

Covering all aspects of aerospace

Volume 122

Number 1248

February 2018





THE AERONAUTICAL JOURNAL

Editor-in-Chief: Professor Peter Bearman

Editorial Board

Chairman: Professor Mike Graham Deputy Chairman: Professor Chris Atkin

Associate Editors

Professor Christian Allen University of Bristol

Professor Holger Babinsky University of Cambridge

Professor George Barakos University of Glasgow

Professor Cees Bil RMIT University, Australia

Professor Rene de Borst University of Sheffield

Professor Jonathan Cooper University of Bristol

Peter Curtis
Aircraft Research Association

Professor Laurent Dala University of Northumbria

Professor Dimitris Drikakis University of Strathclyde

Professor Brian Falzon Queen's University, Belfast

Professor Antonio Filippone University of Manchester

Professor Song FuTsinghua University, China

Professor Ed Galea Greenwich University Professor Victor Giurgiutiu University of South Carolina

Dr Guy GrattonBrunel University

Dr John Green
Consultant Chief Scientist, ARA

Professor Ismet Gursul University of Bath

Professor Li He University of Oxford

Professor Michael Henshaw Loughborough University

Professor Konstantinos Kontis University of Glasgow

> Professor Jim McGuirk Loughborough University

Professor Jack McNamara Ohio State University

Dr Richard Markiewicz

Professor Pierangelo Masarati University of Milan

Professor Mark Price Queen's University, Belfast

Professor Ning Qin University of Sheffield Professor Srinivasan Raghunathan Queen's University, Belfast

> Dr G Satheesh Reddy MoD. India

Dr Arthur Richards University of Bristol

Professor Kenichi Rinoie University of Tokyo

Professor Ulrich Rist
University of Stuttgart, Germany

Carl Russell NASA Ames, USA

Dr Matthew Santer Imperial College, London

Professor Ömer SavaşUniversity of California, Berkeley

Professor Shahrokh Shahpar Rolls-Royce, Derby

Professor Howard Smith Cranfield University

Professor Marilyn Smith Georgia Institute of Technology, USA

Professor Constantinos Soutis University of Manchester

Professor Anthony Waas University of Washington, USA

Aims and Scope

The aims and scope of *The Aeronautical Journal* are intended to reflect the objectives of the Royal Aeronautical Society as expressed in its Charter of Incorporation. Briefly, these are to encourage and foster the advancement of all aspects of aeronautical and space science. Thus the topics of *The Aeronautical Journal* include most of those covered by the various Specialist Groups of the Society. Topics covered in *The Aeronautical Journal* include:

Aircraft design, aerodynamics, air law, air power, air transport, air navigation, airworthiness and maintenance, aviation medicine, avionics and systems, composites, environmental issues, flight operations, flight simulation, fluid dynamics, fluid mechanics, general aviation, guided flight, human factors, human powered flight, light aviation, management studies, propulsion, rotorcraft, safety, space, structures and materials, structural mechanics, systems and test procedures and UAVs.

Papers are solicited on all aspects of research, design and development, construction and operation of aircraft and space vehicles. Papers are also welcomed which review, comprehensively, the results of recent research developments in any of the above topics.

We recognise the inhibiting pressures of time and confidentiality, and acknowledge that many of the design testing, manufacturing and operational problems that industry has to solve contain important information for the whole aerospace community. Be assured that The Aeronautical Journal provides a renowned platform for refereeing and presenting your work to the broadest international audience. Papers will be considered for publication in The Aeronautical Journal if they meet the terms and conditions listed in our instructions for authors available at: http://journals.cambridge.org/AER. If these are not met, the Editor reserves the right to withdraw the paper without redress, which may be at any time up to publication.

Enquiries should be sent to: Wayne J Davis, RAeS Production Editor: aerojournal@aerosociety.com