Guest Editorial
Third Triennial Special Issue on Images in Plasma Science

AS THE PLASMA phenomena we investigate become more complex and dynamic, the need for visualization to fully appreciate those complexities becomes more acute. Great strides have been made in recent years in developing experimental imaging technologies and computational methodologies to capture those phenomena. In addition to aiding in the interpretation of experimentally, computationally, and theoretically produced data, these images are often works of art in their own right.

It is my pleasure to present to you the Third Triennial Special Issue on Images in Plasma Science. The purpose of the Special Issue is to highlight physically significant plasma phenomena through the aesthetics of images and visualization. The Special Issue contains nearly 100 critically unique images of plasma phenomena, encompassing the entire spectrum of plasma sources, pressure regimes and applications. The criteria for accepting contributions to the Special Issue were that they not only discuss a significant physics issue, but also that the images be aesthetically pleasing.

It is our hope that the Special Issue will serve as an introduction for the general public and nonexperts to the imagery of plasmas, and in doing so, peak their interest in the science and technology of ionized gases.

I would like to thank K. Collier, whose excellent organizational skills and diligence helped make this issue a success.

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Mark J. Kushner (F'91) received the B.A. degree in astronomy and the B.S. degree in engineering from the University of California at Los Angeles, and the M.S. and Ph.D. degrees in applied physics from the California Institute of Technology, Pasadena, in 1976, 1977, and 1979, respectively. He was a Chaim Weizmann Postdoctoral Research Fellow at the California Institute of Technology.

He served on the Technical Staffs of Sandia National Laboratory, Albuquerque, NM, and Lawrence Livermore National Laboratory, Livermore, CA, before joining Spectra Technology, Bellevue, WA,where he was a Director of Electron, Atomic, and Molecular Physics. In 1986, he joined the University of Illinois at Urbana-Champaign where he is currently the Founder Professor of Engineering in the Department of Electrical and Computer Engineering. He also holds appointments in the Departments of Physics, Materials Science and Engineering, Nuclear Engineering, Mechanical and Industrial Engineering, and Chemical Engineering. He has served as Assistant Dean of Academic Programs and Associate Dean of Administrative Affairs in the College of Engineering, and as interim Head of the Department of Electrical and Computer Engineering. He has authored more than 170 journal articles on topics related to plasma and thermal materials processing, gas and solid state lasers, pulse power plasmas, chemical lasers, and laser spectroscopy. In his present work, his group develops computer simulations for low temperature plasmas, plasma chemistry, industrial plasma equipment and plasma surface interactions. He serves on the Plasma Science Committee of the National Research Council, and is a member of the editorial boards of IEEE TRANSACTIONS ON PLASMA SCIENCE, *Plasma Sources Science and Technology*, and *Journal of Vacuum Science and Technology A.*

Dr. Kushner is a Fellow of the American Physical Society, Optical Society of America, and the American Vacuum Society. He has recently chaired the Gaseous Electronics Conference Plasma, the AVS Plasma Science and Technology Division, and the AVS Manufacturing Science and Technology Group. He has received the Semiconductor Research Corporation Technical Excellence Award, the Tegal Thinker Award for Plasma Etch Technology, the AVS Plasma Science and Technology Award, and the IEEE Plasma Science and Applications Award.