

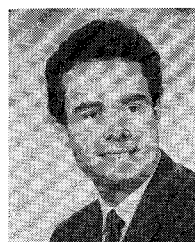
Contributors



P. Bernardi (M'66) was born in Civitavecchia, Italy, on March 29, 1936. He received the Dott.Ing. in Electrical Engineering at the University of Rome, Italy, in 1960.

From 1961 to 1963 he was Assistant of Microwaves and successively of Electromagnetic Fields and Circuits at the University of Rome. At the present time he is an Associate Professor at the same University. He is currently working on wave propagation in anisotropic media, periodic structures and on microwave applications of ferrites.

Dr. Bernardi is a member of the Associazione Elettrotecnica Italiana.



James J. Campbell was born in Philadelphia, Pa., on November 20, 1936. He received the B.S. degree in physics from St. Joseph's College, Philadelphia, in 1958, and the M.S. degree in physics from the University of Pennsylvania, Philadelphia, in 1960.

From 1958 to 1961 he was a Teaching and Research Assistant in the Department of Physics, University of Pennsylvania. From 1961 to 1962 he was an Instructor in the Department of Mathematics, LaSalle College, Philadelphia. From 1962 to 1964 he was a Research Engineer at North American Aviation, Downey, Calif., where he conducted theoretical studies in electromagnetics and plasma reentry effects. From 1964 to 1966 he was a member of the Electromagnetic Radiation Section of the Electro-Countermeasures Systems Department, Philco Corporation (Aeronutronic Division), Newport Beach, Calif., where he was engaged in analytical studies of wave propagation in inhomogeneous media, voltage breakdown phenomena, and antenna mismatch effects in the presence of ionized media. He is now with the System Techniques Department, Hughes Aircraft Company, Fullerton, Calif. Since joining Hughes he has been engaged in analytical studies of fixed beam radar tracking, signal processing, balanced strip delay lines, propagation of electromagnetic waves along multiconductor transmission lines, and the propagation of surface waves in piezoelectric media.



Leopold B. Felsen (S'47-A'53-M'54-SM'55-F'62) was born in Munich, Germany, on May 7, 1924. He received the B.E.E., M.E.E., and



D.E.E. degrees from the Polytechnic Institute of Brooklyn, Brooklyn, N. Y., in 1948, 1949, and 1952, respectively.

He came to the United States in 1940, and during World War II was concerned with work on electronic ballistic calibration devices in the U. S. Army. Since 1948 he has been with the Polytechnic Institute of Brooklyn, first with its Microwave Research Institute and presently with its Department of Electrophysics where he holds the position of Professor. On a leave of absence during the academic year 1960-1961, he served as a Liaison Scientist with the London Branch of the Office of Naval Research. His research work has dealt with a variety of areas in electromagnetic radiation and diffraction theory, and his present interest is centered primarily on quasi-optic techniques and on wave problems in plasmas and plasma-like media. He has been teaching graduate courses on various topics in electromagnetic theory, and, during the summer of 1967, he was a Visiting Professor at the University of Colorado, Boulder. During September, 1967, he was in Moscow as an invited guest of the Soviet Academy of Sciences for the purpose of lecturing and scientific discussion.

Dr. Felsen is a Vice Chairman of the U. S. Commission VI of URSI, and is a member of Eta Kappa Nu, Tau Beta Pi, and Sigma Xi. He was an Associate Editor of *Radio Science* and from 1962 to 1965 was a member of the Administrative Committee of the IEEE Professional Group on Antennas and Propagation.



Tatsuro Hayashi (M'66) was born in Tokyo, Japan, on April 7, 1929. He graduated from the Electrical Engineering Department, Hamamatsu Technical College, Hamamatsu, Japan, in 1950.

From 1956 to 1967, he was a Research Assistant at the Research Institute of Electronics, Shizuoka University, Hamamatsu. Since 1960, he has been a Lecturer in the Junior College of Engineering, Shizuoka University. In 1967, he joined Hamamatsu TV Company, Ltd., Hamamatsu, where he has been responsible for the survey and measurement of high-sensitivity optical detectors.

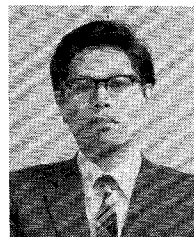
Mr. Hayashi is a member of the Institute of Electronics and Communication Engineers of Japan and the Institute of TV Engineers of Japan.



William R. Jones was born in Globe, Ariz., on November 8, 1932. He received the B.A. degree in mathematics from the University of California, Riverside, in 1957, and the M.S. and Ph.D. degrees in mathematics from Stanford University, Stanford, Calif., in 1958 and 1967, respectively.

From 1952 to 1954 he served in the U. S. Navy as a Training Devices Technician. From 1954 to 1957, while at the University of California, he was employed at the U. S. Naval Ordnance Laboratory, Corona, Calif., as a Microwave Technician. From 1958 to 1960 he was employed at the IBM Watson Laboratory, Yorktown Heights, N. Y., as a member of a microwave computer group investigating the application of microwave techniques to the development of high-speed logical circuits. In June, 1960, he joined Hughes Aircraft Company, Fullerton, Calif., where he concentrated primarily on the study of electromagnetic surface wave excitation and diffraction problems. From 1962 to 1966 he returned to full-time academic study at Stanford University with the aid of a Hughes Fellowship. Presently, he is head of the Applied Analysis Section at Hughes Ground Systems and is engaged in studies on the numerical solution of electromagnetic boundary value problems and the excitation and propagation of surface waves in piezoelectric materials.

Dr. Jones is a member of Sigma Xi.



Koichi Mikoshiba (M'67) was born in Nagano, Japan, on March 22, 1937. He received the B.S. degree in electrical engineering and the Ph.D. degree in engineering from Tohoku University, Sendai, Japan, in 1959 and 1967,

In 1959, he joined Hitachi Cable, Ltd., Tokyo, Japan, where he has been a Research Member of the Research Division. He has been engaged in the development of millimeter circular waveguides and UHF antenna systems for television broadcasting, and in the research and application of such nonconventional waveguide as surface waveguides, leaky waveguides, and beam waveguides.

Dr. Mikoshiba is a member of the Institute of Electronics and Communication Engineers of Japan.

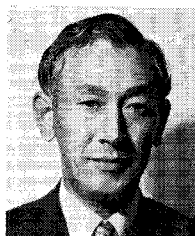




Ralph S. Mueller (S'61-M'67) was born in St. Louis, Mo., on December 3, 1939. He received the B.S., M.S., and D.Sc. degrees in electrical engineering from the Sever Institute of Technology at Washington University, St. Louis, Mo., in 1962, 1964, and 1967, respectively.

From 1965 to 1967, while holding an NASA traineeship, he investigated electromagnetic wave propagation in ferrite-filled waveguides. He is currently employed by the McDonnell Douglas Corporation, St. Louis, Mo., where he is engaged in research on solid-state lasers.

Dr. Mueller is a member of Sigma Xi.



Shigeo Nishida (SM'59) was born in Nagoya, Japan, on March 7, 1924. He graduated in 1949, and received the Doctor of Engineering degree in 1959, from Tohoku University, Sendai, Japan.

He has been with the Research Institute of Electrical Communication, Tohoku University, since 1949, from 1949 to 1955 as a Research Assistant, from 1955 to 1956 as an Assistant Professor, and since 1956 as a Professor. Two years, 1957 to 1959, were spent at the Microwave Research Institute of the Polytechnic Institute of Brooklyn, New York, where his major interests were in microwave guide and antenna problems.

Dr. Nishida is a member of Sigma Xi and the Institute of Electronics and Communication Engineers of Japan.



Edward W. Risley, Jr. was born in Pueblo, Colo., on February 24, 1932. He received the B.S. degree in geophysics from Colorado School of Mines, Golden, in 1954 and the M.S. degrees in physics and in mathematics



from the University of Colorado, Boulder.

He has been with the National Bureau of Standards, Boulder, since 1957 with an interim tour of duty from 1963 to 1965 in the United States Army Ordnance Corps. While serving in the Army at Redstone Arsenal, Ala., he had the opportunity to do research in the theoretical analysis of plasmas. Since his return to NBS he has been concerned primarily with the analysis of discontinuities in waveguides.



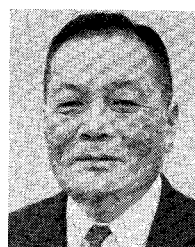
Fred J. Rosenbaum (S'57-M'63) was born in Chicago, Ill., on February 15, 1937. He received the B.S., M.S., and Ph.D. degrees in electrical engineering from the University of Illinois, Urbana, in 1959, 1960, and 1963, respectively.

While working toward the Ph.D. degree he was a Graduate Assistant at the university carrying out research on ferrites and Cerenkov radiation. In 1963 he joined the Research Division of McDonnell Aircraft Corp., St. Louis, Mo., where he worked on masers and dielectric resonators. In 1965 he became a member of the faculty of Washington University, St. Louis, Mo., where he is now an Associate Professor of Electrical Engineering. He also acts as a Consultant to Emerson Electric Company, St. Louis.



Iwao Takao (M'60) was born in Tokyo, Japan, on March 20, 1911. He received the B.S. and Ph.D. degrees from the University of Kyoto, Kyoto, Japan, in 1933 and 1948, respectively.

From 1936 to 1945 he was an Assistant Professor at Ryojun College of Engineering, Port Arthur, Manchuria, where he studied polyphase oscillators and multisplit anode



magnetrons. In 1944 he was appointed to the staff of the High Power Magnetron Division, Naval Technical Research Department, Shimada, Japan. In 1947 he joined Shimada Physical and Chemical Industrial Co., Tokyo, as Director of Research, where he conducted studies on microwave measuring instruments and industrial high-frequency power applications. Since 1955 he has been a Professor at the Research Institute of Electronics, Shizuoka University, Hamamatsu. He is presently engaged in research and teaching in the field of microwave electronics.

Dr. Takao is a member of the Institute of Electronics and Communication Engineers of Japan and of the Institute of Electrical Engineers of Japan.



Hung Yuet Yee was born in Canton, China, on May 25, 1935. He received the B.S.E.E. degree from the National Taiwan University, China, in 1958, the M.S. degree from the Ohio State University, Columbus, in 1961, the E.E. degree from Stanford University, Stanford, Calif., in 1963, and the Ph.D. degree from the Polytechnic Institute of Brooklyn, Brooklyn, N. Y., in 1968.

He was a Research Assistant at the Ohio State University from 1959 to 1961 and in the Microwave Laboratory at Stanford University from 1961 through 1963. From 1963 to 1966, he was a Research Associate at the University of Alabama Research Institute, Huntsville. He was a Senior Research Fellow and then a Senior Graduate Assistant at the Polytechnic Institute of Brooklyn from 1966 to 1968. At present, he is a Senior Research Associate at the University of Alabama Research Institute, where he is working in the areas of electromagnetics and microwaves.

Dr. Yee is a member of Sigma Xi.