Jack Davis, Ph.D



Senior Scientist for Radiation Physics & High Energy Density Materials Naval Research Laboratory

Dr. Jack Davis is the Senior Scientist of Radiation Physics and High Energy Density Matter in the Plasma Physics Division of the Naval Research Laboratory (NRL) in Washington, DC. In this position he serves as Senior Scientist and plays a key role in the Division by researching, planning, and influencing the direction of programs in basic and applied research and advanced technology for radiation source development and high energy density matter for both the Navy and DoD. He provides vision and direction for the establishment and execution of a coherent research program throughout the Plasma Physics Division in radiation physics, radiation source development, high energy density plasmas, and in fundamental atomic and molecular physics as they relate to the physics of laser generated plasmas and pulsed power generated plasma discharges. He identifies new research opportunities in these areas, and brings together research teams and Division assets to initiate and develop research programs. He establishes collaborations with other NRL divisions, with outside agencies and with university/industry to utilize Division expertise in these fields. Dr. Davis is recognized nationally and internationally as a leading expert on radiation physics, high energy density plasmas, NonLTE physics, hollow atom dynamics, x-ray lasers and radiation source development.

Dr. Davis was appointed to the Senior Scientist position in 2002, From 1986 - 2002 he was Branch Head of the Radiation Hydrodynamics Branch, Plasma Physics Division, Naval Research Laboratory, In this capacity he was responsible for utilizing his expertise in atomic physics, plasma spectroscopy, radiation transport, and non-LTE physics necessary to direct an interdisciplinary program whose goal was to build an understanding of the interconnected processes governing the behavior of plasmas in a number of scenarios and plasma environments. From 1972 - 1986 he was a Research Physicist at NRL specializing in nuclear weapons effects and simulation.

Dr. Davis earned his bachelor's of science and master's of science degrees in physics from Northeastern University in 1958 and 1960. His PhD and Diploma in Science in Plasma Physics were from Imperial College of Science in 1967.

He is the recipient of the 2009 Presidential Rank Award and the 1999 E.O. Hulburt Award for Scientific Excellence, NRL's highest scientific achievement. Dr. Davis'

professional honors include 10 NRL Allan Berman Research Publication Awards for scientific publication excellence. Dr. Davis was the recipient of the Award of Excellence from the DOW in 2010 for significant contributions to the Stockpile Stewardship Program. He is a Fellow of the American Physical Society. He has served on numerous program review and other committees for the DoD, the Department of Energy (DOE), the National Science Foundation and the APS. He served as Associate Editor for The Physics of Plasmas (1987-1990) and The Journal of Quantitative Spectroscopy and Radiation Transfer (1986-2001) In 2000 he served on the DoD Defense Science Board (DSB) Task Force (TF) on the Nuclear Weapons Effects Simulation and was a member of the APS Fellowship Committee (2000). He has been a member of the APS since 1972. He hsa also served as: Adjunct Professor of Applied Physics, University of Michigan. 1991-1994, Adjunct Professor of Nuclear Engineering and Radiological Sciences, University of Michigan, 2009-present, Affiliate Professor of Physics, George Mason University, 2011- present. He has presented Plenary, Invited and Contributed Talks at Professional Society Meetings over the course of his career. In addition he has served as Editor of "Radiation Properties of Dense Hot Matter", 1983, 1984, 1985. Dr. Davis has published over 300 papers in Referred Professional Journals.