

# Contributors

**E. G. Cristal** (S58-M'61), for a photograph and biography please see p. 718 of the September, 1965 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 from the University of Connecticut, Storrs, in 1949; the M.S. degree from Stanford University, Stanford,

Calif., in 1959; and the degree of Engineer, also from Stanford, in 1961—all in electrical engineering.

Between 1950 and 1957 he worked at Technicraft Labs., Thomaston, Conn., and the Westinghouse Electric Co., Baltimore, Md., on the design and development of waveguide components and assemblies. From 1957 to 1962 he was on the staff of the Stanford Research Institute, Menlo Park, Calif., where he worked on antennas and transmission-line components. In 1962 he became a staff member at Lincoln Lab., Massachusetts Institute of Technology, Lexington, where he has been working on broadband microwave amplifier problems.



**Walter T. Grandy, Jr.** was born in Philadelphia, Pa., on June 1, 1933. He received his B.S. in applied mathematics in 1960 from the University of Colorado, Boulder, where he also obtained the Ph.D. degree in physics in 1964.

He joined the staff of the National Bureau of Standards in 1958 where he was attached to the Radio Standards Lab. From the period 1958-1962, he was engaged primarily in mathematical analysis related to the Michelson and Fabry-Perot microwave interferometers. After 1962 his interests turned to plasmas, particularly as related to equilibrium statistical mechanics. Since 1963 he has been an Assistant Professor in the Department of Physics of the University of Wyoming, Laramie, and his current research interests are primarily concerned with the

quantum statistical mechanics of ionized gases.

Dr. Grandy is a member of the American Physical Society, Sigma Pi Sigma, Tau Beta Pi, Sigma Xi, American Association of University Professors, and the American Association for the Advancement of Science.

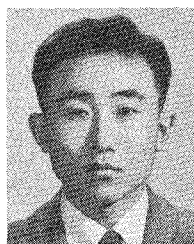


**David M. Kerns** was born in Minneapolis, Minn., on October 7, 1913. He received the degree of B.E.E. from the University of Minnesota, Minneapolis, in 1935. He received the Ph.D. in physics from Catholic University, Wash-

ington, D. C., in 1951.

After receiving his degree from the University of Minnesota he was employed there until 1940 as a Teaching Assistant and as a Research Assistant. This was followed by approximately two years in the Aerial Camera Lab., Wright Field, Dayton, Ohio, where he was in charge of the Electrical Unit. In 1942 he began his service in the Signal Corps, U. S. Army; his principal tour of duty was at the wartime M.I.T. Radiation Laboratory, Cambridge, Mass., as project liaison officer associated with microwave fire control radar and microwave test equipment. He joined the Microwave Standards Section of the U. S. National Bureau of Standards in 1946, and in 1949 became Assistant Chief of the Section. He is now Consultant on mathematical physics for the Radio Standards Lab. in the Boulder Labs. of the National Bureau of Standards. He has worked primarily in the electromagnetic theory of waveguides and waveguide junctions.

Dr. Kerns is a member of Sigma Xi, Tau Beta Pi, and Eta Kappa Nu.



**Chung-li Ren** was born in Chefoo, China, on June 1, 1931. He received the B.S. degree from the Taiwan College of Engineering, Taiwan, China, in 1953, and the M.S. degree from the University of Notre Dame, Ind., in

1957, both in electrical engineering. He received the Ph.D. degree in electrophysics

from the Polytechnic Institute of Brooklyn, N. Y., in 1964.

From 1954 to 1955, he was with the Communication Department at the Taiwan Power Company, and from 1957 until 1959 he was a Senior Research Fellow at the Polytechnic Institute of Brooklyn. In 1960, he became a Senior Graduate Assistant at the Microwave Research Institute of the Polytechnic Institute, where he has been engaged in research on wave propagation and scattering in the multimode waveguides, and other related topics in electromagnetic theory. He was also a Lecturer in the Electrical Engineering Department at the Polytechnic Institute of Brooklyn. In 1965 he became a member of the technical staff at the Bell Telephone Laboratories, North Andover, Mass., where he has been participating in the research and development of various microwave transmission systems.

Dr. Ren is a member of Sigma Xi.



**C. W. Steele** (S'47-A'50-M'55) was born in Galesburg, Ill., on November 13, 1924. He received the B.S. and M.S. degrees in electrical engineering from the University of Illinois, Urbana, in 1948 and 1950, respectively.

He engaged in antenna research and development at Electronics Research, Inc., Evansville, Ind., from 1950 to 1951, and at Stanford Research Institute, Menlo Park, Calif., from 1951 to 1956. From 1956 to 1959 he was concerned with study and development of microwave devices at General Electric Microwave Laboratory, Palo Alto, Calif., and between 1959 and 1963, he supervised the development of antennas and microwave circuits at Philco Western Development Laboratories, Palo Alto, Calif. He was a technical staff member at Stanford Linear Accelerator Center from 1963 to May, 1964. He was a full-time graduate student in computer science at Stanford University, from June, 1964 until March, 1965, when he joined Ames Research Center, Moffett Field, Calif. as a mathematician.

Mr. Steele is a member of Eta Kappa Nu.



**Leo Young** (M'54-SM'57), for a photograph and biography please see p. 481 of the July, 1965 issue of these TRANSACTIONS.