

1987 Distinguished Service Award

Kiyo Tomiyasu

The Distinguished Service Award is made to an individual who has given outstanding service for the benefit and advancement of the Microwave Theory and Techniques Society. The eligibility requirements are service in one or more of the following areas: the Administrative Committee, publications, meetings and symposia, chapter leadership, committee chairman, committee member, editor, lecturer or other distinguished service. Factors which will be considered are: leadership, innovation, activity, service, duration, breadth of participation and cooperation. The individual must be a member of the IEEE and a member of the Microwave Theory and Techniques Society.

The award consists of a suitable certificate, a plaque and a feature publication in the **IEEE Transactions on Microwave Theory and Techniques**.

The Administrative Committee of the Microwave Theory and Techniques Society has selected Kiyo Tomiyasu as the recipient of the 1987 Distinguished Service Award "for his outstanding and dedicated service to the Society."



Kiyo Tomiyasu was born in Las Vegas, Nevada on September 25, 1919. He received the B.S. degree in Electrical Engineering from the California Institute of Technology, Pasadena, in 1940 and the M.S. degree in Communication Engineering from Columbia University, New York, NY, in 1941. He studied at Stanford University, Stanford, California, under a Low Scholarship and then entered Harvard University, Cambridge, Massachusetts, where he continued graduate work with a Gordon McKay Scholarship and received the Ph.D. degree in Engineering Science and Applied Physics in 1948.

He served as a Teaching Fellow, Research Assistant, and Instructor at Harvard University. In 1949 he joined the Sperry Gyroscope Company, Great Neck, New York, as a Project Engineer, and in 1952 was promoted to Engineering Section Head for Microwave Research in the Microwave Components Department. In this capacity he was responsible for developments on ferrites, microwave components, spectroscopy and radiometers. In 1955 he joined General Electric Microwave Laboratory, Palo Alto, California, as a Consulting Engineer, and five years later he transferred to the General Electric Research and Development Center, Schenectady, New York, where he was involved with lasers and microwave projects. In 1969 he became a Consulting Engineer at General Electric Valley Forge Space Center, Philadelphia, Pennsylvania.

For the past several years he has been involved with microwave remote sensing of the earth using satellite-borne radiometers, scatterometers and synthetic aperture radar. He helped design the NASA/JSC Skylab S-193 Microwave Radiometer Scatterometer Altimeter, and he was a Principal Investigator of the NASA Langley Research Center AAFE RADSCAT sensor. On SEASAT, he was responsible for specifying the spacecraft interfaces with the scatterometer and synthetic aperture radar. Several papers on remote sensing of the earth using microwave sensors have been published and presented by him at various symposia. Recent configurations discussed have been a monostatic synthetic aperture radar from a nutating satellite in geosynchronous orbit, and a bistatic synthetic aperture radar employing two satellites. He has also worked on a conceptual design of a coarse resolution, wide swath synthetic aperture radar for imaging sea ice, oceanic oil spills and geologic features, and inferring soil moisture. He has been concerned with the propagation of microwave signals through rain, the troposphere and the ionosphere.

His total publications list over sixty papers and twenty patents have been issued in his name. In 1977 he was granted a General Electric Company Charles Proteus Steinmetz Award for outstanding individual achievement over a sustained period as evidenced by impact on the company and society. As part of this award a \$5,000 stipend was designated to California Institute of Technology to be used for three annual scholarships. In 1977

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Dr. Tomiyasu and his sister from Los Angeles established also at Cal Tech an annual scholarship called the "Tomiyasu Scholarship".

Dr. Tomiyasu was President of MTT-S in 1960-1961 and has subsequently served on the Nominations Committee and the Awards Committee. He was the Editor of **MTT Transactions** in 1958 and 1959, and Guest Editor of the May 1978 Special Issue of the **Transactions** on High Power Microwaves. In 1973 he was elected Honorary Life Member of MTT-S and of its Administrative Committee. He was named recipient of the 1980 Microwave Career Award by the MTT-S. In 1984, he received an IEEE Centennial Medal.

At the IEEE level, he has served on the Publications Board, the Technical Activities Board and on the Awards Board for several years. He was elected for the 1985-1986 term as IEEE Director of Division IV which embraces electromagnetics and radiation. He serves a concurrent term on the IEEE Board of Directors and as a Delegate to the IEEE Assembly.

In 1986 he was awarded an Annual Prize of the Telecommunications Association of Japan. The citation reads, "for his distinguished contributions towards the progress of telecommunication industries and for his outstanding service." He is the first non-Japanese citizen to receive the prize in its 27-year history. Dr. Tomiyasu delivered his acceptance speech at a meeting jointly sponsored by the Association and the IEEE Tokyo Section.

Dr. Tomiyasu was elected to the IEEE Fellow Grade in 1962 and became a Life Fellow in 1984. His name is listed in several biographical references among which are American Men of Science, Who's Who in Engineering, Men of Achievement, Leaders in Electronics, and Who's Who in America. He is a member of the American Physical Society.