



Ernest S. Kuh

William S. Floyd, Jr. Professor Emeritus in Engineering
Department of Electrical Engineering and Computer Sciences
University of California, Berkeley

Professional Career

Ernest S. Kuh was born on October 2, 1928 in Beijing China. He attended Shanghai Jiao Tong University from 1945 to 1947; received the B.S. degree from the University of Michigan, Ann Arbor, in 1949; the S.M. degree from the Massachusetts Institute of Technology, Cambridge, in 1950; and the Ph.D. degree from Stanford University, Stanford California, in 1952.

From 1952 to 1956 he was a member of the Technical Staff at Bell Telephone Laboratories in Murray Hill, New Jersey. He joined the EECS Department faculty at the University of California, Berkeley in 1956. From 1968 to 1972 he served as Chair of the Department; from 1973 to 1980 he served as Dean of the College of Engineering. He retired in 1993, and now holds the title of Professor in the Graduate School at Berkeley.

Research Career

In research Dr. Kuh has worked on Electric Circuit Theory and Computer-Aided Design for VLSI Circuits and Systems. He is coauthor of four books and author or coauthor of over 200 papers in circuits, electronics, networks, systems, and computer aided design. He also has edited and coedited two monographs: "VLSI: Circuit Layout Theory and Techniques" and "Multichip Modules."

His contributions in circuit theory include synthesis of passive and active networks, optimum design of negative resistance and parametric amplifiers, state-space techniques in networks and feedback systems, time-varying networks, and nonlinear circuits.

He has made contributions to circuit layout theory and algorithms in partitioning, floorplanning, placement and routing. Software packages developed by his research group include BBL, BEAR, and PROUD. His most recent contributions have been the development of timing-driven physical design tools for submicron IC and MCM, and an accurate and efficient circuit and interconnect simulator. Those works have yielded software programs useful for industrial and academic researchers.

Awards and Honors

Dr. Kuh is a Fellow of the IEEE and the AAAS, a member of the National

Academy of Engineering, a foreign member of the Chinese Academy of Sciences, and a member of the Academia Sinica. He holds Honorary Professorships in several universities in China including Shanghai Jiao Tong University, Tsinghua University, Peking University. He has received a number of awards and honors, including: NSF Senior Postdoctoral Fellow (1962), Miller Research Professor (1965-66), University of Michigan Distinguished Alumnus Award (1970), IEEE Guillemin-Cauer Award (1973), Alexander von Humboldt Senior Scientist Award (1977), IEEE Education Medal (1981), the Lamme Award of the American Society for Engineering Education (1981), the Japan Society for Promotion of Science Award (1981), the British Science and Engineering Research Fellowship (1982), the IEEE Centennial Medal (1984), the IEEE Circuits and Systems Society Award (1988), the Society of Hong Kong Scholars Award (1990), the Berkeley Citation (1993), 1996 C&C Prize Japan Society for Promotion of Communication and Computers, the Doctor of Engineering, Honoris Causa, Hong Kong University of Science and Technology (1997), the 1998 EDAC Phil Kaufman Award, the Honorary Doctor of Engineering Award from the National Chiao Tung University, Taiwan, and the IEEE Millennium Medal.

Professional and Advisory Activities

Dr. Kuh has served on many academic advisory committees and boards, including those at the Massachusetts Institute of Technology, Princeton University, the University of Southern California, and the Hong Kong University of Science and Technology. He has been a consultant to a number of industrial and governmental organizations, including International Business Machines, General Motors, Cadence Design Systems, the National Science Foundation, and the National Institute of Standards and Technology. He was a member of the Board of Directors of the IEEE from 1976 to 1978 and served as President of the IEEE Circuits and Systems Society in 1972. He served as a board member of ECAD and Cadence Design. Currently, he is on the Board of Ultima Interconnect.