

Special Issue

Recent Advances in Aerodynamics and Acoustics

Message from the Guest Editors

In recent years, there have been significant advances in our ability to understand and predict the aerodynamics and acoustics of aircraft and related systems. However, it remains challenging to design new aircraft that meet the current and emerging ambitions in terms of efficiency, emission, and noise targets. State-of-the-art computational and experimental methods make it possible to discover new knowledge of the underlying physics and enable engineers to develop improved aerodynamic and acoustic technologies for aircraft. The recent surge in global demand is motivating researchers to create more efficient aerodynamics in multiple areas such as aerodynamic design—analysis, methodologies, optimization, uncertainty, simulation, and testing; configuration aerodynamics; subsonic, transonic, supersonic, and hypersonic flight regimes; rotorcraft, propeller, and wind turbines; and flow control applications. Similarly, active areas of research in acoustics are noise generation, propagation, and control; the effects of acoustics on fluid flow and structures; and theoretical, computational, and experimental methods for acoustics.

Guest Editors

Dr. Kursat Kara

Kara Aerodynamics Research Laboratory, School of Mechanical and Aerospace Engineering, Oklahoma State University, ES 330, Stillwater, OK 74078-5016, USA

Prof. Dr. James Mathew Manimala

Mechanical and Aerospace Engineering, Oklahoma State University, 319, General Academic Building, Stillwater, OK 74078, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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Editor-in-Chief

Prof. Dr. D. Andrew S. Rees

Department of Mechanical Engineering, University of Bath, Bath BA2
7AY, UK

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