Announcements, Acknowledgements, and Recognition

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THE Journal of Aircraft will be enhanced this year by the arrival of four new Associate Editors. Dr. Willem Anemaat is a project manager for the DARcorporation. He is a Member of the AIAA Aircraft Design Technical Committee (TC) and originally came to us as that TC's representative to our Editorial Advisory Board (EAB). He will be handling some of our design papers, including the Design Forum. We continue to receive a majority of international submittals and so we have added Dr. Jinjun Wang of the Beijing University of Aeronautics and Astronautics, Institute of Fluid Mechanics. He will handle aerodynamics papers. Dr. Joseph Lee of International Consulting Services was also a Member of our Editorial Advisory Board. As an Associate Editor, he will work with our Board of International Editors to help identify special sections, special papers, and editorials. He will also work on the continuing problem of achieving good English grammar from foreign authors.

We plan to publish a special section late this year or early next year on the subject of aircraft systems engineering. Details of the types of papers sought appear in the September 2009 issue of *Aerospace America*, page 46. Abstracts and papers intended for this special section should be sent for initial screening to our guest editors, either Dr. John C. Hsu (john.c.hsu@boeing.com) or Dr. Satoshi Nagano (Satoshi.nagano@aero.org).

I would like to recognize the continued dedicated service of our fine Associate Editors who appear here as the 2010 team. The quality of the published papers attests to their thoroughness and willingness to help authors bring out their best. We are also fortunate to have, as mentioned above, an Editorial Advisory Board, also listed on the inside front cover. Most EAB members also serve on a Technical Committee relevant to the *Journal of Aircraft*. In this way, these Technical Committees have a solid link to the journal for archival publication of their best meetings papers. EAB members help identify reviewers and also stimulate ideas for special sections or survey papers dealing with topics of TC interest. Gil Crouse of Auburn University, previously one of our Associate Editors, has become a member of the EAB, taking Dr. Anemaat's place.

Our 19-member International Editors Board is also listed on the inside front cover. They continue to represent the *Journal of Aircraft*

to the authors in their respective countries. They are each invited to provide an editorial or a short paper or to sponsor a special section on current developments in applied aircraft technology. Recently, Hirotoshi Kubota, the International Editor representing Japan, and the Japanese Aerospace Exploration Agency (JAXA) developed a special section on supersonic aircraft, which appeared in the September–October 2008 issue, including recent results of JAXA flight experiments. The important role of the International Editorial Board is underscored by the trend over the past few years of an increasing percentage of papers by foreign authors. In 2004, 39% of the papers had a foreign first author. That number grew to 56% in 2008.

The names of the past year's reviewers through the first of October appear in this issue. I am sure you will recognize many of these individuals, and I certainly wish to thank them for their technical insight and willingness to ensure that our published papers are accurate, timely, and important to readers and that they will retain lasting value. The *Journal of Aircraft* would not exist without dedicated peer reviewers. If you would like to provide your services by handling an occasional review, please contact me at the address shown on the inside front cover.

I would like to thank Michael Bragg, Vice President of Publications, for his overall support of the *Journal of Aircraft*. Rodger Williams is the new Director of Publications and has already provided extensive support to the operations of the journals. Amanda Maguire is our Product Manager for the journals. She ably tracked all the details, including scheduling editorial board meetings, yearend actions, etc. Michael Baden-Campbell is our most talented Managing Editor. Every request gets an immediate response. He has been of great help to Associate Editors and authors, demonstrating great patience and thoroughness. Michael McGinnes is our Applications Specialist and he ably helps us keep WriteTrack on track. I look forward to continuing my association with this fine professional team.

Thomas M. Weeks *Editor-in-Chief*

Editor-in-Chief



THOMAS M. WEEKS completed his degree work at Syracuse University, Department of Mechanical and Aerospace Engineering, in 1965. He entered active commissioned service that year, assigned to the U.S. Air Force Flight Dynamics Laboratory (now the Air Vehicles Directorate of the U.S. Air Force Research Laboratory) at Wright–Patterson Air Force Base. His initial work was in the field of electrogas dynamics at the nearly completed 50-MW wind-tunnel facility. In 1968, he separated from the U.S. Air Force, but took a civil position at the same location. He worked on a variety of projects, including unsteady hypersonic heating, transonic test techniques, and sonic boom, before becoming the Manager of the External Aerodynamics Group. He served first as the Deputy and then as the Manager of the X-29 Advanced Technology Demonstrator, developed by the Advanced Research Projects Agency, NASA, and the U.S. Air Force. He served as Chief of the Wind Tunnels Branch and the Technology Strategy Branch. He served as Acting Chief Scientist and Acting Deputy Director of the Directorate. He served as Chief of the Integration and Operations Division. He retired from the Air Vehicles Directorate in August of 1998 and is currently with Universal Technology Corporation.

Associate Editors



DR. JOÃO LUIZ F. AZEVEDO received his A.E. degree from Instituto Tecnológico de Aeronáutica, São José dos Campos, Brazil, in 1981. He obtained M.S. and Ph.D. degrees in aeronautical and astronautical engineering from Stanford University in 1984 and 1988, respectively. His professional experience includes the development and application of computational fluid dynamics (CFD) codes for applied aerodynamic and aeroelastic analyses of aerospace vehicles, aeroelastic clearance of launch vehicles and sounding rockets, and aerodynamic CFD analyses of wind-tunnel models before testing. Current areas of research interest include the development of adaptive unstructured grid CFD codes for realistically complex configurations, the implementation of turbulence models for such flow conditions, and the development of cost-effective techniques for coupling CFD solvers with aeroelastic analysis procedures. Teaching activities have been mainly centered at Instituto Tecnológico de Aeronáutica (ITA). He has worked as an Associate Professor at ITA since August 1988, teaching undergraduate- and graduate-level courses in CFD and advising undergraduate students and both M.S. and Ph.D. candidates in the areas of aeroelasticity and CFD. He has more than 40 full articles published in peer-reviewed archival technical journals and over 180 full papers published in the proceedings of technical conferences. He is an Associate Fellow of the AIAA, and he is a member of the AIAA Applied Aerodynamics Technical Committee. He is also a Regional Deputy Director for Central and South America in AIAA's Region VII.



INDERJIT CHOPRA is the Alfred Gessow Professor in Aerospace Engineering and Director of Alfred Gessow Rotorcraft Center at the University of Maryland. He received his B.S. in aeroengineering from Punjab Engineering College in 1965, his M.E. from Indian Institute of Science in 1968, and his Sc.D. from Massachusetts Institute of Technology (MIT) in 1977. He worked at the National Aerospace Laboratory from 1966 to 1974. His research there included wind-tunnel testing of scaled aeroelastic models of airplanes and launch vehicles. At MIT, he worked on dynamic analysis of wind turbines. In 1977, he joined the NASA Ames Research Center and Stanford University Joint Institute of Aeronautics and Acoustics, where he worked for four-and-a-half years on the development of aeroelastic analysis of advanced rotor systems. In 1981, he joined the University of Maryland. He has been working on problems associated with aeromechanics of helicopters, smart structures, and micro air vehicles. His graduate advising resulted in 34 Ph.D. and 60 M.S. degrees. An author of over 150 archival papers, Dr. Chopra has been Associate Editor of Journal of the American Helicopter Society (1987-1991) and Journal of Intelligent Materials and Systems (1977-present). He was the recipient of the 2002 AIAA Structures, Structural Dynamics, and Materials Award; 2002 AHS Grover Bell Award; 2001 ASME Adaptive Structures and Material Systems Prize; 2002 A. J. Clark School of Engineering Faculty Outstanding Research Award; and the 2004 SPIE Smart Structures and Materials Lifetime Achievement Award. He has been a Member of the U.S. Army Science Board (1997-2002). He is a Fellow of the AIAA, American Society of Mechanical Engineers, American Helicopter Society, National Institute of Aerospace, and Aeronautical Society of India.



ROBERT E. DUFFY is currently President of RED Associates, a research, development, and consulting firm. A former member of the faculty of the Department of Mechanical Engineering, Aeronautical Engineering, and Mechanics at Rensselaer Polytechnic Institute, he was the Chairman of the aeronautical engineering academic program. He is the author of over 65 published papers and research reports in the areas of applied aerodynamics, flight mechanics, and experimental fluid dynamics. Dr. Duffy has served as a consultant to numerous governmental agencies, industrial concerns, and individuals. He is on the Board of Directors of ENECO, Inc., a wind energy development firm that investigates and evaluates innovative concepts. He is a past Member of the Atmospheric Flight Mechanics Technical Committee and is an Associate Fellow of the AIAA.



FRANKLIN E. EASTEP is an Emeritus Professor of aerospace engineering at the University of Dayton. He received a B.S. in aeronautical engineering from The Ohio State University in 1958, an M.S. in aeronautics from the Air Force Institute of Technology in 1963, and a Ph.D. in aeronautics and astronautics from Stanford University in 1968. Dr. Eastep has been teaching and conducting research within the technical areas of structural dynamics, aeroelasticity, and unsteady aerodynamics since 1968. During that period, he has been the principal for 18 Ph.D. candidates and over 45 M.S. students. He served on active duty with the U.S. Air Force for 20 years, retiring in 1978. Dr. Eastep is a Member of the American Academy of Mechanics and is a Fellow of the AIAA. He is presently a National Research Council Senior Research Associate with the U.S. Air Force Research Laboratory at Wright–Patterson Air Force Base.



AHMED A. HASSAN is currently a Boeing Technical Fellow at the Boeing Company. His area of expertise is computational fluid dynamics (CFD). Dr. Hassan received his B.S. and M.S. from the University of Cairo in 1974 and 1976, respectively. He then received his Ph.D. from the University of Arizona in 1981. He was on the faculty of Arizona State University from 1981 to 1987 as an Assistant Professor. He joined The Boeing Company (then McDonnell Douglas Helicopter Company) in 1987, where he conducted research related to the application/development of CFD design and analysis tools for rotorcraft problems. He is the company representative on the corporate-wide CFD working group, an Associate Fellow of the AIAA (1981 to the present), and a Member of the American Helicopter Society (1987 to the present). He is currently serving as an Associate Editor for the *Journal of Aircraft* in the area of CFD. Dr. Hassan has published more than 30 archival studies and presented more than 60 papers at national and international conferences. He holds six patents and has four additional patents pending with the U.S. Patent and Trademark Office. His work has focused on modeling the aerodynamics of rotor blade–vortex interactions and investigating novel flow control techniques for rotorcraft applications.



RONALD A. HESS received B.S., M.S., and Ph.D. degrees in aerospace engineering from the University of Cincinnati. After completing his doctoral degree, he joined the faculty of the Department of Aeronautics at the U.S. Naval Postgraduate School. In 1976, he joined the staff of the Flight Systems Research Division at NASA Ames Research Center. In 1982, he joined the faculty at the University of California, Davis, where he is currently a Professor of mechanical and aeronautical engineering. His research interests lie in the areas of automatic and manual control and in human/machine systems. He is an Associate Fellow of the AIAA and a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE). In 2000, he was a recipient of the AIAA Mechanics and Control of Flight Award. He is also an Associate Editor of the *IEEE Transactions on Systems, Man and Cybernetics, Part A* and of the British *Journal of Aerospace Engineering*.



KENNETH J. HOLT retired from McDonnell Douglas Corporation in 1990. He had been involved in flight-test operations and marketing. He received his B.S. from Hampton University and his M.B.A. from the University of Missouri. He served 20 years in the U.S. Air Force and retired as a Lieutenant Colonel and a Command Pilot. His background is in fighters. He has flown the F-86, F-100, F-4, F-15, and F-18, and he spent tours in the Air Training Command and Strategic Air Command. He joined McDonnell Douglas in 1973. There, he flew production test flights and was the company's interface with the military and Federal Aviation Administration for test flights. He developed much of the flight-test operating procedure for the F-18 and AV8B, and he was the McDonnell Doublas flight operations consultant to the Government Aircraft Factory F-18 facility in Avalon, Australia. He retired from active flying in 1984. Mr. Holt served as Chair of the Aircraft Operations Technical Committee from 1985 to 1987. He is a Senior Member of the AIAA.



MAHENDRA JOSHI is the Chief Engineer of Noise and Emissions at Boeing Commercial Airplanes. He leads a team that is responsible for developing acoustical and emissions designs that meet the requirements for new and derivative airplanes, developing efficient technologies and tools to enable these designs, achieving noise and emissions certification for these products, providing operational environmental support to customers, and coordinating regulatory development. Mr. Joshi has over 30 years' experience in this field. He has held several positions, all related to environmental performance, during his career at The Boeing Company (including McDonnell Douglas). His prior responsibilities included Research Engineer; Senior Manager/Technical Fellow of Acoustics and Propulsion Technology; Manager of Environmental Performance for the NASA High-Speed Civil Transport; Manager of Single-Aisle Airplane Program Noise Support; Manager of Community Noise; and Manager of 787 Community Noise, Product Development and Emissions. Mr. Joshi received a Ph.D. in mechanical/aerospace engineering from the University of Tennessee Space Institute. He has also performed noise research and design at NASA Langley Research Center and at Bell Helicopter Textron. He is an Associate Fellow of the AIAA and was a Member of the Aeroacoustics Technical Committee.









GARY D. RENIERI, a Boeing Technical Fellow, has over 30 years of experience in the area of composite analysis, testing, design, and manufacturing technology. He received a B.S. and M.S. in mechanical engineering from Lowell Technological Institute (nor the University of Massachusetts at Lowell). He received a Ph.D. in engineering sciences and mechanics from Virginia Polytechnic Institute and State University. His career has spanned assignments from the Space Shuttle Aft Propulsion Subsystem, AV-8B, F-18, F-15 to technical manager on many U.S. Air Force, Navy, and Army technology development programs. He was a Technical Lead on the Air Force Composites Affordability Initiative from 1995 until 2005 in the areas of composite analysis development, analysis validation, and development of associated test articles leading to the certification of integrated composite structure. Dr. Renieri is the Focal in the Boeing Research and Technology group for Reliability-Based Design and Certification activities. Before his recent activities, Dr. Renieri was the Technical Excellence Focal for the Office of the Chief Engineer of the System of Systems Engineering Integration team of the Future Combat Systems program.

THOMAS WILLIAM STRGANAC is a Professor of aerospace engineering at Texas A&M University. He received his B.S. in aerospace engineering from North Carolina State University in 1977, his M.S. in aerospace engineering from Texas A&M University in 1980, and his Ph.D. in engineering mechanics from Virginia Polytechnic Institute and State University in 1987. His research interests focus on structural dynamics, nonlinear mechanics, and aeroelastic phenomena. He served as an Engineer at NASA Wallops Flight Center from 1975 to 1982 and at NASA Langley Research Center from 1982 to 1989. He has internationally presented short courses on advanced flight tests and aeroelasticity, and he is the coauthor of the texts *Introduction to Flight Test Engineering* and *A Modern Course in Aeroelasticity*. He has served on the Lighter-Than-Air Systems Technical Committee (Ph.D.), the Balloon Systems and Technology TC, and the Structural Dynamics TC. He served as the General Chairman of the AIAA Structures, Structural Dynamics and Materials Conference in 1999 and served as the General Chairman of the AIAA Dynamics Specialists Conference in 1996. He is an Associate Fellow of the AIAA and a registered Professional Engineer.

BRIAN E. THOMPSON holds the Natural Sciences and Engineering Research Council and General Motors of Canada Chair of Engineering Design and Innovation at the University of Western Ontario. He received his B.A.Sc. (mechanical engineering) from the University of Waterloo in 1979 and a Ph.D. from Imperial College of Science and Technology in 1984. He has been at a licensed Professional Engineer since 1986. Dr. Thompson is a seasoned engineering designer with experience in advanced medical, automotive, aircraft, rocket-engine, and instrumentation concepts. He has industrial experience at Bell Northern Research, Scientific Research Associates, and The Boeing Company, and he has held previous academic appointments at Imperial College, the University of Waterloo, and Rensselaer Polytechnic Institute (RPI). His research places emphasis on studio pedagogy, trailing-edge flows, vehicular design, and emerging technologies. He was the Chief Engineer of the Aircraft Studio at RPI, which produced the world's largest student-engineered aircraft. Dr. Thompson has engineering experience in a wide range of applications, including commercial aircraft, high-speed snow plowing, hybrid electric automobiles, axial turbomachinery, centrifugal pumps, heat exchangers, telephony heat transfer, gas and steam turbines, and pulmonary ventilation. He has authored over 160 publications and technical reports, is a patent holder, and has presented invited lectures and short courses on aerodynamics, engineering studios, and aircraft design in the United States, Europe, Canada, and the United Kingdom.

MURRAY TOBAK is a Senior Staff Scientist at NASA Ames Research Center. He has degrees from the University of California and Stanford University and has been a Research Scientist at NACA–NASA Ames Research Center since 1948. He has specialized in theoretical studies of fluid and flight dynamics of high-speed aircraft and missiles. His studies have been aimed at identifying problems in nonlinear dynamics, flow stability, 3-D separated flow, and vortex phenomena requiring basic research and new analytical and experimental tools for their solution. He is an Associate Fellow of the AIAA and has received NASA's Exceptional Service Award.