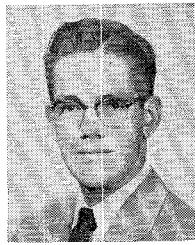


# Contributors

Frank R. Arams (S'44-A'49-SM'55), for a photograph and biography, please see page 105 of the January, 1961, issue of these TRANSACTIONS.

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Richard O. Bell was born in Havre, Mont., on February 16, 1933. He received the B.S. degree in engineering physics in 1955 from Montana State College, Bozeman. After studying at the University of Freiburg, Germany, and at the University of California at Los Angeles, he received the M.S. degree in physics from the latter institution in 1958. He received the M.A. degree in applied physics from



R. O. BELL

Harvard University, Cambridge, Mass., in 1960.

From 1955 to 1958, he was a member of the technical staff of Hughes Aircraft Company, Culver City, Calif. During the summer of 1959, he worked as a physicist at Air Force Cambridge Research Center. In February, 1960, he joined the Raytheon Research Division as an associate research staff member. He has been measuring dielectric properties of ferroelectric materials in the microwave region.

Mr. Bell is a member of Tau Beta Pi and Phi Kappa Phi.

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Philip S. Carter, Jr., (S'48-A'50-M'56) was born in Marion, Mass., on May 23, 1926. He received the B.E.E. degree from



P. S. CARTER, JR.

where he was engaged in the research and development of flush-mounted aircraft antennas. From 1949 to 1950 he was a Laboratory Instructor in electronics at Stanford. In 1950 he joined the staff of the Stanford Research Institute where his work has included research in the development of airborne direction-finding antenna systems, studies of radio-frequency properties of

rocket exhaust gases, and investigations of mutual impedance properties of electronically-scanned antenna arrays. From 1958 to 1959 he was employed by Lockheed Missile and Space Division, Sunnyvale, Calif., where he was engaged in research in solid-state microwave applications. In June, 1959, he returned to Stanford Research Institute, where he is continuing this research.

Dr. Carter is a member of the Scientific Research Society of America and the American Physical Society.

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Edward S. Cassedy, Jr., (A'52-M'57) was born in Washington, D. C., on August 19, 1927. He received the B.S. degree in electrical engineering from Union College, Schenectady, N. Y., in 1949. In 1950 he received the M.S. degree from Harvard University, Cambridge, Mass., and in 1959 the Doctor of Engineering degree from The Johns Hopkins University, Baltimore, Md.

In 1951 he joined the staff at the U. S. Naval Ordnance Laboratory, White Oak, Md., and worked there on telemetering problems, and UHF circuit and antenna design. In 1954 he transferred to the Radiation Laboratory of The Johns Hopkins University, where he was engaged in research on electromagnetic scattering and microwave techniques. In 1960 he joined the academic research staff at the Microwave Research Institute of the Polytechnic Institute of Brooklyn, N. Y. He is presently engaged in research on guided wave structures and parametric phenomena.

Dr. Cassedy is a member of Sigma Xi, the American Physical Society, and the American Association for the Advancement of Science.

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Marvin Cohn (S'49-A'51-M'57) was born in Chicago, Ill. on September 25, 1928. He received the B.S. degree in 1950 and the M.S. degree in electrical engineering in 1953, both from the Illinois Institute of Technology, Chicago. In 1960 he received the Doctor of Engineering degree from The Johns Hopkins University, Baltimore, Md.

From 1951 to 1952 he was employed by the Glenn L. Martin Company, Baltimore; he was with the Radiation Laboratory of Johns Hopkins from 1952 until he entered the U. S. Army Signal Corps in 1953. He was stationed at White Sands Proving Grounds

where he worked on the analysis of missile tracking systems.

In 1955 he returned to the Radiation Laboratory where he has done research and development work on broad-band and superheterodyne receivers and surface-wave transmission lines. He was Head of the Millimeter Wave Techniques Group of the Radiation Laboratory.

Since July of 1960, Dr. Cohn has been a Research Scientist with the Research Division of Electronic Communications, Inc., Timonium, Md. He is currently engaged in work on millimeter wave systems and ferroelectric materials and devices.

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

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Robert V. Garver (M'57) was born in Minneapolis, Minn., on June 2, 1932. He attended the University of Maryland, College Park, where he was awarded the B.S. degree in physics in 1956.

In 1956, he became affiliated with the Microwave Development Section of Diamond Ordnance Fuze Laboratories, Washington, D. C., where he has been working on microwave semiconductors.

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

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Bernard Kaplan was born in Brooklyn, N. Y., on December 19, 1936. He received the B.S. degree in physics from Brooklyn College in 1957.

Upon graduation, he joined Sylvania Electric, Woburn, Mass., as a Test Engineer in the Microwave Tube Division. In 1958, he joined Airtron, Inc., Cambridge Division, where he worked on ferrite isolators, circulators, and switches. In 1959,



B. KAPLAN

he joined Airborne Instruments Laboratory, Melville, L. I., N. Y., where he was concerned with the development of wide-band circulators. In 1960, he returned to Airtron, now located in Morris Plains, N. J., where he is presently engaged in work on parametric amplifiers. He is currently taking graduate physics courses at New York University, N. Y.

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Walter M. Nunn, Jr. (M'54-SM'55) was born in New Orleans, La., on September 16, 1925. He received the B.S.E.E.

degree from Tulane University of Louisiana, New Orleans, in 1950 and the M.S.E.E. degree from Oklahoma State University of Agriculture and Applied Science, Stillwater, in 1952.

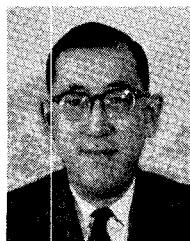
He taught electrical engineering at Oklahoma State from 1950 to 1952, and at Rensselaer Polytechnic Institute, Troy, N. Y., from 1952 to 1954. From 1954 to 1956 he served as a Research Engineer in the Ground Radar Department of the Hughes Aircraft Company, Culver City, Calif. Since 1956, he has been associated with the Electron Physics Laboratory of the University of Michigan, Ann Arbor, where he has recently completed the requirements for the Ph.D. degree in electrical engineering. He has been engaged in precision microwave measurements and in the study of electrostatically-focused microwave electron beam devices.

W. M. NUNN, JR.

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

Akira Okaya was born in Kobe, Japan on October 10, 1920. He was educated at the Department of Aeronautical Science, Nagoya University, where he received the Kō-Gakushū degree (corresponding to a degree between the Bachelor's and Master's in the U. S.).

During World War II, he was engaged in the design of aircraft at the Japan Naval Aeronautical Research Laboratory in Yokosuka. He started his career in physics in 1946 at the Physics Department of Kyoto University, Japan. An instructor there from 1948 to 1957, he began work on microwave spectroscopy in 1950, a study which continues to absorb much of his attention. He was a member of the Japanese Government Committee on Radio Technique and en-



A. OKAYA

gaged in atomic clock experiments in Japan prior to receiving the Rigaku-Hakase degree (similar to the Ph.D. degree) from Kyoto University in 1956. His thesis for this degree was on the subject of millimeter microwave spectroscopy. In 1955, he became a Research Associate in the Chemistry Department, Columbia University, New York, N. Y., on a Fulbright travel grant, where he worked with nuclear magnetic resonance of liquids and gases. In 1957, he became a staff member of the Columbia Radiation Laboratory, connected with the Physics Department, where, for the past three years, he has been engaged in work on gas maser spectroscopy, the solid-state maser, electron paramagnetic resonance, and microwave electronics.

Dr. Okaya is a member of the American Physical Society and the Physical Society of Japan.

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Bernard Peyton (M'60) was born in New York, N. Y., on April 11, 1937. He received the B.S.E.E. degree from the College of the

City of New York, N. Y., in 1959 and is presently working toward the M.S.E.E. degree at the Polytechnic Institute of Brooklyn, N. Y.

He joined Airborne Instruments Laboratory, Melville, L. I., N. Y., in 1959, as an Engineer in the Department of Applied Electronics, where he

was concerned with the study of ferrite materials and the development of low-frequency nonreciprocal ferrite devices. Since 1960, he has been active in the design and development of traveling-wave masers.



B. PEYTON

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Lynn E. Paul (M'59) was born in Huntington, Ind., on October 9, 1926. He received the B.S. degree in physics from

Purdue University, Lafayette, Ind., in 1951, and the M.S. degree in physics from the University of Michigan, Ann Arbor, in 1957.

He has been employed by the University of Michigan Research Institute since 1951 and has been associated with the Electron Physics

Laboratory of the Electrical Engineering Department since 1953, where he is concerned with research on electron devices and techniques.

Mr. Paul is a member of both the American and International Vacuum Societies.

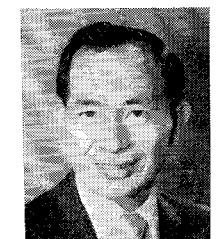


L. E. PAUL

Georg Rupprecht was born in Nürnberg, Germany, on May 13, 1922. He received the Diploma in physics in 1950 and the Ph.D. degree in 1953, both from the University of Erlangen, Germany.

From 1953 to 1954, he was a teaching assistant at the Institut für Angewandte Physik, University of Erlangen. During 1955 he served as a scientific co-worker at the AEG Research Laboratory, Belecke/Möhne, Germany. He came to the U. S. in October, 1955, and spent the next two years as a Research Associate at the University of Illinois, Urbana.

In 1958, Dr. Rupprecht joined the Raytheon Research Division, where he is now a senior research staff member of the Solid-State Physics Group working on surface and bulk properties of semiconductors and microwave properties of ferroelectric materials.



R. F. SOOHOO

From 1948 to 1951 he was engaged in the design and analysis of power systems while an assistant engineer for the Pacific Gas and Electric Company, San Francisco, Calif. He then became a research assistant at the Microwave Laboratory, W. W. Hansen Laboratories of Physics, Stanford, Calif., where he was involved with microwave tube research from 1951 to 1953. He was an electronics research assistant at the Stanford Electronics Laboratories, Stanford, Calif., in 1954 and 1956. From 1954 to 1955, he was a research engineer with the Cascade Research Corporation, Los Gatos, Calif., engaged in the design of ferrite devices. In 1957 he became Director of Research Analysis at the Cascade Research Corporation. His duties there included research in microwave ferrites, microwave tubes, and solid-state physics. At present, he is a physicist on the research staff of Lincoln Laboratory, MIT, Lexington, Mass., where he is engaged in theoretical and experimental physics research with particular emphasis on magnetism and resonance.

Dr. Soohoo is a member of the American Physical Society.