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Announcements, Comments, and Acknowledgments

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THE past year has been an interesting and somewhat challenging one, primarily because the *AIAA Journal* was the first among the journals published by AIAA to switch from WriteTrack, which has become obsolete, to a new modern electronic paper management system, Scholar One (SC1), that is used by numerous other technical and scientific journals and is commercially supported. Initially, the *AIAA Journal* went live on the new system on 15 June 2009, and the original plan was to bring the next journal, the *Journal of Aircraft*, online a month later. As it turned out, reality was more complicated than initially envisioned and it actually took four months, until 15 October 2009, for the next journal to go live. During this period, the hard work and dedication of the staff at AIAA, combined with the imaginative solutions conceived by our team of Editors, finally prevailed and presently the new system is performing well. There are still a few outstanding issues that need to be resolved so that SC1 can replicate some useful features in WriteTrack. It is also important to note that the new system has several advantages compared with WriteTrack and it can be continuously improved by customization. Thus, it is remarkable that despite the problems encountered, the *AIAA Journal* was published on time and operated smoothly, thanks to the terrific job done by our Editors and the dedicated staff at AIAA Headquarters.

Staff and Editorial Changes. There have been a number of changes in the editorial staff in the last year.

We had 12 Associate Editors and a Deputy Editor whose terms ended in December 2009, and five of these and the Deputy Editor are continuing for another term. Continuing Associate Editors are Jay Gore, *Purdue University*; Ephraim Gutmark, *University of Cincinnati*; Rakesh K. Kapania, *Virginia Polytechnic Institute and State University*; Robert Lucht, *Purdue University*; Anthony Springer, *NASA Langley Research Center*; and Balakumar Balachandran (Deputy Editor), *University of Maryland*. We thank them for past service to *AIAA Journal* and for their willingness to continue.

Continuing Associate Editors and the continuing Deputy Editor are Kyle Anderson, *University of Tennessee*; Keisuke Asai, *Tohoku University, Japan*; Richard J. Astley, *University of Southampton, England*; Christophe Bailly, *Ecole Centrale de Lyon, France*; Philip Beran, *U.S. Air Force Research Laboratory*; Carlos Cesnik, *University of Michigan*; Ndaona Chokani, *ETH Zürich, Switzerland*; Frank Coton, *University of Glasgow, England*; Song Fu, *Tsinghua University, PRC*; Datta V. Gaitonde (Deputy Editor), *U.S. Air Force Research Laboratory*; Mark Glauser, *Syracuse University*; Eli Livne, *University of Washington*; Anastasios Lyrintzis, *Purdue University*; Achille Messac, *Rensselaer Polytechnic Institute*; Ahmed Naguib, *Michigan State University*; Roger Ohayon, *Conservatoire National des Arts et Métiers, France*; Anthony Palazotto, *Air Force Institute of Technology*; Assimina Pelegri, *Rutgers University*; Jubaraj Sahu, *U.S. Army Research Laboratory*; Alok Sinha, *Penn State University*; Anatoli Tumin, *University of Arizona*; Miguel Visbal, *U.S. Air Force Research Laboratory*; Z. J. Wang, *Iowa State University*; Norman Wereley, *University of Maryland*; Karen Wilcox, *Massachusetts Institute of Technology*; Thomas Zang, *NASA Langley Research Center*; and Xiaolin Zhong, *University of California, Los Angeles*. Their past and continuing services are very much appreciated.

New Associate Editors who began after January 2010 are Lou Cattafesta, *University of Florida*; Bogdan Epureanu, *University of Michigan*; Mike Hyer, *Virginia Polytechnic Institute and State University*; Foluso Ladeinde, *State University of New York at Stonybrook*; Dimitri Papamoschou, *University of California, Irvine*; Sergio Pellegrino, *California Institute of Technology*; Lorenz Tichy, *DLR, German Aerospace Center, Germany*; and Paul Tucker, *Cambridge University, England*. Their willingness to join our staff is greatly appreciated.

A very, very special thanks for their years of service to our retiring Editors: Jonathan Cooper, *University of Liverpool, England*; P. Frank Pai, *University of Missouri–Columbia*; Allen Plotkin, *San Diego State University*; Roger Rangel, *University of California, Irvine*; Kunigal Shivakumar, *North Carolina A&T State University*; and Fu-Shang Wei, *Kaman Aerospace Corporation*.

This also the time to thank Professor Pasquale M. Sforza, *University of Florida*, for his many years of dedicated service as the Book Review Editor. I am also pleased to announce the appointment of Professor Peyman Givi, *University of Pittsburgh*, who served until now as an Associate Editor, as the new Deputy Editor responsible for Book Reviews, Survey Papers, and Special Sections.

We wish to thank the continuing Advisory Board members for their help and advice throughout this year: Satya N. Alturi, *University of California, Irvine*; Dennis M. Bushnell, *NASA Langley Research Center*; Geneviève Comte-Bellot, *Ecole Centrale de Lyon, France*; Earl H. Dowell, *Duke University*; Edward M. Greitzer, *Massachusetts Institute of Technology*; Ronald K. Hanson, *Stanford University*; Chih-Ming Ho, *University of California, Los Angeles*; Antony Jameson, *Stanford University*; Robert G. Loewy, *Georgia Institute of Technology*; Simon Ostrach, *Case Western Reserve University*; Eli Reshotko, *Case Western Reserve University*; Anatol Roshko, *California Institute of Technology*; William S. Saric, *Texas A&M University*; George S. Springer, *Stanford University*; Forman A. Williams, *University of California, San Diego*; and Israel J. Wygnanski, *University of Arizona*. We also welcome a new member of the Advisory Board, Professor Jason Speyer from *University of California, Los Angeles*.

I want to thank a few individuals who helped with my transition into my current role as Editor-in-Chief. First and foremost, my thanks and gratitude go to my predecessor, Elaine Oran, whose advice and wonderful sense of humor helped me throughout the year and allowed me to avoid costly mistakes. Many thanks to Kailas Kailasanath, our outgoing Deputy Editor, who helped me tremendously during the first two months, and the previous Editorial Assistant, Carter Shields, who recruited her current replacement.

I would like to extend my thanks to Michael Bragg, the Vice President of Publications, for his help and encouragement. I would also thank the Director of Publications, Rodger Williams; Amanda Maguire, Product Manager of Journals; Michael Baden-Campbell, Managing Editor; and Michael McGinnes, our Applications Specialist. A very special thanks to Balakumar Balachandran and Datta Gaitonde, our Deputy Editors, and Amy Suski, our Editorial Assistant, who have worked with dedication to ensure that *AIAA Journal* runs smoothly and maintains its excellent quality. Last, but far from least, we all owe a tremendous debt of gratitude to all of the individuals who reviewed papers for the journal this year.

A list of their names follows.

Peretz P. Friedmann
Editor-in-Chief

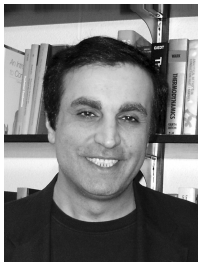
Editor-in-Chief

PERETZ P. FRIEDMANN is François-Xavier Bagnoud Professor of aerospace engineering in the Aerospace Engineering Department of the University of Michigan, Ann Arbor. He received his B.S. and M.S. degrees in aeronautical engineering from the Technion—Israel Institute of Technology and his Sc.D. (1972) in aeronautics and astronautics from Massachusetts Institute of Technology (MIT). Before entering the academia, Dr. Friedmann worked in Israel Aircraft Industries and was a Research Assistant at the Aeroelastic and Structures Laboratory at MIT. He has been with the University of Michigan since January 1999. Between 1972 and 1998 he was a Professor in the Mechanical and Aerospace Engineering Department of the University of California, Los Angeles. Between 1988 and 1991 he served as the Chairman of the Department. Dr. Friedmann has been engaged in research on rotary-wing and fixed-wing aeroelasticity, active control of vibrations, hypersonic aeroelasticity and aerothermoelasticity, flutter suppression, structural dynamics, and structural optimization with aeroelastic constraints, and he has published extensively (over 280 journal and conference papers). He has served as Editor-in-Chief of *Vertica—The International Journal of Rotorcraft and Powered Lift Aircraft*, and he was an Associate Editor of the *Journal of Fluids and Structures* as well as of the *Journal of Aircraft*. His accomplishments have been recognized by several awards: AIAA Ashley Award for Aeroelasticity (2009); Dryden Lectureship in Research (2009); Spirit of St. Louis Medal (ASME International) for 2003; AIAA Structures, Structural Dynamics and Materials Award (1996); AIAA SDM Lecture Award (1997); ASME/Boeing Structures and Materials Award (2004), and ASME Structures and Materials Award (1984). He is a Fellow of the AIAA and of the American Helicopter Society.

Deputy Editors

BALA BALACHANDRAN is a Professor and Associate Chair of mechanical engineering at the University of Maryland, where he has been since 1993. He received his B.Tech. in naval architecture from the Indian Institute of Technology and his M.S. in aerospace engineering and his Ph.D. in engineering mechanics from Virginia Polytechnic Institute and State University. His research interests include nonlinear phenomena, dynamics and vibrations, and control. The publications that he has authored/coauthored include over 45 journal publications; a textbook entitled *Applied Nonlinear Dynamics: Analytical, Computational, and Experimental Methods* (Wiley, 1995); and a textbook entitled *Vibrations* (Thomson, 2004). He serves on the Editorial Board of the *Journal of Vibration and Control* and is an Associate Editor of the *Journal of Computational and Nonlinear Dynamics*. He is a Fellow of ASME International; a Senior Member of the AIAA; and a Member of the American Academy of Mechanics, the Acoustical Society of America, Sigma Xi, and the International Society for Optical Engineering. He served as the Chair of the ASME Applied Mechanics Division Technical Committee on Dynamics and Control of Structures and Systems from 2005 to 2007, and he currently serves as the Vice Chair of the ASME Design Engineering Division Technical Committee on Multibody Systems and Nonlinear Dynamics.

DATTA V. GAITONDE received his B.Tech. from the Indian Institute of Technology in 1983 and his M.S. and Ph.D. in mechanical and aerospace engineering from Rutgers University in 1986 and 1989, respectively. Since 1989, he has been working at Wright–Patterson Air Force Base, where he is a Principal Research Aerospace Engineer and Technical Area Leader of the High-Speed Flows Group in the Air Vehicles Directorate of the U.S. Air Force Research Laboratory. His current research activities include development and application of multiphysics methods for high-speed propulsion and flow control, high-order algorithm development, three-dimensional shock-wave/turbulent-boundary-layer interactions, magnetogasdynamics, and electromagnetics. He is an author or coauthor of over 100 publications on these topics. He is an Adjunct Professor at Wright State University and an Associate Fellow of the AIAA. He serves on the AIAA Fluid Dynamics Technical Committee, where he currently chairs the Computational Fluid Dynamics Subcommittee.



PEYMAN GIVI is the William K. Whiteford Chair and Professor of mechanical engineering at the University of Pittsburgh. Previously, he held the position of Distinguished Professor at the State University of New York at Buffalo and also worked as a Research Scientist at Flow Industries, Inc. He has had visiting appointments at the NASA Langley Research Center and the NASA John H. Glenn Research Center at Lewis Field and has won the agency's Public Service Medal (2005). Professor Givi is among the first 15 engineering faculty nationwide who were honored to receive the Presidential Faculty Fellowship from President George Bush at the White House (1992). In 1990, he received the Young Investigator Award of the Office of Naval Research and the Presidential Young Investigator Award of the National Science Foundation. He received a B.E. from Youngstown State University in 1980, where he was named the 2004 Distinguished Alumnus, and a Ph.D. from Carnegie–Mellon University in 1984. He is an Associate Fellow of the AIAA.

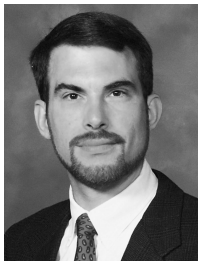
Associate Editors

WILLIAM K. ANDERSON is a professor at the National Center for Computational Engineering located at the University of Tennessee at Chattanooga. There, he teaches advanced graduate classes in computational fluid dynamics and in computational design. He conducts and directs research projects in developing and applying computational algorithms for simulation and design for a diverse range of applications including: aeronautics, solid-oxide fuel cells, radio frequency plasmas, and electromagnetics. He received the University of Tennessee Research Award in 2007. Before coming to the University of Tennessee, Dr. Anderson worked for over 18 years at the NASA Langley Research Center. While at NASA, he developed and analyzed algorithms for computing viscous flows on structured and unstructured grids, early development of upwind schemes, adaptive meshing, continuous and discrete sensitivity analysis, computational design, time-accurate flows, multigrid algorithms, and flows in heavy gases. Dr. Anderson received a Ph.D. in aerospace engineering in 1986 from Mississippi State University. He is an Associate Fellow of the AIAA, a recipient of the AIAA Lawrence Sperry Award and the NASA Exceptional Achievement Medal. Dr. Anderson is a registered patent agent with the U.S. Patent and Trademark Office and is a registered Professional Engineer.

KEISUKE ASAI is a Professor of aerospace engineering at Tohoku University. He received a B.S. in aeronautical engineering from Kyoto University in 1980 and a Ph.D. in aeronautics and astronautics from the University of Tokyo in 1995. He was a Research Scientist at the National Aerospace Laboratory of Japan from 1980 to 2003, where he studied induced-drag-reducing devices such as winglets and wing-tip fins, high-speed drag characteristics of powered-lift airplanes, and pressure- and temperature-sensitive paints for aerodynamic measurements. He was also engaged in tunnel-to-tunnel data comparison programs with NASA, ONERA, and the Aeronautical Research Institute of Sweden. During 1988–1989, he was a Visiting Researcher in the Experimental Techniques Branch of the Transonic Aerodynamics Division at NASA Langley Research Center, where he studied hot-jet simulation in a cryogenic wind tunnel. From 1999–2003, he managed the Techno-Infrastructure Program called "MOSAIC," which is an interdisciplinary research project with chemists and material scientists to develop molecular sensor technology for aerodynamic measurements. His current research interests involve development of wind-tunnel testing techniques and measurement technology for unsteady flows, hypersonic wind tunnels, flight dynamics, and microscale gas flows. He is the recipient of the 1998 AIAA Aerodynamics Measurement Technology Best Paper Award, the 2002 AIAA Outstanding Paper Award, and the 2003 Japan Society for Aeronautical and Space Sciences Technical Award. He is a Member of the AIAA Aerodynamic Measurement Technology Technical Committee and the International Congress on Instrumentation in Aerospace Simulation Facilities panel. He has published over 40 papers in the archival literature on experimental aerodynamics. He is an Associate Fellow of the AIAA.

JEREMY ASTLEY is a Professor of computational acoustics at the Institute of Sound and Vibration Research (ISVR) at the University of Southampton and is director of the Rolls-Royce University Technology Centre in gas turbine noise. He is a Member of the Confederation of European Aerospace Societies Aeroacoustics Subcommittee and of the Scientific Committee of the X-3 Noise network, funded by the European Commission (EC) to coordinate research on aircraft noise in Europe. Professor Astley has played a leading role in applying finite and boundary element methods to problems in acoustics and aeroacoustics and is the author of more than 50 journal articles on this topic. A particular interest in recent years has been the development of special finite and infinite elements for short-wave problems. Professor Astley currently contributes to a number of programs funded by the EC and United Kingdom that are directed at the development of improved acoustic technologies for turbofan intake and bypass ducts. Before his current appointment at the ISVR, Prof. Astley held the Chair of mechanical engineering at the University of Canterbury. He is a Fellow of the Royal Society of New Zealand, the Institution of Professional Engineers of New Zealand, and the International Institute of Acoustics and Vibration. He is a Member of the Editorial Boards of the *International Journal for Numerical Methods in Engineering* and *Communications in Numerical Methods in Engineering* and is an Associate Editor of the *Journal of Sound and Vibration*. He is a Senior Member of the AIAA.

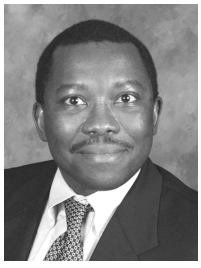
CHRISTOPHE BAILLY is currently a Professor of Fluid Mechanics and Acoustics at the Ecole Centrale de Lyon (ECL, engineering school, France) and junior member of the Institut Universitaire de France (IUF). He received his Ph.D. in aeroacoustics from the Ecole Centrale Paris in 1994. He joined the Centre Acoustique of the Laboratoire de Mécanique des Fluides et d'Acoustique, Centre National de la Recherche Scientifique (CNRS), at ECL in 1995. He served as lecturer in turbulence at the Ecole Centrale Paris (ECP) from 1995 to 2006, and serves as lecturer in aeroacoustics at the Ecole Nationale Supérieure des Techniques Avancées (ENSTA) since 2001. His research activities lie in the area of turbulence and noise generation, with current emphasis on computational aeroacoustics, compressible large-eddy simulation, jet noise and sound wave propagation. He is coauthor, with Geneviève Comte-Bellot, of one textbook in turbulence, and has authored or coauthored over 55 papers in refereed journals and more than 130 conference papers. He is also recipient of the Yves Rocard Prize from the French Acoustical Society (1996) and of the Alexandre Joannidès Prize from the French Academy of Sciences (2001). He is a Senior Member of the AIAA.



PHILIP S. BERAN is a Principal Research Aerospace Engineer at the U.S. Air Force Research Laboratory (AFRL), Air Vehicles Directorate, Structures Division. He received a B.S. in engineering physics from Cornell University (1982) and his M.S. and Ph.D. in aeronautics from the California Institute of Technology (1989). Dr. Beran has specialized in the computational analysis of coupled (e.g., aeroelastic) systems that exhibit various nonlinear phenomena, including bifurcation and limit-cycle oscillation. Much of his research has emphasized the representation of these behaviors with physically meaningful reduced-order models, which he hopes will be the pathway for the design of more capable and reliable aircraft. Recently, he has examined the challenges associated with the computational design of flapping-wing micro air vehicles and has sought to exploit aeroelastic interactions in the design process to increase the performance of these types of vehicles. Before joining the AFRL (1997), he served on the faculty of the Air Force Institute of Technology (AFIT) in the Department of Aeronautics and Astronautics. He was promoted to Associate Professor at AFIT in 1994. He has authored or coauthored over 120 publications. He is an Associate Fellow of the AIAA and has served on the AIAA Structural Dynamics, Multidisciplinary Design Optimization, and Non-Deterministic Approaches Technical Committees. He has coinstructed the AIAA courses on "Modern Analysis of Nonlinear Systems with Applications" and "Aeroelasticity: State-of-the-Art Practices."

LOUIS N. CATTAFESTA III is a Professor in the Department of Mechanical and Aerospace Engineering at the University of Florida and is a member of the Interdisciplinary Microsystems Group at the University of Florida (UF). He is also the Associate Director of the Florida Center for Advanced Aero Propulsion. His primary research interests are experimental fluid dynamics, particularly active flow control and aeroacoustics. Before joining UF in April 1999, he was a Senior Research Scientist and the Group Leader of the Experimental and Instrumentation Group at High Technology Corporation. He received a B.S. degree in mechanical engineering from Pennsylvania State University in 1986, a M.S. degree in aeronautics from Massachusetts Institute of Technology in 1988, and a Ph.D. degree in mechanical engineering from Pennsylvania State University in 1992. In 1992, he joined High Technology Corporation as a Research Scientist at NASA Langley Research Center. His research at NASA Langley focused on supersonic laminar flow control and pressure- and temperature-sensitive paint measurement techniques, and in 1996 he was awarded the 1996 NASA Team Excellence Award for his contributions. At that time, he became involved in active control of flow-induced cavity oscillations, which provoked his current research interests in active flow control and aeroacoustics. He has coauthored four papers that have received AIAA Best Conference Paper awards. He is the author or coauthor of six U.S. patents, five book chapters, over 50 archival publications. He has served on the AIAA Aerodynamic Measurement Technology and Fluid Dynamics Technical Committees. He is an Associate Fellow of the AIAA, a Senior Member of ASME International, and a Member of the Acoustical Society of America and the American Physical Society.

CARLOS CESNIK is an Associate Professor of aerospace engineering at the University of Michigan and Director of the Active Aeroelasticity and Structures Research Laboratory. He earned an M.E. in aeronautics (1987) and an M.S. in aeronautical engineering (1989) from the Instituto Tecnológico de Aeronáutica and an M.S. (1991) and a Ph.D. (1994) in aerospace engineering from the School of Aerospace Engineering at Georgia Institute of Technology. Professor Cesnik is an Associate Fellow of the AIAA and a Member of the AIAA Structural Dynamics and Adaptive Structures Technical Committees. He has written over 120 archival journal papers, conference papers, and technical reports, and he has given several invited lectures in the areas of fixed- and rotary-wing aeroelasticity, smart structures, structural mechanics, and structural health monitoring. Previous to his appointment as a tenured Associate Professor at the University of Michigan, Professor Cesnik was the Boeing Assistant Professor of aeronautics and astronautics and then Associate Professor of aeronautics and astronautics at Massachusetts Institute of Technology. He has also worked as a Research Engineer at Embraer and has extensive experience in aeroelasticity, finite element modeling, and structural and design optimization. His research interests focus on active aeroelastic structures, computational aeroelasticity, and structural health monitoring. He has a patent for a wing-morphing concept for a cannon-launched unmanned aerial vehicle and has been selected for the 2002 ASME/Boeing Structures and Materials Award "on the basis of originality and significance to the field of aerospace engineering" associated with such work. Professor Cesnik is currently an Associate Editor for the *AIAA Journal* and the *Journal of Fluids and Structures*.



NDAONA CHOKANI received his B.A. in engineering science from Oxford University in 1984 and his Ph.D. in engineering from Cambridge University in 1988. He is currently at ETH Zürich. Previously, he served on the faculty at North Carolina State University and then on the faculty at Duke University, where he was a Professor of mechanical engineering and materials science. His current research activities focus on energy conversion in renewable energy and in plasma light sources, the development and application of novel instrumentation, and the development of digital signal processing techniques. His previous research has focused on experimental studies of hydrodynamic stability in compressible flows and shockwave/boundary-layer interactions; these studies were variously supported by the U.S. Air Force Office of Scientific Research, the U.S. Air Force Research Laboratory, NASA, and the National Science Foundation. He has previously served on the National Academies' Air Force Science and Technology Board, as an Associate Editor of the *Journal of Aircraft*, and as a Member of the AIAA's Transition Study Group, Aerodynamics Measurement Technology Technical Committee, and Thermophysics Technical Committee. He is a corecipient of a 2008 award for the best paper presented at the 2007 International Gas Turbine Institute Turbo Expo. He is an Associate Fellow of the AIAA and a Member of ASME International and SPIE.

FRANK N. COTON is currently a Professor of low-speed aerodynamics and Associate Dean (Research) in the Faculty of Engineering at the University of Glasgow. He received his Ph.D. in aerospace engineering at the University of Glasgow in 1988. After a brief period with Rolls-Royce, he returned to Glasgow University to become a faculty member in 1989. His research interests include experimental studies of the unsteady aerodynamics of rotorcraft, delta wings, and wind turbines, with particular emphasis on dynamic stalling, interactional aerodynamics, and vortex dynamics. He has been a Member of the AIAA Applied Aerodynamics Technical Committee since 1999 and was the General Chair for the AIAA Summer Fluids Meeting in 2007. He is also a Member of the Aerodynamics Group Committee of the Royal Aeronautical Society. He is a Senior Member of the AIAA and a Fellow of the Royal Aeronautical Society. He has authored or coauthored more than 100 archival and conference papers and has received awards for his work from ASME International, the American Helicopter Society, the Royal Aeronautical Society, and the Institute of Mechanical Engineers.

BOGDAN I. EPUREANU is an Associate Professor of mechanical engineering at the University of Michigan. He received his Ph.D. in mechanical engineering from Duke University in 1999. His research blends theories in nonlinear dynamics, structural health monitoring, aeroelasticity, and computational dynamics, with applications relevant to aerospace structures, sensors, turbomachinery, and biological systems. In particular, Professor Epureanu develops the next generation of highly sensitive structural health monitoring techniques, reduced-order models of complex structures, and system identification and control methodologies for structures and fluid–structural systems. Professor Epureanu has published more than 50 articles in archival journals and more than 60 conference papers and reports. He is also an Associate Editor of *Journal of Vibration and Acoustics* (Transactions of the ASME). He has earned several awards: the 2004 American Academy of Mechanics Junior Achievement Award, a National Science Foundation Career Award in 2004, the 2003 ASME/Pi Tau Sigma Gold Medal Award, the 2001 Young Innovator Award from Petro-Canada, and the 2005 Beer and Johnston Outstanding Mechanics Educator Award by the American Society for Engineering Education. He is a Senior Member of the AIAA.

SONG FU is a Professor of the School of Aerospace at Tsinghua University. He received his B.S. from Imperial College London in 1983 and his Ph.D. from Manchester University in 1988. Since then, he joined the Department of Engineering Mechanics at Tsinghua University as a faculty member. He is presently the Deputy Dean of the School of Aerospace. Professor Fu serves as a Vice President of the Chinese Aerodynamics Society and the Chairman of the Fluid Mechanics Division of the Chinese Society for Theoretical and Applied Mechanics. Professor Fu was the recipient of the Fifth National Science and Technology Award for Outstanding Young Researchers in China in 1997. In the 18th conference of the International Society for Airbreathing Engines (ISOABE) in 2007, he was awarded The ISOABE International Collaboration Accomplishment Award. Professor Song Fu's research interests cover the fields of turbulence modeling, aircraft aerodynamics, and casing treatment for compressor rotors. He is currently representing China in a number of advisory committees for international symposiums, including turbulence and shear flow phenomena; turbulence, heat and mass transfer; and computational fluid dynamics. He is also an Advisory Editor for *Flow, Turbulence and Combustion*. He is a Senior Member of the AIAA.

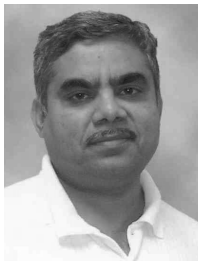
MARK GLAUSER is a Professor of mechanical and aerospace engineering at Syracuse University. With his coworkers and postdoctoral, graduate, and research experience with undergraduates students, Prof. Glauser conducts major experimental, computational, and theoretical efforts to apply low-dimensional models to turbulent and transitioning flows for understanding and control. Flows studied range from high-speed aerospace-type applications to those around thermal-breathing manikins within the microenvironment. Professor Glauser has served as Program Manager for the Turbulence and Internal Flows Program at the U.S. Air Force Office of Scientific Research (AFOSR) from 1996–1999; meeting Chair for the 56th American Physical society Annual Meeting of the Division of Fluid Dynamics (November 2003); Technical Chair for the AIAA Summer Fluid Dynamics Meeting (June 2006); and an ABET, Inc. evaluator for aerospace engineering programs since 2004. Professor Glauser has obtained more than $10 million in research funding as Phase I (PI) or Co-Phase I (Co-PI) from the AFOSR, National Science Foundation, NASA, Environmental Protection Agency, Dantec, United Technologies, and others. His current funding totals more than $6 million as PI or Co-PI. Professor Glauser has published more than 100 peer-reviewed publications and conference proceedings and has presented more than 80 invited presentations and keynote talks worldwide. Over the past 20 years, he has mentored several postdoctoral students and more than 30 Ph.D. and M.S. students. He is a Fellow of ASME International, the American Physical Society, and the Institute of Physics, and he is an Associate Fellow of the AIAA and a Fulbright Scholar (France). Glauser received his B.S. in mechanical engineering (1982) and his Ph.D. (1987) in fluid dynamics from the State University of New York at Buffalo.

JAY (JAYAVANT) P. GORE, Vincent P. Reilly Professor within the School of Mechanical Engineering at Purdue University, received his B.E. (M.E.) from the University of Poona (1978) and his M.S. (1982) and Ph.D. (1986) in mechanical engineering from Pennsylvania State University. He completed a postdoctoral training program in aerospace engineering at the University of Michigan, Ann Arbor, before joining the University of Maryland in 1987. In 1991, Dr. Gore joined Purdue University as an Associate Professor and was promoted to the rank of Full Professor in 1995 and to his present rank in 2000. His research interests include infrared sensing, diagnostics, and control; numerical and experimental studies of turbulent combustion; partially premixed flames; flame radiation; chemistry radiation interactions; NO*x* and soot formation and emission; radiant burner flames; and sensors for pollutant control and fire detection. Dr. Gore teaches two graduate courses in combustion and two undergraduate courses in thermodynamics. He is the Chairman of the ASME International Committee on Heat Transfer in Fire and Combustion Systems, an Associate Fellow of the AIAA, and Chairman of the Board of Advisors of the Central States Section of the Combustion Institute. Dr. Gore is an author or coauthor of over 200 articles and papers. He received the 1987 Best Paper in ASME Heat Transfer Literature Award, a 1991 Presidential Young Investigator Award, and faculty sabbatical fellowships from the U.S. Department of Energy and the Japanese Ministry of Education in 1998. He is an Associate Editor of the *Journal of Heat Transfer* and the U.S. Editor of the *Proceedings of the International Combustion Institute*, Vol. 28.

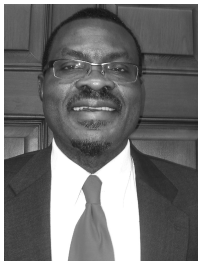
EPHRAIM (EFFIE) GUTMARK joined the University of Cincinnati (UC) in 2000 as the Ohio Regents Eminent Scholar Chaired Professor of aerospace engineering and engineering mechanics. In 2006, he was also appointed as a Professor of otolaryngology at the UC Medical Center. He received his M.S. and Ph.D. in aerospace engineering from the Technion—Israel Institute of Technology. After completing postdoctoral research at the University of Southern California, Los Angeles, he worked as a Senior Research Scientist at the Research Department of the Naval Air Warfare Center. In 1995, he joined the Department of Mechanical Engineering at Louisiana State University as a Professor and Chairman and later was appointed as Voorhies Professor of mechanical engineering. His research interests include subsonic and supersonic aeroacoustics, experimental fluid dynamics and aerodynamics, combustion instabilities and emissions control, turbomachinery flow and heat transfer, pulse detonation engines, and biomedical fluid dynamics and acoustics. His research has been sponsored by the U.S. Air Force Office of Scientific Research, Office of Naval Research, NASA, National Science Foundation, Defense Advanced Research Projects Agency, National Aerospace Plane, General Electric, Boeing, Goodrich Aerospace, and Halliburton. He has consulted numerous times for government and industrial organizations in the United States and Europe. He has served on several AIAA Technical Committees, including Aeroacoustics, Propellants and Combustion, and Fluid Dynamics. He is a Fellow of the UC Graduate School and the recipient of College of Engineering Research and Distinguished Engineering Researcher awards and several teaching awards. He has published over 110 papers in archival journals, is a coinventor of 57 U.S. and European Union patents, and has presented and published over 360 conference papers. He is an associate Fellow of the AIAA.

MICHAEL W. HYER is the N. Waldo Harrison Professor of Engineering Science and Mechanics at Virginia Polytechnical Institute and State University. He earned his B.S., M.S., and Ph.D. degrees from the State University of New York at Buffalo, Purdue University, and University of Michigan, respectively. He has been employed at the Boeing Company and, in addition to his current position, has held faculty positions at Old Dominion University and the University of Maryland. He has held visiting summer positions at NASA Langley Research Center; Wright-Patterson Air Force Base; and the Naval Surface Warfare Center, Carderock Division. His primary research interests are in the area of the mechanics of composite materials and structures. Professor Hyer has authored over 300 publications, including journal papers, conference proceedings, and government and university reports. Professor Hyer is a former President and Fellow of the American Society for Composites, a Fellow of the AIAA, a Fellow of ASME International, and a Fellow of the American Academy of Mechanics. He has authored the textbook *Stress Analysis of Fiber-Reinforced Composite Materials* (DEStech). In September 2001 he was awarded the 2001 CRC Press Award in Composites. The American Society for Composites presented him with the Outstanding Research Award in 2005. He is currently the Chair of the AIAA Structures Technical Committee

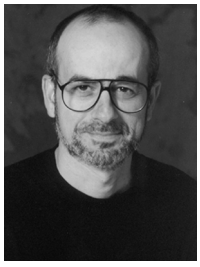
THOMAS L. JACKSON is a Senior Research Scientist at the Center for Simulation of Advanced Rockets, a Computational Science and Engineering affiliate, and an Adjunct Professor of aerospace engineering, all at the University of Illinois at Urbana–Champaign. He received his mathematics Ph.D. from Rensselaer Polytechnic Institute in 1985, after which he joined the staff of the Institute for Computer Applications in Science and Engineering (ICASE), where he had previously been a Graduate Research Assistant. He became an Assistant Professor (1987), then an Associate Professor (1992), of mathematics and statistics at Old Dominion University. In 1993, he moved back to ICASE for five years before moving to the University of Illinois at Urbana–Champaign, where he now works. He has coedited two books, coauthored a textbook on hydrodynamic stability, and authored or coauthored more than 140 papers. He is currently a Member of the Combustion Institute and is an Associate Fellow of the AIAA. He has been a paper and grant referee for many organizations and journals and is currently an Associate Editor for the *AIAA Journal*. His expertise is in the area of combustion, and the large-scale simulation thereof, and in combustion stability.



RAKESH K. KAPANIA is a professor of aerospace and ocean engineering at Virginia Polytechnic Institute and State University. He obtained his B.S. in aeronautical engineering from Punjab Engineering College, his M.S. in aerospace engineering from the Indian Institute of Science, and his Ph.D. in aeronautics and astronautics from Purdue University. Dr. Kapania's research interests are in computational structural mechanics, plates and shells, composite structures, structural health monitoring, inflatable structures, aeroelasticity, multidisciplinary analysis, and design optimization. Dr. Kapania has coauthored more than 95 archival journal papers and more than 160 papers in conference proceedings in these areas. He has guided 25 Ph.D. students (another nine are in progress) and over 30 M.S. theses (an additional two are in progress). From 1995 to 1997 and from 2007 to the present, he has served as an Associate Editor of the *AIAA Journal* and is presently a Member of the Editorial Boards of *Smart Structures and Systems* and the AIAA Education Series. A former Technical Editor of the *Applied Mechanics Reviews*, he is a recipient of Boeing's Welliver Fellowship for 1996 and the Dean's Award for Excellence in Research in 2000. He has recently been selected by NASA to lead a combined NASA, university, and industry program on unitized structures. He is an Associate Fellow of the AIAA.



FOLUSO LADEINDE is an Associate Professor of mechanical engineering at Stony Brook University. He is also a Guest Scientist at the Brookhaven National Laboratory, where he works on high-Z targets for the Muon Collider project. For the past nine years, Dr. Ladeinde has had visiting appointments as a Senior Faculty Fellow at the Wright-Patterson Air Force Base. Before joining Stony Brook in 1991, he worked in the industry as a consulting and software engineer. Dr. Ladeinde's areas of expertise include compressible turbulence, high-speed chemically reacting flows, magnetohydrodynamics, multiphase flows, aeroacoustics, computational fluid dynamics, and numerical and applied mathematics. He has directed and/or codirected numerous grants and contracts worth over $10 million, with over 150 archival publications. Dr. Ladeinde is an Associate Fellow and Life Member of the AIAA and a Life Member of the American Physical Society. He previously served on the AIAA Fluid Dynamics Committee and as a Guest Editor of *AIAA Journal*. Dr. Ladeinde received a B.Sc. degree from the University of Ibadan, Nigeria (formerly a College of the University of London) in 1979. He also received M.S. (1984), M.Eng. (1986), and Ph.D. degrees (1988) in mechanical and aerospace engineering, all from Cornell University.



ELI LIVNE received his B.S. (1974) and M.S. (1982) in aeronautical engineering from the Technion—Israel Institute of Technology. From 1975 to 1984, he worked in the areas of structural dynamics, aeroelasticity, and aeroservoelasticity. He received his Ph.D. in aerospace engineering (1990) from the University of California, Los Angeles (UCLA), and he joined the Department of Aeronautics and Astronautics at the University of Washington, where he is currently a Professor. Dr. Livne's research spans structures, structural dynamics, unsteady aerodynamics, flight mechanics, active control, and airplane multidisciplinary design optimization, with an emphasis on design-oriented modeling techniques. This work contributed to the development of efficient computational tools for integrated synthesis of actively controlled aircraft and to some of the first studies in integrated multidisciplinary aeroservoelastic design. Dr. Livne's research has been supported by the U.S. Air Force, U.S. Navy, NASA, the National Science Foundation (NSF), and The Boeing Company. He is a former Member of the AIAA Multidisciplinary Design Optimization Technical Committee, the NASA/Boeing High Speed Civil Transport (HSCT) Aeroelastic Concept Evaluation Team, and the Boeing HSCT Aeroservoelastic working group. He is a recipient of a UCLA School of Engineering and Applied Science 1989–1990 Outstanding Ph.D. Award and a 1992 NSF National Young Investigator Award. He won the 1998 ASME/Boeing Structures and Materials Award for the best paper given at the 1997 38th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference. He edited a January–February 1999 special Multidisciplinary Design Optimization issue of the *Journal of Aircraft*, and he is an Associate Fellow of the AIAA.

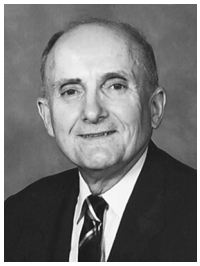
ROBERT P. LUCHT is the Ralph and Bettye Bailey Professor of combustion in the School of Mechanical Engineering at Purdue University. He received his B.S. in nuclear engineering in 1977 and his M.S. and Ph.D. in mechanical engineering in 1979 and 1981, respectively. All degrees were from Purdue University. After receiving his Ph.D., he worked at the Combustion Research Facility at Sandia National Laboratories. In 1992, he left Sandia to accept a position at the University of Illinois at Urbana–Champaign. In 1998, he left the University of Illinois to become the G. Paul Pepper Professor at Texas A&M University. In 2002, he accepted his present position at Purdue University. His research activities focus on the development and application of advanced laser diagnostic techniques for probing both reacting and nonreacting flows. His present research activities include fundamental experimental and theoretical studies of the physics of polarization spectroscopy, electronic-resonance-enhanced coherent anti-Stokes Raman scattering (CARS), and femtosecond CARS. Applied projects include the development of advanced diagnostic techniques for probing hypersonic shear layers, a study of transient mixing in a rocket chamber simulation device, dual-pump CARS measurements in a gas turbine combustor, and development of diode-laser-based sensors for ultraviolet and midinfrared absorption measurements. Professor Lucht has authored or coauthored over 110 refereed articles in archival journals. In 1998, he was elected as a Fellow of the Optical Society of America, and in 1999, he was elected as an Associate Fellow of the AIAA.

ANASTASIO S. LYRINTZIS is a Professor of the School of Aeronautics and Astronautics at Purdue University. He joined Purdue in 1994 after serving seven years on the faculties of the University of Minnesota, Cornell University, and Syracuse University. He is the School's Graduate Chair and the Director of Purdue's Computational Science and Engineering interdisciplinary program. His research interests are computational aeroacoustics and aerodynamics. His goal is to investigate noise reduction for rotorcraft and jet flows. He has coauthored 54 journal papers and 92 conference papers, and his research has been supported by several external grants. He has advised or coadvised 12 Ph.D. and 15 M.S. students. Dr. Lyrintzis teaches courses in fluid mechanics, aerodynamics, aeroacoustics, and rotorcraft aerodynamics, and he won the School's Teaching Award in the fall of 2002. Dr. Lyrintzis is a registered Professional Engineer, a Purdue University Faculty Scholar, an AIAA Associate Fellow, an ASME International Fellow, and a Boeing Welliver Fellow. He has been a Member of the AIAA Aeroacoustics Technical Committee (Vice Chair 2005–2007 and Chair 2007–2009), the American Helicopter Society (AHS) Acoustics Committee, and the ASME Coordinating Group for Computational Fluid Dynamics. He has coorganized the 10th AIAA/CEAS Aeroacoustics Conference and Exhibit as well as several sessions and forums in AIAA, ASME, and AHS conferences. Dr. Lyrintzis has participated in the development of the award-winning (American Helicopter Society, Howard Hughes Award, and NASA Group Achievement Award) TRAC (Tiltrotor Aeroacoustic Codes) system of codes from NASA Langley Research Center.

ACHILLE MESSAC is a Professor of mechanical and aerospace engineering at the Rensselaer Polytechnic Institute. He received his B.S. (1981), M.S. (1982), and Ph.D. (1986) in aeronautical and astronautical engineering at the Massachusetts Institute of Technology. He was a Senior Member of the technical staff at Draper Laboratory until 1994, where he led research in the areas of multibody dynamics, structural optimization, and control structure integrated design. He led such NASA efforts as the development of a large simulation for the dynamics and control of the stabilized payload deployment system, a two-arm payload manipulator for the shuttle orbiter, for which he received an award. In 1994, he joined the Mechanical, Industrial and Manufacturing Engineering Department at Northeastern University, where he led the successful reform of the academic design program. He is currently leading research in the areas of design and optimization. He is a Fellow of the AIAA, a Fellow of the American Society of Mechanic Engineers, the Former Chair of the AIAA Multidisciplinary Design Optimization (MDO) Technical Committee (TC), and a former Member of the AIAA Structural Dynamics TC. He is on the Editorial Boards of the *Optimization and Engineering Journal* and the *Structural and Multidisciplinary Optimization Journal*, and he was formerly on the Editorial Board of the AIAA Education Series. He is also active internationally. He was General Chair of the 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference and of the 1st MDO Specialist Conference. He has authored or coauthored over 150 publications. He was a recipient of the prestigious CAREER award of the National Science Foundation and, recently, of the National AIAA Sustained Service Award.

AHMED M. NAGUIB is an Associate Professor in the Mechanical Engineering Department at Michigan State University. He obtained his B.S. degree in mechanical engineering from Ain Shams University in 1986; his M.S. and Ph.D. degrees in mechanical and aerospace engineering were acquired in 1989 and 1992, respectively, from Illinois Institute of Technology. Subsequently, he was a Senior Research Associate and visiting Assistant Professor at Illinois Institute of Technology before becoming a faculty member at Michigan State University in 1998. He has been a visiting scientist of NASA Langley Research center several times, and he spent a sabbatical leave at the Department of Aeronautics, Imperial College London in the 2006–2007 academic year. Dr. Naguib's research interests are in the area of experimental fluid dynamics, particularly in the field of turbulence and transition physics and control, separated flows, low-Reynolds-number aerodynamics, and development of innovative sensors for wall-pressure and wall-shear-stress measurements using conventional and microelectromechanical systems technology. His research work has been funded by the National Science Foundation, Office of Naval Research, NASA, Department of Energy, and the state of Michigan. This work has resulted in 50 archival journal and conference papers, two book chapters, and two patents. He has also supervised six Ph.D. and several M.S. students. Dr. Naguib is an active Member of the AIAA and its Aerodynamic Measurement Technology (AMT) Technical Committee. As part of his services to the committee, he organized the AMT conference of the AIAA Aerospace Sciences Meeting and Exhibition in January 2007 and 2008, and he served as Guest Editor for an AMT special section of the *AIAA Journal* in 2008.

ROGER OHAYON is currently a Professor and Chair of mechanics at the Conservatoire National des Arts et Metiers and Director of the Structural Mechanics and Coupled Systems Laboratory. After obtaining a Ph.D. from the University of Paris in 1971, he joined ONERA before leaving for academia in 1992. He has made contributions to the fields of fluid–structure interactions such as hydroelasticity, sloshing, structural–acoustic interactions (for example, for liquid-propelled launchers), structural damping, and smart structures. His research in computational models for fluid–structure interactions has provided the aerospace engineering society with effective tools toward better design of structures containing liquids and gas. He is the coauthor of three books on fluid–structure interaction, structural acoustics, and vibration, and he is the coauthor of 150 papers in proceedings and refereed international journals. He is a Fellow of the International Association of Computational Mechanics (IACM) and recipient of the 2004 IACM Award; he is also a Fellow of ASME International and of the Association Aeronautique et Astronautique de France. In 1989, he received an award from the French Academy of Sciences for his research on fluid–structure interaction. He is currently a Member of the Editorial Board of several international journals. He is also the past President of the French Computational Structural Mechanics Association. In April 2007, he received the Adaptive Structure Prize at the AIAA/ASME/SDM/ASMS/AHS conference. He is an Associate Fellow of the AIAA.



ANTHONY N. PALAZOTTO is a Professor of aerospace engineering at the Air Force Institute of Technology. He received his Ph.D. from New York University in 1968 with a specialty in the area of solid mechanics, including a minor in applied mathematics. He has been involved in research and academics since that time. Dr. Palazotto's field of expertise includes nonlinear mechanics, shell analysis, mechanics of composite materials, nonlinear dynamics, and viscoplasticity. He recently worked on the problem of characterizing composite materials acting under high-velocity impact. In addition, he has carried out the analysis of micro air vehicles, considering nonlinear movement. Dr. Palazotto has received more than $4 million in funding from various U.S. Air Force directorates, including the U.S. Air Force Office of Scientific Research. Dr. Palazotto has over 422 presentations and publications, 187 of which are in archival journals. He is the coauthor of a text entitled *The Nonlinear Analysis of Shell Structures* (AIAA, 1992). He is a Fellow of the American Society of Civil Engineers, the American Academy of Mechanics, and the AIAA, in addition to being a Professional Engineer.

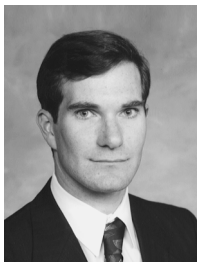
DIMITRI PAPAMOSCHOU is currently a Professor of mechanical and aerospace engineering and Associate Dean for academic affairs in the Henry Samueli School of Engineering, University of California, Irvine (UC Irvine). He received his Ph.D. in aeronautics from the California Institute of Technology in 1987 and joined UC Irvine in 1988. His doctoral thesis work illuminated the effect of compressibility on the turbulent shear layer growth rate under a variety of freestream conditions. At UC Irvine he continued to investigate compressible turbulent flows, with impacts on high-speed mixing and noise generation. In the mid-1990s, he became involved in jet aeroacoustics, building unique facilities for the study of jet noise. He showed the potential for noise reduction by asymmetric distortion of the jet velocity field, a concept that has led to several patents and investigations at NASA and industry. He has also investigated flow instabilities arising from shock induced inside nozzles, a phenomenon with mixing-enhancement applications. Additional research interests include advanced microphone phased-array implementations for detection and modeling of jet noise sources and shielding of jet noise from aircraft surfaces. He served as Chair of the Mechanical and Aerospace Engineering Department at UC Irvine and as a Member of the AIAA Aeroacoustics Technical Committee. He is a Fellow of the AIAA and a Member of the American Physical Society.

ASSIMINA A. PELEGRI is a faculty member of the Mechanical and Aerospace Engineering Department at Rutgers, The State University of New Jersey since 1997. Dr. Pelegri received her Ph.D. (1997) and her M.S. (1994) in aerospace engineering from Georgia Institute of Technology. She is the recipient of a National Science Foundation CAREER award for studies in the area of interfacial mechanics of anisotropic materials and a Pi Tau Sigma/ASME Gold Medal for her contribution to the engineering field (2002). Dr. Pelegri founded and directs the Advanced Structures and Materials Laboratories for materials fabrication and structural diagnostics at Rutgers. She is intern of the ASME Minority Leadership program and has served as an intern on the ASME boards of Government Relations and Public Affairs. Her career goal is to advance methods and tools for predicting and controlling catastrophic structural failure in critical applications in which the loss of lives and property is imminent. Her current research involves analytical solid mechanics, state-of-the-art experimental damage diagnostics, statistical quality control, reliability assessment of composite structures, and interfacial reliability of micro- and nanostructures. Furthermore, she applies her composite materials expertise in the medical diagnosis of nonpalpable tumors: specifically, for the in vivo differentiation between malignant and benign tumors found in breast and prostate tissues. She is an active Member of the AIAA and ASME Composite Materials and Applied Mechanics Committees, an invited participant of the National Academy of Engineers' Frontiers of Engineering Symposium (2003), an inducted Member of Georgia Institute of Technology's Council of Outstanding Young Engineering Alumni, an Amelia Earhart/Zonta International Fellow, and a Fulbright Fellow. Currently, she is an Associate Editor of the *Journal of Engineering Materials and Technology* and the Technical Chair of the Composites Committee of the Applied Mechanics Division of the ASME.

SERGIO PELLEGRINO, Professor of Aeronautics and Civil Engineering at the California Institute of Technology and Jet Propulsion Laboratory Senior Research Scientist, received his Laurea in civil engineering from the University of Naples in 1982 and a Ph.D. from the University of Cambridge in 1986. Between 1983 and 2007 he was on the faculty of the Department of Engineering at the University of Cambridge as an Assistant Lecturer, then Lecturer, Reader, and from 2000, Professor of structural engineering. He has held visiting research positions at the Institute for Space and Astronautical Science, the Nippon Telegraph and Telephone Corporation Spacecraft Structures Laboratory, the European Space Technology Centre, the University of Colorado at Boulder, the University of Technology of Malaysia, and Stanford University. His main research focus is the mechanics of lightweight flexible structures, particularly problems related to packaging and deployment. In recent years, one of his main interests has been deployable space structures made of ultrathin composite materials that are constructed as a single piece, without any mechanical articulations. These structures are folded elastically and are able to self-deploy. Another area of his research has been the deployment and stability of stratospheric balloons. Dr. Pellegrino received the James Watt Medal 2000 from the Institution of Civil Engineers in London; the Pioneers' Award from the Space Structures Research Centre at the University of Surrey in 2002; AIAA Gossamer Spacecraft Forum Best Paper Award in 2004, 2005, and 2006; International Association for Shell and Spatial Structures Tsuboi Award in 2004, 2005, and 2007; the 2008 ASME/Boeing Best Paper Award; and the 2009 NASA Robert H. Goddard Exceptional Achievement Team Award "for sound engineering and operational development, outstanding teamwork and perseverance in building a new scientific balloon capability for NASA." Models of new deployable structures concepts that he has invented were exhibited at "Contemporary Developments in Design Science: Buckminster Fuller Centennial," New York 1995–96; "Building for the Future," Istanbul 1996; "Les Ingenieurs du Siecle," Centre Pompidou, Paris 1997; and the Farnborough Air Show in 2004. Dr. Pellegrino is a Fellow of the Royal Academy of Engineering, a Fellow of the AIAA, and a Chartered Structural Engineer. He is a member of the Structures Technical Committee, the Balloon Systems Technical Committee, and the Gossamer Structures Program Committee. Dr Pellegrino has published over 200 technical publications.

JUBARAJ SAHU is a Senior Research Scientist and currently serves as the Team Leader of the Advanced Computational Fluid Dynamics (CFD) Team and the Deputy Branch Chief of the Aerodynamics Branch at the U.S. Army Research Laboratory. He received his M.S. in aerospace engineering from Iowa State University in 1978 and his Ph.D. in mechanical and aerospace engineering from the University of Delaware in 1984. He joined the U.S. Army Ballistic Research Laboratory in 1981 and has 26 years' experience in applying CFD to problems of interest to the U.S. Army. His primary areas of interest include CFD; unsteady flows, jets, and wakes; unsteady aerodynamics/flight dynamics; time-accurate coupled multidisciplinary CFD with rigid-body dynamics and guidance, navigation, and control modeling of smart munitions; high angle of attack of nonlinear aerodynamics; microjet flow control; and control maneuver aerodynamics. Dr. Sahu has actively participated in AIAA Atmospheric Flight Mechanics Technical Committees. He is an Associate Fellow of the AIAA and is an Associate Editor of both the *AIAA Journal* and the *Journal of Aerospace Computing, Information, and Communication*. He has over 150 publications in the area of fluid dynamics and applied aerodynamics, of which 112 are either sole-authored or primary-authored. Dr. Sahu has received a Meritorious Civilian Service Award, an Army Science Conference Best Technical Paper Award in Engineering Sciences, seven U.S. Army Research and Development awards, and the 2004 AIAA Engineer-of-the-Year Award in the Baltimore section.

ALOK SINHA received his Ph.D. degree in mechanical engineering from Carnegie Mellon University. He has been a Pennsylvania State University (PSU) faculty since August 1983. His areas of teaching and research are vibration, control systems, jet engines, robotics, neural networks, and nanotechnology. His book *Linear Systems: Optimal and Robust Control* was published in January 2007. This book serves as textbooks for two PSU graduate courses. He has served as a visiting Associate Professor of aeronautics and astronautics at Massachusetts Institute of Technology and as a Researcher at Pratt & Whitney. He has also been an Associate Editor of *ASME Journal of Dynamic Systems, Measurement and Control*. At present, he serves as an Associate Editor of *ASME Journal of Turbomachinery*. Alok Sinha is a Fellow of ASME International. He has received a NASA certificate of recognition for significant contribution to the Space Shuttle Microgravity Mission. He is a Senior Member of the AIAA.



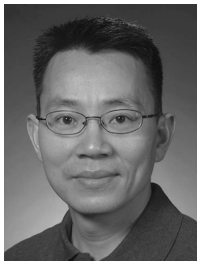
ANTHONY M. SPRINGER is the Alliance Development Manager for the Aeronautics Research Mission Directorate at NASA Headquarters. During his career at NASA, he has served as the Director of NASA Centennial of Flight Activities, Resident Manager for the X-34 Technology Demonstrator Program, Test and Project Engineer at NASA Marshall Space Flight Center, and NASA representative to numerous outside organizations. He has written and edited a number of works in the aerospace field. He is currently the Chair of the AIAA History Technical Committee (TC) and Historic Aerospace Sites Program. He has served on the AIAA Board of Directors, the Applied Aerodynamics TC, the Space Transportation TC, the Editorial Board of the Progress Series, and the Publications Committee. He is a Fellow of the AIAA.

LORENZ TICHY is director of the Institute for Aeroelasticity of the DLR, German Aerospace Center and a Professor of aeroelasticity at the Technical University of Braunschweig. He received a diploma in mechanical engineering at the Technical University of Braunschweig in 1987. He was a Research Scientist in the DLR Institute for Aeroelasticity, where he worked on unsteady aerodynamic wind-tunnel testing in transonic flow, and he received a doctoral degree from the Technical University of Munich. In 1992 he changed from research to industry and worked until 2007 at Airbus Bremen, where he had different positions in the domain of loads and aeroelasticity. He developed advanced numerical and experimental methods and introduced these methods into the development processes of several widebody aircraft. By application of new computational methods in unsteady aerodynamics, he improved the prediction quality of aeroelastic analyses. As a confirmed Airbus expert, he led several projects for the transnational harmonization of methods and processes for loads, aeroelasticity, aerodynamics, and handling qualities.

PAUL TUCKER is the Rank Professor of engineering at the University of Cambridge. His key research interest is the computation of unsteady, turbulent, complex geometry aerodynamic flows. Professor Tucker is based in the Whittle Laboratory. This is a Rolls-Royce University Technology Centre. Tucker recently completed a Royal Society Industry Fellowship to support working at Rolls-Royce. A key element of this Fellowship was developing a large eddy simulation capability in an unstructured complex geometry computational fluid dynamics code. He has written approximately 165 journal, conference papers, and technical reports. Professor Tucker gained his Ph.D. at the Rolls-Royce Technology Centre at the University of Sussex. He has been a visiting researcher at NASA Langley Research Center and Boeing Commercial Airplanes. His recent research interest has heavily focused on large eddy simulation and hybrids of this, along with acoustics. Professor Tucker serves on the AIAA Fluid Dynamics Technical Committee and also recently organized a successful Royal Society Discussion meeting on large eddy simulation. He is a Senior Member of the AIAA.

ANATOLI TUMIN is a Professor of aerospace and mechanical engineering and a Member of the Applied Mathematics program at the University of Arizona. He received his M.S. in physics and applied mathematics from Novosibirsk State University (1972) and his Ph.D. and Dr.Sci. in physics and mathematics from Moscow Institute of Physics and Technology (MIPT) in 1975 and 1987, respectively. In 1975, he joined the faculty of the Physics Department at MIPT as an Assistant Professor. In 1982, he was employed by the Scientific-Industrial Design Bureau Molniya, where he participated (as Lead Designer and Head of Sector) in the design of the Soviet Space Shuttle *Buran*. His responsibilities included prediction of laminar–turbulent transition and nonequilibrium heat transfer in reentry flight, specification of tolerances for elements of a thermoprotection system, and other aspects of aerothermodynamics relevant to the design of hypersonic vehicles. In 1990, he returned to MIPT as an Associate Professor. In 1992, he joined the faculty of Tel-Aviv University, where he was appointed as an Associate Professor of fluid mechanics and heat transfer in 1993. In 2000, he joined the faculty of the University of Arizona. His current research interests include theoretical and computational studies of stability, transition, and flow control in high-speed flows. He has published two books and more than 50 archival journal papers. Dr. Tumin currently serves on the AIAA Fluid Dynamics Technical Committee. He is an Associate Fellow of the AIAA.

MIGUEL R. VISBAL received a B.S. in mechanical engineering from the Universidad del Norte in Columbia in 1976 and a Ph.D. in mechanical and aerospace engineering from Rutgers University in 1983. He currently serves as Principal Research Aerospace Engineer and Team Leader of Multidisciplinary Computational Aerodynamics at the Air Vehicles Directorate, U.S. Air Force Research Laboratory. His has performed extensive research on the topics of unsteady separation, flow topology, vortex breakdown, flow control, and high-order methods for large eddy simulation and wave propagation. Dr. Visbal is an U.S. Air Force Research Laboratory Fellow and a recipient of the Air Force Basic Research Award for the development of high-resolution numerical methods for multiphysics simulations. He is the author or coauthor of more than 200 technical publications and has given numerous invited lectures and keynote presentations at university and technical symposia. He is an Associate Fellow of the AIAA and has served as member of the Fluid Dynamics and Aeroacoustics Technical Committees.



Z. J. WANG, Professor of Aerospace Engineering and Director of CFD Center at the Iowa State University (ISU), received his B.Sc. in applied mechanics from the National University of Defense Technology, China, in 1985, and his Ph.D. in aerospace engineering from the University of Glasgow in 1990. Then he conducted post-doctoral research in Glasgow and Oxford before joining CFD Research Corporation in Huntsville, Alabama in 1991 as a Research Engineer, and later becoming a Technical Fellow. In 2000, he joined the faculty of Michigan State University as an Associate Professor of Mechanical Engineering. In 2005 he returned to Aerospace Engineering at ISU. He has been active in CFD research for over a decade with over 100 journal and conference publications. His research areas include high-order methods for the Navier-Stokes equations, algorithm and flow solver development for structured/unstructured, overset and adaptive Cartesian grids, computational aeroacoustics and electromagnetics, parallel computing, geometry modeling and grid generation. He was an invited lecturer of the von Karman Institute Lecture Series on High-Order CFD Methods in 2005 and 2008. He is an Associate Fellow of AIAA, and a member of AIAA's Fluid Dynamics Technical Committee, and chairs the CFD Algorithm Development Discussion Group. In July 2008, he was awarded the degree of Doctor of Science in engineering by the University of Glasgow.

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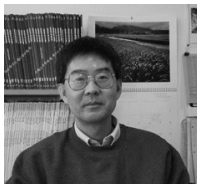

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