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B.S., 1950; M.S., 1951; and Ph.D., 1954, all in Electrical Engineering, University of Illinois. He was a Texas Instruments Fellow in Semiconductor Physics, 1953–1954, at the University of Illinois, worked as a member of Technical Staff at Bell Telephone Laboratories, 1954–1955, on the first diffused-impurity silicon devices, and served with the U.S. Army Signal Corps, 1955–1957, at Ft. Monmouth, N. J. and at Isogo-ku, Yokohama, Japan. He joined the Advanced Semiconductor Laboratory of the General Electric Company, Syracuse, N. Y., and was successively employed (1957–1963) as a physicist, unit manager, and manager of the Advanced Semiconductor Laboratory, where he made contributions in the areas of power and signal p-n-p-n devices, tunnel diodes, phonon-assisted tunneling, halide transport and epitaxial growth of intermetallic compounds and compound mixtures, double injection and deep impurity level effects, junction luminescence, and semiconductor lasers, including the first (1962) semiconductor laser to operate in the visible spectrum. Since 1963 he has been a Professor at the University of Illinois in the Department of Electrical Engineering and the Materials Research Laboratory. He is co-author of the book *Semiconductor Controlled Rectifiers* (Prentice-Hall, Inc., 1964), editor of the Prentice-Hall series "Solid State Physical Electronics," is on the Editorial Board of the *Proceedings of the IEEE*, and is a recipient of a Cordiner Award (GE–1962). Fellow, IEEE; member of American Physical Society, AAAS, and Mathematical Association of America.

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