. *Aerospace Engineering Communications* is established to be the premier forum for this vital exchange.

The journal is born from the recognition that the aerospace industry is navigating several transformative shifts simultaneously. First, the paradigm of sustainable aviation is no longer a distant goal but an active engineering challenge, with intense research focused on sustainable aviation fuels (SAFs), hydrogen propulsion, and hybrid-electric architectures to meet ambitious decarbonization targets. Second, the "intelligence revolution" is reshaping both aeronautics and astronautics. Artificial intelligence and machine learning are becoming integral to guidance, navigation, and control (GNC), enabling everything from Urban Air Mobility (UAM) vehicles to fully autonomous deep-space probes. Third, the digital transformation, through concepts like Digital Twins and Model-Based Systems Engineering (MBSE), is revolutionizing the entire lifecycle of aerospace systems, from design and certification to operations and maintenance. Finally, the "NewSpace" movement continues to lower the barrier to entry for space, fostering innovation in reusable launch vehicles, satellite constellations, and in-orbit services, all while humanity sets its sights back on the Moon and beyond with programs like Artemis. *Aerospace Engineering Communications* is dedicated to capturing and disseminating the cutting-edge research that propels these trends forward.

To this end, the scope of *Aerospace Engineering Communications* is both broad and focused, encompassing the most dynamic areas of the field. It includes, but is not limited to:

Sustainable Aviation: Electric and hybrid-electric propulsion, hydrogen technologies, sustainable aviation fuels (SAFs), novel aircraft configurations, and emissions reduction strategies. Intelligent

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***Corresponding author:**
✉ Chengxi Zhang
dongfangxy@163.com,cxzhang@jiangnan.edu.cn

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and Autonomous Systems: AI/ML in aerospace, autonomous GNC, unmanned aerial systems (UAS), Urban Air Mobility (UAM), swarm technologies, and human-autonomy teaming. Advanced Materials and Manufacturing: Additive manufacturing (3D printing) for aerospace components, advanced composites, smart materials, and structural health monitoring. Next-Generation Propulsion: Advanced rocket engines, air-breathing hypersonic propulsion, and innovative in-space propulsion systems. Space Systems and Exploration: Reusable launch vehicles, small satellites and constellations, in-space servicing, assembly, and manufacturing (ISAM), in-situ resource utilization (ISRU), and novel mission concepts. Digital Aerospace Engineering: Digital Twins, Model-Based Systems Engineering (MBSE), integrated vehicle health management (IVHM), and cybersecurity for aerospace systems. *Aerospace Engineering Communications* is an international, peer-reviewed, and open-access journal. In partnership with a leading publisher, we aim to provide a high-level, rapid-publication platform for researchers, industry practitioners, and engineers to share their latest and most impactful findings. We welcome submissions of Original Research Articles, Rapid Communications, comprehensive Review Papers, and forward-looking Perspectives. By embracing an open-access model under a Creative Commons Attribution (CC-BY 4.0) license, we ensure that authors retain copyright and that their work achieves the widest possible dissemination and impact.

We are committed to upholding the highest standards of publication ethics and research integrity. All submissions will adhere to the principles of the Committee on Publication Ethics (COPE). The journal will operate a rigorous single-blind peer-review process, with every manuscript evaluated by at least two independent experts. Our distinguished international Editorial Board will then provide an editorial recommendation before a final decision is made by the Editor-in-Chief, ensuring that all published work is scientifically sound, innovative, and relevant to our community.

I warmly invite you to submit your most innovative research and visionary concepts to *Aerospace Engineering Communications*. Please consult the "Instructions for Authors" on the journal's webpage for guidance on manuscript preparation. Recognizing the need for speed in this fast-moving field, our goal is to provide authors with a first decision within four to six weeks of submission. We are dedicated to offering a forum for rapid, high-quality publication.

Finally, I would like to extend my deepest gratitude to the editorial office staff and the esteemed members of the Editorial Board, with whom I have the great pleasure of collaborating. My sincere appreciation also goes out to the authors who will entrust us with their valuable work and to the reviewers whose expertise will be instrumental in shaping the quality and impact of this journal. Together, we will build *Aerospace Engineering Communications* into an indispensable resource for the aerospace community as we collectively engineer the future of flight and space exploration.

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Conflicts of Interest

The author declares no conflicts of interest.

Ethical Approval and Consent to Participate

Not applicable.

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Chengxi Zhang received B.S. and M.S. degrees from Harbin Institute of Technology, China, in 2012 and 2015; and Ph.D. degree from Shanghai Jiao Tong University, China, in 2019. He is now an Associate Professor at Jiangnan University, China. His interests are space engineering, robotic systems & control. He is an Associate Editor of *Frontiers in Aerospace Engineering*, *Frontiers in Mechanical Engineering*, on the Editorial Board of *Symmetry* and *Aerospace Systems*. He is a Committee Member of the Youth Working Committee, Chinese Association of Automation since 2025. (Email: dongfangxy@163.com,cxzhang@jiangnan.edu.cn)