

Ready for the '90s

IN this first issue of the last decade of the 20th century, it is instructive to review the status of the technologies covered by the *Journal of Propulsion and Power* and the role that *JPP* plays in discussing these technologies. There will be a special issue of *Aerospace America* in July 1990 that will discuss propulsion topics in detail; however, the broad spectrum of papers on propulsion-related topics recently published by *JPP* and those currently undergoing the archival review process gives an excellent perspective of such status.

One field that has shown marked improvement and has grown in its representation in *JPP* is that of electric propulsion. Several alternative concepts are at the stage where fundamental problems have been solved and the engineering studies to allow application to systems are in progress. Workers in this field have been fortunate to have the services of Graeme Aston as the responsible Associate Editor; they will be pleased to know that Graeme has agreed to handle this responsibility for another three years. I know that I speak for everyone in expressing my appreciation to him for his past service and for his willingness to continue to serve as Associate Editor.

Another area that is showing increased importance to *JPP* is that of droplets and sprays. This field is one that was envisioned as being key to the establishment of *JPP* as a full-spectrum journal. With the growth of improved diagnostic techniques, rapid strides are being made in the understanding of droplet phenomena and their relationship to the performance of combustors for propulsion applications and the generation of power. The performance of Rolf Reitz as the relevant Associate Editor has been a large factor in the growth of high-quality papers published by *JPP* in this field; obviously, workers in this arena have confidence in his ability to ensure that the best possible papers are made available to *JPP*'s readers.

The several aspects of fundamental combustion and its modeling are also receiving increased importance; especially significant is the growth of computational capability to predict and to analyze the flow inside solid-propellant rockets, ducted rockets, and ramjets. I am fortunate that my co-worker, Mickey King, is a leader in this field. He has been able to process papers effectively and to sort out the wheat from the chaff, so that the advances in the field are communicated effectively. Mickey has handled papers dealing with modeling of combustion of many processes, especially solid propellants.

Also represented in *JPP*'s pages have been articles dealing with advanced propulsion concepts, e.g., fusion, antimatter, etc. Here again, we are fortunate to have Herman Krier to process such work. Herman's ability to evaluate each novel concept without bias is important for the determination of the potential worth of each concept. In addition, he is familiar with individuals who can provide unbiased evaluations and, most important, Herman can put these evaluations in perspective prior to dealing with authors. Herman continues to handle many of the papers dealing with more conventional propulsion, such as the advances in solid rocket motor components. I was delighted that Herman agreed to serve another three-year term as Associate Editor of *JPP*. I would also like to publicly acknowledge his secretary, PJ (Pamela Broderick), who processes the necessary paperwork for him.

Another field fortunate enough to have an Associate Editor agreeing to stay for another three years is that of power; Henry Brandhorst has handled papers covering a wide spectrum of concepts in an exemplary manner. New approaches are being employed as the need for more efficient, lighter weight power-generation packages increases, and Henry has been able to deal with each of these in a thorough, professional manner. I am grateful to him for agreeing to continue his outstanding service to the Power community.

The general field of airbreathing propulsion covers a broad spectrum and has long played a significant role in *JPP*. Four of the busiest Associate Editors cover portions of this spec-

trum and are responsible for the increased importance of *JPP* as a leader in relevant literature. Jim Younghans, a charter member of the *JPP* staff, has continued to process papers over the entire spectrum; he has agreed to continue another year as a member of the staff. We all owe Jim (and his wife, Mary!) thanks for his continued service. Ed Greitzer has handled papers dealing with all of the aspects of flow in turbomachinery in an extremely efficient manner for the past three years. Because of his heavy workload in the Gas Turbine Lab of MIT, he is leaving the staff of *JPP*. We thank Ed for his role. I will miss working with Ed, with whom I have been personally acquainted since we both jogged through the streets of East Hartford. Fortunately, Alan Epstein, a colleague of Ed's, has agreed to join the *JPP* roster. Alan has been an active member of the Airbreathing Propulsion Technical Committee, published in *JPP*, and is widely known and respected. I welcome him to the staff and look forward to working with him over the next three years. An indication of the workload in this field is that an additional Associate Editor is being added to allow a more even distribution of the workload. This new AE, Bob Delaney, also ensures that the viewpoint of industry is being represented, since he is Chief of Advanced Turbomachinery for Allison Gas Turbines. He has published in *JPP* and is well respected for the application of CFD techniques to flow in turbomachinery. Continuing to serve are Ed Mularz and Walt O'Brien. I hope that the reliance I have placed on them and the resulting heavy workload has not affected our friendship! A special load was given to Ed by recent sessions dealing with hypersonic propulsion, with a consequent sudden increase in papers in that area. Likewise, the rapid increase in computational capabilities has given Walt some very busy times, especially when added to his duties as a professor, active researcher, and advisor to the VPI team which built a spectacular NASP model for the Paris Air Show.

Two other members of the *JPP* staff also have continued to function efficiently. Gabriel Roy has taken over the MHD field and has also begun to handle papers in the field of reacting flows, his current area of specialization. Dwayne McCay is absorbing the increasing flow of papers in the field of liquid-propellant rockets, as performance gains are made possible by recent improvements in technology. I look forward to continued cooperative ventures with these two respected researchers.

A new name has been added to the *JPP* masthead, that of Sheryl Krieger, the responsible Production Editor. In the short time that Sheryl has been with *JPP*, she has demonstrated cheerful, eager willingness to learn and is already up to full operating speed. Bill O'Connor continues to function quietly, but with great efficiency and competence. After 10 years as an Editor-in-Chief, I find it difficult to say anything new about Norma Brennan; on the other hand, to say that the journals of the AIAA could not function without her may be the most concise way to thank her for all the many ways in which she has supported me in the decade of the '80s and will continue to bail me out in the '90s.

This summary of the technologies covered by *JPP* gives some idea of the status of the application of concepts for the generation of power and for propulsion devices. I wish to thank those authors who have felt the Journal to be the proper outlet for their work. As we enter this decade, I feel that *JPP* is, indeed, ready to continue its role as a central figure in the dissemination of the most advanced technologies and of the application of these to practice. I also wish to express my thanks to those who play a crucial role in the archival process, namely, those who have served as reviewers in the past year. As always, I must state that merely listing their names is not really sufficient thanks for their services.

R. H. Woodward Waesche
Editor-in-Chief