

A Landmark Reference for the Science and Technology of Flight



ENCYCLOPEDIA OF AEROSPACE ENGINEERING

9
VOLUME
SET



Special Introductory Price – SAVE 15%

on orders for the print set before 30th November 2010

For more information, full contributor details and table of contents visit:

www.wiley.com/go/ea

 WILEY-BLACKWELL

ENCYCLOPEDIA OF AEROSPACE ENGINEERING

9
VOLUME
SET

The rapidly changing and increasingly inter-disciplinary nature of aerospace engineering indicates the need for an encyclopedia to consolidate current knowledge and, with systematic updating, provide a high quality scientific resource.

No major reference work comparable to *Encyclopedia of Aerospace Engineering* exists. In establishing what will truly be a landmark publication the Editorial team have commissioned original contributions from expert authors in the fields of engineering science that support the study and development of aerospace technology and vehicle design. These include mechanics, propulsion, guidance and control, electronics and instrumentation, communications, computer science, systems engineering, material science, fabrication and manufacturing, and physics. In addition, environmental science, noise and emissions are covered in view of their growing importance to the aviation industry.

This high quality, carefully coordinated reference work will enhance education, training and research in this complex and demanding field.

Publishing in both online and print formats the Encyclopedia will serve as an invaluable resource for readers/users in the academic and industry sectors including:

- Professional Engineers and Technical Managers
- Senior Undergraduate and Postgraduate Students and Researchers
- College Lecturers and Industry Training Managers
- Aviation/Aerospace Analysts and Consultants

It will provide an invaluable aid to education and training for university engineering and science departments, aerospace manufacturers and suppliers, and government, industrial and military research establishments.



Special Introductory Offer

PRINT SET

Order by 30th November 2010 to **save 15% off the list price**

Special Introductory price £1,995 / €2,449

List price £2,350 / €2,899

9 volumes | 6,264 pages | ISBN: 978-0-470-75440-5 | 2010

Also Available Online

The online edition of the *Encyclopedia of Aerospace Engineering* will feature extensive cross-referencing and search functionality, and will be updated on a regular basis to keep abreast of advances in the field.

Here are some of the benefits of the online version:

- Sophisticated full-text searches can be performed
- All articles available in HTML and PDF, allowing easy printing
- CrossRef enables direct linking from references to full articles

ISBN: 978-0-470-68665-2

Online prices are available on request for different sizes of academic and corporate institutions.



www.wiley.com/go/eae

The *Encyclopedia of Aerospace Engineering* has an international editorial team and author base, with representation from both the academic, governmental and industrial sectors.



EDITORS IN CHIEF

Richard Blockley - formerly of BAE Systems, UK

Wei Shyy - University of Michigan, Ann Arbor, MI, USA

ADVISORY BOARD

John Anderson - Smithsonian Institution, Washington, DC, USA

Kenneth J. Badcock - University of Liverpool, UK

William F. Ballhaus, Jr. - formerly of The Aerospace Corporation, El Segundo, CA, USA

Allan Bonnet - Institut Supérieur de l'Aéronautique et de l'Espace, France

Brian Cantwell - Stanford University, CA, USA

Graham Coleman - formerly of DSTL, UK

Jonathan Cooper - University of Liverpool, UK

Richard Crowther - Science & Technology Facilities Council, UK

Earl H. Dowell - Duke University, NC, USA

Shanyi Du - Harbin Institute of Technology, China

John Farrow - International Space University, Strasbourg, France

John Fielding - Cranfield University, UK

Lennard A. Fisk - University of Michigan, Ann Arbor, MI, USA

In Seuck Jeung - Seoul National University, Korea

Jeffrey Jupp - Bath University, UK

Keiji Kawachi - University of Tokyo, Japan

Chung K. Law - Princeton University, NJ, USA

Wei Li - Beijing University of Aeronautics and Astronautics, China

Robert G. Loewy - Georgia Tech, Atlanta, GA, USA

N. Harris McClamroch - University of Michigan, Ann Arbor, MI, USA

J.J. Miao - National Cheng Kung University, Tainan City, Taiwan

Earl M. Murman - Massachusetts Institute of Technology, Cambridge, MA, USA

M.R. Nayak - National Aerospace Laboratories, Bangalore, India

Elaine S. Oran - Naval Research Laboratory, Washington, DC, USA

Mikhail Osipov - Bauman Moscow State Technical University, Russia

Max F. Platzer - Naval Postgraduate School, Monterey, CA, USA

Bryan Richards - University of Glasgow, UK

Munir Sindir - Pratt & Whitney Rocketdyne, Canoga Park, CA, USA

John Stollery - Cranfield University, UK

Dwight Streit - Northrop Grumman Space Technology, Redondo Beach, CA, USA

John J. Tracy - The Boeing Company, Chicago, IL, USA

Ulrich Walter - Technical University Munich, Germany

S. Pete Worden - NASA Ames Center, CA, USA

Fenggan Zhuang - China Aerospace Science and Technology Corporation, Beijing, China

SUBJECT EDITORS

John Anderson - Smithsonian Institution, Washington, DC, USA

Ella M. Atkins - University of Michigan, Ann Arbor, MI, USA

Carlos E. S. Cesnik - University of Michigan, Ann Arbor, MI, USA

Alan R. Chambers - University of Southampton, UK

Mikhail Cherniakov - The University of Birmingham, UK

Rick Curran - Delft University of Technology, The Netherlands

Peter Curtis - BAE Systems, UK

Réne de Borst - Eindhoven University of Technology, The Netherlands

Olivier Dessens - Cambridge University, UK

Dimitris Drikakis - Cranfield University, UK

David Faddy - Decision Analysis Services Ltd, Basingstoke, UK

Peretz P. Friedmann - University of Michigan, Ann Arbor, MI, USA

Datta V. Gaitonde - Air Force Research Laboratory, WPAFB, OH, USA

Alec D. Gallimore - University of Michigan, Ann Arbor, MI, USA

Ismet Gursul - University of Bath, UK

Raphael T. Haftka - University of Florida, Gainesville, FL, USA

James F. Klausner - University of Florida, Gainesville, FL, USA

Kevin Knowles - Cranfield University, Shrivenham, UK

Hao Liu - Chiba University, Japan

Eli Livne - University of Washington, Seattle, WA, USA

Ian MacDiarmid - BAE Systems, Lancashire, UK

Michael Preuss - University of Manchester, UK

Philip Pugh - Independent Engineer, Bedford, UK

Peter Roberts - Cranfield University, UK

Hanspeter Schaub - University of Colorado, Boulder, CO, USA

Daniel J. Scheeres - University of Colorado, Boulder, CO, USA

Allan Seabridge - Seabridge Systems Ltd, Lytham St Annes, UK

Tom I-P. Shih - Purdue University, West Lafayette, IN, USA

Antonios Tsourdos - Cranfield University, Shrivenham, UK

Michel van Tooren - Delft University of Technology, The Netherlands

Anthony M. Waas - University of Michigan, Ann Arbor, MI, USA

Brian A. White - Cranfield University, UK

Vigor Yang - Georgia Institute of Technology, Atlanta, GA, USA

Xin Zhang - University of Southampton, UK

Thomas Zurbuchen - University of Michigan, Ann Arbor, MI, USA



Table of Contents

VOLUME 1: Fluid Dynamics and Aerothermodynamics

1. Fundamentals of Fluid Physics
2. Incompressible Flows and Aerodynamics
3. Compressible Flows - Subsonic to Supersonic
4. Hypersonics and Rarefied Gas Dynamics
5. Heat Transfer and Thermophysics
6. Computational Fluid Dynamics
7. Experimental Techniques for Fluid Dynamics and Thermal Science

VOLUME 2: Propulsion and Power

1. Basic Concepts
2. Airbreathing Engines
3. Rocket Propulsion
4. Alternative Propulsion

VOLUME 3: Structural Technology

1. Structural Mechanics
2. Aeroelasticity and Aeroservoelasticity
3. Computational Solid Mechanics and Fluid-Structure Interaction
4. Experimental Techniques for Structural Mechanics
5. Structural Health Monitoring (SHM)

VOLUME 4: Materials Technology

1. Structural Materials
2. High Temperature Materials
3. Active Materials
4. Materials for Space Applications

VOLUME 5: Dynamics and Control

1. Flight Mechanics
2. Flight Control Systems
3. Radar Systems
4. Trajectory and Orbital Mechanics
5. Attitude Dynamics and Control of Spacecraft

VOLUME 6: Environmental Impact and Manufacturing

1. Operational Environment
2. Acoustics and Noise
3. Emissions and Other Impacts
4. Disposal and Waste Mitigation
5. Manufacturing and Lean Technologies

VOLUME 7: Vehicle Design

1. Vehicle Configurations and Performance
2. Air Vehicle Design
3. Micro Air Vehicles
4. Space Vehicle Design
5. Survivability

VOLUME 8: System Engineering

1. Project Management
2. Avionics System Integration
3. Introduction to Vehicle Sub-systems
4. System Integration
5. Propulsion and Airframe Integration
6. Aerospace System Optimization
7. Safety Engineering and Mission Assurance

VOLUME 9: Appendices and Index

Related Titles of Interest

Aerospace Series

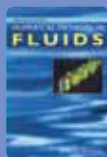
Visit www.wiley.com/go/aerospace for more books in the area



Journals

- International Journal for Numerical Methods in Fluids
- International Journal of Robust and Nonlinear Control
- Strain – An International Journal for Experimental Mechanics

- International Journal for Numerical Methods in Engineering
- Fatigue & Fracture of Engineering Materials & Structures
- Heat Transfer
- International Journal of Adaptive Control and Signal Processing



Find all of these journals online at: www.interscience.wiley.com

ORDER FORM

Yes, please send me _____ copy(ies) of the print version:

**Encyclopedia of Aerospace Engineering
9-volume set, ISBN 978-0-470-75440-5**

**Special introductory price
£1,995 / €2,449**

Valid until 30th November 2010.
(Thereafter list price £2,350 / €2,899)

SEND MY ORDER TO:

Title & Name _____

Job Title _____

Department _____

Company/University _____

Address _____

Post/Zip Code _____

Country _____

Tel _____

Fax _____

Email _____