

Editorial—My First Year in Perspective

LAST January I took over as Editor-in-Chief from Don Fraser, who had had the job since the beginning of the journal in 1978. There are many adjectives that probably apply to the description of this first year. I have had to learn the system for handling the journal, as well as the database system on the Macintosh in which all the records are kept, while keeping the papers flowing—all this when changes in my job responsibilities required me to log over 100,000 miles on the airlines this year. To say the least, it has been an interesting and challenging year, and I look forward to the next year. In my editorial last year I stated my goals, which are 1) to maintain the quality of the journal, 2) to minimize the time from submission to publication of papers, and 3) to continue to emphasize publication of applications-oriented papers. Let me now briefly address each of these goals. Over the past two years we have had a 20% increase in the number of papers submitted. This is certainly an indicator of the stature of the journal. Since you, the readers, are the ones who determine the quality of the journal, I will not dwell on this goal. The time required to publish a paper is a major concern of mine; it is too long. I am currently doing a study of the entire cycle from submission to publication to determine how long a paper is in each cycle (review, galley preparation, awaiting publication, etc.) and what we can do to shorten the time. I will be reporting on this study in an editorial in a few months. However, some things are evident. The review process is dependent on volunteers, the Associate Editors and reviewers, who are busy people. We, the Editors, need to do a better job in getting the papers out for review and prodding the reviewers to complete their reviews. So those of you who receive one of these prodding letters, remember that we are just trying to speed up the review process. We have noticed that the number of reviewers who do nothing with a paper, do not review or return it, is increasing. This may be the result of the increasing number of papers. My request is that if you cannot review a paper please send it back. If you do nothing for two months we have to start over, and the review process has been delayed by two months. With the increase in papers there has been an increased burden on the Associate Editors. To help alleviate

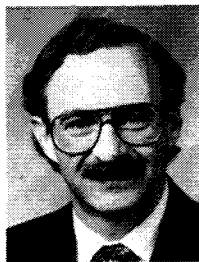
this increased burden I have increased the number of Associate Editors from 11 to 15 and will be introducing them later in this editorial. My third goal is also of concern to me. The *Journal of Guidance, Control, and Dynamics* is an applications-oriented journal, and there has been a trend away from applications papers. Most of the applications papers come from industry, and with the cutbacks in the aerospace industry I am concerned this trend will probably continue. I welcome any suggestions.

Each year brings changes to our editorial team. This year Siva Banda and John Prussing are retiring. I want to thank them for their dedicated service to the *Journal of Guidance, Control, and Dynamics* and the AIAA. Our new Associate Editors are Dallas Denery of NASA Ames Research Center, who will be responsible for papers in air traffic control and aircraft control; David Hyland of Harris Corporation, who will have responsibility for papers in control theory and control of flexible structures; Gary Slater of the University of Cincinnati, who will have responsibility for papers in control theory and aircraft controls; Kenneth Sobel of The City College of New York, who will be responsible for papers in control theory and its application to aircraft control; S. Rao Vadali of Texas A&M University, who will be responsible for papers in dynamics and the dynamics and control of flexible structures; and R. K. Yedavalli, who will be responsible for papers in control theory and control of flexible structures. Andrew Kurdila of Texas A&M will be the Book Announcements Editor. I welcome them to the team and look forward to working with them. The entire team is presented in the following pages.

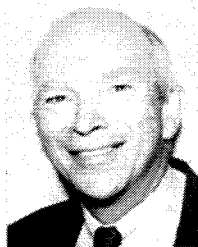
Finally, it is my pleasure to thank another group of individuals who make this journal possible: the reviewers. Following the editorial team is a list of the reviewers for the period October 1991 through September 1992. Your efforts and prompt response in reviewing papers are appreciated. I apologize to any reviewers whose names have been inadvertently omitted.

Kyle T. Alfriend
Editor-in-Chief

Associate Editors



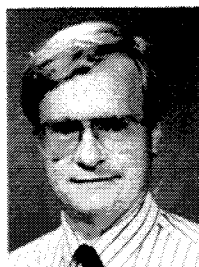
DOMINICK ANDRISANI, II, is an Associate Professor in the School of Aeronautics and Astronautics at Purdue University. He received his B.S. degree in aeronautical engineering at the Rensselaer Polytechnic Institute in 1970 and the M.S. and Ph.D. degrees in electrical engineering at the State University of New York at Buffalo in 1975 and 1979, respectively. He has worked at NASA Langley Research Center (1970–1972) and at Calspan Advanced Technology Center (1972–1980). He has been at Purdue University since 1980. He is a senior member of the AIAA and is a member of the Institute of Electrical and Electronics Engineers, the Institute of Navigation, and the Association of Unmanned Vehicle Systems. He is a past member of the AIAA Atmospheric Flight Mechanics Technical Committee and former treasurer of the Central Indiana Section of the AIAA. His technical specialization is in the area of flight dynamics and control of aircraft and helicopters. His current research interests include the design of flight control systems to achieve satisfactory flying qualities and the design of aircraft tracking systems.



DALLAS G. DENERY received his B.S.E. degrees from the University of Michigan in Aeronautics and Astronautics (1962) and Mathematics (1963). He received an M.S.E. degree from the University of Washington (1965) and a Ph.D. in Applied Mechanics from Stanford University (1971). Dr. Denery worked at the Boeing Company on the SST from 1962 to 1966. He joined Ames in 1966 where he has been involved in research related to state estimation; parameter identification; aircraft guidance, navigation, and control; and air traffic control. He has been a visiting lecturer at Stanford for a course in Radio and Inertial Navigation. He is Chief of the Aircraft Guidance and Navigation Branch. Dr. Denery received the National Space Club Dryden Memorial Fellowship in 1979. He has been a member of the AIAA Technical Committees on Digital Avionics and Guidance, Navigation, and Control. He is an Associate Fellow of the AIAA.



CARL HUBERT received a B.S. in engineering science from the State University of New York at Stony Brook in 1970, and M.S. and Ph.D. degrees in space mechanics from Cornell University in 1973 and 1980, respectively. In 1975, Dr. Hubert joined the technical staff of RCA's Astro-Electronics Division (now General Electric's Astro-Space Division). He was Astro's Manager of Control and Dynamics Analysis from March 1981 through March 1991. In April 1991, he was appointed to the position of Division Fellow. Dr. Hubert has contributed to the design and analysis of several dozen communications, scientific, meteorological, and navigation satellites. These include GE's Series 3000, 4000, 5000, and 7000 communications satellites, the Advanced Communications Technology Satellite, the U.S. Air Force's DMSP Block 5D-2 meteorological satellites, the National Oceanographic and Atmospheric Administration's TIROS satellites, Landsat 6, Dynamics Explorer, the Global Geospace Science spacecraft, Mars Observer, and the next-generation Global Positioning System satellite. Dr. Hubert's technical work has included attitude maneuvers, the dynamics of appendage deployments, passive and active motion damping, controlling spacecraft with flexible structures, and the dynamics and control of satellites with on-board liquids. He has authored nine papers on spacecraft attitude dynamics and control and holds six U.S. patents covering spacecraft attitude acquisition and control techniques. He is an Associate Fellow of the AIAA.



DAVID C. HYLAND received the B.S., M.S., and Sc.D. degrees in aeronautics from the Massachusetts Institute of Technology, Cambridge, Massachusetts, in 1969, 1971, and 1973, respectively. After serving as a vibration specialist in a Cambridge-based acoustics consulting firm, in 1974 he joined the staff at Lincoln Laboratory, Massachusetts Institute of Technology, Cambridge, Massachusetts. His work at Lincoln Laboratory included reentry vehicle dynamics, multibody spacecraft dynamics simulation, and spacecraft attitude control. In 1983 he joined the Harris Corporation, Melbourne, Florida, where he is presently a Senior Scientist in the Government Aerospace Systems Division and is the leader of the Structural Controls Group. His current interests include control system robustness analysis and design synthesis with application to vibration suppression in aerospace structures, vibration control sensing, and actuation hardware developments and application of artificial neural networks for autonomous vehicle control.



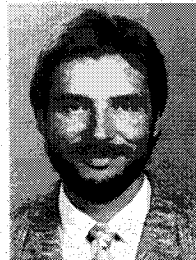
SURESH M. JOSHI received the Ph.D. degree in electrical engineering from Rensselaer Polytechnic Institute, Troy, New York, in 1973. Since 1973, he has been at NASA Langley Research Center, Hampton, Virginia, where he is presently a Senior Research Scientist. He has also served as an adjunct or research faculty member of three universities. His research interests include various aspects of control theory and applications to aerospace systems, in particular, to large space structures. He is the author of the book *Control of Large Flexible Space Structures* (Berlin, Springer-Verlag, 1989), and the author or co-author of several papers. He is an Associate Fellow of the AIAA, a Senior Member of the IEEE, and a member of the ASME. He is presently an elected member of the IEEE-Control Systems Society's Board of Governors. He is listed in several *Who's Who* publications.



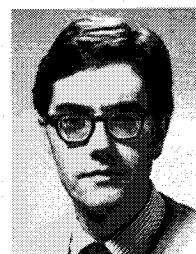
DON MACKISON was born in Denver, Colorado, June 7, 1936. He was educated at Denver University (B.A., mathematics) and Colorado University (M.S., Ph.D., controls and systems). His career includes employment at Johns Hopkins University, Applied Physics Laboratory; National Oceanic and Atmospheric Administration, Space Environment Laboratory; and Ball Aerospace, where he was involved in a variety of satellite programs. He is currently teaching in the Aerospace Engineering Sciences Department of the University of Colorado. His research interests include optimal control and estimation theory, and their application to aerospace problems, including satellite orbit and attitude determination and control, autonomous navigation, and space systems operations. Dr. Mackison is an Associate Fellow of the AIAA, and has served as Vice Chairman of the Rocky Mountain Section (1985-1991); as a member of the Guidance, Navigation, and Control Technical Committee (1989-1992); and as a member of the Applications Advisory Board of the *Journal of Guidance, Control, and Dynamics* (1989-1992). He was named Engineer of the Year by the Rocky Mountain Section, AIAA, for 1984-1985.



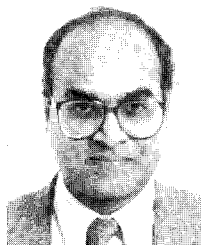
F. LANDIS MARKLEY received his B.S. in engineering mechanics from Cornell University and his Ph.D. in theoretical physics from the University of California, Berkeley. Since 1985 he has been at NASA Goddard Space Flight Center and is currently Assistant Head, Guidance and Control Branch. He has also been associated with the Naval Research Laboratory, Computer Sciences Corporation, and on the faculty at Williams College. His specialties are attitude control, estimation theory, and autonomous navigation. He has published numerous papers and reports in these areas. Dr. Markley has served in the past as an Associate Editor of the *Journal of Guidance, Control, and Dynamics* and the *American Journal of Physics*, and he is an Associate Fellow of the AIAA.



KENNETH D. MEASE is an Assistant Professor of Mechanical and Aerospace Engineering at Princeton University. He received his B.S. from the University of Michigan and his M.S. and Ph.D. from the University of Southern California. He worked previously in the Navigation Section of the Jet Propulsion Laboratory. His research centers on the application of optimal and nonlinear control theories, perturbation methods, and dynamical systems theory to aerospace vehicle trajectory design, guidance, navigation, and control. He has contributed to the areas of aeroassisted orbital transfer, low-thrust orbital transfer, and ascent and entry guidance. He is an Associate Editor for the *Journal of Astronautical Sciences* and an Associate Fellow of the AIAA.



ROBERT G. MELTON received his B.S. in physics from Wake Forest University in 1976 and his M.S. in physics (1979) and Ph.D. in engineering physics (1982) from the University of Virginia. He joined the Aerospace Engineering Department of the Pennsylvania State University as Assistant Professor in 1981, and became Associate Professor in 1987. His research has involved attitude control of multibody spacecraft, optimal detumbling of space stations, dynamics of gyro-controlled spacecraft via conjugate momentum methods, control of flexible space structures using embedded fiber optic sensors, error analysis for finite burn ascent trajectories, perturbation analysis of low-thrust orbital transfers, and the dynamics and control of large articulated spacecraft in low Earth orbit. Over the past nine years, he has also served as a consultant in several of these areas. Professor Melton has taught courses in orbital mechanics and attitude control, spacecraft design, dynamics and control systems, mechanics of materials, astrodynamics, and advanced spacecraft dynamics, in addition to a new course in space science and technology that is intended for nontechnical audiences. An Associate Fellow of the AIAA, he has served on its Astrodynamics Technical Committee and on the *Journal of Guidance, Control, and Dynamics* Applications Advisory Board. Dr. Melton has published papers in the leading technical journals, and has reviewed numerous papers for these journals as well. He is a member of the American Astronautical Society (and currently serves on its Space Flight Mechanics Technical Committee), Sigma Xi (Scientific Research Society), and Sigma Pi Sigma (Physics Honor Society).



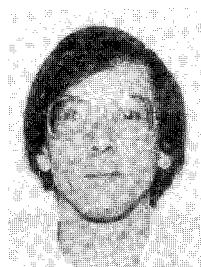
P. K. MENON is currently president of Optimal Synthesis, Inc. and is also an adjunct professor at Santa Clara University. He received a Ph.D. in aerospace engineering from Virginia Polytechnic Institute and State University, a master's degree in aeronautical engineering from the Indian Institute of Science, and a bachelor's degree in mechanical engineering from Osmania University. Dr. Menon's professional experience includes nine years in the aerospace industry as a research scientist, five years at universities as a faculty member, and three years with NASA as a visiting scientist. His primary research interests are the application of feedback linearization theory, optimal control theory, differential games, and singular perturbation theory to control and guidance laws for helicopters, high performance aircraft, missiles, and spacecraft. His recent research was focused on vision-based guidance and navigation of rotorcraft. He has authored over 30 papers in archival journals and has presented over 60 papers at various conferences on these topics. He has also been active in organizing technical sessions and short courses on aerospace vehicle guidance at AIAA and American Control conferences. He is an Associate Fellow of the AIAA.



STEPHEN OSDER is currently Department Manager for Flight and Fire Control at McDonnell Douglas Helicopter Company. He has a B.E.E. degree from City College of New York and an M.S. in electrical engineering from Johns Hopkins University. He joined McDonnell Douglas in 1985 as Chief Scientist for Avionics and Controls, and has been responsible for advanced development in rotorcraft flight control, fire control, navigation, and related Avionics Systems. He spent many years at Sperry Flight Systems, where he was Director of Research and Development. His contributions have been in the area of guidance and control systems for transports, fighters, bombers, helicopters, missiles, re-entry vehicles, and spacecraft. He has published many papers on fly-by-wire systems, fault tolerant computer technology, avionics architectures, guidance, and navigation, and holds 16 patents in related areas. He is a McDonnell Douglas Corporate Fellow, Associate Fellow of the AIAA, Member of the IEEE and AHS, and has been Associate Editor of the *Journal of Guidance, Control, and Dynamics* since the journal's inception.



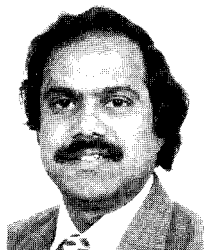
GARY L. SLATER is currently Professor in the Department of Aerospace Engineering and Engineering Mechanics at the University of Cincinnati. Dr. Slater received his B.S. and Ph.D. degrees in Aerospace Engineering from the University of Cincinnati in 1963 and 1971, respectively, and a master's degree in Aeronautics and Astronautics from M.I.T. in 1964. Prior to joining the faculty at Cincinnati in 1972, he held research positions at M.I.T. in the Experimental Astronomy Laboratory and in the Department of Earth and Planetary Sciences. Dr. Slater's primary research efforts have been in the area of trajectory guidance algorithms with Air Traffic Control applications, and in optimization and control of flexible structures. Related topics of current interest are in the area of health monitoring and control of "smart structures," control-structure optimization, and on-line identification of flexible, controlled structures. He is an Associate Fellow of the AIAA.



KENNETH M. SOBEL received the Ph.D. in 1980 from Rensselaer Polytechnic Institute with a dissertation in adaptive control. During the period 1980-1987 Dr. Sobel was a research engineer at the Lockheed California Company where he developed novel modern control laws for advanced technology flight vehicles. Since 1987 Dr. Sobel has been an Associate Professor of Electrical Engineering at The City College of New York. His research focuses on robust eigenstructure assignment and its application to flight control design. Dr. Sobel has published over 70 papers in the areas of eigenstructure assignment, robust control, adaptive control, and the application of modern control theory to flight control design. Dr. Sobel has been awarded summer faculty fellowships at NASA Langley Research Center and at the U.S. Air Force Wright Laboratory. He is listed in Who's Who in the East and in Who's Who in American Education. Dr. Sobel is an Associate Technical Editor of the IEEE Control Systems Magazine and an Associate Fellow of AIAA.



SRINIVAS R. VADALI received his bachelor's degree in Mechanical Engineering from the Regional Engineering College, Rourkela, India, in 1976, Master of Engineering in Aeronautical Engineering from the Indian Institute of Science, Bangalore, in 1978, and Ph.D. in Engineering Mechanics from Virginia Polytechnic Institute and State University in 1983. From 1983 to 1985, he was Assistant Professor of Aerospace Engineering at Iowa State University. He joined the department of Aerospace Engineering at Texas A&M University in 1986 and is currently an Associate Professor. He teaches undergraduate and graduate courses in spacecraft and aircraft dynamics and control, control theory, optimal control, and astrodynamics. He has authored numerous articles, conference papers, and research publications on numerical solution of nonlinear optimal control/guidance problems, dynamics, and feedback control of nonlinear and distributed parameter systems. He is an Associate Fellow of the AIAA and has served on the AIAA Technical Committee on Astrodynamics.



R. K. YEDAVALLI received his Bachelor's and Master's degrees from the Indian Institute of Science, Bangalore, India, and the Ph.D. degree from the School of Aeronautics and Astronautics of Purdue University in the dynamics and control area in 1981. He was an Assistant Professor at the Stevens Institute of Technology from 1981 to 1985 and an Associate Professor at the University of Toledo from 1985 to 1987. In September 1987, he joined the Department of Aeronautical and Astronautical Engineering at The Ohio State University, Columbus, Ohio, where he is currently a tenured Associate Professor. Dr. Yedavalli's research interests include robustness and sensitivity issues in linear uncertain dynamical systems, model reduction, dynamics and control of flexible structures with applications to aircraft, spacecraft, and robotics control. He published, to date, over thirty journal and book chapter articles and various conference papers on these topics. Dr. Yedavalli is an Associate Fellow of AIAA and a senior member of IEEE. He served as a coeditor for an IEEE press book on "Recent Advances in Robust Control." In addition to *JGCD*, he also serves as an Associate Editor for the *International Journal of Systems Science*. He served as the Chairman of the Technical Program Committee for the 1991 AIAA Guidance, Navigation, and Control Conference held in New Orleans, Louisiana. He was a member of the team of instructors that taught an AIAA Professional Short Course on "Robust Multivariable Control: Theory and Practice," held in August 1992. He was on the technical program committees for 1992 ACC and CCA, and serves as a society review chairman for AIAA for the 1993 ACC.

Book Announcements Editor



ANDREW J. KURDILA received his Bachelor of Science in Applied Mechanics from the University of Cincinnati in June of 1983. He subsequently entered the University of Texas at Austin in August 1983 and earned his Master of Science Degree in Engineering Mechanics the following year, specializing in structural dynamics and experimental modal analysis. After working as a research engineer at the Structural Dynamics Research Corporation, he entered the Department of Engineering Science and Mechanics at Georgia Institute of Technology as a Presidential Fellow. He earned his Ph.D. in January 1989. Currently, Dr. Kurdila is a faculty member in the Department of Aerospace Engineering at Texas A&M University. His current research is in the areas of computational mechanics, dynamical systems, and control theory. His most recent work has been in the control of partial differential equations and adaptive control for nonlinear dynamical systems. He is currently a member of the AIAA Astrodynamics Technical Committee, the Center for Approximation Theory in the Department of Mathematics at Texas A&M University, and The Center for Composites of Materials at Texas A&M University.