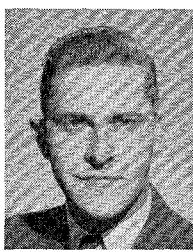


# Contributors



**Eugene O. Ammann** (S'58-SGM'63) was born in Portland, Ore., on June 26, 1935. He received the B.S. degree maxima cum laude in general engineering from the University of Portland, Ore., in 1957. He received the M.S. and Ph.D. degrees in 1959 and 1963, respectively, from Stanford University, Stanford, Calif., in electrical engineering.

While at Stanford University, he was a Research Assistant, National Science Foundation Fellow, and Research Associate, working on solid-state microwave masers and microwave filters. In April, 1963, he joined Sylvania Electric Products, Inc., in Mountain View, Calif. He is presently engaged in research concerning the modulation and demodulation of light.

Dr. Ammann is a member of Delta Epsilon Sigma, Sigma Xi, and the American Physical Society.

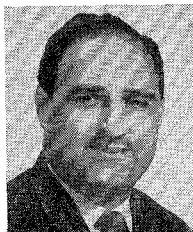


William S. C. Chang (S'56-M'58) was born in Kiangsu, China, on April 4, 1931. He received the B.S.E. and M.S.E. degrees from the University of Michigan, Ann Arbor, Mich., in 1952 and 1953, respectively,

and the Ph.D. degree in electrical engineering from Brown University, Providence, R. I., in 1957.

At Brown University he was associated with theoretical research on dielectric antennas. From 1957 to 1959, he was a Lecturer and Research Associate at Stanford University, Calif., engaged in the research of solid-state masers. At present, he is an Associate Professor and Associate Supervisor at the Antenna Laboratory, Department of Electrical Engineering, The Ohio State University, Columbus, Ohio. His major research interests are masers, lasers, and submillimeter waves.

Dr. Chang is a member of Sigma Xi, Tau Beta Pi, the American Society for Engineering Education, American Physical Society and American Optical Society.



**Philip Cohen** was born in London, England, on March 14, 1930. He received the B.Sc. degree in physics from Birmingham University, England, in 1952.

Since 1955 he has worked at Mullard

Research Laboratories, Redhill, Surrey, England, on a variety of microwave projects. Currently, he is concerned with problems of electromagnetic theory.

teaching microwave techniques and antenna theories to the graduate students.

Dr. Iizuka is a member of Sigma Xi.



**J. B. Davies** (S'59-M'60), for a photograph and biography please see page 615 of the November, 1962, issue of these TRANSACTIONS.



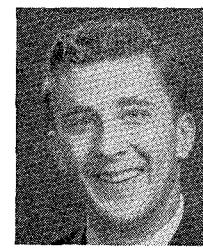
**William J. Getsinger** (S'48, A'50, M'55) was born in Waterbury, Conn., on January 24, 1924. He received the B.S. degree in electrical engineering from the University of Connecticut, Storrs, Conn., in 1949; the M.S. degree in electrical engineering from Stanford University, Stanford, Calif., in 1959; and the degree of Engineer, also from Stanford, in 1961.

Between 1950 and 1957 he worked at Technicraft Laboratories, Thomaston, Conn., and the Westinghouse Electric Company, Baltimore, Md., on the design and development of waveguide components and assemblies. From 1957 to 1962 he was on the staff of Stanford Research Institute, Menlo Park, Calif., where he worked on antennas and transmission-line components. In 1962 he became a Staff Member at Lincoln Laboratory, M.I.T., Lexington, Mass. where he has been working on broadband microwave amplifier problems.



**Keigo Iizuka** (S'59-M'62) was born in Kobe, Japan, on August 29, 1931. He received the B.S. and M.S. degrees in electrical engineering in 1955 and 1957, respectively, from Kyoto University, Kyoto, Japan. He attended Harvard University as a Fulbright Exchange Student from 1957 to 1958, receiving the M.S. degree in applied physics in 1958. His second visit to the United States was made possible by a Harvard Gordon McKay Prize Scholarship awarded in 1959 to work toward the Ph.D. degree. He completed the work for the Ph.D. degree in applied physics in 1961.

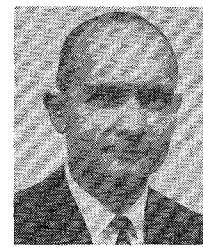
Since 1961, he has been a Research Fellow and a Lecturer at the Gordon McKay Laboratory, Harvard University, Cambridge, Mass., working on antennas in dissipative media, and various devices useful in microwave measurements as well as



**Perry R. Longaker** was born in Dayton, Ohio, on August 7, 1934. He received the B.S. degree in 1956 from Heidelberg College, Tiffin, Ohio, and the M.S. and Ph.D. degrees in physics from Case Institute of Technology, Cleveland, Ohio, in 1958 and 1962, respectively.

In 1962 he joined the staff of Massachusetts Institute of Technology, Lincoln Laboratory, Lexington, Mass. Since then he has been engaged in research in optical masers and in the nonlinear solid-state effects produced by optical masers.

Dr. Longaker is a member of the American Physical Society and Sigma Xi.



**Robert J. Morris** (S'55-M'57) was born on January 4, 1935 in Weaverville, Calif. He received the B.S. degree in electrical engineering from Stanford University, Stanford, Calif., in 1956, the M.S. degree in electrical engineering from the Massachusetts Institute of Technology, Cambridge, in 1958, and the Ph.D. degree in electrical engineering from Stanford, in 1962.

His graduate research at M.I.T. and Stanford was in microwave maser devices and paramagnetic resonance phenomena. Since October, 1961, he has been a Research Associate at Stanford University where he is concerned with optical masers and optical communications techniques.

Dr. Morris is a member of Tau Beta Pi and Sigma Xi.



**Charles S. Roberts** (M'58) was born in Newark, N. J. on September 25, 1937. He received the B.S. degree in chemistry from Carnegie Institute of Technology, Pittsburgh, Pa., in 1959. He held a National Science Foundation Predoctoral Fellowship from 1959 to 1963 and in 1963 received the Ph.D. degree in physics from the Massachusetts Institute of Technology, Cambridge, Mass.

During the summers of 1960 and 1962 he was a Staff Member at the MIT Lincoln Laboratory, Lexington, Mass. Currently he

is a member of the Research Department of the Bell Telephone Laboratories, Murray Hill, N. J.

Dr. Roberts is a member of The American Physical Society, The American Geophysical Union, Tau Beta Pi, Phi Kappa Phi, and of Sigma Xi.

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**S. R. Seshadri** (SM'61) was born in Madras, India, on October 25, 1928. He received the M.A. degree in physics in 1951 from the University of Madras, India, and he earned the diploma in electrical communication

engineering in 1953 from the Indian Institute of Science, Bangalore. In 1959, he received the Ph.D. degree in applied physics from Harvard University, Cambridge, Mass.

From 1954 to 1955 he served as a Lecturer in electronics at the Madras Institute of Technology, Chromepet, Madras. He was a Research Fellow in electronics at Harvard University during 1959. In 1960 he joined the Electronics Research and Development Establishment, Bangalore, as a Senior Scientific Officer, and in 1961 was made a Principal Scientific Officer and transferred to the Defence Electronics Research Laboratory, Hyderabad, India. Presently, he is at the Gordon McKay Laboratory, Harvard University.

Dr. Seshadri is a member of Sigma Xi.

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**N. Seshagiri** was born in Satyamangalam, Madras State, India, on May 10, 1940. He received the B.E. degree in electrical power engineering from the University College of Engineering, Bangalore, Mysore State, India, in 1961. Since then he has been



a Research Student in the Department of Electrical Communication Engineering of the Indian Institute of Science, Bangalore, working towards the Ph.D. degree in the subject of field theory. At present, he holds a Senior Research Fellowship from the Indian Institute of Science.

He has also several research publications in lightning effects on power transmission lines, vacuum tube design and computers. At present, he is also working independently on some problems concerning cybernetics.

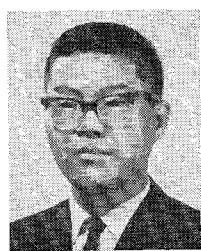
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**P. I. Somlo** was born in Budapest, Hungary, on May 15, 1933. He graduated from the University of Technology, Budapest, Hungary, in 1956. There he joined the Fine Mechanics Company where he was engaged in the development and design of high-frequency laboratory equipment.

In 1957 he joined the Standard Telephones and Cables Company (S.T.C.), London, England, where his work was in connection with microwave repeater stations. After arriving in Australia in 1957 he joined the S.T.C. Company in Liverpool, N.S.W., where he was engaged in developing pulse-technique circuitry. In later 1957 he joined the National Standards Laboratory of the Commonwealth Scientific and Industrial Research Organization, where his work is in connection with VHF-UHF impedance standards and the development of associated measuring techniques.

Mr. Somlo is an Associate Member of the Institution of Engineers (Australia).

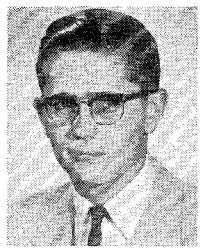


**Hang-Sheng Tuan** was born in Hankow, China, on October 23, 1935. He received the B.S.E.E. degree from the National Taiwan University, Taipei, in 1958 and the M.S.E.E. degree from the University of Washington, Seattle, in 1961.

At present he is a graduate student working towards the Ph.D. degree in applied physics at Harvard University, Cambridge, Mass.

Mr. Tuan is an associate member of Sigma Xi.

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**Richard A. Williams** (S'58-M'62) was born in Canton, Ohio, on July 21, 1936. He received the B.E.E. and the M.S. degrees from The Ohio State University, Columbus, Ohio, in 1959 and 1961, respectively.

He is presently working towards the Ph.D. degree.

He served as an Engineering Assistant in the Relay Engineering Department, Ohio Power Company, Canton, Ohio, in 1957 and 1958, and was a Staff Member at Sandia Corporation, Albuquerque, N. M., in 1959 and 1960. Since 1960 he has been with The Ohio State University Antenna Laboratory, Columbus, Ohio, where he has worked in the fields of low-temperature detectors and submillimeter radiometry.

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**Leo Young** (M'54-SM'57), for a photograph and biography please see page 619 of the November, 1962, issue of these TRANSACTIONS.