

## Biography for Elaine S. Oran

Dr. Elaine S. Oran is the Senior Scientist for Reactive Flow Physics at the Naval Research Laboratory. Her work involves designing numerical methods to simulate complex fluid dynamics, and then using these methods to solve a wide variety of scientific and engineering problems. Her current areas of interest and research include combustion and propulsion, rarefied gases and microfluidics, fluid turbulence, materials engineering, high-performance computing and parallel architectures, computational science and numerical analysis, biophysical fluid dynamics, wave equations, and astrophysical phenomena such as supernova explosions and jets. She has published over three hundred technical papers, written many review articles, given almost two hundred invited lectures, and coauthored the book *Numerical Simulation of Reactive Flow* (2nd edition Cambridge 2001).

Dr. Oran is a Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and a former Vice President of Publications. She is also a Fellow of the American Physical Society (APS), for which she is a past Chair and founding member of the Division of Computational Physics. She received the Arthur S. Fleming Award (1979), the WISE Award in Science (1988), the Oppenheim Prize (1999), and the Zeldovich Gold Medal of the Combustion Institute (2000), and the Dryden Distinguished Lectureship of the AIAA (2002). She recently became an Honorary Professor of the University of Wales (2001). She is currently Associate Editor of the *Journal of Computational Physics*, Managing Editor of *Shock Waves*, and on the advisory board of *Progress in Energy and Combustion Science*. She has lectured extensively and presented many short courses. In conjunction with faculty from universities in the United States and Europe, she has guided many graduate students in aerospace engineering, physics, astrophysics, and physical chemistry.

Dr. Oran received an A.B. degree in Physics and Chemistry from Bryn Mawr College in 1966, an M.Ph. from the Department of Physics at Yale University in 1968, and a Ph.D. from the Department of Engineering and Applied Sciences at Yale University in 1972. She has been at the Naval Research Laboratory since 1972.