Special Issue

Aerospace Engineering and Symmetry/Asymmetry

Message from the Guest Editors

Symmetry—whether meticulously preserved or deliberately broken—underlies many of the breakthroughs that define modern aerospace systems. Balanced injector arrays, swirl-stabilised combustors, lattice-optimised rocket nozzles, and morphology-tuned UAVs are only a few examples where the nuanced handling of symmetry turns theory into flight-ready hardware. This Special Issue invites original research articles, reviews, and short communications that illuminate the role of symmetry or asymmetry in the following:

- Chemical, electric, hybrid, and “green” propulsion;
- High-speed aerodynamics and aero-thermodynamics;
- Multiphase or reactive-flow modelling, including data-driven and PINN approaches;
- Topology optimisation and design for additive manufacturing;
- Flow-control concepts that exploit or disrupt symmetry;
- Structural and material symmetry in rotating machinery and turbopumps;
- Autonomous systems whose guidance, sensing, or morphology is symmetry-informed.

Our aim is to assemble a cross-disciplinary collection that both refines fundamental understanding and showcases practical engineering solutions.

Guest Editors

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Dr. Antonella Ingenito

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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