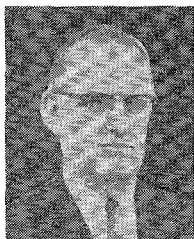


# Contributors

Robert E. Beam (S'37-A'41-SM'44-F'56) was born on July 11, 1914, in Cambridge, Ohio. He received the B.E.E. degree from The Ohio State University in 1937 and the Ph.D. degree from Iowa State College in 1940. While at Iowa State he was a part-time teaching and research assistant.



R. E. BEAM

During 1940-1941 he was an instructor in electrical engineering at the University of Arkansas. During 1941-1942 he taught at Southern Methodist University. In June, 1942, he joined the faculty of the electrical engineering department of Northwestern University, where he spent much of his time during World War II teaching UHF techniques to Army Signal Corps trainees. After World War II he became technical director of the Microwave Laboratory at Northwestern University, in which capacity he conducted research on such topics as multimode waveguides, dielectric-rod and dielectric-tube waveguides and antennas, coated-conductor waveguides and antennas, and improved shapes of microwave antennas. He has served as an engineering consultant for various companies and is the author or co-author of a number of technical papers and the textbook "Theory and Application of Microwaves." He was one of the group which founded the National Electronics Conference in 1944 and has participated in the activities of this organization since its founding.

Dr. Beam is a member of the AIEE, ASEE, AAUP, Sigma Xi, Tau Beta Pi, Eta Kappa Nu, Phi Kappa Phi, and Pi Mu Epsilon. He has been a full professor of electrical engineering at Northwestern University since 1950.



Saul M. Bergmann, for a photograph and biography, please see page 268 of the October, 1957 issue of these TRANSACTIONS.



Kenneth J. Button was born in Rochester, N. Y. on October 11, 1922. After serving as an electronic technician with the U. S. Army from 1942 to 1946, he received his undergraduate and graduate training in physics and mathematics at the University of Rochester, where, from 1948 through 1950, he worked as an assistant in high energy nuclear physics research at the cyclotron laboratory.



K. J. BUTTON

From 1950 to 1952, he was a teaching assistant in physics and electronics and received the M.S. degree in physics in 1952. He joined the M.I.T. Lincoln Laboratory in 1952 and became engaged in the study of electromagnetic wave propagation in ferromagnetic and semiconductor materials at microwave and infrared frequencies. He has specialized in resonance phenomena with particular emphasis on the applications to ferrite microwave devices and is currently engaged in the co-authorship of a book on this topic.

Mr. Button is a member of the American Physical Society.



Raymond H. DuHamel (A'53-M'57) was born in Tuscola, Ill., on October 11, 1922. He received the B.S. degree from the University of Illinois in 1947, the M.S. degree in 1948, and the Ph.D. degree in 1951, all in electrical engineering.



R. H. DUHAMEL

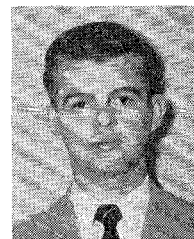
While in graduate school, he held a research assistantship with the Radio Direction Finding Laboratory at the University, where he did research on antennas for rdf systems and on methods of antenna pattern synthesis.

From 1951 to 1952, he worked on television antennas at RCA Laboratories, Princeton, N. J. From 1952 to 1956, he was a research assistant professor in electrical engineering at the University of Illinois, where he was in charge of the Antenna Laboratory. Since 1956, he has been head of the Antenna Group at Collins Radio Company in Cedar Rapids, Iowa.

Dr. DuHamel is a member of Sigma Xi and Eta Kappa Nu.



James W. Duncan (A'53) was born in Decatur, Ill., on September 15, 1926. He received the B.S. degree from the University of Colorado in 1950 and the M.S. degree from the University of Illinois in 1955.



J. W. DUNCAN

From 1950 to 1953, he worked for Sandia Corporation, Albuquerque, N. M., as a development engineer. Since 1953, he has been a teaching and research assistant at the University of Illinois and is continuing graduate study for a Ph.D. degree in electrical engineering.

Mr. Duncan is a member of Eta Kappa Nu, Tau Beta Pi, Sigma Tau, and Pi Mu Epsilon.



Donald A. Dunn (S'46-A'52-SM'56) was born on December 31, 1925, in Los Angeles, Calif. He received the B.S. degree from California Institute of Technology in 1946, and the M.S. degree in 1947, the degree of Engineer in 1950, the LL.B. degree in 1951, and the Ph.D. degree in 1956, all from Stanford University, Stanford, Calif. He was a research assistant from 1947 to 1950 and has been a research associate from 1951 to the present at Stanford Electronics Laboratories, where he has been doing research on traveling-wave tubes. Since 1953 he has been a group leader and lecturer. From 1951 to 1953 he was associated with the firm of Flehr and Swain as a patent attorney.

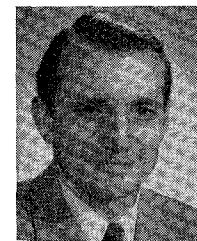


D. A. DUNN

Dr. Dunn is a member of the bar of the State of California and has been admitted to practice before the U. S. patent office. He is a member of Sigma Xi.



R. W. Grow was born in Lynndyl, Utah, on October 31, 1925. He received the B.S. and M.S. degrees in electrical engineering from the University of Utah in 1948 and 1949, respectively, and the Ph.D. degree in electrical engineering from Stanford University in 1955. From 1952 to 1953 he was an RCA Fellow in Electronics under the National Research Council.

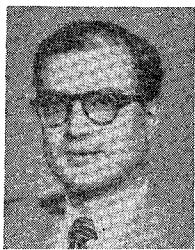


R. W. GROW

From 1949 to 1951, Dr. Grow was employed as an electronic scientist at the U. S. Naval Research Laboratory where he worked successively in the fields of radar countermeasures and nuclear physics, participating in the 1951 Atomic Weapons Tests. Late in 1951 he became associated with the electronics research laboratory at Stanford University where he has been engaged in microwave tube research, specializing in traveling-wave tubes, backward-wave oscillators, and traveling-wave tube mixers. At present he is a research associate at the Stanford Electronics Laboratories.

Dr. Grow is a member of Sigma Xi, Tau Beta Pi, Phi Kappa Phi, and Phi Eta Sigma.

Roger F. Harrington (S'48-A'53) was born in Buffalo, N. Y., on December 24, 1925. He received the B.E.E. degree in 1948 and the M.E.E. degree in 1950, both from Syracuse University, Syracuse, N. Y., and the Ph.D. degree in 1952 from The Ohio State University, Columbus, Ohio.



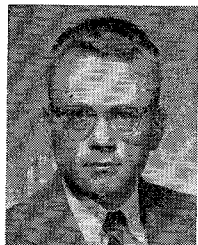
R. F. HARRINGTON

From 1945 to 1946 he served as an instructor at the Naval Radio Materiel School, Dearborne, Mich. From 1948 to 1950, he was employed as an instructor and research assistant at Syracuse University. While studying at The Ohio State University, he served as a Research Fellow in the Antenna Laboratory. Since 1952, he has been on the faculty of Syracuse University, currently as associate professor of electrical engineering.

Dr. Harrington is a member of Tau Beta Pi, Sigma Xi, and the American Association of University Professors.



Hermann A. Haus (S'50-A'55) was born in Ljubljana, Yugoslavia, in 1925. He attended the Technische Hochschule in Graz from 1946 to 1948, and studied for one term at the Technische Hochschule in Vienna, Austria. In 1949 he received the B.S. degree from Union College, Schenectady, N. Y., in 1951 the M.S. degree from Rensselaer Polytechnic Institute, Troy, N. Y.; and in 1954 the Sc.D. degree from Massachusetts Institute of Technology, Cambridge, Mass.



H. A. HAUS

He is now at M.I.T. as an associate professor of electrical engineering, and is also engaged in microwave tube research at the Research Laboratory of Electronics.

Dr. Haus is a member of Sigma Xi.



Gedaliah Held was born in Warsaw, Poland, on January 4, 1926. He attended the Hebrew University in Jerusalem and received the M.S. degree in physics in 1950. Shortly thereafter he came to the United States as a graduate student at the University of California, Berkeley where he received the Ph.D. degree in electrical engineering in 1954.



G. HELD

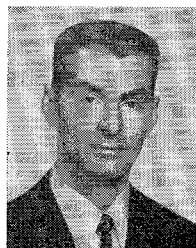
From 1952 to 1954

he was a member of the technical staff of the University of California Antenna Laboratory and an instructor in the Department of Electrical Engineering.

In 1954 he joined the staff of the University of Washington in Seattle, where he is presently an associate professor in electrical engineering, specializing in microwave radiation and propagation.



Edward S. Hensperger (S'52-A'53-M'56) was born on December 12, 1925, in New Brunswick, N. J. He received the B.S. degree in electrical engineering from Rutgers University in 1952. After graduation, he was employed by Airtron, Inc., Linden, N. J., where he became engaged in the design and development of microwave components. In 1955, Mr. Hensperger joined Stavid Engineering, Inc., Plainfield, N. J., as a senior design engineer.

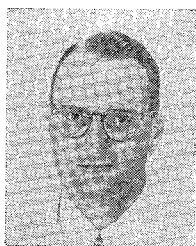


E. S. HENSPERGER

In 1956, he left Stavid and returned to Airtron, where he is presently Section Engineer in charge of the advanced microwave design group.



D. D. King (M'46) was born on August 7, 1919, in Rochester, N. Y. He received the A.B. degree in engineering sciences in 1942 and the Ph.D. degree in physics in 1946, both from Harvard University. He was a teaching fellow in physics and communication engineering in 1943, serving as a staff member of the pre-radar Officer's Training School at Cruft Laboratory, Harvard University. He was a research associate there during 1945. In 1946 he was appointed research fellow in electronics, and in 1947, assistant professor of applied physics in Harvard.



D. D. KING

In 1948, he was appointed associate professor of physics in the Institute for Cooperative Research of Johns Hopkins University, Baltimore, Md., in 1950, assistant director, and in 1955, director of the Radiation Laboratory. He became vice-president, research, of Electronic Communications, Inc. in 1956.

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

P. D. Lomer was born in Cornwall, England, on May 17, 1928. He received the B.Sc. degree in physics from the University College of the South West, Exeter, in 1948 and the M.Sc. degree two years later. In 1950 he joined the Services Electronics Research Laboratory, Baldock, England, where he has been studying gas discharge devices with particular reference to microwave duplexers.



P. D. LOMER

Mr. Lomer is an associate member of the Institute of Physics.



John W. McLaughlin (M'57) was born at Pocatello, Idaho, on December 2, 1925. He received the Bachelor of Science degree in electrical engineering from Utah State University in 1953. From 1953 to 1954 he held a research assistantship at Stanford University, and from 1954 to 1957 he was a research associate in the Stanford Electronics Laboratories doing research on traveling-wave tubes. In 1957 he received the Master of Science degree in electrical engineering from Stanford University. Since 1957 Mr. McLaughlin has been engaged in reflex klystron development at the Eitel-McCullough Microwave Tube Laboratory in Salt Lake City, Utah.



J. W. McLAUGHLIN



Murray R. Millet (M'56) was born in Newark, N. J., on November 10, 1924. He attended the University of Wisconsin and the Drexel Institute of Technology in Philadelphia, Pa., where he received the B.S. degree in 1955.



M. R. MILLET

In 1950, Mr. Millet joined the Tech-rep Division of the Philco Corporation. In 1952 he transferred to the Government and Industrial Division of Philco, where he has been engaged in the design and development of microwave components used in radar and beacon systems.

Mr. Millet is currently a graduate student at the Moore School of Electrical Engineering, University of Pennsylvania.

R. M. O'Brien was born in Auckland, New Zealand, on September 23, 1924, and was educated in England. From 1943 to 1947 he served in the Royal Air Force, working on airborne radar equipment. In 1947 he joined the Services Electronics Research Laboratory, Baldock, England, to work on the design of new forms of duplexing systems.



R. M. O'BRIEN

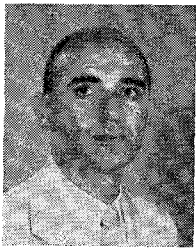
He specialized in microwave gas discharge attenuators

for use in these systems.

Recently he joined the Watton Engineering Co., Welwyn Garden City, England, to form a new department to investigate the application of electronics to metrology in precision mechanical engineering.



S. Perry Schlesinger (M'55) was born in New York, N. Y., on October 9, 1918. He received the B.S. degree from Michigan State in 1941, the M.S.E. degree from Union College in 1950, and a Doctorate from Johns Hopkins University in 1957.



S. P. SCHLESINGER

In 1946, following war service as a destroyer engineer officer, he joined the General Electric Company, subsequently serving as an assistant professor of electrical engineering on the faculties of Union College and the U. S. Naval Academy. From 1953 through 1956 he was a research associate at the Radiation Laboratory of Johns Hopkins University working on back-scattering studies, millimeter techniques, and problems in dielectric image line transmission. He is now on the faculty of electrical engineering at Columbia University.

Dr. Schlesinger is a member of Sigma Xi, Phi Kappa Phi, and Pi Mu Epsilon.



Herbert J. Shaw (M'55) was born in Seattle, Wash., on June 2, 1918. He received the B.S. degree from the University of Washington, Seattle, in 1941, and the M.A. and Ph.D. degrees in 1942 and 1948, respectively, from Stanford University, Stanford, Calif.

In 1941 he was a test engineer at the General Electric Company in Schenectady, N. Y. Since then he has been at Stanford University, where he is presently a senior research associate in the Microwave Laboratory and a lecturer in the Physics Department. He is engaged in research in microwave tubes and microwave physics.



H. J. SHAW

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



Edward H. Turner (SM'55) was born December 21, 1920, in Cleveland, Ohio. He received the Bachelor of Science degree in 1942 from Harvard University, Cambridge, Mass.



E. H. TURNER

From 1942 to the latter part of 1945 he was a staff member of the Radiation Laboratory at Massachusetts Institute of Technology, Cambridge, where he was with the Airborne Division. He also spent some time at the British Branch of the Laboratory.

After leaving M.I.T. he returned to Harvard to do graduate work in physics and received the A.M. degree in 1947 and the Ph.D. in 1950.

Since 1949, Dr. Turner has been a member of the technical staff in the Radio Research Department of Bell Telephone Laboratories, where his primary interest has been in waveguides and the use of ferrites at microwave frequencies.

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



George Tyras (M'57) was born in Czechochowa, Poland, on November 26, 1920. He received the B.S.E.E. degree from Newark College of Engineering, Newark, N. J., in 1954 and the M.S.E.E. degree from the University of Washington, Seattle, in 1957.

From 1952 to 1954 he was affiliated with Charles Engelhard, Inc., where he was engaged in research and development of industrial instruments. In 1954 he joined the

Boeing Airplane Company, Seattle, Wash., and became engaged in the analysis of fire control systems and radar detection.



G. TYRAS

He is presently involved in research on microwave propagation through anisotropic media and is doing further graduate work in electrical engineering at the University of Washington under the Boeing Graduate Study Program.



A. T. Villeneuve (S'52-A'53) was born on March 14, 1930, in Syracuse, N. Y. He received the B.E.E. degree from Manhattan College, New York, N. Y., in June, 1952.



A. T. VILLENEUVE

From 1952 until 1955 he served as a research assistant at Syracuse University, where he received the M.E.E. degree in February, 1955. Since 1955 he has been an instructor at Syracuse, where he is continuing graduate work. His experience includes work on antennas and microwave devices as well as theoretical research in electromagnetic problems.

He is an associate member of Sigma Xi and a member of Eta Kappa Nu.



Lester M. Winslow was born in Los Angeles, Calif. on September 5, 1927. He served in the U. S. Navy from 1945 to 1948



L. M. WINSLOW

and from 1951 to 1952. He received the B.E.E.E. degree from the University of Southern California, Los Angeles in 1953, the M.S.E.E. degree in 1955, and the Degree of Engineer in 1956, both from Stanford University, Stanford, Calif.

From April, 1954 to March, 1958 he held an appointment as a research assistant at the Stanford Microwave Laboratory. In March, 1958, he joined the Raytheon Manufacturing Company in Santa Barbara, Calif. Mr. Winslow is a member of Sigma Xi, Tau Beta Pi, and Eta Kappa Nu.

