A Look Back and a Look Forward

SINCE January 1990, some important changes have occurred to the *Journal of Spacecraft and Rockets*. Some Associate Editors have departed the editorial group, some new Associate Editors have been added, and the staff in Washington has stabilized. More will be found in this editorial on the personnel now charged with review, evaluation, and publication of *JSR*.

Before I present the Associate Editors, I want to call attention to some other changes during the past year. The Publications Committee has approved two experiments that *JSR* will conduct during the period September 1, 1990 to January 15, 1993.

Since 1963 AIAA has had a system of voluntary publications charges. The author's organization is requested to pay a publication charge of $825 per full-length article, $350 per Note, and $250 per Synoptic or Comments (no charge for Reply to a Comment). Payment of publication charges entitles authors to 100 free reprints.

During the past few years costs of publication have increased substantially. During the same time, more papers have been published in the AIAA journals. And because of library budget constraints, library subscriptions have been declining for all technical societies including AIAA.

A two-track system was established effective September 1, 1990, for all papers submitted for publication in *JSR*. For all papers submitted after that date, the following applies: If the author's organization agrees in writing to pay voluntary publication charges, the author's paper will go into Track A, otherwise the paper will be placed into Track B. All papers in Track A will be published before those in Track B.

At the AIAA Publications Committee meeting in Reno on January 10, 1991, approval was given to permit *JSR* to test for a two-year period permitting publication of over-length papers, if the author's organization agrees to pay normal publication charges *plus* $200/journal page over the usual full-length article of seven journal pages. Both the two-track system and the over-length option will run until January 15, 1993.

Authors of over-length papers are given three options: 1) If the author's organization agrees to pay the normal publication charge plus $200/journal page over seven pages, the paper will go into Track A; 2) If the organization agrees to pay normal publication charges but not the excess charge, the paper must be reduced to not more than 36 units or seven journal pages and go into Track A; and 3) If the organization does not agree to pay publication charges, the paper must be reduced to 36 units and will go into Track B.

Because *JSR* is an applications journal, many papers contain several figures and tables of data necessary for complete description of the material. The approval of over-length papers will permit publication of needed data for complete documentation of results.

During the period September 1 to December 31, 1990, 46 papers were received. Thirty author's organizations agreed to pay publication charges, only 2 said they would not pay, and 14 did not respond. No response is counted as not agreeing to pay, and those papers will go into Track B. This agreement to pay publication charges is considered very good.

We hope the above will increase submission of more high quality papers to *JSR*. Thus far, indications are that authors like the two-track system, and I hope we have a positive experience with the over-length paper options.

If you have papers which fall under the Scope of this journal, I encourage you to send me your paper for publication. See the instructions on the inside back cover of any issue of this journal.

During 1990, some Associate Editors completed their commitment and retired. We say thanks for a job well done to David Allen, Henry Garrett, and Walter Sturek. Since January 1990 Gerald Chrusciel, James Daywitt, Susan Fuhs, Antoni Jakubowski, Earl Thornton, Alfred Vampola, and Vince Zoby have become Associate Editors of *JSR*. For the first time, pictures and biographical sketches of the AEs are given in a *JSR* editorial. We hope this information will make it easier for authors and AEs to communicate in writing and at AIAA meetings.

My thanks to Norma Brennan, Director of the AIAA Editorial and Production Departments, and Susanne Payne, Production Editor for *JSR*. Norma keeps me straight on publication policy and procedure, and Susanne gets our papers edited and published. We need and appreciate the efforts of both.

Of course, without authors there would be no journal. Also, without reviewers there would be no peer-reviewed journal. We appreciate the help and cooperation of all contributors for the past year. A list of reviewers for the year ending in October 1990 is given at the end of the editorial.

I believe we have in place the vehicle and people to make *JSR* a better journal in 1991. With your contributions we can improve the quality and service to our aerospace community.

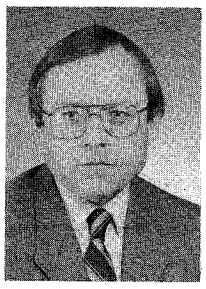
Clark H. Lewis
Editor-in-Chief

Editor-in-Chief

CLARK H. LEWIS is President of VRA, Inc., in Blacksburg, Virginia. He received his B.S.M.E., M.S., and Ph.D. in Engineering Science from the University of Tennessee. From 1951 to 1968 he was in the von Kármán Gas Dynamics Facility at the Arnold Engineering Development Center in Tennessee. From 1968 to 1985 he was Professor of Aerospace Engineering at Virginia Polytechnic Institute and State University. He started VRA, Inc., in 1984, developing computational fluid dynamics codes for the government and the aerospace industry. He has over 200 publications and technical reports to his credit, mainly in the areas of supersonic/hypersonic aerothermodynamics, thermophysical gas properties, high-speed vehicle performance, ablation, and mass transfer. Dr. Lewis is an Associate Fellow of AIAA and a member of ASME and APS. He was an Associate Editor of the *Journal of Spacecraft and Rockets* from 1983–1989 and has served on the AIAA Fluid Dynamics and Thermophysics Technical Committees.

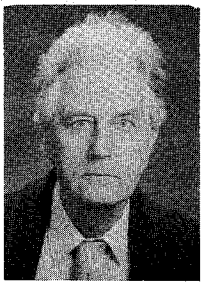
Associate Editors

GERALD T. CHRUSCIEL started with the Lockheed Aircraft Corp. in 1955 and has been associated with the Lockheed Missiles and Space Co., Inc., since 1958. He received his B.S. degree in Aeronautical Engineering from the University of Illinois at Urbana. He supervised the groups responsible for aerodynamic design and dynamic analysis of re-entry systems for the Polaris and Poseidon Fleet Ballistic Missiles. He was responsible for development of technology basic to the design, flight test analysis, and performance modeling of the re-entry vehicles utilized for the Trident I and II Fleet Ballistic Missiles. Included in these developments were coupled effects of outgassing and dynamics on high α aerodynamics, analysis techniques for extracting transient aero behavior, and rarefied flow slip effects applicable to continuum analysis. He is a staff engineer in the Aero-Thermodynamics department, served on the AIAA Applied Aerodynamics Technical Committee, and is an Associate Fellow of the AIAA.



JAMES E. DAYWITT joined GE Re-entry Systems in 1978 as a research engineer in the Aerothermophysics Unit. Prior to that he held computational fluid dynamic research positions at NASA Ames Research Center and ICASE at NASA Langley. He received B.S. (1970), M.S. (1974), and Ph.D. (1977) degrees in Aerospace Engineering from Iowa State University. His work at GE involves the development and application of numerical methods for supersonic and hypersonic flows, coupled with techniques for their theoretical and experimental validation. He has developed, documented, and applied flow-field techniques for the analysis of a variety of ballistic and maneuvering re-entry vehicles and hypersonic projectiles. Currently he is developing algorithms to improve the accuracy and capability of parabolized Navier-Stokes codes to treat high lift-to-drag vehicles, chemically reacting body-and-wake flow fields, and aero-optic effects on sensor performance. Since 1985 he has headed the Aerodynamics Group, which is responsible for the aerodynamic analysis of all GE re-entry vehicles and hypersonic projectiles. He has authored numerous publications and reports and served as an Adjunct Professor in the Mechanical Engineering Departments at Drexel University and the University of Pennsylvania. Dr. Daywitt is a past member of the AIAA Fluid and Plasmadynamics and the Applied Aerodynamics Technical Committees and is currently Chairman of the AIAA Greater Philadelphia Section.

SUSAN E. FUHS is a senior development engineer at Allied-Signal Aerospace Company, AiResearch Los Angeles Division. She has a B.S. in Chemical Engineering and a Ph.D. in Mechanical Engineering from the California Institute of Technology. She currently works on advanced life support for future manned space missions. Her AIAA activities include serving as secretary of the Space Systems Technical Committee.

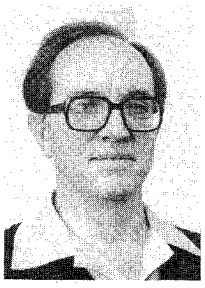


ANTONI K. JAKUBOWSKI received an M.S. degree in Mechanical Engineering from the Cracow Technical University in Poland in 1949. During his 15 years at the Aeronautical Institute (Instytut Lotnictwa, Warsaw), he designed and supervised construction of three high-speed wind tunnels and various instrumentation for aerodynamic research. His last four years in Poland included serving as the Head of the Aerodynamic Department and a long fellowship at SIBNIA (Siberian Aerospace Research Institute) in Novosibirsk, USSR, where he was involved in supersonic diffuser studies. (He was there as one of the first foreign fellows admitted to a Soviet aerospace research facility.) After coming to the United States in 1965, he joined the faculty at Virginia Tech and received a Ph.D. degree in Aerospace Engineering from the North Carolina State University in 1970. Dr. A. K. Jakubowski participated in and directed sponsored research projects, published and presented papers in the fields of fluid dynamics and power systems. Throughout his tenure, he maintained and cultivated his interest in the design field by designing models for NASA, designing installations for aerodynamic studies, and, more recently, doing conceptual studies of space systems such as radioisotope Stirling engine, orbital transfer vehicles using laser propulsion and solar sail. His students participating in AIAA and other design competitions have won numerous awards and prizes during the last 12 years. He is an Associate Fellow of the AIAA and currently a member of the Space Systems Technical Committee.

JAMES A. MARTIN graduated from West Virginia University in 1966 with a B.S. in Aerospace Engineering. He completed his M.S. in Aeronautics and Astronautics in 1967 at the Massachusetts Institute of Technology and returned for the Engineer of Aeronautics and Astronautics professional degree in 1969. He completed his D.Sc. in Flight Sciences from George Washington University in January 1982. His work at NASA Langley Research Center has been on advanced Earth-to-orbit transportation, including trajectory analysis, vehicle sizing, rocket and air-breathing propulsion, and cost estimation. Dr. Martin recently became Associate Professor of Aerospace Engineering at the University of Alabama, where he teaches design and propulsion.

PAUL F. MIZERA has been with The Aerospace Corporation in Los Angeles since 1967. Prior to assignment in the Programs Division, he worked over 20 years in the Space Science Laboratory. He received his B.S. degree in engineering physics from Washington University in 1960, and M.S. degree in physics in 1964 and a Ph.D. in nuclear physics in 1967 from the University of Washington. Dr. Mizera has extensive experience in experimental space sciences, having been associated with a number of space sciences instruments. He is presently a co-investigator on the PIXIE X-ray imager scheduled for flight in 1993 as part of the NASA ISTP program. He has over 30 publications in space sciences. He is an Associate Fellow of the AIAA, a past chairman of the Space Sciences and Astronomy Technical Committee, and currently is a member of the Space Operations and Support Technical Committee.

EARL A. THORNTON assumed the position of Professor of Mechanical and Aerospace Engineering at the University of Virginia in the fall of 1989. Prior to that time, he was a visiting scholar at the Texas Institute of Computational Mechanics at the University of Texas at Austin, a position he had held since 1987. He received a B.S. degree in engineering mechanics from Virginia Polytechnic Institute and State University in 1959, an M.S. degree from the University of Illinois in theoretical and applied mechanics in 1961, and a Ph.D. degree in engineering mechanics from VPI & SU in 1968. From 1969 to 1987 he was a professor in the Mechanical Engineering and Mechanics Department at Old Dominion University. At ODU, Professor Thornton had a long association with the NASA Langley Research Center where he was engaged in a variety of projects. Since 1978 he has been heavily involved in interdisciplinary research on flow, thermal and structural behavior of space structures, and high-speed flight vehicles. Professor Thornton is an Associate Fellow of the AIAA, a past member of the Thermophysics Technical Committee, and is currently a member of the Structures Technical Committee. The author of over 100 engineering publications, he is co-author of the text *The Finite Element Method for Engineers*. He is also currently the director of short courses on thermal stresses and thermoviscoplasticity for the AIAA.



ALFRED L. VAMPOLA received a Ph.D. in Physics in 1961 from St. Louis University in the field of low energy nuclear physics. For 28 years, he was active in space research at the Space Sciences Laboratory of The Aerospace Corporation, flying 34 experiments on 18 satellites and three rockets during that period, including an electron spectrometer on the CRRES satellite that was launched last July. He has been engaged in experimental studies of magnetospheric particle morphology, wave-particle interactions, modeling, and environmental effects on satellites. From 1984 to 1988 he served as an Associate Editor of the *Journal of Spacecraft and Rockets*. Prior to and subsequent to his tenure as Associate Editor, he also organized and edited special topical issues for *JSR* covering Spacelab experiment results, spacecraft charging, SCATHA spacecraft engineering results, and, most recently, solar cycle effects on the space environment. In 1986 he was a Visiting Fellow on the staff of the University of Otago in Dunedin, New Zealand. He has published approximately 50 papers in refereed journals and conference proceedings, is a member of the American Geophysical Union, and is an Associate Fellow of AIAA. He has served on a number of committees in the field of spacecraft interactions and the space environment, including AIAA, Air Force, and NASA ad hoc committees. He retired from Aerospace Corporation this past summer and is now an independent consultant.

ERNEST V. ZOBY is employed by NASA and has been at the Langley Research Center since 1962. He received his B.S.M.E. from Virginia Polytechnic Institute and State University and an M.S. in thermal engineering from Old Dominion University. Mr. Zoby has been responsible for developing and demonstrating the applicability of approximate codes that define the aerothermal environment about spacecraft at both Earth and planetary entry conditions. This work encompassed preliminary design and post-flight heating calculations for the RAM C, Re-entry F, Shuttle, and Venusian and Galileo vehicles. He has over 70 publications in the area of hypersonic aerothermodynamics to his credit, including studies for computing the equilibrium high temperature properties of gas mixtures and for the heat shield performance of entry probes. He is currently the Co-Principal Technologist for the Shuttle Infrared Leeside Temperature Sensing experiment, which provides a detailed mapping of the Shuttle leeside heat rates, and he is a member of the Aerodynamic Technology panel for the National Aerospace Plane. Mr. Zoby served on the AIAA Thermophysics Technical Committee and is an Associate Fellow of the AIAA.