Mechanical Engineering
Academy of Distinguished Alumni

John R. (Jack) Howell, Ph.D., P.E.

Honorary Mechanical Engineer, 2013

BSChE, Case Institute of Technology, 1958
MSChE, Case Institute of Technology, 1960
Ph.D., Engineering, Case Institute of Technology, 1962

Ernest Cockrell, Jr., Memorial Chair Emeritus
The University of Texas at Austin

Jack Howell began his career at the Advanced Research Institute of the NASA Lewis (now Glenn) Research Center in Cleveland, Ohio, where he performed studies on reduced gravity boiling and radiation heat transfer (1961-68). During this period, he also served on detached duty from the US Air Force for three years. While working at NASA, he pioneered the use of the Monte Carlo method for analysis of radiative heat transfer in complex systems that contain absorbing, emitting and scattering media. He received a NASA Special Service Award (1965) for this work. His textbook *Thermal Radiation Heat Transfer* (coauthored with Robert Siegel), first published in 1972 and based on a series of NASA publications, is the classic work in engineering radiative transfer, and has been translated into German, Russian, and Chinese. It is now in its sixth U.S. edition (2015) and is used as the standard text and reference worldwide.

Deciding on a teaching/research career, he joined the faculty at the University of Houston for 10 years. He moved to the ME Department at UT Austin in 1978. Before retirement from UT Austin in 2010, he served as ME department chair, associate dean for research, and as director for two research centers. He also served as program director of the thermal transport and thermal processing program of the National Science Foundation in 1994-1995.

He is a member of the U.S. National Academy of Engineering, elected, 2005; foreign member, Russian Academy of Sciences, elected 1999; honorary member, American Society of Mechanical Engineers; fellow, American Institute of Aeronautics and Astronautics. He has been given many awards for his work in heat transfer, including the Max Jakob Award, ASME/AIChE, 1997 for "...contributions in the development and application of theoretical methods for predicting radiative transfer"; the Heat Transfer Memorial Award, ASME, 1991 for "...significant research contributions, notably in the areas of radiation heat transfer, Monte Carlo techniques, and solar energy phenomena, and for his contributions to engineering education"; Thermophysics Award, AIAA, 1990, "for outstanding contributions to thermophysics with specific reference to his application of the Monte Carlo method to radiative transfer"; Ralph Coats Roe Award, ASEE, 1987, for being "an outstanding teacher of mechanical engineering who has made notable contributions to the engineering profession"; Poynting Award, Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, for "life-time contributions and achievements of a scientist who has made a landmark impact on the radiative transfer research and its applications".