

Announcements, Comments, and Acknowledgments

THIS editorial marks the end of the second year of using WriteTrack for submitting, tracking, reviewing, and generally managing papers submitted to *AIAA Journal* every year. This year over 700 papers were submitted. Because submission rates have increased, more is demanded of authors, reviewers, editors, and the staff at AIAA Headquarters. Last year's January editorial talked about the scope of the journal and the absence of formal length limitations and gave instructions and suggestions to authors for expediting their papers. Please refer to that article, the WriteTrack website, or the inside covers of the journal for more information.

This year we have begun to work with several new types of editors for *AIAA Journal*. Because of the need for more review and survey articles, Dr. Gerard M. Faeth, former *AIAA Journal* Editor-in-Chief, has agreed to be the Special Editor for Survey Papers. One of our Associate Editors, Anthony Springer, is specializing in papers on aerospace history. We have also expanded the role of Guest Editors. We have Guest Editor Special Sections and we use Guest Editors for papers that require special expertise.

During this past year, the AIAA Editorial Staff and WriteTrack developers have again done a truly remarkable job. They have listened to our requests for changes and worked tirelessly to modify WriteTrack to meet our specific needs. What is in place now is a rather remarkable editorial system that is allowing us to handle the volume of submissions and the complexities of running an international journal.

Special Sections: This year we had a Special Section on Boundary Conditions for Large-Eddy Simulation with Fernando Grinstein, *Naval Research Laboratory*, as Guest Editor. This section is based on papers presented at the Aerospace Sciences Meeting in Reno, Nevada. This year we are planning a Special Section on Aerospace Measurement techniques, with James Trolinger, *MetroLaser*, as Guest Editor, and a two-part Special Section on Computational Fluid Dynamics Validations for Synthetic Jets and Turbulent Separation Control, *CFDVAL*, for which the Guest Editors are Christopher Rumsey, *NASA Langley Research Center*, and Thomas Beutner, *Air Force Office of Scientific Research*, and another two-part Special Section on Combustion Modeling and LES: Development and Validation Needs for Gas Turbine Engines, for which the Guest Editors are Fernando Grinstein and Nan-Suey Liu, *NASA Glenn Research Center*, and Joseph C. Oefelein Jr., *Sandia National Laboratories*.

Special Commentary on Authors, Reviewers, and Editors: It is always difficult to be an editor and have to turn down interesting and perhaps controversial papers. This problem was made particularly clear this year by the controversy that arose over a rather unusual paper on a radical but important topic. As I mentioned above, we now have Guest Editors for Special Sections and for specific papers. The following is one of the more difficult letters that was written by one of our Guest Editors:

Dr. Marlowe M. Brown
Department of Astrodynamics
University of Texas

Dear Dr. Brown,

After careful examination of your manuscript Tracking number 1137852, Log number J99876.23, entitled "Corbamite, An Insulator Against Gravity," we have concluded that it is not suitable for publication in *AIAA Journal*. This decision is final and further correspondence on this subject will serve no useful purpose.

Since the decision may seem somewhat harsh, let me say what I can to explain how it was reached. The editors do appreciate that you are working under difficult circumstances. When the senior author of a paper is deceased, it is always hard for the junior author to complete the work in an appropriate manner. Also, we assure

you that we do believe you. You have told us that, with his dying breath, Professor Steinhart handed you his notebook and said, "Have this published in *AIAA Journal*!" Such an action would be completely in character for Professor Steinhart since he was a true aerospace scientist and engineer, as well as a distinguished Honorary Fellow of AIAA.

Our believing your account of the circumstances under which Professor Steinhart made this final declaration (that is, while he was expiring from disintegrator-ray wounds suffered during your escape from the City of Disembodied Brains on Altair IV) is a somewhat different matter. There is really no need to discuss that issue now. Whatever the highly emotional circumstance of Professor Steinhart's passing may have been, they have no relevance to publication in *AIAA Journal*.

Besides appropriateness of the content, the final decision as to whether a paper should be published in *AIAA Journal* is based on the comments of highly qualified referees. In the case of your manuscript, these comments were uniformly negative, and I must add that I completely agree with them. Your paper claims the existence of a substance that insulates against gravity, this being the basis of the "ether flyer" by which you and the late Professor Steinhart traveled to Altair IV. Such a substance completely violates the soon-to-be-published elementary gravitational potential-energy propulsion theory (see Oran and Lyon, *AIAA Journal*, August 2005). If this substance could exist at all, it would have to be totally different from what you describe.

Since, Dr. Brown, you profess yourself to be a "man of action," I am not surprised that you find the above difficult to understand. If I may make a suggestion, perhaps you should locate and study texts in freshman physics, practical theory of wormholes, and propulsion concepts for macrogravity applications. These should explain to you what is obvious to the reviewers and to me.

Furthermore while I can readily understand why you wish to visit the reviewers and personally demonstrate your antigravity apparatus to them, I cannot reveal their identities to you. Reviewers are anonymous by long-standing tradition, one purpose of this tradition being to prevent acrimonious confrontations of the very kind you seek.

Finally, I must tell you that your continued visits to offices at AIAA Headquarters are counterproductive. As you know, we are located on the ninth floor, and your floating in and out through our windows is a considerable distraction to the clerical staff.

Sincerely yours,
Richard K. Lyon
Guest Editor
AIAA Journal

[Note: The preceding letter is an adaptation of the original version authored by Richard N. Lyon. Reprinted with author's permission.]

Staff and Editorial Changes:

There are a number of editorial staff changes now in effect.

The terms of eight Associate Editors ended in December 2004. Of these, six will continue for another term: Mehdi Ahmadian, *Virginia Polytechnic Institute and State University*; Graham V. Candler, *University of Minnesota*; Kirti (Karman) N. Ghia, *University of Cincinnati*; Achille Messac, *Rensselaer Polytechnic Institute*; Anthony N. Palazotto, *U.S. Air Force Institute of Technology*; and Ronald M.C. So, *Hong Kong Polytechnic University*. We thank them for past service to *AIAA Journal* and for their willingness to continue.

Continuing Associate Editors are Suresh K. Aggarwal, *University of Illinois at Chicago*; Bala Balachandran, *University of Maryland*; Alex Berman, Bloomfield, Connecticut; Harsha Chelliah, *University of Virginia*; Kozo Fujii, *Institute of Space and Astronautical Science*; Datta Gaitonde, *Air Force Research Laboratory*; Peyman Givi, *University of Pittsburgh*; Jayavant P. Gore, *Purdue University*; Carolyn Kaplan, *Naval Research Laboratory*; Ann R. Karagozian,

University of California, Los Angeles; Eli Livne, University of Washington; Robert P. Lucht, Purdue University; Shankar Mahalingam, University of California, Riverside; Dean Mook, Virginia Polytechnic Institute and State University; Monika Auweter-Kurtz, University of Stuttgart; Wing Ng, Virginia Polytechnic Institute and State University; Christophe Pierre, University of Michigan; Allen Plotkin, San Diego State University; Helen L. Reed, Arizona State University; Sunil Saigal, University of South Florida; Pasquale (Pat) M. Sforza, University of Florida; Bhavani V. Sankar, University of Florida; Kunigal N. Shivakumar, North Carolina A&T State University; and Anthony Springer, NASA. Their past and continuing service is very much appreciated.

New Associate Editors who start in January 2005 are Ndaona Chokani, Duke University, and Christophe Bailly, Ecole Centrale de Lyon. Their willingness to join our staff is greatly appreciated.

Very special thanks to retiring editors Josette R. Bellan, Jet Propulsion Laboratory; Werner J.A. Dahm, University of Michigan; and Martin Sichel, University of Michigan.

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; Earl H. Dowell, Duke University; Edward M. Greitzer, Massachusetts Institute of Technology; Professor 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; George W. Springer, Stanford University; Byron D. Tapley, University of Texas, Austin; Raymond Viskanta, Purdue University; Forman A. Williams, University of California, San Diego; and Israel J. Wygnanski, University of Arizona. Gerard M. Faeth, University of Michigan, has left the Board to become the Survey Editor.

I would like to extend my thanks to David Dolling, the current Vice-President of Publications, for his help and encouragement. Very special thanks to Gerard M. Faeth and his continued help and advice. Michael McGinnes, who replaced Ruth Troccoli as the Editorial Assistant for the journal, is doing a superb job in developing the procedures for processing submitted papers and keeping it all going smoothly. To them I extend my very special thanks. The AIAA editorial staff, in particular Norma Brennan, Director of Publications, Luke McCabe, Managing Editor, Alex McCray, Publications Specialist, and Eric Eller, Publications Specialist, have effectively dealt with all of the problems of managing such a complex and widely circulated journal. They and the WriteTrack development staff, in particular Sean Malone and John McAndrew, have devoted an enormous amount of time to managing and encouraging us.

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.

Elaine Oran
Editor-in-Chief



ELAINE S. ORAN, Senior Scientist for Reactive Flow Physics at the U.S. Naval Research Laboratory (NRL), received an A.B. from Bryn Mawr College in 1966 and a Ph.D. from Yale University in 1972. She joined the NRL Plasma Physics Division in 1972 and became part of the Laboratory for Computational Physics in 1978. Her current research interests are in chemically reactive flows; deflagrations and detonations; computational science and numerical analysis; shocks and shock interactions in gas and condensed phases; computational methods; turbulence; microfluidics, and astrophysics. Application areas include combustion and propulsion, reentry and microdynamical flows; design of rocket motors; and astrophysical phenomena, particularly supernova explosions. She is a former AIAA Vice-President of Publications and has served for many years on the AIAA Publication Committee. She is a past Chair and founding member of the American Physical Society (APS) Division of Computational Physics, past Vice-Chair of the Division of Fluid Dynamics, and former member of the Committee on the Status of Women in Physics. She served on the Board of Directors of the Combustion Institute (CI), and she is currently President of the Institute for the Dynamics of Energetic and Reactive Systems (IDERS). She was Associate Editor of the *Journal of Computational Physics* and Managing Editor of the journal *Shock Waves* and currently serves on the advisory boards of *Progress in Energy and Combustion Science* and *Shock Waves*. Dr. Oran received the Oppenheim Prize (IDERS, 1999), the Zeldovich Gold Medal (CI, 2000), and the Dryden Distinguished Lectureship in Aerospace Research (AIAA, 2002). She is a fellow of AIAA and APS and a Member of the National Academy of Engineering. Dr. Oran has published over 300 technical papers, written many review articles, and coauthored the book *Numerical Simulation of Reactive Flow* (Cambridge, 2001).

Associate Editors



SURESH K. AGGARWAL is Professor of Mechanical Engineering at the University of Illinois at Chicago and received his Ph.D. in Aerospace Engineering from the Georgia Institute of Technology in 1979. Since then, he has served on the Professional Research Staff at Princeton University and as a Senior Research Engineer at Carnegie–Mellon University. He joined the faculty of the University of Illinois at Chicago in 1984. His research interests include gaseous and spray combustion phenomena, direct numerical simulation of multiphase flows, nanoscale flows, high-pressure and multicomponent droplet phenomena, partially premixed flames, and microgravity combustion. Dr. Aggarwal has served as a Member of the AIAA Propellants and Combustion Technical Committee (1985–1989, 1991–1994, 2001–). He is currently serving as a Member of the AIAA Terrestrial Energy Technical Committee and the International Gas Turbine Institute (IGTI)–American Society for Mechanical Engineers (ASME) Fuels and Combustion Technical Committee. He has been a Technical Organizer for the Propellants and Combustion Technical Committee at the AIAA Aerospace Sciences Meeting (1989) and Joint Propulsion Conference (1993) and for the ASME Turbo Expo–Fuel and Combustion Program (1994). He has also served on numerous occasions as a consultant to government and industrial organizations. Dr. Aggarwal is a recipient of the University of Illinois Scholar Award and a biographee in *Who's Who in Science and Engineering* and *Who's Who in America*. He is an Associate Fellow of AIAA and a Member of ASME and the Combustion Institute. He has authored or coauthored more than 180 articles and papers.



MEHDI AHMADIAN is Professor of Mechanical Engineering at Virginia Polytechnic Institute and State University (Virginia Tech), where he also holds the position of Director of the Advanced Vehicle Dynamics Laboratory. He received his B.S. (1980), M.S. (1982), and Ph.D. (1984) from the State University of New York at Buffalo. Dr. Ahmadian joined the faculty at Clemson University (Clemson, South Carolina) in 1984 as Assistant Professor in the Department of Mechanical Engineering. He performed research in adaptive and decentralized control of high-order structures for aerospace applications. In 1987 he joined the Lord Corporation (Erie, Pennsylvania), where he worked for the next six years developing various advanced isolation systems and ride improvement packages for vehicles. His efforts led to the development and first-ever successful testing of a semi-active suspension system for heavy trucks. In 1993, Dr. Ahmadian joined General Electric (GE) Transportation Systems (Erie, Pennsylvania), where he continued his research and development work in transportation-related systems for the next two years. His accomplishments at GE Transportation Systems included developing a patented electropneumatic valve and designing and developing an innovative steerable truck (bogie) for heavy freight locomotives. He received the General Manager's Award and two Manager's Awards for his efforts at GE Transportation Systems. Dr. Ahmadian joined Virginia Tech in 1995 as an Assistant Professor and was promoted to Associate Professor in 1998 and Professor in 2001. He currently serves as Director of the Advanced Vehicle Dynamics Laboratory at Virginia Tech, and he continues his research in advanced transportation systems and vehicle dynamics analysis, modeling, and testing. He has authored more than 85 archival papers, made more than 100 technical presentations, holds 6 U.S. and international patents, and served as major advisor for more than 30 Ph.D. and M.S. students. He further served as an Associate Editor for the American Society of Mechanical Engineers (ASME) *Journal of Vibration and Acoustics* from 1989 to 1997. Dr. Ahmadian is a Fellow of ASME and a Senior Member of AIAA. Dr. Ahmadian serves as a consultant to the transportation industry and regularly teaches a short course to field engineers on vehicle dynamics.



MONIKA AUWETER-KURTZ is a Professor of Aerospace Engineering at the Institute of Space Systems, Universität Stuttgart, Germany. She also received her M.S. and Ph.D. degrees from the Universität Stuttgart. Her current research interests include plasma wind-tunnel technology; reentry simulation; arcjet, magnetoplasma dynamic, ion, and hybrid thrusters; and aerothermodynamics and plasma techniques in general. She is a two-time Amelia Earhart Fellow and has been a member of the International Amelia Earhart Award Committee since 1990. She has received two AIAA best paper awards in Thermophysics and Electric Propulsion. Dr. Auweter-Kurtz is also the recipient of the Medal of Honor of the Federal Republic of Germany as well as the Window of Science Award from the U.S. Air Force. She serves on several AIAA Technical Committees and has been on the organizing, technical, or international committee of numerous international conferences. Dr. Auweter-Kurtz has contributed to more than 10 scientific books, has published over 40 articles in refereed journals, and has presented over 200 papers at international conferences. For three years she held the position of Scientific Collaborator for NASDA (National Space Development Agency of Japan) in the area of space transportation vehicles. She is an Associate Fellow of AIAA.



CHRISTOPHE BAILLY is a Professor in the Department of Fluid Mechanics, Acoustics and Energetics at the Ecole Centrale de Lyon (ECL), France. He received his Ph.D. degree 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 has also served as a lecturer in Turbulence and Acoustics at the Ecole Centrale Paris (ECP) since 1995 and 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 hybrid approaches. He is coauthor of one book in turbulence and has authored or coauthored more than 30 papers in refereed journals and more than 70 conference papers. He is also the 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).



BALAKUMAR BALACHANDRAN is a Professor of Mechanical Engineering at the University of Maryland, College Park. After completing his doctoral studies at Virginia Polytechnic Institute and State University (VPI&SU) in December 1990 and a postdoctoral stint at VPI&SU, he joined the University of Maryland in August 1993. His research interests are in the areas of nonlinear dynamics, vibration and acoustic control, signal analyses, and system identification. He is the author/coauthor of more than 30 journal publications, a Wiley Nonlinear Science book entitled *Applied Nonlinear Dynamics: Analytical, Computational, and Experimental Methods* (1995), and a Brooks/Cole-Thomson book entitled *Vibrations* (2003). He is a fellow of ASME and a member of AIAA, AAM, SPIE, and ASA. He serves on the editorial board of the *Journal of Vibration and Control*. He is a member of the ASME Technical Committees of Multi-Body Systems and Nonlinear Dynamics and Dynamics and Control of Structures and Systems.



ALEX BERMAN is a retired Aerospace Engineer. He received a B.A. and an M.A. in Physics from the University of Connecticut in 1949 and 1952, respectively. He was employed by Kaman Aerospace Corporation from 1951 until 1991, when he retired. At that time, he was the Head of the Research Department as Assistant Director for Research. He was responsible for projects that included advanced structural dynamics, vibration analysis, structural system identification, generalized component synthesis, and advanced computer program architecture. He directed and was a major participant in numerous research projects funded by NASA, the U.S. Army, and the U.S. Air Force. He has published over 50 technical papers. He has made presentations at numerous technical conferences and workshops and has given seminars at universities in his fields of expertise. He has been an Associate Editor since 1995. He is a Member of AIAA and the American Helicopter Society.



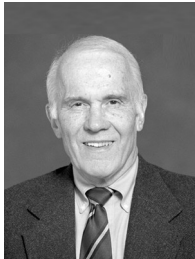
GRAHAM V. CANDLER is Professor of Aerospace Engineering and Mechanics at the University of Minnesota. He received his B.Eng. in Mechanical Engineering from McGill University in 1984 and his M.S. and Ph.D. in Aeronautics and Astronautics from Stanford University in 1985 and 1988, respectively. After one year as an aerospace engineer at the NASA Ames Research Center, he joined the faculty of North Carolina State University as an Assistant Professor. He then moved to the University of Minnesota in 1992. Prof. Candler's current research activities include the numerical simulation of high-temperature reacting flows, with application to reentry aerodynamics, hypersonic aerodynamics, aerothermodynamics, high-temperature gas physics, and plasma physics. He is also interested in low-density flows with application to microscale devices and high-altitude hypersonic flows. He is the author of over 150 papers on these topics. His work has twice won the AIAA Best Paper in Thermophysics Award. He has served as a Member of the AIAA Fluid Dynamics Technical Committee and is currently a Member of the AIAA Thermophysics Technical Committee. He also served as Associate Editor of the *Journal of Thermophysics and Heat Transfer*. He is an Associate Fellow of AIAA.



HARSHA K. CHELLIAH is Associate Professor of Mechanical and Aerospace Engineering at the University of Virginia. He received his Ph.D. in Mechanical and Aerospace Engineering from Princeton University in 1989. He continued his research work at Princeton University as a postdoctoral fellow/research staff member until he joined the University of Virginia in 1992. His current research interests include modeling two-phase reacting flows, including flame suppression using fine particles/droplets; microgravity combustion; heterogeneous combustion, including magnesium particle combustion in Martian atmospheric conditions; flame-acoustic interactions in simplified flowfields with detailed kinetic models; and development of skeletal and reduced reaction models for engineering applications. He is a member of the AIAA Propellants and Combustion Technical Committee and Chair of the subcommittee on Continuing Education. He served as the Technical Organizer for the Propellants and Combustion TC at the AIAA Aerospace Sciences Meeting in 1999. He is also a member of the American Society of Mechanical Engineers and of the Combustion Institute and is currently serving on the Executive Committee for the Eastern States Section of the Combustion Institute. Prof. Chelliah is an Associate Fellow of the AIAA and has authored more than 60 archival and conference papers.



NDAONA CHOKANI is a Research Professor in the Mechanical Engineering and Materials Science Department at Duke University. He received his B.A. (First Class—Honors) in Engineering Science from Oxford University in 1984 and his Ph.D. in Engineering from Cambridge University in 1988. He served on the faculty at North Carolina State University from 1988 to 2003. His research interests include experimental studies of hydrodynamic stability in compressible flows and of shock wave/boundary-layer interactions, instrumentation, and digital signal processing techniques. His research work has been supported by the Air Force Office of Scientific Research, the Air Force Research Laboratory, NASA, and the National Science Foundation. He has several international scientific collaborations with research groups in France, Germany, Russia, and Switzerland. He is a member of the National Academies' Air Force Science and Technology Board. He previously served an Associate Editor of the *Journal of Aircraft* and as a member of the AIAA Aerodynamics Measurement Technology Technical Committee and Thermophysics Technical Committee. He is a member of the AIAA's Transition Study Group. He is an Associate Fellow of the AIAA.



GERARD M. FAETH, A.B. Modine Distinguished University Professor of Aerospace Engineering and Head of the Gas Dynamics Laboratories at the University of Michigan, received the B.M.E. from Union College (New York) and the M.S. and Ph.D. from the Pennsylvania State University. After completing graduate studies he was a member of the faculty of the Department of Mechanical Engineering at the Pennsylvania State University until he retired at the rank of Professor of Mechanical Engineering upon assuming his current position at the University of Michigan in 1985. He is a recipient of the American Society of Mechanical Engineers (ASME) Heat Transfer Division's Memorial Award (1988), the AIAA Propellants and Combustion (1993) and Space Processing (2004) Awards, the Combustion Institute's Alfred C. Egerton Gold Medal (2004), and the Highly-Cited Researcher Certificate (2000) of the Institute of Scientific Information as one of the 99 most frequently cited engineers in the world. He is a Fellow of AIAA, ASME, the American Association for the Advancement of Science (AAAS), and the American Physical Society (APS); and he is a Member and National Associate of the National Academy of Engineering. He was Editor-in-Chief (1997–2002) of the *AIAA Journal*; U.S. Editor (1990–1996) of *Combustion and Flame*, a journal of the Combustion Institute; and the Technical Editor (1985–1990) of the *Journal of Heat Transfer*, a journal of the ASME. He is author or coauthor of more than 500 articles and papers.



KOZO FUJII is Professor of the Department of Space Transportation at the Institute of Space and Astronautical Science (ISAS), Japan Aerospace Exploration Agency (JAXA), Japan. He received his Ph.D. from the Department of Aeronautics, University of Tokyo, in 1980. From 1981 to 1983, he was a NRC Research Associate at NASA Ames Research Center, and he became a Research Scientist at the National Aerospace Laboratory (NAL), Tokyo, Japan, in 1984. He became a Senior Research Scientist in 1987 and spent another one and half years at NASA Ames Research Center as a Senior NRC Research Associate from 1986 to 1987. In 1988, He joined the ISAS as an Associate Professor of high-speed aerodynamics, and he was promoted to Professor in 1997. He has served also as a Professor of the Department of Aeronautics and Astronautics, University of Tokyo, since 1998. His research interests include high-speed aerodynamics, high-angle-of-attack aerodynamics, and flow visualization mainly by the computational fluid dynamics approach. He has recently become interested in wind-tunnel testing and serves as a Chairman of the wind-tunnel facility at the ISAS. He is a member of the MOSAIC project on the technology of the pressure-sensitive paint measurement system. He recently has been working on the aerodynamics and system design of reusable launch vehicles. He served as a Directors' Board Member of the Japan Society for Aeronautical and Space Sciences five times and is currently a director of general affairs. He has been an Associate Editor of the series "Notes on Numerical Fluid Mechanics" since 1987 and an Editorial Board Member of *Communications on Numerical Methods in Engineering* since 2000 and is a Managing Editor of *Journal of Visualization*. He is a Fellow of the Japan Society of Mechanical Engineers (JSME) and has been an Associate Fellow of AIAA since 1995. He received several awards from JSME, the Japanese Government, AIAA, and others. He is an author or coauthor of more than 200 papers. He wrote many review papers and books that include *Physics of Skiing* (in Japanese) and the translation of *Physics of Golf*.



DATTA V. GAITONDE received his B.Tech. from the Indian Institute of Technology, Bombay, in 1983, and his M.S and Ph.D. degrees 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 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 CFD subcommittee.



KIRTI "KARMA" N. GHIA is Herman Schneider Professor of Aerospace Engineering and Engineering Mechanics and Fellow of the Graduate School at the University of Cincinnati (UC). Dr. Ghia joined UC in 1969, after completing his graduate education in Mechanical and Aerospace Engineering at the Illinois Institute of Technology, Chicago. His research activities are in simulation of steady and unsteady separated viscous flows, high-incidence aerodynamics, vortex-dominated flows, nonlinear dynamics, turbomachinery flows, flow control, aeroelasticity, development of numerical methods, LES/DNS of turbulent flows, and grid generation techniques. Dr. Ghia's research work has been sponsored by the Air Force Office of Scientific Research, the Office of Naval Research, the Army Research Office, Wright Laboratory, NASA, the National Science Foundation, the Ohio Aerospace Institute, and the aerospace industry. The American Society of Mechanical Engineers (ASME) named him the Freeman Scholar for the 1995–1996 biennium and, at UC, he has been the recipient of numerous research and teaching awards. Dr. Ghia has held visiting positions at several organizations, including USC, 1986; ICASE, NASA Langley Research Center, 1985; Polytechnic Institute of New York, 1978; and Air Force Flight Dynamics Laboratories, 1976–1977. He has served as Associate Technical Editor of the *Journal of Fluids Engineering*, 1981–1990, Co-Editor of the *International Computational Fluid Dynamics Journal*, 1991–1998, and Co-Director of Computational Fluid Dynamics Research Laboratory, 1990–. Dr. Ghia has also served on the Fluid Mechanics Technical Committee of AIAA since 1986; ASME, since 1978; and as Chair of the Honors and Awards Committee of the Fluids Engineering Division of ASME, 1997–2000. He has chaired many national and international symposia and meetings. He is a Fellow of ASME and Associate Fellow of AIAA.



PEYMAN GIVI is William Kepler Whiteford Chair Professor of Mechanical Engineering at the University of Pittsburgh. Previously he held the position of University at Buffalo Distinguished Professor at the State University of New York at Buffalo (UB), where he served for 14 years and received the Professor of the Year Award by Tau Beta Pi (2002) and Outstanding Educator of the Year Award (1994). Dr. Givi has also worked as a Research Scientist at Flow Industries, Inc., in Seattle and has had visiting appointments at the NASA Langley Research Center and the NASA Glenn (Lewis) Research Center. Professor Givi is among the first 15 engineering faculty nationwide who received the Presidential Faculty Fellowship from President George Bush. He has also received the Young Investigator Award of the Office of Naval Research and the Presidential Young Investigator Award of the National Science Foundation. His current research interests include turbulence, combustion, computational methods, theoretical statistics, spectral analysis, stochastic processes, and systems analysis and controls. He received his Ph.D. from Carnegie–Mellon University (Pennsylvania) and B.E. from Youngstown State University (Ohio).



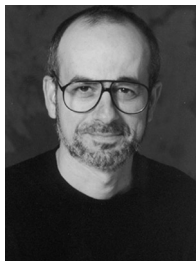
JAY (JAYAVANT) P. GORE, Vincent P. Reilly Professor within the School of Mechanical Engineering at Purdue University, received his B.E. (M.E.) degree from the University of Poona, India, in 1978 and his M.S. (1982) and Ph.D. (1986) degrees in Mechanical Engineering from the Pennsylvania State University. He completed a postdoctoral training program in Aerospace Engineering at the University of Michigan, Ann Arbor, prior to 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 American Society of Mechanical Engineers (ASME) 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 ASME *Journal of Heat Transfer* and the U.S. Editor of the *Proceedings of the International Combustion Institute*, Vol. 28.



CAROLYN R. KAPLAN is a Research Chemical Engineer in the Laboratory for Computational Physics and Fluid Dynamics at the Naval Research Laboratory (NRL). She received her B.S., M.S., and Ph.D. degrees in chemical engineering from the University of Maryland in 1980, 1985, and 1987, respectively. Her research interests include direct numerical simulation of compressible, chemically reacting flows, nonequilibrium chemical and collisional gas dynamic processes in microflows, soot formation and radiation transport in combustion processes, and development and implementation of algorithms for large-scale scientific parallel computing. Prior to joining the Laboratory for Computational Physics and Fluid Dynamics in 1994, she was employed as a chemical engineer in the Combustion Section of the Chemistry Division of NRL from 1981 to 1994 and worked in private industry from 1980 to 1981. In addition, she served as an adjunct professor in the Mechanical Engineering Department at the University of Colorado in Boulder, Colorado, from 1997 to 1998. Dr. Kaplan is an Associate Fellow of AIAA and a member of AIChE and Tau Beta Pi. She has served on review panels for the Air Force Office of Scientific Research, National Science Foundation, and Department of Energy and is author or coauthor of more than 45 journal and conference papers.



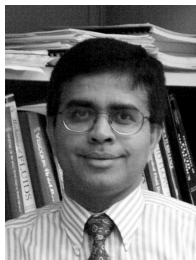
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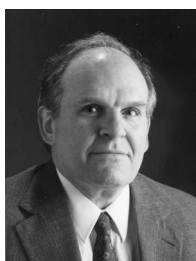
ROBERT P. LUCHT is currently a Professor in the School of Mechanical Engineering at Purdue University. He received his B.S. degree in Nuclear Engineering and his M.S. and Ph.D. degrees in Mechanical Engineering, all from Purdue University. He joined the Combustion Research Facility at Sandia National Laboratories in 1983 and was a member of the technical staff and then a department manager. In 1992, he became a faculty member at the University of Illinois at Urbana–Champaign. From 1998 to 2002 he was the G. Paul Pepper Professor of Mechanical Engineering at Texas A&M University. The focus of his research is the development and application of laser diagnostic techniques and optical sensor systems for probing both reacting and nonreacting flows. Currently, his research group is developing dual- and triple-pump CARS techniques for multiparameter measurements in combustions flows, investigating the potential of electronic resonance, dual-pump CARS for sensitive measurements of minor species, and investigating the physics of polarization spectroscopy and degenerate four-wave mixing. His group is also developing diode-laser-based optical absorption sensors for sensitive measurements of pollutant species, using sum- and difference-frequency mixing techniques to generate ultraviolet and midinfrared laser radiation, respectively. He is a member of the American Society of Mechanical Engineers, the Society of Automotive Engineers, the Optical Society of America, and the Combustion Institute. He is a Fellow of the Optical Society of America and an Associate Fellow of AIAA. He is the author or coauthor of over 70 archival journal papers.



SHANKAR MAHALINGAM is a Professor in the Department of Mechanical Engineering at the University of California (UC), Riverside. He received his B.Tech from the Indian Institute of Technology Madras in 1980, M.S. from the State University of New York at Stony Brook in 1982, and Ph.D. from Stanford University in 1989, all in Mechanical Engineering. From 1989 to 2000, he was on the faculty of the Department of Mechanical Engineering at the University of Colorado, Boulder. Since 2000, he has been on the faculty of the Department of Mechanical Engineering at UC, Riverside. In 2002 he was appointed Chair of the Department. Professor Mahalingam's research interests include direct and large eddy simulations of turbulent combustion, forest fire modeling, flame spread experiments, computational fluid dynamics applied to turbulent combustion, acoustic-flow interactions, and cardiovascular fluid dynamics. Dr. Mahalingam's research is currently funded by the National Science Foundation and the U.S. Department of Agriculture Forest Service through a cooperative agreement with the Forest Fire Laboratory, Riverside. He won two teaching awards and an outstanding advisor award while at the University of Colorado. Dr. Mahalingam teaches graduate and undergraduate classes in engineering mathematics, computational methods, fluid dynamics, heat transfer, computational fluid dynamics, and combustion. He served as a Member-at-Large of the Board of the Western States Section of the Combustion Institute from 1992 to 1998. He is a member of the Combustion Institute, American Physical Society (Fluid Dynamics), the American Society of Mechanical Engineers, and Sigma Xi and is a Senior Member of AIAA. He has authored or coauthored over 30 refereed papers and an equal number of conference papers.



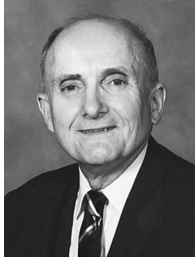
ACHILLE MESSAC is Professor of Mechanical and Aerospace Engineering at the Rensselaer Polytechnic Institute. He received his B.S. (1981), M.S. (1982), and Ph.D. (1986) from the Department of Aeronautical and Astronautical Engineering at the Massachusetts Institute of Technology. He was a Senior Member 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 the development of *Physical Programming*, a methodology that brings optimization within the easy reach of industry engineers. He is an Associate Fellow of AIAA, a Fellow of the American Society of Mechanical 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*, the *Structural and Multidisciplinary Optimization Journal*, and the AIAA Publications 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 more than 140 publications. He was a recipient of the CAREER award of the National Science Foundation.



DEAN T. MOOK retired on 1 January 2004 as the N. Waldo Harrison Professor of Engineering in the Department of Engineering Mechanics (EM) at the Virginia Polytechnic Institute and State University (VPI) in Blacksburg, Virginia. He is a 1958 graduate of VPI (B.S. in EM) and a 1966 graduate of the University of Michigan (Ph.D. in EM). His technical and research interests are in structural dynamics, unsteady aeroelasticity, and unsteady aerodynamics, all with an emphasis on nonlinear phenomena. He is the author of over 100 papers and the coauthor, with Ali Nayfeh, of the textbook *Nonlinear Oscillations*. While on leave from the faculty at VPI, he served a total of three years under the Intergovernmental Personal Act at the Office of Naval Research (1981–1982) and the Air Force Office of Scientific Research (2002–2003); at the latter he was the Program Manager for Structural Mechanics.



WING NG is the Chris Kraft Endowed Professor of Mechanical Engineering at Virginia Polytechnic Institute and State University. He received his B.S. degree in Mechanical Engineering from Northeastern University in 1979 and his M.S. and Ph.D. degrees in Mechanical Engineering from the Massachusetts Institute of Technology in 1980 and 1984, respectively. Professor Ng's current research activities include turbomachinery fluid mechanics and heat transfer and active flow and noise control with application to aeropropulsion. He has published over 130 papers in archival journals and conference proceedings and has given many invited lectures both in the United States and abroad. His research has won Best Paper Awards from the American Society of Mechanical Engineers (ASME) and AIAA, as well as certificate of recognition from NASA. He is also recognized for his teaching and has received several teaching awards from Virginia Tech and the Ralph R. Teetor Educational Award from the Society of Automotive Engineers. He served as Associate Editor of the *Journal of Propulsion and Power* and *Journal of Fluids Engineering*. He has given expert testimony to the U.S. Congress in his fields of expertise. In addition, he served as the technical program chair for the AIAA Joint Propulsion Conference and the ASME International Gas Turbine Institute Turbo Expo. Dr. Ng is a Fellow of ASME and an Associate Fellow of AIAA. He is also the Chairman of Techsburg, Inc., a high-tech spin-off company from Virginia Tech located in Blacksburg, Virginia.



ANTHONY N. PALAZOTTO is Professor of Aerospace Engineering, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. 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 reflective antennas undergoing nonlinear movement. Dr. Palazotto has received more than \$3.5 million in funding from various Air Force Directorates including the U.S. Air Force Office of Scientific Research. Dr. Palazotto has over 330 presentations and publications, 168 of which are in archival journals. He is the coauthor of a text entitled *The Nonlinear Analysis of Shell Structures* published by AIAA in 1992. He is a Fellow of the American Society of Civil Engineers and an Associate Fellow of AIAA in addition to being a Professional Engineer.



CHRISTOPHE PIERRE is the Stephen P. Timoshenko Collegiate Professor of Mechanical Engineering at the University of Michigan, Ann Arbor, where he also holds the position of Associate Dean in the Rackham School of Graduate Studies. He received the Engineer Diploma in Aerospace Engineering from the Ecole Centrale de Paris, France, in 1982, the M.S. from Princeton University in 1984, and the Ph.D. from Duke University in 1985. He joined the faculty of the Department of Mechanical Engineering at the University of Michigan in 1985, where he was promoted to the rank of Professor in 1997. His research interests include structural dynamics, vibrations, and nonlinear dynamics, and he has done extensive work on mode localization in disordered periodic structures. He currently works in the areas of reduced-order modeling of complex structures, component mode synthesis, midfrequency dynamics, nonlinear modal analysis, and dry friction damped systems, with application to turbomachinery bladed disks and automotive body structures. He previously served as Associate Editor for the American Society of Mechanical Engineers' (ASME) *Journal of Vibration and Acoustics* and currently belongs to the Advisory Board of *Nonlinear Dynamics* and to the Editorial Board of the ASME's *Applied Mechanics Reviews*. He is a Fellow of ASME and a Senior Member of AIAA. Dr. Pierre has published more than 80 journal papers and a large number of conference papers and has given numerous invited lectures internationally.



ALLEN PLOTKIN is Professor of Aerospace Engineering and Engineering Mechanics at San Diego State University, where he has been a faculty member since 1985. He received B.S. and M.S. degrees from Columbia University and a Ph.D. from the Division of Engineering Mechanics at Stanford University in 1968. From 1968 to 1985 he was a faculty member in the Department of Aerospace Engineering of the University of Maryland, where he was promoted to the rank of Professor in 1977. During 1975–1976 he was a Visiting Associate in Engineering Science at the California Institute of Technology. His research interests are aerodynamics, hydrodynamics, and basic incompressible fluid mechanics. The research has emphasized the blending of analytical and computational techniques for the solution of a wide variety of flow problems, including fluid jets, airfoil and hydrofoil theory, ground effect, separation, and vortex modeling. He served two terms as a Member of the AIAA Fluid Dynamics Technical Committee. He is an American Society of Mechanical Engineers Fellow and an AIAA Associate Fellow and a Member of the Society of Naval Architects and Marine Engineers and the American Society for Engineering Education. He received the AIAA Sustained Service Award in 2003. He is the coauthor (with J. Katz) of *Low-Speed Aerodynamics: From Wing Theory to Panel Methods*, published in 1991 by McGraw-Hill, and the author of approximately 40 journal articles. The second edition of *Low-Speed Aerodynamics* was published by Cambridge University Press in 2001. He has been an Associate Editor of the *AIAA Journal* since 1986.



HELEN L. REED has been active in theoretical and computational transition and laminar-flow-control studies for more than 26 years. Professor Reed has also been Principal Investigator for four major satellite programs and several hands-on learning programs for students over the past 11 years. She was elected Fellow of the American Society of Mechanical Engineers in 1997 and the American Physical Society in 2003 and has served on various NASA Headquarters Aeronautics Advisory Committees, Subcommittees, and Task Forces; the NASA Federal Laboratory Review Task Force of the NASA Advisory Council; and the NATO/AGARD (Advisory Group for Aerospace Research and Development) Fluid Dynamics Panel. She is currently a Member of the Science Advisory Board for the National Institute of Aerospace, Deputy Co-Chair of the National Space Grant Student Satellite Initiative Steering Committee, Member of the AIAA Fluid Dynamics Technical Committee, and Associate Editor of *AIAA Journal*. At Texas A&M University since 1 December 2004, she is Department Head and a Professor of Aerospace Engineering. She is also Associate Director for Research for NASA URETI "Institute for Cell Mimetic Space Exploration."



SUNIL SAIGAL, Professor of Civil and Environmental Engineering at Carnegie–Mellon University, received his B.S. in Civil Engineering in 1978 from Punjab Engineering College, M.S. in Structural Engineering in 1980 from the Indian Institute of Science, and Ph.D. in Aeronautics and Astronautics in 1985 from Purdue University. Before joining Carnegie–Mellon University in 1989, he served on the faculty of Mechanical Engineering at Worcester Polytechnic Institute (1986–1989). He served as the Director, Mechanics and Materials Program, at the National Science Foundation from 1996 to 1998; has held summer assignments at Hibbitt, Karlsson, and Sorensen, Inc. (1987), NASA Lewis Research Center (1990 and 1991), and Oak Ridge National Laboratory (1993); and spent a year (1992) as a visiting engineer at Mercedes Benz A.G. in Stuttgart, Germany. His primary research interest lies in the area of computational solid and structural mechanics. He has contributed to developments in finite elements, boundary elements, and the element-free Galerkin methods with applications in shape optimization, inverse problems, mechanics of materials, and probabilistic analysis. Dr. Saigal is an Associate Fellow of AIAA and has served on the AIAA Technical Committee for Structures since 1992. He is the recipient of the 1987 Worcester Engineering Society Admiral Ralph Earle Medal, the 1988 Society of Automotive Engineers Ralph R. Teetor Educational Award, the 1990 National Science Foundation Presidential Young Investigator Award, the 1990 Carnegie Mellon University George Tallman Ladd Research Award, the 1994 American Society of Civil Engineers (ASCE) Pittsburgh Section Professor of the Year Award, and the 1996 Carnegie Mellon University Richard Teare Award for excellence in teaching. He has served as the Associate Editor for Computational Mechanics for the *ASCE Journal of Engineering Mechanics* and is on the Advisory Editorial Boards for the *International Journal for Numerical Methods in Engineering*, *International Journal for Computational Civil and Structural Engineering*, and *Engineering with Computers*. Dr. Saigal is author and coauthor of more than 85 journal articles.



BHAVANI V. SANKAR received his doctoral degree in Aeronautics and Astronautics in 1984 from Purdue University in West Lafayette, Indiana. After a short stint at Bradley University, Peoria, Illinois, in 1986 he joined the University of Florida in Gainesville. Currently he is a Professor in the Department of Mechanical and Aerospace Engineering. Professor Sankar's area of research, in general, is mechanics of composite materials and structures. Recently he has been active in textile composites including transaminar reinforcements, functionally graded and multifunctional materials, sandwich construction, structural optimization and mechanics of MEMS. Professor Sankar is a recipient of the W. J. Emmons Award (1999) given by the Association of Asphalt Paving Technologists to the authors of the Annual Award Paper. Professor Sankar has received the Bisplinghoff Memorial Award for best teaching three times during his career at Florida. He also received twice the Teaching Incentive Program Award given by his university. Dr. Sankar has published more than 150 papers in archival journals and conference proceedings. He is the editor/coeditor of four conference proceedings and has contributed to two book chapters on impact damage in composites and optimization of composite structures. He is a Fellow of the American Society of Mechanical Engineers, Associate Fellow of AIAA, and a Founding Member of the American Society for Composites. He serves on the editorial boards of the *Journal of Sandwich Structures and Materials* and the *Journal of Composite Materials*.



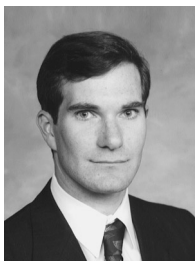
PASQUALE M. SFORZA has been Professor of Mechanical and Aerospace Engineering at the University of Florida since 1998 and was Director of the Graduate Engineering and Research Center from 1998 to 2003. He received the degrees of Bachelor of Aerospace Engineering in 1961, M.S. in Astronautics in 1962, and Ph.D. in Astronautics in 1965, all from the Polytechnic Institute of Brooklyn. He joined Polytechnic as Assistant Professor of Aerospace Engineering in 1965 and was appointed Professor of Mechanical and Aerospace Engineering in 1977, serving there as Head of the Mechanical and Aerospace Engineering Department from 1983 to 1986 and as Head of the Aerospace Engineering Department from 1988 to 1995. Dr. Sforza is an Associate Fellow of the AIAA. He served as Editor-in-Chief of AIAA's student journal (1969–1970), AIAA National Lecturer in Wind Engineering (1976), Associate Editor of the *AIAA Journal* (1980–1983), and Book Review Editor of the *AIAA Journal* since 1983. He is the founding Co-Editor of the *Journal of Directed Energy* and a member of the Editorial Board of the *Journal of Applied Fire Science*. He is also a member of the American Society of Mechanical Engineers and of the New York Academy of Sciences. Dr. Sforza has written more than 100 papers and reports and holds 3 patents in the areas of theoretical and experimental fluid mechanics, turbulence, energy, and heat transfer. Dr. Sforza is active in consulting for industry and government through Flowpower, Inc., a consulting engineering company he founded in 1978.



KUNIGAL N. SHIVAKUMAR is a Research Professor and Director of the Center for Composite Materials Research at North Carolina A&T State University. He received a B.E. (1972) in Civil Engineering from Bangalore University and an M.E. (1974) in Civil Engineering and Ph.D. (1979) in Aerospace Engineering from the Indian Institute of Science (IISc). After receiving his Ph.D. he worked at NASA Langley Research Center as National Research Council Research Associate for two years and at Old Dominion University as a Research Assistant and Associate Professor (1982–1984) for three years. In 1985 he joined Analytical Services and Materials, Inc., in Hampton, Virginia, as a Senior Scientist and Group Leader. In 1991 he joined North Carolina A&T State University as a Research Professor and a Coordinator for Structures and Controls Group of the Mars Mission Research Center. During the past 25 years Shivakumar has been researching structural analysis methods, fracture mechanics, and polymer-based composite materials (manufacturing, testing, and analysis). He has developed a number of innovative processing technologies, test methods, analysis methods, and software for composite materials. He has about 170 peer-reviewed publications, one patent, several disclosures, and copyrighted software. Shivakumar is a recipient of four special achievement awards from NASA, three certificates of recognition from AIAA, and one award each from AS&M, IISc, and Bangalore University. He has been cited in *Who's Who in the South and Southwest of America*, *Science and Engineering of America*, *Finance and Industry*, *World*, and *American Men and Women of Science and Plastics and Polymers*. Shivakumar has been an active member of AIAA for about 20 years. He served AIAA as a member of the Structures and Materials Technical Committees (TC), Chair of the Materials TC, General Chair of the 37th Structures, Structural Dynamics, and Materials Conference, and Chair of the Long Range Planning Committee. He is an Associate Fellow of AIAA.



RONALD M. C. SO, Chair Professor and Head, Department of Mechanical Engineering, Hong Kong Polytechnic University (PolyU), Hong Kong, received his M.A. and Ph.D. in Aerospace and Mechanical Sciences from Princeton University. He joined Union Camp Corporation, Princeton, in 1970. In 1972, he joined Rutgers University, New Brunswick, as a Postdoctoral Fellow and then as a Research Assistant Professor. He left Rutgers to join the General Electric Research and Development (GE R&D) Center, Schenectady, New York, in 1976. In 1981, he left GE R&D to become an Associate Professor in the Department of Mechanical and Aerospace Engineering, Arizona State University (ASU), Tempe. The following year he was promoted to Professor and remained there until 1996, when he left to head the ME Department at PolyU. His research led to the Dugald Clerk Prize, Institution of Mechanical Engineers, London, in 1991; the Lewis F. Moody Award of the American Society of Mechanical Engineers (ASME); and the Doctor of Science (D.Sc.) by the University of Hong Kong for original contributions in fluid dynamics and heat transfer in 1993. Dr. So is a Fellow of ASME, AIAA, IMechE, RAeS, and HKIE. He is an Associate Editor of *AIAA Journal* (1993–1995, 1998–2004), an Advisory Editor of the *International Journal of Mechanical Sciences* (1997–) and the *International Journal of Heat and Fluid Flow* (1994–), a Special Editor of *Combustion Science and Technology* (1988), and an Editor of ASME Special Publications (1984, 1986). Dr. So is the author or coauthor of more than 260 papers.



ANTHONY M. SPRINGER is the Alliance Development Manager for the Office of Aerospace Technology 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, a test and project engineer at NASA Marshall Space Flight Center, and NASA representative to numerous outside organizations. He has written and edited a number 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.