

Contributors

L. Paul Bolgiano, Jr., (M'56) was born in Baltimore, Md., on June 20, 1922. He received the B.S. degree in engineering from Haverford College, Haverford, Pa., in 1943. He received the M.A. degree in mathematics and the Ph.D. degree in physics both from the Johns Hopkins University, Baltimore, in 1947 and 1953.

During World War II, he served as a radar maintenance officer in the U. S. Navy. He taught at the U. S. Naval Academy, Annapolis, Md., for two years and at St. John's College, Annapolis, Md., for one year under a Ford Foundation Fellowship. In 1955, he joined the faculty of the University of Delaware, Newark, Del., where he is now an associate professor of electrical engineering. He has spent the past two summers at Stanford University, Stanford, Calif., as a research associate. His areas of interest include ionospheric propagation, radio astronomy, and noise theory.

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



L. P. BOLGIANO, JR.

been employed since 1958 by Columbia's Department of Electrical Engineering as a Research Assistant on a project dealing with surface wave structures incorporating dielectric and ferroelectric materials at microwave frequencies.

Mr. Diament is a member of Tau Beta Pi and Eta Kappa Nu.



John J. Faris (M'59) was born in Grandview, Washington, on November 7, 1921. He graduated from Reed College, Portland, Oregon, in 1943, and received the Ph.D. degree in physics from the University of Washington, Seattle, in 1951.

From that time he has been teaching physics, first at Pacific University, Forest Grove, Ore., and since 1954, at Colorado A & M College, Fort Collins, Colo.

During the summers of 1955 and 1958, he was employed at the Boulder Laboratories of the National Bureau of Standards, Boulder, Colo. His fields of major interest include secondary emission of electrons, solid-state physics, and microwaves.

Dr. Faris is a member of the American Physical Society, the American Association of Physics Teachers, Sigma Xi, and Phi Kappa Phi.



J. J. FARIS

Paul Diament was born in Paris, France, on November 14, 1938. He came to the United States in 1948, and attended Columbia University, New York, N. Y., where he received the B.S. and M.S. degrees in electrical engineering in 1960, and 1961, respectively. He is pursuing graduate studies at Columbia where he expects to earn the Ph.D. degree with the aid of a National Science Foundation fellowship.

In conjunction with his studies, he has



P. DIAMENT

Peter Foldes (M'58), for a photograph and biography, please see page 206 of the March, 1961, issue of these Transactions.



Robert C. Hansen (S'47-A'49-M'55-SM'56) was born in St. Louis, Mo., on August 3, 1926. His schooling at the Missouri School

of Mines and Metallurgy, Rolla, was interrupted in 1944 for a period of U. S. Navy service as an RT and electronics instructor;



R. C. HANSEN

he returned and received the B.S.E.E. degree in 1949. The M.S. and Ph.D. degrees were obtained from the University of Illinois, Urbana, in 1950 and 1955, respectively. While there he worked in the Antenna Laboratory on ferrite loops, streamlined airborne antennas, and DF and homing systems. Subsequently he was senior staff engineer in the Microwave Laboratory of Hughes Aircraft Company, Culver City, Calif., working on surface-wave antennas, slot arrays, near fields and radio-power transfer, electronics scanning and steerable arrays, and dynamic antennas. In 1960 he became a senior staff engineer in the Telecommunications Laboratory of Space Technology Laboratories, Inc., Los Angeles, Calif.; there he engaged in communications satellite, telemetry, tracking, and command studies. After the formation of Aerospace Corporation, Los Angeles, Calif., he became senior staff scientist in their Electronics Laboratory.

Dr. Hansen is a member of the American Physical Society, Tau Beta Pi, Sigma Xi, Eta Kappa Nu, Phi Kappa Phi, and Commission 6 of URSI. He is a registered Professional Engineer in Missouri, and an Associate Editor of the *Microwave Journal*.



Alexander Hessel (M'54) was born on October 19, 1916, in Vienna, Austria. He received his M.Sc. degree in physics from the Hebrew University in Jerusalem, Israel, in 1944, and the D.E.E. degree in 1960 from the Polytechnic Institute of Brooklyn, Brooklyn, N. Y.

From 1945 to 1948, he was engaged as a radio engineer with a broadcasting station in Jerusalem, Palestine. From 1948 to 1951 and from 1953 to 1956, he was employed with the Research Division of the Israeli Ministry of Defense, doing work in electron-

ics and microwaves. In 1955 and 1956, he was a lecturer in Microwave Transmission Systems at the Technion in Haifa, Israel.

Since 1957, he has been with the Polytechnic Institute of Brooklyn at its Microwave Research Institute, where he is engaged in studies on leaky wave and modulated antennas and on the propagation of electromagnetic waves in plasmas.

Dr. Hessel is a member of Sigma Xi.



A. HESSEL

James D. Kellett (S'56-M'58) was born in Shinglehouse, Pa., on December 20, 1931. He received the B.E.E. degree from Rensselaer Polytechnic Institute, Troy, N. Y., in 1957. Since joining Sylvania Electric Products, Inc., in 1957, he has been engaged in the development of microwave components and system applications. In February, 1961, he transferred from Sylvania's Antenna and

Microwave Laboratory at Waltham, Mass., to Sylvania's Communication Laboratory at Amherst, N. Y.

Mr. Kellett is an associate member of Sigma Xi.



J. D. KELLETT
Microwave Laboratory at Waltham, Mass., to Sylvania's Communication Laboratory at Amherst, N. Y.

Mr. Kellett is an associate member of Sigma Xi.

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Howard E. King (A'46-M'55-SM'55) was born in Seattle, Wash., on October 16, 1924. He received the B.S.E.E. degree in

1945 from the University of Washington, Seattle, and the M.S.E.E. degree in 1955 from the University of Illinois, Urbana.

From 1946 to 1952, he was a member of the broadcast section of the RCA Victor Division, designing FM and television transmitting antennas;

he took part in the development of the Empire State Building multiple television antenna system. After a year with the Andrew Corporation, he was appointed a research assistant of the Antenna Laboratory of the University of Illinois, where he remained until 1955. Subsequently, he became a member of the technical staff of the Space Technol-

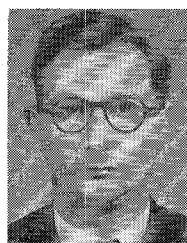


H. E. KING

ogy Laboratories, Inc., Los Angeles, Calif., where he engaged in the development of electronic countermeasures, antennas and components; and high-power transmitters, filters and diplexers. In January, 1961, he joined Aerospace Corporation, Los Angeles, where he is presently employed.

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L. Lewin was born in Essex, England, on July 22, 1919. He received his education at Southend High School.



L. LEWIN

During World War II he was engaged at the Admiralty Signals Establishment on the design of radar antennas and waveguide components. In 1946, he joined Standard Telecommunication Laboratories, Harrow, Essex, England, becoming head of the microwave department in 1951. He is engaged in research on waveguides and components, antennas, noise and electromagnetic theory, and has recently been appointed chief engineer in charge of the Research Group, responsible for advanced studies in several fields.

Mr. Lewin is a member of the IEE.

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Arthur A. Oliner (M'47-SM'52-F'61) was born in Shanghai, China, on March 5, 1921. He received the B.A. degree from Brooklyn College, N. Y., in 1941, and the Ph.D. degree in physics from Cornell University, Ithaca, N. Y., in 1946.

While at Cornell, he held a graduate teaching assistantship in the physics department and also conducted research on an Office of Scientific Research and Development project. Since 1946 he has been with the Microwave Research Institute of the Polytechnic Institute of Brooklyn, N. Y., where he has conducted research on a wide variety of topics in the microwave field. He has also taught graduate courses in physics and electrical engineering, and is a research professor.

Dr. Oliner is chairman of USA Commission 1 and a member of Commission 6 of URSI. He also serves as chairman of a National Academy of Sciences Advisory Panel to the National Bureau of Standards.

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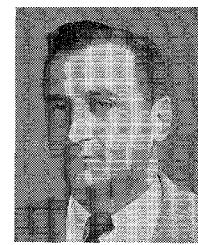
Frank Reggia (A'55-SM'59) was born in Northumberland, Pa., on October 30, 1921. He is a graduate of the Radar Materiel

School, Naval Research Laboratory, Washington, D. C., and did his graduate and undergraduate work at George Washington and Maryland Universities.

While a member of the Armed Forces, he served as an electronic specialist in both the United States and South Pacific Theatre before and during World War II. He joined the technical staff of the National Bureau of Standards in 1945,

where he was engaged in a research and development program on microwave standards.

Mr. Reggia joined the Microwave Branch of the Diamond Ordnance Fuze Laboratories, Army Ordnance Corps, Washington, D. C., in 1954, as an electronic engineer, where he has since been engaged in a study of the properties of ferrites and their applications to microwave systems.



F. REGGIA

John M. Richardson (SM'56) was born in Rock Island, Ill., September 5, 1921. He received the B.A. degree in physics from the University of Colorado, Boulder, in 1942, and served as Electronics Officer in the USNR from 1943 to 1946 on the staff of various electronics officer-training schools. He received the M.A. and Ph.D. degrees in physics, the latter in 1951, from Harvard University, Cambridge, Mass.



J. M. RICHARDSON

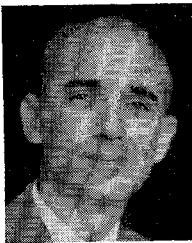
He was subsequently employed by the Denver Research Institute, Denver, Colo. Since 1952 Dr. Richardson has been with the Boulder Laboratories of the National Bureau of Standards, Boulder, Colo. There, his work has been in the area of microwave physics, including microwave spectroscopy, microwave interferometry and microwave diagnosis of ionized gases, especially, as these fields have bearing on standards and physical constants. His present position is Chief of the Radio Standards Laboratory.

Dr. Richardson is a Fellow of the American Physical Society, a member of Sigma Xi, the Research Society of America, and Commission 1 of the International Scientific Radio Union. He serves on the editorial board of the NBS *Journal of Research*.

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S. Perry Schlesinger (M'55) was born in New York, N. Y., on October 9, 1918. He received the B.A. degree from Michigan State College, East Lansing, in 1941, the M.S. degree from Union College, Schenectady, N. Y.,

in 1950, and the Dr. Eng. degree from The Johns Hopkins University, Baltimore, Md., in 1957.



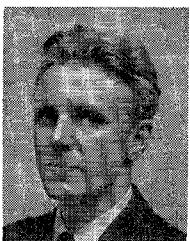
S. P. SCHLESINGER

In 1946, following war service as a destroyer engineer officer, he joined the General Electric Company, Schenectady. He subsequently served as an Assistant Professor of electrical engineering on the faculties of Union College and the U. S. Naval Academy, Annapolis, Md. From 1953 to 1956, he was a Research Associate at the Radiation Laboratory of Johns Hopkins, working on back-scattering problems, millimeter techniques, and problems in dielectric image line transmission. He is now an Associate Professor of electrical engineering at Columbia University, New York, N. Y., where, in addition to teaching and consulting, he is engaged in research on surface wave guiding and radiating structures.

Dr. Schlesinger is a member of Sigma Xi and Phi Kappa Phi.

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Roelif Stapelfeldt (M'58) was born in New York, N. Y., on August 31, 1929. He received the B.S. degree in 1954, the M.S. degree in 1955, and the Ph.D. degree in 1961 in electrical engineering from the Carnegie Institute of Technology, Pittsburgh, Pa.



R. STAPELFELDT

Since 1956, he has been associated with the Research Department of the Union Switch and Signal Division of the Westinghouse Air Brake Company, Pittsburgh, Pa., in the fields of transistor circuit design and infrared instrumentation. He has also been a part-time instructor at Carnegie.

Dr. Stapelfeldt is a member of Sigma Xi.

T. Bruce Thomson was born in Toronto, Canada, on March 27, 1934. He received the B.A.Sc. degree at the University of Toronto in 1957.



T. B. THOMSON

Upon graduation, he joined the antenna design group of the RCA Victor Company, Ltd., Montreal, Canada, where he was engaged with various microwave problems, *i.e.*, branching filters, high-quality waveguide systems and antennas. Since September, 1960, he

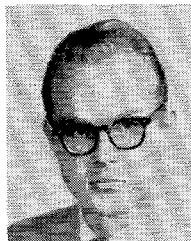
has been working for Computing Devices of Canada, Ltd., Montreal.

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Arvids Vigants was born in Bauska, Latvia, on February 19, 1932. He received the B.E.E. degree from the College of the City of New York, N. Y., in 1956. He then became an assistant in electrical engineering at Columbia University, New York, where he received the M.S. degree in June, 1957.

At present, he is an instructor of electrical engineering at Columbia, and is working on a doctoral dissertation for the D.Eng.Sc. degree.

Mr. Vigants is a member of Eta Kappa Nu, Tau Beta Pi, and Sigma Xi.



A. VIGANTS

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Max T. Weiss (S'43-A'45-M'55-SM'57) was born in Hungary, on December 29, 1922. He received the B.S. degree in electrical engineering from the College of the City of New York, N. Y., in 1943, and the M.S.E.E. and Ph.D. degrees in physics from the Massachusetts Institute of Technology, Cambridge, in 1947 and 1951, respectively.

He worked for RCA from 1943 to 1944,

and then served in the U. S. Navy at the Naval Ordnance Laboratory. From 1946 to 1950, he was Research Associate at the

M.I.T. Research Laboratory of Electronics, doing research on microwave spectroscopy. He joined Bell Telephone Laboratories, Holmdel, N. J. in 1950, where he was concerned with solid-state physics and, in particular, with the microwave properties and application of ferrites. More recently, he has done research in low-noise microwave amplification and in quantum electronics. He joined the Hughes Aircraft Company, Culver City, Calif., in 1959, where he was associate head of the Applied Physics Laboratory. Since March, 1961, he has been Director of the Electronics Laboratory of Aerospace Corporation, Los Angeles, Calif.

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Frederick J. Young (S'54-M'57) was born in Buffalo, N. Y., on May 19, 1931. He received the B.S. degree in 1953, the M.S. degree in 1954, and the Ph.D. degree in 1956, all in electrical engineering from the Carnegie Institute of Technology, Pittsburgh, Pa.

Since 1956, he has been an assistant professor of electrical engineering at Carnegie. He has been concurrently a research engineer in the

Solid-State Physics Department of the Westinghouse Research Laboratories, Pittsburgh, where he is concerned with ferromagnetism. He has served as a consultant to Union Switch and Signal Division of the Westinghouse Air Brake Company, Pittsburgh, and to the Cornell Aeronautical Laboratories, Buffalo.

Dr. Young is a member of the Acoustical Society of America, the ACM, the ASEE, Phi Kappa Phi, and Sigma Xi. He is an associate member of the AIEE.



M. T. WEISS



F. J. YOUNG