## **Farewell**

BEGAN the job of Editor-in-Chief of the *Journal of Guidance*, *Control*, *and Dynamics* four years ago in January 1992. My predecessor, Dr. Donald Fraser, held the job for 14 years. Unfortunately, my tenure will not be that long. Other commitments and needs have arisen and make it necessary for me to move on to other challenges and turn the helm over to someone else At this time my successor has not been named, but we have several excellent candidates. The new Editor-in-Chief will be introduced in the next issue.

When I began this job in 1992, Desert Storm had just ended and the aerospace business was in the midst of significant change, which is still occurring. We have seen the number of aerospace workers reduced by 30–40% since the maximum in the late 1980s. Our government laboratories and NASA are still undergoing reductions. However, we are seeing the emergence of a viable commercial space business. All of these changes have had some impact on the journal. Throughout this turmoil and reduction of the business base, the number of papers submitted has remained constant.

Reflecting back to my editorial in January 1992, I stated that I had the following three goals:

- Maintain the quality of the journal.
- Minimize the time from submission to publication of papers.
- Continue to emphasize publication of applications-oriented papers.

I believe the quality of the journal has been maintained; however, it is you, the reader of the journal, who rates the quality. If the number of papers being submitted is a measure, it has certainly been maintained. My goal has been to get the time from submission to publication to less than one year. We have not achieved this goal; however, we have reduced it by about four months. The AIAA has solved some of its budget problems; we are now publishing more pages and have been able to reduce the backlog. We have made some progress in reducing the review time, but it has been more difficult because obtaining reviews continues to be a challenge. There are fewer potential reviewers as a result of the reduction in employment, but the number of papers has remained constant. I want to thank the reviewers for the job they have done because it is their contribution that maintains the high quality of the journal. Guidance, control, and dynamics is a field of theory and applications, and the Journal of Guidance, Control, and Dynamics needs to reflect a balance between these. The downsizing of our aerospace business has had a significant impact in this area. We depend on industry and our government laboratories for the majority of these applications papers, and publication of papers does not have the priority in industry that it once did. Maintaining this balance will be one of the major challenges of my successor.

These past four years as the Editor-in-Chief have been challenging, but very rewarding. I have had the opportunity to broaden myself professionally, make new friends, work with very dedicated and highly qualified Associate Editors, and work with a very dedicated and qualified AIAA staff under Norma Brennan. As the aerospace industry downsized, so did the AIAA staff, but the magnitude of their work did not decrease. As a result of their hard work, we have been able to reduce the backlog in papers waiting to be published.

Our Associate Editors serve three years, and each January brings changes to this team. This year Dr. Dallas Denery of NASA Ames, Dr. David Hyland of the Harris Corporation, Dr. Andy Kurdila of Texas A&M, Dr. Gary Slater of the University of Cincinnati, Dr. Kenneth Sobel of the City College of New York, and Dr. R. K. Yedavalli of Ohio State University are retiring. I want to thank them for their time and dedicated service to the Journal of Guidance, Control, and Dynamics. Replacing them will be Dr. Gary Balas of the University of Minnesota, who will be responsible for papers in control theory and control of flexible structures; Dr. Glenn Creamer of Swales and Associates, who will be responsible for papers in spacecraft attitude control and determination; Dr. K. Krishnakumar of the University of Alabama, who will be responsible for papers in flight control, neural networks, genetic algorithms, and fuzzy logic; Dr. Ping Lu of Iowa State University, who will be responsible for papers in nonlinear control theory and trajectory optimization; Dr. M. Bala Subrahmanyam of the Naval Air Warfare Center, who will be responsible for papers on aircraft control and robust control; Dr. Trevor Williams of the University of Cincinnati, who will be responsible for papers in flexible structure control and system identification; and Dr. Michael Ross of the Naval Postgraduate School, who will be our new Book Announcements editor. I welcome them to these positions, and I turn over to my successor an excellent team of Associate Editors. I want to take this opportunity to acknowledge the contribution of Mr. Steve Osder to the Journal of Guidance, Control, and Dynamics. I have just reappointed Steve to another term as Associate Editor. He has been an Associate Editor since the inception of the journal in 1978. 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 from October 1, 1994, through September 30, 1995. 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



KYLE T. ALFRIEND received his B.S. degree from Virginia Polytechnic Institute and State University in 1962, his M.S. from Stanford University in 1964 and his Ph.D. from VPI&SU in 1967. All degrees were in Engineering Mechanics. He has been with General Research Corporation since 1985 but is currently a visiting professor at the U.S. Naval Postgraduate School as the Navy TENCAP Space Chair. He has worked previously at the Naval Research Laboratory, as an Assistant Professor in the theoritical and Applied Mechanics Dept. at Cornell University and at Lockheed Missiles and Space Co. His primary technical interest are spacecraft attitude dynamics and control, orbital mechanics and orbital debris. He is a Fellow of the AIAA and AAS and has been Editor-in-Chief of JGCD since 1992. He was previously Editor-in-Chief of the Journal of the Astronautical Sciences and Chairman of the AIAA Astrodynamics technical Committee.

## Announcement to Authors

The guidelines for submission of manuscripts to the AIAA journals specify that manuscripts should be typed double spaced. The double-spaced format is required so that the editors and reviewers can make editorial comments on the manuscript. In the past, we have permitted submission of the double-column format for papers that have been presented at a conference. We allowed this format so that authors would not have to type their papers twice for presentation and submission to a journal. However, with word processors, preparation of a double-spaced manuscript requires only reformatting and printing the paper. Therefore, in the future all papers submitted to the *Journal of Guidance*, *Control, and Dynamics* must be typed double spaced with a 12-point font. Any papers not submitted in this format will be returned to the authors.

## **Associate Editors**



**DR. BRIJ AGRAWAL** is a Professor in the Department of Aeronautics and Astronautics at the Naval Postgraduate School, Monterey, CA. Before joining the Naval Postgraduate School in 1989, he worked for 10 years at COMSAT Laboratories and 10 years at INTELSAT in spacecraft research and development. He received his Ph.D. from Syracuse University in 1970. He has written a text book on spacecraft design. His current areas of interest are spacecraft system design, attitude control of flexible spacecraft, smart structures, and space robotics.



S. N. BALAKRISHNAN is currently an Associate Professor of Aerospace Engineering in the Department of Mechanical and Aerospace Engineering and Engineering Mechanics at the University of Missouri-Rolla (UMR). He received his bachelor's degree in Aeronautics at Madras Institute of Technology, India. He received his M.S. and Ph.D. degrees in Aerospace Engineering at the University of Texas at Austin. Dr. Balakrishnan's professional experience includes Lead Engineer, Lockheed Electronics Company, Houston, Texas, where he worked in the space shuttle program; Scientist and Fellow, Center for Space Research, University of Texas at Austin, where he worked on Autonomous Navigation of Multiple Satellites and Multiple Target Estimation; Faculty Research Fellow, Wright Laboratory (Eglin Air Force Base, Florida), where he was involved in Integrated Missile Guidance/Autopilot Design and Automatic Target Recognition, and Indian Space Program, where he worked on Flight Mechanics-related topics. He teaches stability and control and advanced control courses at UMR. His research activities focus on neural networks in trajectory optimization, control and design, control of time-varying systems, missile guidance and self-repairing control and multiple target-multiple sensor problems and estimation. He has authored/co-authored about 45 journal and referred conference papers in these areas. Dr. Balakrishnan is a member of AIAA Guidance, Navigation, and Control Technical Committee and an Associate Fellow of the AIAA.



GARY J. BALAS received the B.S. and M.S. degree in civil and electrical engineering from the University of California, Irvine, and the Ph.D. degree in Aeronautics from the California Institute of Technology in 1990. Since 1990 he has been a faculty member in the Department of Aerospace Engineering and Mechanics at the University of Minnesota and from 1993–1995 he held the McKnight-Land Grant Professorship. He is currently Director of Graduate Studies and Co-Director of the Control Science and Dynamical Systems Center at the University of Minnesota. Dr. Balas is a co-organizer and developer of the MUSYN Robust Control Short Course and the μ-Analysis and Synthesis Toolbox used with MATLAB and the president of MUSYN Inc. His research interests include: control of flexible structures, flight control, and use of shape memory alloys for passive and active control, model validation and industrial applications of robust control methods.



ARUN K. BANERJEE is a Consulting Engineer in the Dynamics and Control Organization at the Lockheed Martin Research Laboratory, Palo Alto. At Lockheed since 1982, his principal work has been in multibody elastodynamics. For his work on motion-induced stiffness of articulated structures, he received the Engineer of the Year award in 1990 from AIAA, San Francisco Chapter, and was invited by the European Space Agency to give a Survey Lecture in multibody dynamics in 1992. Previously, he worked for Martin-Marietta on tethered satellite dynamics and control, and for Northrop on the atmospheric descent of parachuted shuttle boosters. He received a B.S. in Mechanical Engineering in 1962 from Bengal Engineering College, India, and was a Lecturer through 1964-69 at the Indian Institute of Technology, Kharagpur, where he also received a Ph.D. in Mechanical Engineering in 1969. Subsequently, he obtained a Ph.D. in Engineering Mechanics from the University of Florida in 1972, and a Master's in Controls from Stanford in 1986. His research interests include computational dynamics, slewing and vibration control, and nonlinear control. Dr. Banerjee is an Associate Fellow of the AIAA.



HAIM BARUH is an Associate Professor in the Department of Mechanical and Aerospace Engineering at Rutgers University. He received his B.S. degree in Mechanical Engineering in 1976 from Bogazici University in Istanbul, Turkey, and his M.S. and Ph.D. degrees in Engineering Mechanics in 1978 and 1981, respectively, from Virginia Polytechnic Institute and State University. Prior to joining Rutgers in 1983, he worked as a Visiting Assistant Professor at Virginia Polytechnic Institute and State University. His research interests include modeling of control of flexible spacecraft and robots, parameter identification, control of systems described by constrained coordinates, smart structure, detection of structural damage, and aircraft structural analysis. He is a member of AIAA and Sigma Xi and he currently serves as Education Officer in the AIAA Princeton Section.



**EUGENE M. CLIFF** was awarded the B.S. degree by Clarkson University in 1965 and the Ph.D. by the University of Arizona in 1970. He served on the faculty at Arizona for two years and moved to Virginia Polytechnic Institute and State University in 1971. Currently, he is the Reynolds Metals Professor in the Aerospace and Ocean Engineering Department. His research interests center on optimal control and optimization with applications to trajectory shaping, optimal design, and control of distributed parameter systems. He is an Associate Fellow of the AIAA.



N. GLENN CREAMER received his B.S. degree from Texas A&M University in Aerospace Engineering (1981), his M.S. degree from Virginia Tech in Engineering Science and Mechanics (1982), and his Ph.D. degree from Virginia Tech in Engineering Science and Mechanics (1987). Dr. Creamer worked at General Dynamics from 1982 to 1983 in the Composite Structures Group, and at General Research Corporation from 1987 to 1988 in the field of orbital mechanics. He has been at the Naval Research Laboratory in the Spacecraft Engineering Department since 1989 where he has worked on numerous spacecraft programs in the areas of attitude determination and control, Kalman filtering, and smart structures technology. Dr. Creamer is a member of AIAA and ASME, and a current member of the AIAA Technical Committee on Guidance, Navigation, and Control.



SANJAY GARG received the Bachelor of Technology degree in Aeronautical Engineering from the Indian Institute of Technology, Kanpur, India, in 1980, the M.Sc. degree in Aerospace Engineering from the University of Minnesota in 1982, and the Ph.D. degree in Aeronautics and Astronautics from Purdue University in 1988. Dr. Garg has worked at NASA Lewis Research Center, Cleveland, Ohio, since 1988, first as a controls engineer with Sverdrup Technology Inc. and then as a NASA employee since 1991. He led the program to develop an advanced Integrated Flight/Propulsion Control (IFPC) design methodology and demonstrated the methodology by application to Short Take-Off and Vertical Landing (STOVL) aircraft. He is the group leader for integrated controls activities at the Advanced Controls Technology Branch and is responsible for technical management of a multicenter NASA program to flight validate advanced integrated control design methodologies. His research interests include all aspects of application of modern multivariable robust control design techniques to aerospace vehicles. Dr. Garg is a senior member of IEEE, Associate Fellow of AIAA, and a past member of the AIAA technical committee on Guidance, Navigation, and Control. He served as the technical program chairman for the 1993 AIAA Guidance, Navigation, and Control Conference.



CHRISTOPHER D. HALL is an Assistant Professor of Aerospace and Systems Engineering at the Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. He received his B.S. degree in Aerospace Engineering at Auburn University (1984), his M.S. degree in Systems Engineering at the Air Force Institute of Technology (1988), and his Ph.D. in Theoretical and Applied Mechanics at Cornell University (1992). Dr. Hall has worked as a telecommunications technician and as a satellite systems engineer. He has held his current position since January 1992, teaching courses in control theory, mechanics, spacecraft dynamics and control, nonlinear differential equations, and systems design. His research interests are primarily in spacecraft attitude dynamics and control, and he has published several papers in this area. He is the Institute's representative on the Ohio Space Grant Consortium, a Senior Member of the AIAA and the AAS, and is currently serving on the AIAA Astrodynamics Technical Committee, as well as its subcommittee on Education.



FELIX R. HOOTS received his B.S. in Physics (1969) and his M.S. in Mathematics (1971) from Tennessee Technological University and his Ph.D. in Mathematics (1976) from Auburn University. He began his professional career in Civil Service as a Mathematician for the 14th Aerospace Force headquartered in Colorado Springs, Co. His research there involved development of analytical models for: satellite orbit prediction with atmospheric drag, ground site visibility, and satellite close approach prediction. In 1986 he joined General Research Corporation and now serves as the Director of the Astrodynamics and Operations Support Center. Dr. Hoots has published papers in the leading technical journals, has reviewed numerous papers for these journals, and has taught both short courses and full semester courses in Astrodynamics, Engineering Mathematics, and Partial Differential Equations for the University of Colorado. He is an Associate Fellow of American Institute of Aeronautics and Astronautics, has served on its Astrodynamics Technical Committee, and has served as General Chairman for the annual Astrodynamics Conference. He is a member of the American Astronautical Society (and currently serves on its Space Flight Mechanics Technical Committee), Kappa Mu Epsilon (Mathematics Honor Society), and Phi Kappa Phi (Scholastic Honor Society).



K. KRISHNAKUMAR is currently an Associate Professor of Aerospace Engineering and the Director of the Intelligent Control Laboratory at The University of Alabama, Tuscaloosa. He received his Bachelor of Technology degree in Aeronautical Engineering from the Indian Institute of Technology, Madras, India, in 1982, and the Ph.D. degree in Aerospace and Electrical Engineering from the University of Alabama, Tuscaloosa, in 1988. Dr. KrishnaKumar is currently responsible for teaching courses in Intelligent Control, Aircraft and Spacecraft Dynamics and Control, and Optimal Control. His research interests include immunized artificial systems, computational intelligence methods and their application to adaptive control, structural control, optimal control, optimal estimation, and automated manual training. He has organized several tutorial workshops and short courses on evolutionary algorithms and fuzzy logic. He is a member of AIAA artificial intelligence technical committee, SAE simulation technologies committee, and the Journal of Aircraft editorial board. Dr. KrishnaKumar is a Senior Member of AIAA and member of IEEE, INNS, and IFSA. He has authored more than 50 refereed papers and book chapters in these areas and is currently co-authoring a book on soft computing to be published by Oxford Press in 1996.



**PING LU** is presently an Associate Professor of Aerospace Engineering and Engineering Mechanics at Iowa State University. He received his Bachelor's degree from the Beijing Institute of Aeronautics and Astronautics, China, in 1982, and his M.E. and Ph.D. degrees in Aerospace Engineering from the University of Michigan in 1984 and 1988, respectively. He worked as a postdoctoral research fellow from 1988 to 1989 at the University of Michigan. Since 1990, he has been with Iowa State University. His research interests include nonlinear control theory and applications, trajectory optimization, and guidance. He is a senior member of AIAA, and currently a member of the AIAA Technical Committee on Guidance, Navigation, and Control.



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 12 years, he has also served as a consultant in several of these areas. 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. 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).



**DR. VINOD J. MODI** received a bachelor's degree in mechanical and electrical engineering from Bombay University in 1953. Recipient of several fellowships, he obtained his M.S. at the University of Washington (1956) and Ph.D. from Purdue University (1959), both in aerospace engineering. He is currently a professor emeritus at the University of British Columbia, Canada. Dr. Modi's contributions to the fields of aerospace engineering, aerodynamics, biomechanics and ocean engineering are recognized worldwide. His versatility is reflected through research in areas as diverse as the human heart to the space station based mobile robotic manipulators. Dr. Modi has served as consultant to a number of industrial and government agencies including the United Nations. His contributions are recognized by a number of international awards including: the CANCAM Award (1985); B. C. Science Council's Gold Medal (1986); University of British Columbia's 75th Anniversary Commemorative Medal (1991); Dirk Brouver Award (1991); the McCurdy Award (1993); and Distinguished Alumnus Award (1995). He has been a member of the Spaceflight Mechanics Committee (AAS, 1981–1995), Astrodynamics Technical Committee (AIAA, 1980–1984, 1989–1993, 1995–Present), and the Astrodynamics Committee of the International Astronautical Federation (1984–1994, Chairman 1991–1994). He is a fellow of the AAS, AIAA, ASME, the Canadian Aeronautics and Space Institute, the Royal Society of Canada, as well as a member of the International Academy of Astronautics.











VIVEK MUKHOPADHYAY received his S.M. and Sc.D. in Aeronautics and Astronautics from the Massachusetts Institute of Technology in 1972. He is presently a senior research engineer in Aeronautical Systems Analysis Division at NASA Langley Research Center and is also an Adjunct Associate Professor at George Washington University. He has 25 years of research and teaching experience in the areas of aircraft and spacecraft structural dynamics, aeroelasticity, stability and control, active flutter suppression and gust load alleviation. He was a contributing author to the Academic Press series Advances in Controls and Dynamics. His research interests include practical application of optimal control and optimization techniques in active control of aeroelastic effects; feasibility study of blended wing-body (BWB) very large subsonic transport (VLST) concepts with static margin augmentation, ride quality control and gust local alleviation. He is an Associate Fellow of AIAA.

STEPHEN OSDER is currently an independent consultant in guidance, controls, and avionics systems design, having retired from McDonnell Douglas Helicopter Systems, where he was a Corporate Fellow. He has a B.E.E. from the 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 Controls and Avionics and was responsible for advanced development in rotorcraft flight control, fire control, navigation, and related avionics. He spent many years at Sperry Flight Systems (now Honeywell), where he was Director of Research and Development. His contributions have been in guidance and control systems for transports, fighters, bombers, helicopters, missiles, re-entry vehicles, spacecraft, and UAVs. He has published many papers on fly-by-wire systems, fault tolerant computer technology, avionics architectures, and guidance and navigation, and he holds 16 patents in related areas. He is an Associate Fellow of the AIAA and a member of the IEEE and the AHS, and he has been Associate Editor of the Journal of Guidance, Control, and Dynamics since the Journal's inception.

STEPHEN M. ROCK is an Associate Professor in the Department of Aeronautics and Astronautics at Stanford University. He received his S.B. and S.M. degrees in Mechanical Engineering from the Massachusetts Institute of Technology in 1972 and his Ph.D. degree in Applied Mechanics from Stanford University in 1978. At Stanford, Dr. Rock teaches courses in dynamics and control and pursues research in two main areas. The first is the application of advanced control techniques for robotics. Areas of emphasis include precision end-point control in the presence of flexibility and uncertainty; object oriented control; and cooperative control of multiple manipulators. Dr. Rock's second research area is vehicle control. This includes underwater remotely operated vehicle control and integrated flight/propulsion control for both fixed and rotary wing aircraft. Prior to joining the Stanford faculty, Dr. Rock worked for Systems Control Technology (1977 through 1988). There he performed and led research in four main areas: integrated control; fault detection, isolation and accommodation; turbine engine modelling and control; and parameter identification.

MICHAEL ROSS obtained his doctorate in Aerospace Engineering in 1990 from the Pennsylvania State University and thereafter joined the U.S. Naval Postgraduate School (NPS) as an Adjunct Professor in the Department of Aeronautics and Astronautics. Since 1992 he has held a joint appointment with NPS' Space Systems Academic Group as an Assistant Professor. His research interests are in the applications of singular optimal control theory to spacecraft trajectory design and guidance, synergetic maneuvers, and the stability of dual-spinners. As the Project Lead of PANSAT, a small communications satellite being built at NPS, his work is also involved in the systems engineering of a low-cost spacecraft. He is a member of the AIAA Astrodynamics Technical Committee and the AAS Spaceflight Mechanics Technical Committee. He is also a senior member of AIAA, and a member of AAS, SIAM and Sigma Xi.

M. BALA SUBRAHMANYAM was born in the state of Andhra Pradesh, India in 1949. He received the B.S. (1970) degree in Electrical Engineering from the Regional Engineering College, Warangal, India and the M.S. (1972) and Ph.D. (1975) degrees in Electrical Engineering from the University of Iowa, Iowa City. Dr. Subrahmanyam has held faculty positions at Texas A&M University, Kingsville and the University of Missouri–Columbia. Since 1987 he has been with the Flight Control Branch of the Naval Air Warfare Center in Warminster, PA as a Senior Engineer, working in the area of research and development of flight control systems of advanced Naval aircraft. Dr. Subrahmanyam's research interests include the areas of Guidance and Control problems of aircraft,  $H_{\infty}$  control and optimal control. He has published over 30 journal papers in these areas. In addition, he has also written the books "Optimal Control with a Worst-case Performance Criterion and Applications" (Springer–Verlag: 1990) and "Finite Horizon  $H_{\infty}$  and Related Control Problems" (Birkhäuser: 1995). He is a Senior Member of AIAA and IEEE.



TREVOR W. WILLIAMS received his B.A. from the University of Oxford in 1976, his M.Sc. from the City University in 1978, and his Ph.D. from Imperial College, London, in 1981. He then carried out postdoctoral research on numerical methods for control at Kingston Polytechnic in England and on the control of flexible space structures at NASA Langley Research Center as an NRC Senior Research Associate. Dr. Williams joined the faculty of the University of Cincinnati in 1989, where he is currently Associate Professor of Aerospace Engineering and Engineering Mechanics. He teaches courses in spacecraft attitude dynamics, orbital mechanics, control systems, and the dynamics and control of flexible structures. His current research interests lie in two main areas. The first is the dynamics and control of flexible structures, for instance, problems associated with model truncation and sensor/actuator placement. The second area involves various orbital perturbation and attitude dynamics questions connected with operations of manned and unmanned EVA systems in close proximity to an orbiting station. He has held visiting faculty positions at Phillips Laboratory and NASA Johnson Space Center and is a Senior Member of AIAA and IEEE.

## Reviewers for the Journal of Guidance, Control, and Dynamics—1995\*

Abusali, P. A. M. Aiken, E. W. Alfriend, K. T. Amos, A. Anderson, M. R. Anthony, T. Apkarian, P. Ashokkumar, C. R.

Bainum, P. M. Baker, J. M. Balakrishnan, S. N. Balas, G. J. Ballhaus, W. L. Banda, S. Banerjee, A. K. Banjerdpongchai, D. Barron, R. Bauer, C. J. Becus, G. Belcastro, C. Beltracchi, T. Ben-Asher, J. Bender, D. J. Bergmann, E. Bernstein, D. Betts, J. Bibel, John Bilimoria, K. Bishop, R. Blanken, C. L. Blue, P. A. Bocvarov, S. Boden, D. Boozer, D. Bom, G. H.

Caldwell, D. Calise, A. J. Carlton-Wippern, K. Carter, L. H.

Bossi, J. A.

Bryson, A. E.

Brenan.

Burns, S.

Byers, R.

Carter, T. E.
Chang, B. C.
Chang, C. J.
Chapman, J. M.
Choe, K.
Cliff, E. M.
Cloutier, J. R.
Cochran, J.
Colgren, R.
Colombano, S.
Conway, B.
Coverstone-Carroll, V.

Craig, R. R.

Crassidis, J.

Culick, F.

D'Eleuterio, G. M. T. Denery, D. G. Diwekar, A. Dowdle, J. K. Dubowski, S. Durham, W. Duyar, A.

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Eisler, R.
Emami-Naeini, A.
Enright, P. J.
Erwin, R.
Euler, E. A.

Farrar, R. Feron, E. Feteih, S. Fitz-Coy, N. Franklin, J. A.

Gardiner, J.
Garrard, W. L.
Gilbert, M.
Glover, R.
Goldstein, J.
Gray, C.
Grewal, M.
Grimm, W.

Gu, G. Gupta, S. Habiani, H.

Haddad, W. Haftka, R. Hall, C. Hallman, W. Hanff, E. S. Heck, B. Heller, W. Henkel, E. Hoffman, H. Hou, G. Hreha, M. Huang, C. Y. Huang, J. Hubert, C. Huddle, J. Hughes, P.

Ingle, S. J. Inman, D. J. Iwens, R.

Huttsell, L.

Hyland, D.

Jacques, D. Jahnke, C. Jezewski, D. J. Johnson, C. D. Jones, S. Joshi, S. M. Juang, J.-N.

Kamel, A. A.
Kaminer, I.
Kammer, D.
Karasopoulos, H.
Kato, O.
Kaufman, H.
Kechichian, J.
Kelkar, A.
Kelley, J. H.
Kelley, R.

Kelly, T.

Kern, F.
Khatib, O.
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Kinsey, R.
Kluever, C. L.
Krishnakumar, K.
Kuehne, B. E.
Kumar, R. R.
Kurdila, A.

Laskin, R.

Lazedo, S. Leitner, J. Li, D. Liebst, B. Lilly, J. H. Lim, T. W. Lin, C.-F. Lin, K.-C. Livne, E. Long, L. N. Lorenzini, E. Lu, P. Lubkowski, D. Lundberg, J. Lutze, F. H. Ly, U.-L.

Maghami, P. Maridey, F. L. Mazzoleni, A. McClamroch, N. H. Mease, K. Meirovitch, L. Menon, P. K. Merz, A. Metzger, E. Meyer, G. Meyer, J. L. Mills, R. A. Milman, M. Mingori, D. L. Misra, A. K. Mitchell, L. Modi, V. J. Montgomery, R. C.

<sup>\*</sup>This list represents names received through October 1995. We regret any inadvertent omissions.