

1998 DISTINGUISHED SERVICE AWARD

Dr. Martin V. Schneider

The Distinguished Service Award is presented to honor an individual who has given outstanding service over a period of years for the benefit and advancement of MTT-S.

This year's honoree is Dr. Martin V. Schneider, former member of MTT-S AdCom. He is an IEEE Fellow.

His Citation reads: "FOR HIS OUTSTANDING DEDICATED SERVICE TO THE SOCIETY".

Dr. Martin V. Schneider (M'56, SM'71, F'76) received the M.S. in Physics in 1955 and the Ph.D. (Dr. sc.nat) in 1959 from the Swiss Federal Institute of Technology in Zurich, Switzerland. At the Institute, where he had Wolfgang Pauli as a teacher, he was involved in research on the properties of thin metallic films and their applications at microwave frequencies.

In 1961 he joined the group of John Pierce and Rudolf Kompfner at AT&T Bell Laboratories in Holmdel, New Jersey, and began work on active microwave devices and circuits need for short hop radio systems at 11 and 18 GHz. Subsequently, he made contributions to the emerging area of microstrip components and planar transmission line elements which he applied to the realization of compact filters and heterodyne mixers at microwave and millimeter wave frequencies ranging up to 230 GHz. As a member of the research team of Arno Penzias and Robert Wilson, he developed low-noise mixer diodes which were used in microwave systems for radio-astronomical experiments and on the space shuttle ATLANTIS. In this NASA mission, performed jointly with the University of Bern, Switzerland, both his devices and circuits served as sensitive detectors and low-noise receivers for mapping the concentration and distribution of trace molecules and regular constituents (H_2O , O_3 and ClO) in the upper atmosphere.

Dr. Schneider expanded his work into the optical field by devising and constructing the first-high-speed photodiode consisting of a thin film Schottky diode with an optimized dielectric matching layer. He also analyzed the noise characteristics of lightwave receivers and found that the spectral noise density of optical receivers can be computed directly from the physical parameters of the photodiode and the HEMT device which performs the preamplification of the signal.

He extended his work on microwave frequency converters devising a subharmonically pumped homodyne mixer which he and his team used for Gigabit rate digital modulators and demodulators in the LuckyNet system, a wide area network pioneered by Robert Lucky. He retired in 1997 as a Technical Manager in the Wireless Technology Research Department at Bell Laboratories in Holmdel, New Jersey.

His technical and professional leadership has been recognized by a number of awards including the Microwave Prize in 1979, the IEEE Centennial Medal in 1984, the IEEE Region I Award in 1984, the IEEE/MTT Meritorious Service Award in 1989, and the Microwave Application Award in 1994. He served on the IEEE Board of Directors in 1991/92, where he was in charge of the Electromagnetics and Radiation Division and where he led the IEEE Committee on New Technology Directions. As a member of the MTT-S AdCom from 1984 to 1990, he made contributions to improved membership services and to publications and was instrumental in organizing a number of scientific workshops.

