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Application Readiness

Within the scope statement of this journal (inside front cover), you will see that we emphasize the publication of original papers on aircraft technology or results of definitive economic analysis which are "ready for application." This is in contrast, for example, to the *AIAA Journal*, which focuses on research-oriented material, perhaps appearing for the first time in journal form. The terms "application" and "ready for application" can be somewhat subjective. This has led to some problems among reviewers who are indeed asked to make such an assessment. So I felt the need to discuss my view here. A major part of the issue is the very nature of the results presented. Most of our authors are highly adept at presenting results in crisp scientific terms, and this is appropriate for scientific user application. But they often fail to really anticipate the needs of the next (engineering) level user, the user who may want to incorporate the technical results into a design or apply the results to solve some other problem. Of course we cannot expect scientific authors to fully anticipate all potential user applications, but certainly they are best equipped to anticipate and accommodate, to some extent, the needs of selected users. For example, a typical aerodynamics paper may present definitive results on the lift-enhancement effects of blowing air on a control surface and essentially stop there. To incorporate these results, the designer will need to know how the blowing system configuration integrates with the aircraft. It would clearly make sense for the paper's author to anticipate how the blowing system might be configured and then provide preliminary calculations of pressure and mass flow requirements over a range of operational conditions. The impact of the blowing on structural loads, control frequency response, etc., should also be estimated. Such extra steps would certainly bring the paper much closer to "application readiness." I will look with great favor on papers that make a solid attempt to quantify the readiness for application along these lines. Please feel free to discuss these ideas for improving the utility of your journal. In fact, papers will be welcome that deal directly with the subject of transcribing into the quantitative applications of intended users the quantitative results of applied research in any of the aircraft disciplines. In this regard, it would make sense for the technical-specialist author to team up with an application engineer as coauthor.

On a second matter, we are currently receiving paper submittals with numerous authors listed. Please consider our policy that, to be listed as an author, the individual must have contributed directly to the writing of the paper. Members of the research team, for example, the data reduction specialist, will not be authors unless they have actually written some of the text or developed (not just drawn) the figures or tables. It is perfectly acceptable to recognize other contributors in an acknowledgment section.

I appreciate any and all feedback that I can get from authors and reviewers. As an example of this, one reviewer commented that my review form was not user-friendly in the age of word processing. I immediately restructured the format to correct the problem. This is your journal. If it does not meet your needs, let me know.

I would like to complete this year's editorial with some well-deserved recognition of both the volunteer and professional staff. The names of my dedicated staff of Associate Editors, beginning with the volunteers, appear following this editorial. They will help you transform your excellent manuscripts into archival-quality articles.

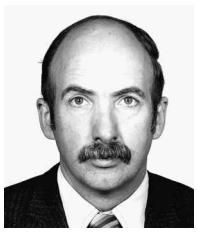
The Editorial Advisory Board was formed in 1993 to represent those AIAA Technical Committees most active in areas within the journal scope. They encourage publication of good meetings papers in this journal and help identify future Associate Editors. This year I encouraged them to identify "best paper award" nominees for placement on a fast track to assure that the best material is published with minimum delay. We did identify six papers in 1997 for fast-track treatment, based mainly on Session Chairman "best paper" designations from the Aerospace Sciences Meeting.

The names of last year's reviewers, through September, also appear in this issue. They provide the critical reviews that result in the maximum possible time value of the papers that are accepted. They also provide valuable input to authors of declined papers regarding rebuttal suggestions or future submissions. *JA* would not exist but for the dedicated, insightful work of these reviewers.

Now for the professional staff: Norma Brennan ably directs all journal activity in AIAA. Yet she always makes time to provide encouragement, answer my numerous questions, and provide inspiration to my Associate Editors and me. Jamie Fear served most of the year as our Managing Editor. Her facility with electronic communication and her attention to detail, along with genuine concern for the quality of the journal, were extremely helpful to me. Several of the Associate Editors have contacted me specifically to express their regrets that Jamie has left. We are fortunate to have right away a new Managing Editor, Linda Wilson. Finally, I appreciate the efforts of our Production Specialist, Brian Haefs. Striving for top archival journal quality format, Brian oversees all six AIAA journals from a production/layout standpoint.

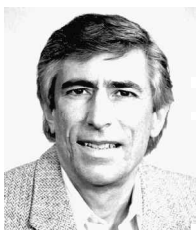
Thomas M. Weeks
Editor-in-Chief

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 Air Force Flight Dynamics Lab at Wright–Patterson AFB, Ohio. His initial work was in the area of electrogasdynamics at the nearly completed 50-MW facility. In 1968, he separated from the Air Force but remained at the same location working as a civilian. He was assigned in 1972 to the Analysis Group attached to the Aeromechanics Staff working on transonic wind-tunnel wall interference. In 1976, he became Technical Manager of the External Aerodynamics Group of the Aerodynamics and Airframe Branch. He then served as deputy and acting manager of the X-29 Advanced Technology Development Program. He is currently Chief of Technology Strategy in the Flight Dynamics Directorate of Air Force Wright Aeronautical Laboratory. Dr. Weeks is an Associate Fellow of AIAA.

Associate Editors



MARTIN E. BEYERS currently heads the Aircraft Aerodynamics Group at the National Research Council's Aerodynamics Laboratory in Ottawa, Canada. He received his Ph.D. from the University of the Witwatersrand in 1978 and was head of the NIAST Flight Mechanics Division at CSIR, South Africa, until he joined the NRC in 1981. He has served on the AIAA Technical Committees on Atmospheric Flight Mechanics and Applied Aerodynamics, and on several multinational working groups. He is presently Canadian National Leader on AER-TP5, the TTCP panel on Combat Aircraft Aerodynamics. He has specialized in high-alpha unsteady aerodynamics and free-flight dynamics, introducing a number of new concepts for wind-tunnel dynamic testing and for modeling unsteady separated flow phenomena. He is a Fellow of the Canadian Aeronautics and Space Institute and a Senior Member of AIAA.

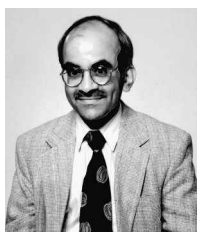
INDERJIT CHOPRA is a Professor of Aerospace Engineering and Director of the Center for Rotorcraft Education and Research at the University of Maryland. He received a B.Sc. in Engineering from Punjab Engineering College, Chandigarh, India, in 1965; an M.E. from Indian Institute of Science, Bangalore, India, in 1968; and a Sc.D. from the Massachusetts Institute of Technology in 1977. He worked at the National Aeronautical Laboratory in Bangalore from 1966 to 1974. His research there included aeroelastic wind-tunnel testing of scaled models of airplanes and launch vehicles. At MIT, he worked on aeroelastic analysis of wind turbine rotors for his doctoral dissertation. In 1977, he joined NASA Ames/Stanford University Joint Institute of Aeronautics and Acoustics, where he researched aeroelastic analysis of advanced rotor systems and dynamic testing of full-scale helicopters in the NASA Ames 40 x 80-ft wind tunnel. In 1981, he joined the University of Maryland. He has been working on problems related to helicopter dynamics, including aeromechanical stability, smart structures applications, active vibration control, structural health monitoring, composite blade modeling, and aeroelastic optimization. The author of over 140 articles and papers, Dr. Chopra was also an Associate Editor of the *Journal of the American Helicopter Society* and a member of the editorial advisory boards of *Vertica, The International Journal of Rotorcraft and Powered Lift Aircraft,* and *Smart Materials and Structures*. He is a Fellow of AIAA and AHS.

ROBERT E. DUFFY is currently president of RED Associates, a recently formed research 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 for a number of years the chairman of the aeronautical engineering academic program. He is the author of over 50 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 a past member of the Atmospheric Flight Mechanics Technical Committee and is an Associate Fellow of AIAA.

FRANKLIN E. EASTEP is a Professor of Aerospace Engineering at the University of Dayton. He received a B.S. from Ohio State University in 1958, an M.S. in Aeronautical Engineering 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 this period, he has been the principal thesis advisor for 15 doctoral students and over 35 master'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 an Associate Fellow of AIAA.

RONALD A. HESS received his B.S., M.S., and Ph.D. degrees in Aerospace Engineering from the University of Cincinnati. After completing his doctoral work, he joined the faculty of the Department of Aeronautics at the Naval Postgraduate School in Monterey, California. In 1976, he took a position at 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 in the Department of Mechanical and Aeronautical Engineering. Dr. Hess' research interests lie in the areas of automatic and manual control of aircraft and in human/machine systems. He is an Associate Fellow of AIAA, a Senior Member of IEEE, and a member of Sigma Xi and Tau Beta Pi. He is also an Associate Editor of the *IEEE Transactions on Systems, Man, and Cybernetics*.

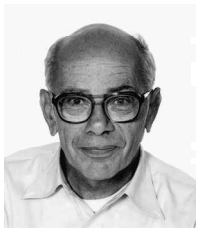
KENNETH J. HOLT retired from McDonnell Douglas Corporation in 1990. He had been involved in flight test operations and marketing. He received his B.Sc. from Hampton University in Virginia and his M.B.A. from the University of Missouri, St. Louis. He served 20 years in the U.S. Air Force and retired as 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 spent tours in the Air Training Command and Strategic Air Command. He joined McDonnell 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 was the McDonnell flight operations consultant to the Government Aircraft Factory F-18 facility at Avalon, Australia. He retired from active flying in 1984. Mr. Holt served as chairman of the Aircraft Operations Technical Committee from 1985–1987. He is a Senior Member of AIAA.



MAHENDRA C. JOSHI is Senior Manager of Acoustics and Propulsion Technologies at McDonnell Douglas Aerospace, Long Beach, California. Dr. Joshi has twenty years of experience in the development of acoustic technology for air and space vehicles. This includes prediction and control of engine and airframe noise sources, acoustic loads, and transmission of noise inside vehicles. He was selected as MDC Fellow in 1993. Dr. Joshi was a Principal Engineer at Bell Helicopter Textron in Fort Worth, Texas, for four years and a postdoctoral research associate at NASA Langley Research Center for two years. He is an Associate Fellow of AIAA and was a member of the Aeroacoustics Technical Committee. He received his Ph.D in Aerospace/Mechanical Engineering from the University of Tennessee Space Institute in 1977.

JAMES M. LUCKRING received his B.S. degree in Aeronautical and Astronautical Engineering in 1973 and his M.S. degree in Aeronautics and Astronautics in 1974, both from Purdue University. He received his Ph.D. in Aeronautical Engineering in 1985 from North Carolina State University. In 1974 Dr. Luckring joined the staff of the NASA Langley Research Center, where he is now the Head of the Transonic/Supersonic Aerodynamics Branch in the Aero- and Gas-Dynamics Division. He has conducted and directed aerodynamic research programs at subsonic, transonic, and supersonic speeds for both commercial and military aircraft concepts. Dr. Luckring has performed a variety of experimental investigations of high angle-of-attack aerodynamic properties, including transonic and high Reynolds number considerations. He has also performed and led a variety of applied computational fluid dynamic (CFD) studies of these flows. In addition, Dr. Luckring teaches graduate-level classes in aerodynamics as an Associate Professorial Lecturer for the George Washington University. Dr. Luckring is the author or coauthor of 48 scientific publications and an Associate Fellow of AIAA.

BELLUR L. NAGABHUSHAN is a Professor of Aerospace Engineering at Parks College of Saint Louis University in Cahokia, Illinois. He received his B. Tech. degree in Aeronautical Engineering from Indian Institute of Technology, Madras, India, in 1971 and his M.S. and Ph.D. degrees in Aerospace Engineering from Virginia Polytechnic Institute and State University in 1973 and 1977. After completing his graduate studies, he joined the Defense Systems Division of Goodyear Aerospace Corporation in Akron, Ohio. Here he evolved conceptual and preliminary designs of advanced V/STOL airship and hybrid rotorcraft configurations and investigated their flying qualities. Subsequently, he was involved in developing aircraft-based weapon systems. He conceived, developed prototypes, and demonstrated innovative concepts for tactical weapons that sequentially dispense munition into desired patterns. He also served as a consultant on projects related to aircraft system design, performance analysis, and flight simulator development. In 1987 he joined the Bendix/King Avionics Division of Allied Signal Aerospace Company in Fort Lauderdale, Florida, as a senior staff engineer and was involved in the development of a digital FBW system for aircraft flight control. Dr. Nagabhushan has broad research interests that include all types of flight vehicles and associated flight mechanics and control technologies. He has authored over 60 technical papers and articles in archival journals. He holds several patents in the U.S. and Europe and has received numerous engineering awards for technical and scholarly achievements. He is an Associate Fellow of AIAA and serves on its Lighter-Than-Air Systems Technical Committee. In addition to being an Associate Editor of this journal, Dr. Nagabhushan also serves as an Associate for its International Board of Editors and is responsible for their activities.



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, 3D separated flow, and vortex phenomena requiring basic research and new analytical and experimental tools for their solution. He is an AIAA Associate Fellow and has received NASA's Exceptional Service Award.