STONY BROOK
State University of New York

Lee Wilcox

Dr. Lee Wilcox received his bachelor's degree (with honors), and his Master's degree from the University of Chicago in 1949 and 1951 respectively. He then went to Stanford, working under Willis Lamb on refined measurements of the "Lamb shift", where he received his Ph.D. in 1957. From 1958 to 1960, he was a Research Associate under Nicholaas Bloembergen at Harvard. Lee then taught at the American University in Beirut, Lebanon, between 1961 and 1964, and returned as a great enthusiast for eastern Mediterranean life and culture. After four years (1964-68) as an Associate Professor in Columbia University's Physics Department, Lee came to Stony Brook as Professor of Physics. At Columbia, Lee had invented an early application of laser technology applied to the study of critical phase transitions. He expanded and elaborated on this research technique at Stony Brook, where he and his students developed methods of unprecedented exactness and elegance, based on laser interferometry, to study phase transitions near the critical temperature-pressure point in liquid-vapor transitions. These studies involved temperature changes of millidegrees (or less) per hour, to keep samples as nearly as possible to thermodynamic equilibrium while studying the physics across the phase transition.

Analysis of the very large data files generated from these studies attracted Lee's interests to early problems of data display and assimilation using computers. He became an early enthusiast for the pioneering studies of Bela Julez at Bell Labs, wherein three dimensional representations can be mentally generated, by practiced viewers, from what appear to be nothing more than jumbled and vague patterns of pixels on a flat surface. He also came to believe that what he saw as the coming revolution in computer power and speed would have a profound impact not only in science but in people's everyday lives. He believed that how we view problems shapes how we program computers to solve those problems, but equally important, our choice of programming languages in turn shapes how we think about - and choose - the problems we solve. This led him to become a passionate advocate for APL, an all-but-forgotten language in the battles to supplant or supplement Fortran with more computationally suitable languages for mathematics and the physical sciences, and a passionate spokesman for computer literacy for undergraduate and graduate students.

As an idiosyncratic thinker, Lee's approaches to problems were often puzzling or obscure to colleagues and students alike, but always worth listening to for their cleverness and novelty of insight. He was an impassioned teacher, who believed in the highest standards of rigorous thinking and experimental integrity. Lee believed that rigor and exactitude in physics had to be tempered with relaxation involving good company, good food, and good drink. When the Department was smaller and more intimate, almost all faculty and graduate students could be found at Lee's house for party evenings two or three times a year. His friends and colleagues at Stony Brook and elsewhere miss his stimulating presence.