

## Contributors



**Hendrik Bosma** was born in Grootegast, The Netherlands, on April 21, 1931. In 1956, he received a degree in electrical engineering from the University of Technology, Delft, The Netherlands, where he was a research as-

sistant and did research work on closely spaced obstacles in waveguides.

In 1958, he joined the Philips Research Laboratories, Eindhoven, The Netherlands, where he was engaged in the research of non-reciprocal devices. Now he is involved in the study of linear noisy systems.

Mr. Bosma is a member of the Koninklijk Instituut van Ingenieurs, the Dutch Electronics and Radio Society and the Nederlandse Natuurkundige Vereniging.



**M. D. Coleman** was born in Naini-Tal, India, on May 10, 1931. He received the Full-Technological Certificate in telecommunication engineering at the City and Guilds of London Institute, England, in 1959.

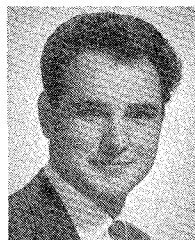
Since 1955, he has been concerned with the design of radar simulators and microwave ferrite devices at the Mullard Research Laboratories, England.



**John J. Cotter** was born in Wexford, Ireland, on September 18, 1937. He received the B.Sc. degree in experimental physics from University College, Dublin, in 1959. After graduation, he joined Mullard Equipment Ltd.,

Sussex, England, and in 1960 assisted in setting up the microwave components department. In 1962, he was assigned to Mullard Research Laboratories, where he worked on junction circulators in the ferrite devices group of the Systems Division. In June, 1963, he joined the Cascade Research Division of Huggins Laboratories Inc., Sunnyvale, Calif., where he is now engaged on special projects in the area of advanced ferrite studies.

**E. G. Cristal (M'61)**, for a photograph and biography, please see page 220 of the May, 1963, issue of these TRANSACTIONS.



**L. E. Davis** was born in Barking, Essex, England, on April 26, 1935. He received the B.Sc. degree from Nottingham University, England, in 1956, and the Ph.D. degree in electrical engineering from University College,

London, England, in 1960.

Since 1960, he has worked at Mullard Research Laboratories, England, on microwave ferrite devices.

Dr. Davis is a graduate member of the Institution of Electrical Engineers.



**W. J. Getsinger (S'48-A'50-M'55)**, for a photograph and biography, please see page 562 of the November, 1963, issue of these TRANSACTIONS.



**Meyer Gilden (S'47-A'48-M'55)** was born in Chicago, Ill. on June 21, 1924. He received the B.S. degree, in 1946, and the M.S. degree, in 1948, in electrical engineering from the Illinois Institute of Technology, Chicago, and the Ph.D. degree, in 1955, from the University of Illinois, Urbana.

He was employed as an instructor at Illinois Institute of Technology, from 1947 to 1948, and then at the University of Illinois, from 1948 to 1956, where he was Assistant Professor in the Electrical Engineering Department. At the university, he became a staff member of the Control System Laboratory and also engaged in research in gaseous electronics and radar systems. In 1956, he became a member of the Technical Staff of the General Electric Microwave Laboratory, Palo Alto, Calif., where his work involved research and development of microwave components using gaseous discharges, vacuum discharges and ferrite materials. From 1959 to 1961, he was a research engineer at Stanford Research Institute and was primarily involved in the design and development of parametric amplifiers and up-converters. In 1961, he joined the Tube Division of Microwave Associates, Burling-

ton, Mass., as a senior engineer participating in research and development problems in plasma physics and in high power transmission lines.

Dr. Gilden is a member of Sigma Xi, Eta Kappa Nu and the American Physical Society.



**Richard A. Hayami (M'62)** was born in Vancouver, B. C. on August 14, 1931. He received the B.Sc. degree from Carleton University, Ottawa, Canada, in 1961.

From 1954-1957 he was employed as a medical electronics

technician at the Montreal Neurological Institute. He then joined the Defence Research Telecommunications Establishment in Ottawa, where he was engaged in developing microwave equipment for indoor radar cross section measurements and for microwave diagnostics of the ionized wakes of hypersonic projectiles in ballistics ranges. In November, 1961, he joined the Defense Research Laboratories, General Motors Corporation, Santa Barbara, Calif., as an experimental physicist, and has been applying microwave diagnostic techniques to the measurement of plasma properties.

Mr. Hayami is a member of the American Institute of Aeronautics and Astronautics.



**Rogerio C. C. Leite** was born in Santo Anastacio, Sao Paulo, Brazil, on July 14, 1931. He received the Diploma de Engenheiro Electronico from the Instituto Tecnologico da Aeronautica, Sao Paulo, Brazil, in 1958 and

the doctor's degree from the University of Paris, France, in 1962.

Since 1958 he has been instructor at the Instituto Tecnologico de Aeronautica. On leave of absence from this institution, he joined the Bell Telephone Laboratories in 1962 as a member of the technical staff. He has since concentrated on the basic research on semi-conductor lasers.



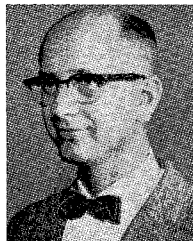
**Bernard C. De Loach Jr., (M'57)**, for photograph and biography, please see page 95 of the January, 1963, issue of these TRANSACTIONS.



**Jack H. Lepoff** (M'56-SM'58) was born in Portland, Me., on July 22, 1923. He received the B.S. degree in physics from the University of New Hampshire, Durham, in 1943, and the M.A. degree in physics from Columbia University, New York, N. Y., in 1948.

From 1954-1959, he worked with RF receiver systems and microwave component development at Motorola's System Research Laboratory, Riverside, Calif. He has been at various government laboratories in Washington, D. C., and California. He is now studying broadband tunnel-diode amplifiers at Sylvania Electronic Systems, West, Mountain View, Calif.

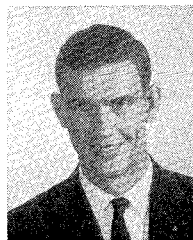
Mr. Lepoff is a member of RESA.



**George L. Matthaei** (S'49-A'52-M'57) was born in Tacoma, Wash., on August 28, 1923. He received the B.S. degree in electrical engineering from the University of Washington, Seattle, in 1948, and the Ph.D. degree from Stanford University, Calif., in 1952.

While at Stanford University, he was a Research Assistant in the Electronics Research Laboratory, where he did research on network synthesis. In 1951, he joined the faculty of the Division of Electrical Engineering of the University of California, Berkeley, where he was an Instructor and an Assistant Professor. He continued research on network synthesis, and supervised graduate student research in that field. From 1955 to 1958, he was a member of the technical staff on the Ramo Woolridge Corporation, Los Angeles, Calif., where he was engaged in system analysis and research on microwave components. In September, 1958, he joined the staff of Stanford Research Institute, Menlo Park, Calif., and has been engaged in microwave device research. In June, 1962 he became Manager of the Electromagnetic Techniques Laboratory of SRI.

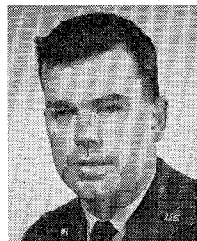
Dr. Matthaei is a member of Sigma Xi and Tau Beta Pi.



**G. H. Mongold** was born in Fairview, Okla., on October 8, 1932. He received the B.S.E.E. degree in electrical engineering from the University of Oklahoma, Norman.

He worked at McDonnell Aircraft from 1959 to 1960 in

systems engineering. He joined the Western Electric Field Force, Whippany, N. J., in 1960 and is now assigned to the Bell Telephone Laboratories, Whippany. His work has involved research and development of antennas and waveguide and microwave printed circuit components.



**John Bayly Payne, III** was born in Ft. Worth, Tex., on February 5, 1935. He received the B.S.E.E. degree from the Virginia Military Institute, Lexington, in 1958. He received the M.S. degree from the University of

Southern California, Los Angeles in 1960, while working part time as a member of the technical staff at Hughes Aircraft Company. While at Hughes Aircraft Company, he was responsible for the circuit design and systems integration of several units in their pulse Doppler airborne radar system. In 1962, he received the Ph.D. degree from Pennsylvania State University, University Park.

Before entering the United States Air Force, he worked for the General Electric Company, in the field of parametric amplification and solid-state power regulation. Presently he is Project Officer at the Rome Air Development Center, Griffiss Air Force Base, N. Y.

Dr. Payne is a member of Sigma Xi.



**Joseph J. Pergola** (M'63) was born in Waltham, Mass., on October 13, 1939. He received the B.S. degree in physics from the Massachusetts Institute of Technology, Cambridge, in 1961. He is now working toward the

Master's degree at Northeastern University, Boston, Mass.

Since 1961, he has been employed at Microwave Associates, Burlington, Mass., in the Electron Tube and Device Division. His work has included experimental and theoretical studies in problems of heat transfer in microwave systems, microwave breakdown and other related problems.



**Robin I. Primich** (S'48-A'50-M'55) was born in Johannesburg, South Africa, on June 17, 1927. He received the B.Sc. (E.E.) degree from the Witwatersrand University, Johannesburg, in 1949, the D.I.C. (Diploma Imperial College) from Imperial College, London, England, and the Ph.D. degree from the University of London, England, both in 1954.

From 1955 to 1961 he was employed by the Canadian Defence Research Board at



the Defense Research Telecommunications Establishment, Shirley Bay, Ottawa, Canada, where he was responsible for the development and use of microwave techniques associated with model radar cross-section studies

and the investigation of ionization caused by models in free-flight ranges. Since 1961 he has headed the Microwave Physics Laboratory, of the GM Defense Research Laboratories, General Motors Corporation, Santa Barbara, Calif., where the main activity is in plasma diagnostics for free-flight ranges and shock tubes.



**Frans C. de Ronde** was born in Schiedam, The Netherlands, on June 20, 1923. He received the degree in electrical engineering from the Technische Hogeschool of Delft, The Netherlands, in 1953.

He joined the Philips Research Laboratories at Eindhoven, The Netherlands in 1952, where he is concerned with research on microwave techniques and components.

Mr. de Ronde is a member of the Royal Netherlands Institute of Engineers and the Netherlands Radio Institute.



**Bernard M. Schiffman** (S'51-A'53-M'57) was born in New York, N. Y., on December 5, 1915. He received the B.S. degree in electrical engineering from State University of Iowa, Iowa City, in 1952, and the M.S.

degree in electrical engineering from Stanford University, Stanford, Calif., in 1959.

In 1952, he was employed at the Hazeltine Electronics Corp., Little Neck, N. Y. From 1954 to 1956, he worked at Sylvania's Electronic Defense Laboratory, Mountain View, Calif., where he designed a high-power countermeasures transmitter and did microwave component research. In 1956, he joined the Microwave Group of Stanford Research Institute, Menlo Park, Calif., where he helped develop the first waffle-iron filter. From 1959-1961, he worked at Varian Associates and there invented new forms of the orthogonal mode mixer. In 1962, he returned to the Electromagnetic Techniques Laboratory of SRI where he is engaged in microwave component research.

Mr. Schiffman is a member of the Scientific Research Society of America and Eta Kappa Nu.



**P. H. Smith** (A'34-SM'42-F'52) was born in Lexington, Mass., on April 29, 1905. He received the B.S. degree in electrical engineering from Tufts, Medford, Mass., in 1928.

He immediately joined Bell Laboratories as a member of the technical staff. He has been concerned principally with development of antennas, waveguides and associated circuits for the Bell System radio telephone links, commercial radio broadcasting and military radar systems.

He is the inventor of the transmission line matching stub, the optimum-impedance coaxial line for high-frequency power transmission, and the clover leaf antenna. He is the originator of the circular transmission line reflection chart commonly identified with his name.



**C. T. Tai** (S'44-A'48-SM'51-F'62) was born in Soochow, China, on December 30, 1915. He received the B.S. degree from Tsing Hua University, Peiping, China, in 1937, and the D.Sc. degree from Harvard University, Cambridge, Mass., in 1947.

He was a Research Fellow at Cruft Laboratory, Harvard University, from 1947 to 1949, and a Senior Research Associate at Stanford Research Institute, Calif., from 1949 to 1954. He joined Ohio State University, Columbus, as an Associate Professor of Electrical Engineering in 1954. From 1956 to 1960, he was a Professor of Electronics at Instituto Tecnológico de Aeronautica, São Paulo, Brazil. He returned to Ohio State University in 1960, where he is now a Professor of Electrical Engineering.

Dr. Tai is a member of Sigma Xi, USRI Commission VI, American Physical Society and Eta Kappa Nu.



**Richard A. Waldron** was born in Portsmouth, England, on July 11, 1925. He received the B.A. degree in natural sciences, in 1949, and the M.A. degree, in 1959, from Cambridge University, England.

In 1951, he joined the Research Laboratories of The Marconi Company, Ltd., England, where he is now leader of a section in the Mathematics and Systems Analysis Group dealing with waveguide theory and other topics.

In 1957 and 1960, he was awarded the Heinrich Hertz Premium of the British Institution of Radio Engineers for papers on waveguide theory. In 1961, he received an award for a set of articles on waveguide theory under the scheme of awards for technological writing by the British Radio and Electronics Industry. He is a Fellow of the Institute of Physics and a member of the British Institution of Radio Engineers.



**Frederick M. Waltz** (A'54-M'59) was born in Detroit, Mich., on June 20, 1932. He received the B.S.E. (E.E.) and M.S.E. (E.E.) degrees from the University of Michigan, Ann Arbor, in 1954 and 1960.

From 1954 to 1959 he was employed by the George L. Nankervis Co., Detroit, Mich., working on instrumentation and control systems and ultimately holding the title of Senior Engineer. Since 1959 he has been associated with the Cooley Electronics Laboratory of The University of Michigan, Ann Arbor, doing research in coaxial cavities, nonlinear systems, and electronic warfare. He is presently completing work for the Ph.D. degree and is a Registered Professional Engineer in the State of Michigan.

Mr. Waltz is a member of Tau Beta Pi,

Eta Kappa Nu, Sigma Si, Phi Kappa Phi, The Engineering Society of Detroit, and the Michigan Society of Professional Engineers.



**Robert J. Wenzel** (S'61-M'62) was born in Milwaukee, Wis., on September 11, 1939. He received the B.S. degree in electrical engineering from Marquette University, Milwaukee, Wis., in 1961, and the M.S. degree in

electrical engineering from the Massachusetts Institute of Technology, Cambridge, in 1962, under an Alfred P. Sloan Fellowship.

He joined the Research Laboratories Division of The Bendix Corporation, Southfield, Mich., in 1962, where he has been engaged in the development of exact synthesis techniques for distributed networks, solid-state parametric devices and harmonic generators.

Mr. Wenzel is a member of Tau Beta Pi, Eta Kappa Nu, Pi Mu Epsilon and an associate member of Sigma Xi.



**Gershon J. Wheeler** (SM'54) was born in Massachusetts on July 11, 1913. He received the A.B. degree in astronomy from Harvard University, Cambridge, Mass., in 1933.

He joined Sylvania's Microwave Physics Laboratory in 1957 after seven years at Raytheon. He is now a Senior Engineering Specialist at Sylvania's Electronic Defense Laboratories, West, Mountain View, Calif.

He is an Editorial Specialist for the *Microwave Journal* and on the review board for the PTG/MTT TRANSACTIONS.

Mr. Wheeler is a member of RESA.