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Announcements, Comments, and Acknowledgments

THIS editorial marks the end of the first year of using WriteTrack for submitting, tracking, reviewing, and generally managing the approximately 600 papers submitted to *AIAA Journal* this year. Given the magnitude of this change in the mechanics of how we process papers for publication, I am happy to report that *AIAA Journal* has survived and perhaps even flourished. Piles of paper manuscripts (dead trees), letterhead stationery, irradiated (fried or nuked) postal mail, are now replaced by email, databases, and pdf files. Some of the long delays inherent to the process of publishing a paper have decreased or disappeared, exposing other inherent problems. Now we can really begin to focus on these.

During this past year, the AIAA Editorial Staff and WriteTrack developers have done a truly remarkable job. They have continued to develop WriteTrack to the point where we now have an "official" version. They have worked tirelessly to modify WriteTrack for our specific needs as we have requested changes. What is in place now is a rather remarkable editorial system that is, frankly, addictive. I expect that in another year it will be even better.

This past year also marked the publication of a very special issue of *AIAA Journal*, the *Centennial of Powered Flight*, edited by Gerard M. Faeth. This publication reprints some of the best and most cited papers published in past issues of *AIAA Journal*. If you do not yet have a copy of this issue, you can purchase one on the AIAA web store (log into the AIAA website store, http://www.aiaa.org/store, and search on Faeth).

Several journal facts and issues that have *not changed* since last year are as follows:

Scope of the Journal: This appears on the inside front cover of each issue. We continue to make every effort to accommodate the decision of authors that *AIAA Journal* is the most appropriate journal for their manuscripts. When a manuscript departs widely from the scope, we will make every effort to suggest a more appropriate alternative journal to the author.

Length Limitation on Papers: *There are no official limitations on length.* Authors, however, are urged to be as brief and concise as proper presentation allows. Long, rambling papers are still being returned to the authors.

Suggested Reviewers and Associate Editors: We urge authors to submit a well-thought-out list of suggested reviewers. It is also very helpful to have a list of suggested Associate Editors, which can either be included in the list of reviewers or put in the Authors' Comments section of WriteTrack, or emailed directly to me.

There are several other things we want to emphasize to authors:

References: We urge authors to do a thorough job of reviewing the literature and thus to provide proper history and perspective for their paper. All of the *AIAA Journal* editors will be looking for this specifically in the papers submitted. In this day and age of web searching, we have to be particularly careful not to overlook earlier, relevant work.

To help with this, we are attempting to simplify and clarify the formats of references. Meanwhile, the current format for references is available on the web and on the inside back cover of the printed journal.

Abstracts: In some ways, this is the most important part of your paper: It is the part that the world sees first, and it often determines whether a reader proceeds any further. Please make abstracts succinct statements of the major results of the paper and state why these are important for aerospace science and engineering. Every abstract should be written in a way that any of our technical authors can read and understand what the topic is and why it is relevant.

Multipart Papers: Please do not send in multipart (that is, two or more papers, often labeled I, II, III, etc.) unless it is absolutely necessary. We are finding it extremely difficult to enlist reviewers for them. You will find that the system works better and more quickly for you if you submit papers that can stand alone for review.

Special Sections: This year we have a Special Section planned on Boundary Conditions for Large-Eddy Simulation. This is based on papers presented at the Aerospace Sciences Meeting in Reno, and Fernando Grinstein (Naval Research Laboratory) is the Guest Editor. We encourage you to contact us with new proposals for other Special Sections that will be of interest to our readers.

English Language: The official language of the *AIAA Journal* is English. We are trying to maintain high editorial standards. Manuscripts that need work on grammar and style are returned to authors before they are sent to reviewers. We have found that reviewers are hesitant to work on manuscripts that are difficult or annoying to read. We therefore urge those authors who are not native English speakers to have their manuscript read by an English-speaking editor before it is submitted. This will greatly expedite the entire editorial process.

Finally, there are two items that should be mentioned:

Feature and Review Articles: We have solicited a number of these on a wide variety of topics. Review articles have been solicited on areas specifically related to topics in the Scope. Feature Articles have been solicited on some of these topics and on topics of general interest to the aerospace community. Suggestions for either type of article are appreciated.

Technical Notes: What exactly these should be continues to be a point of debate. They seem to have at least three almost contradictory meanings: 1) papers that are not good enough to be long papers, 2) papers whose authors are actually capable of writing a short paper, or 3) papers that introduce new concepts, are reviewed quickly, and should be rushed to publication. In any case, they are now rushed to publication by AIAA. Many of us are using the first definition but AIAA uses the third definition. I have made several attempts to abolish Technical Notes, but their usefulness has always been defended by many of the Associate Editors. One possiblity we are discussing is starting a Letters section of *AIAA Journal.* This would be for *very* short communications that would be published quickly. This could replace the Technical Notes. Hopefully we will come to some resolution the coming year.

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

The terms of 15 Associate Editors ended in December 2003. Of these, 10 will continue for another term: Suresh K. Aggarwal, *University of Illinois at Chicago*; Alex Berman, Bloomfield, Connecticut; Peyman Givi, *University of Pittsburgh*; Jayavant P. Gore, *Purdue University*; Robert P. Lucht, *Purdue University*; Christophe Pierre, *University of Michigan*; Allen Plotkin, *San Diego State University*; Sunil Saigal, *University of South Florida*; Pasquale (Pat) M. Sforza, *University of Florida*; and Kunigal N. Shivakumar, *North Carolina A&T State University*. We thank them for their past service to *AIAA Journal* and for their willingness to continue.

Associate Editors who were appointed after January 2003 are as follows: Helen L. Reed, *Arizona State University*; and Carolyn Kaplan, *Naval Research Laboratory*. Associate Editors whose appointments start in January 2004 are Wing Ng, *Virginia Polytechnic Institute and State University*; Dean Mook, *Virginia Polytechnic Institute and State University*; Bala Balachandran, *University of Maryland*; Datta Gaitonde, *Air Force Research Laboratory*; Monika Auweter-Kurtz, *University of Stuttgart*; and Anthony Springer, *NASA*. Their willingness to join our staff is greatly appreciated.

Continuing Associate Editors are Mehdi Ahmadian, *Virginia Polytechnic Institute and State University*; Josette R. Bellan, *Jet Propulsion Laboratory*; Graham V. Candler, *University of Minnesota*; Werner J.A. Dahm, *University of Michigan*; Kozo Fujii, *Institute of Space and Astronautical Science*; Kirti (Karman) N. Ghia, *University of Cincinnati*; Ann R. Karagozian, *University of California, Los Angeles*; Eli Livne, *University of Washington*; Shankar Mahalingam, *University of California, Riverside*; Achille Messac, *Renselaer Polytechnic Institute*; Anthony N. Palazotto,

U.S. Air Force Institute of Technology; Bhavani V. Sankar, *University of Florida*; Martin Sichel, *University of Michigan*; and Ronald M.C. So, *Hong Kong Polytechnic University*. Their past and continuing service is very much appreciated.

A very special thanks to retiring Associate Editors: Hafiz M. Atassi, *University of Notre Dame*; Aditi Chattopadhyay, *Arizona State University*; William J. Devenport, *Virginia Polytechnic Institute*; Iskender Gökalp, *Centre Nationale de la Recherche Scientifique*; and Eric R. Johnson, *Virginia Polytechnic Institute and State University*.

Members of the Editorial Advisory Board

During this past year, Professor Chih-Ming Ho, *University of California, Los Angeles*, has agreed to serve on the Editorial Advisory Board. 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*; Gerard M. Faeth, *University of Michigan*; Edward M. Greitzer, *Massachusetts Institute of Technology*; 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*.

This editorial marks the end of my first year as Editor-in-Chief. I would like to extend my thanks to Roger Simpson, the previous Vice-President of Publications, and to David Dolling, the current Vice-President of Publications, for their help and encouragement. Very special thanks to Gerard M. Faeth and Mary Ann Faeth for their continual help and patience with me and the innumerable requests for advice and information. Ruth Trocolli and Michael McGinnes, the Editorial Assistants for the journal, did a superb job in developing the procedures for processing submitted papers and keeping it all going smoothly through this year. To them I extend my very special thanks. The AIAA editorial staff, in particular Norma Brennan (Director of Publications), Luke McCabe (Managing Editor), and Jennifer Samuels (Managing Editor), 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.

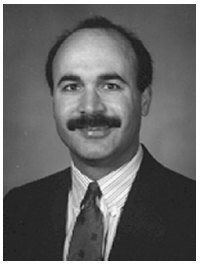
Last but far from least, we all owe a tremendous debt of gratitude to all of the individuals who reviewed papers for the journal this year. A list of their names follows.

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, magnetoplasmadynamic, 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.

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.

JOSETTE BELLAN is a Senior Research Scientist at the Jet Propulsion Laboratory (JPL) and a Visiting Associate at the California Institute of Technology (Caltech). She has also been a Lecturer at Caltech and a Chancellor's Distinguished Lecturer at the University of California, Irvine. Following the completion of her Ph.D. at Princeton University, she became a Postdoctoral Fellow and further a Member of Research Staff there. Since 1978, Dr. Bellan has conducted research at the JPL in a variety of topics. Her current interests include drop and spray evaporation and combustion; multicomponent fuel modeling; reactive porous materials, particularly biomass; granular materials; direct numerical simulations and large eddy simulations of multiphase flows; and supercritical fluid behavior in fluid-drops, mixing layers, and sprays. Dr. Bellan is the coauthor of five books and has numerous publications in refereed journals. She is also an Amelia Earhart Fellow, is the recipient of the 2000 Marshall Award for the Best Paper at the International Conference for Liquid Atomization and Spray Systems, and has numerous NASA Certificates of Recognition. Dr. Bellan is an American Society of Mechanical Engineers Fellow, an AIAA Associate Fellow, a member of the Combustion Institute, where she was on the Western States Section Board for 12 years; a member of the Propellant and Combustion Technical Committee within the AIAA; and a member of the Board of Directors in the Institute for Liquid Atomization and Spray Systems. In a addition to the *AIAA Journal*, Dr. Bellan is on the Editorial Boards of *Atomization and Sprays* and *Progress in Energy and Combustion Science*.

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 an 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.

WERNER J. A. DAHM is Professor of Aerospace Engineering and Head of the Laboratory for Turbulence and Combustion in the Department of Aerospace Engineering at the University of Michigan. He is a Fellow of the American Physical Society and an Associate Fellow of AIAA. He was a recipient of the William F. Ballhaus Aeronautics Prize from the California Institute of Technology (Caltech) in 1985 and the 1938E Distinguished Achievement Award from the University of Michigan in 1991. Professor Dahm is an author of over 120 journal papers, conference papers, and technical publications and has given over 80 invited and plenary lectures, in the areas of fluid dynamics, turbulence, combustion, and microsystems. He has served on technical advisory and organizational committees for numerous technical conferences and as a consultant for industry. He received his Ph.D. degree from Caltech in 1985 and has an M.S. degree in Mechanical Engineering from the University of Tennessee Space Institute in Tullahoma, Tennessee, and a B.S.E. in Mechanical Engineering from the University of Alabama in Huntsville. Prior to his Ph.D. degree, he worked in industry as a Research Engineer in the Transonic Wind Tunnel Section of the Propulsion Wind Tunnel Facility at the U.S. Air Force Arnold Engineering Development Center. Professor Dahm is a past member of the Defense Science Study Group at the Institute for Defense Analyses in Washington, D.C., and has served on numerous task forces of the Defense Science Board.

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.

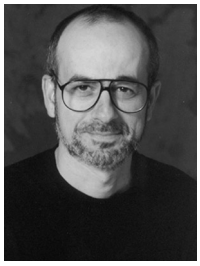
KIRTI "KARMAN" N. GHIA is Herman Schneider Professor of Aerospace Engineering and Engineering Mechanics and Fellow of the Graduate School at the University of Cincinnati (UC). Dr. Ghia joined UC in 1969, after completing his graduate education in Mechanical and Aerospace Engineering at the Illinois Institute 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.

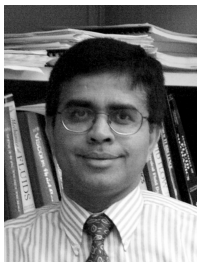
CAROLYN R. KAPLAN is a Research Chemical Engineer in the Laboratory for Computational Physics and Fluid Dynamics at the Naval Research Laboratory (NRL). She received her B.S., M.S., and Ph.D. degrees in chemical engineering from the University of Maryland in 1980, 1985, and 1987, respectively. Her research interests include direct numerical simulation of compressible, chemically reacting flows, nonequilibrium chemical and collisional gasdynamic processes in microflows, soot formation and radiation transport in the 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 she 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 AFOSR, NSF, and DOE and is author or coauthor of more than 40 journal articles and conference papers.

ANN R. KARAGOZIAN is a Professor in the Department of Mechanical and Aerospace Engineering at UCLA. She received her M.S. and Ph.D. degrees in Mechanical Engineering from the California Institute of Technology in 1979 and 1982, respectively, and her B.S. in Engineering from UCLA in 1978. She joined the UCLA faculty in 1982. Her research interests lie in the fluid mechanics of combustion systems, with current emphasis on numerical simulation and experimental interrogation of acoustically driven reacting flows and high-speed combustion systems. Recent research activities have applications to improved efficiency and emissions reduction for aircraft engines, actively controlled jet mixing for high-speed aircraft systems, behavior and simulation of pulse detonation engines, microgravity combustion processes and their response to acoustic excitation, and environmental waste destruction systems. Professor Karagozian is a current member (2002–2006) and a past member (1997–2001) of the Air Force Scientific Advisory Board. Professor Karagozian is also a past member of the NASA Aero-Space Technology Advisory Committee and is currently on the Executive Committee for the Western States Section of the Combustion Institute. She is an alumna of the Defense Science Study Group, sponsored by DARPA and the Institute for Defense Analyses, and is a member of the AIAA Awards Committee. Professor Karagozian is an Associate Fellow of the AIAA and has authored or coauthored over 100 archival and conference papers.



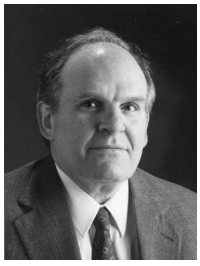
ELI LIVNE received his B.Sc (1974) and M.Sc. (1982) degrees in Aeronautical Engineering from the Technion—Israel Institute of Technology. From 1975 to 1984 he worked in the areas of structural dynamics, aeroelasticity, and aeroservoelasticity. He received his Ph.D. in Aerospace Engineering (1990) from the University of California, Los Angeles, and joined the Department of Aeronautics and Astronautics at the University of Washington in Seattle, 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 Boeing. He is a former member of the AIAA Multidisciplinary Design Optimization Technical Committee, the NASA/Boeing 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 is an Associate Fellow of AIAA.

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 combusting 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.



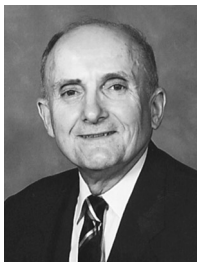
SHANKAR MAHALINGAM is a Professor in the Department of Mechanical Engineering at the University of California (UC), Riverside. He received his B.Tech from the Indian Institute of Technology Madras in 1980, M.S. from the State University of New York at Stony Brook in 1982, and Ph.D. from Stanford University 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 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 is currently an Associate Professor in the Mechanical and Aeronautical Engineering Department at Rensselaer Polytechnic Institute. 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, the latter of which he was a pioneer in the mid-1980s. 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 as an Associate Professor, 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 member of the American Society of Mechanical Engineers, the Chair of the AIAA Multidisciplinary Design Optimization (MDO) Technical Committee (TC), and a former member of the AIAA Structural Dynamics TC. He is an Editorial Board Member of the *Optimization and Engineering Journal*. He is the General Chair-Elect of the 10th AIAA/ISSMO Symposium on Multidisciplinary Analysis and Optimization. He has authored or coauthored over 90 publications. He is 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.

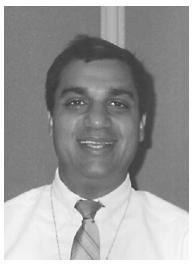
WING NG is the Chris Kraft Endowed Professor of Mechanical Engineering at Virginia Polytechnic Institute and State University. He received his B.S. degree in Mechanical Engineering from Northeastern University in 1979 and his M.S. and Ph.D. degrees in Mechanical Engineering from the Massachusetts Institute 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 $1.5 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, 164 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.

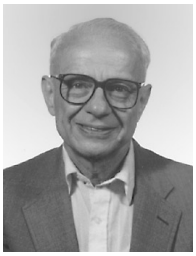


SUNIL SAIGAL, Professor of Civil and Environmental Engineering at Carnegie–Mellon University, received his B.S. in Civil Engineering in 1978 from Punjab Engineering College, M.S. in Structural Engineering in 1980 from the Indian Institute of Science, and Ph.D. in Aeronautics and Astronautics in 1985 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 translaminar 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*.

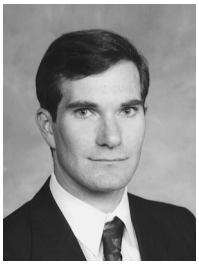
PASQUALE M. SFORZA joined the University of Florida's Graduate Engineering & Research Center as Director and Professor of Aerospace Engineering in 1998. He received a B.Ae.E. in 1961 and an M.S. and a Ph.D. in Astronautics in 1962 and 1965, respectively, from Polytechnic Institute of Brooklyn. He was appointed to the faculty of Polytechnic in 1965 and served there until 1998. He was promoted to Professor in 1977 and served as Head of Mechanical and Aerospace Engineering from 1983 to 1986 and as Head of Aerospace Engineering from 1987 to 1995. He is an Associate Fellow of AIAA and served as Editor-in-Chief of the *AIAA 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. His research in turbulent jet mixing, vortex aerodynamics, and energy transfer led to three patents and over 100 articles and papers. He received the Technology Achievement Award from the AIAA Long Island Section in 1977 and an Outstanding Paper award from AIAA in 1992. He is a Member of the Editorial Board of the *Journal of Applied Fire Science* and was a Member of the Advisory Board of the New York State Legislative Commission on Science and Technology (1978–1984). He is active in consulting for industry and government agencies through Flowpower, Inc., a consulting firm 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.



MARTIN SICHEL, Professor Emeritus of Aerospace Engineering at the University of Michigan, received the B.M.E. and M.M.E from the Rensselaer Polytechnic Institute in 1950 and 1951 in Mechanical Engineering and the Ph.D. in Aeronautical Engineering from Princeton University in 1961. From 1951 to 1956 he worked as a development engineer for the General Electric Co. and for the Army Chemical Center while in the U.S. Army. He joined the faculty of the Department of Aerospace Engineering at the University of Michigan in 1961 and was promoted to the rank of Professor in 1968. His current research interests include the numerical simulation and modeling of gaseous, dust, and spray detonation phenomena; the group combustion of sprays; combustion and explosion of dust air mixtures; and supersonic combustion. He has been the principal or coprincipal advisor for over 35 doctoral students from 1961 to the present. He has been a Member of the AIAA Air Breathing Propulsion and Propellants and Combustion committees. He has been a Member of the Program Committees for the 21st–27th Symposium (International) on Combustion and the 13th–16th International Colloquium on the Dynamics of Explosions and Reactive Systems. He is currently an Associate Editor of the *AIAA Journal*. He is a Fellow of AIAA and the American Association for the Advancement of Science. He is the recipient of the Cybulski Medal from the Polish Academy of Sciences for research in combustion (1995) and of the A.K. Oppenheim Prize (1995) at the International Colloquium on the Dynamics of Explosions and Reactive Systems. Dr. Sichel is the author or coauthor of more than 100 articles and papers.

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.