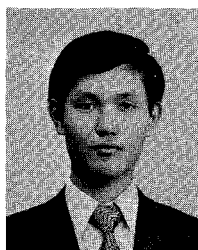


# Contributors

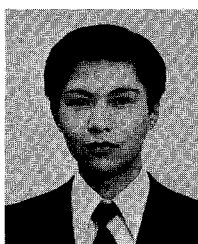


**Hideo Ashida** was born in Tokyo, Japan, on September 7, 1947. He received the B.S. degree in electrical engineering from Keio University, Kawasaki, Japan, in 1970.

In 1970 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan. He has since been engaged in the research and development of transferred electron devices and IMPATT-diode oscillators and amplifiers.

Mr. Ashida is a member of the Institute of Electronics and Communication Engineers

of Japan.



**Yoshimasa Daido** was born in Tokyo, Japan, on April 4, 1943. He received both the B.S. and M.S. degrees in electrical engineering from Tokyo Institute of Technology, Tokyo, Japan, in 1968 and 1970, respectively.

In 1970 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan. He has since been engaged in the research of microwave oscillators and amplifiers using transferred electron devices and IMPATT diodes and computer analysis of

active-device circuits.

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



**David L. English** (A'58) was born in Chillicothe, Ohio, on July 28, 1930. He received the B.S. degree in electrical engineering from the University of Southern California, Los Angeles, in 1967.

From 1948 to 1952 he served in the U. S. Navy as an Electronics Technician. From 1952 to 1954 he was a Research Associate at the Ohio State University Research Foundation. In 1954 he joined the Semiconductor Division, Hughes Aircraft Company, Los

Angeles, Calif., where he worked on techniques and instrumentation for characterizing semiconductor devices. He is presently a member of the technical staff of the Hughes Research Laboratories, Microwave Semiconductor Department, Torrance, Calif., where he has been involved in the development of millimeter-wave semiconductor devices and circuits.



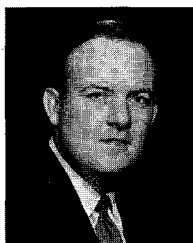
**Kenneth W. H. Foulds** (M'69) was born in London, England, on July 10, 1928. He received the B.Sc.(Eng). degree in electrical engineering with first class honors in 1949, and the Ph.D. degree in electrical engineering in 1953, both from University College, London, England.

From 1952 to 1955 he worked at Marconi's Wireless Telegraph Company Ltd., on the development of high-power L-band radar. In 1955 he joined the staff of the Electrical

Engineering Department at Imperial College, London, England. Since 1955 he has been with the Physics Department, University of Surrey, Guilford, Surrey, England (formerly Battersea College of Technology), where he is Reader in Microwave Physics. For the

year 1968-1969 he worked as a Research Fellow on the RADC post-doctoral program at Cornell University with Professor L. Eastman. His earlier research interest involved the interaction of electromagnetic waves and gaseous plasma columns, but since 1968 he has been primarily concerned with Gunn-effect devices operating in the LSA mode.

Dr. Foulds is a fellow of the Institution of Electrical Engineers (London).



**Russell A. Gilson** (M'70) received the B.S.E.E. degree from the University of Wisconsin, Madison, in 1960 and the M.S.E.E. degree from New York University, New York, in 1965.

Since 1961 he has been employed at the U.S. Army Electronics Command, Fort Monmouth, N. J. Until 1969 he specialized in linear integrated circuits and the design of micropower circuitry. For the past several years, he has been actively engaged at

USAECOM in the design and development of broad-band microwave integrated power amplifiers.



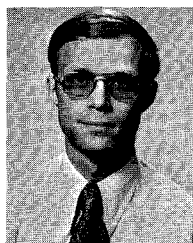
**Madhu-Sudan Gupta** (S'68-M'72) received the M.S. and Ph.D. degrees from the University of Michigan, Ann Arbor, in 1968 and 1972, respectively.

From 1968 to 1972 he carried out research on large-signal and noise characteristics of IMPATT diodes at the Electron Physics Laboratory, and taught in the Department of Electrical and Computer Engineering, University of Michigan. During 1972-1973 he was an Assistant Professor of Electrical Engineering at Queen's University, Kingston, Ont., Canada. He is presently engaged in research on semiconductor microwave devices and noise at the Research Laboratory of Electronics, and is an Assistant Professor in the Department of Electrical Engineering, Massachusetts Institute of Technology, Cambridge.

Dr. Gupta is a member of Eta Kappa Nu, Sigma Xi, and Phi Kappa Phi.



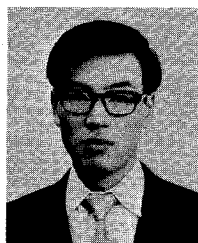
**George I. Haddad** (S'57-M'61-SM'66-F'72), for a photograph and biography please see page 655 of the October 1973 issue of this TRANSACTIONS.



**Phillip W. Hawkins** (S'72) was born in Buffalo, N. Y., on December 5, 1946. He received the B.S. degree and a commission from the U.S. Coast Guard Academy, New London, Conn., in 1969, and the M.S. degree in electrical engineering from the Air Force Institute of Technology, Wright-Patterson AFB, Ohio, in 1973.

From 1969 to 1971 he participated in the Scripps Institute of Oceanography North Pacific Study aboard the USCHC ACUSH-NET. He is currently assigned to the Ocean

Engineering Division, U.S. Coast Guard Headquarters, Washington, D.C.



**Masaji Honma** was born in Kobe, Japan, on March 30, 1945. He received the B.S. degree in electrical engineering from Shinshu University, Nagano, Japan, in 1967.

In 1967 he joined Kobe Kogyo Ltd., Kobe, Japan and engaged in the development and design of UHF transistor amplifiers. In 1968 he joined Fujitsu Ltd., Kawasaki, Japan, where he has been engaged in the development and design of nonlinear distortion compensation of the transistor amplifiers and IMPATT-

diode amplifiers for TV transmitters.

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

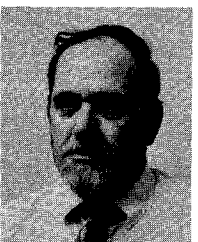


**Yukio Ito** (SM'71) was born in Iwate, Japan, on March 30, 1934. He received the B.S. degree in electrical engineering from Waseda University, Tokyo, Japan, in 1956.

From 1956 to 1961 he was with the Radio Transmission Engineering Department, Fujitsu Ltd., Kawasaki, Japan. In 1962 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., and is currently a Chief Engineer of the Microwave Components and Circuit Section. Since 1956 he has been

engaged in the research and development of microwave components and circuits, e.g., ferrite devices (isolator, circulator, and switch), tunnel-diode and transistor amplifiers, frequency converters (receiving mixer and transmitting up-converter), Gunn and avalanche-effect oscillators and amplifiers, filters, branching networks, and microwave integrated circuits.

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

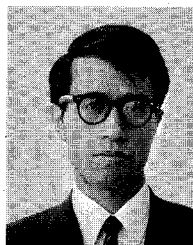


**Douglas J. Kelley** (M'61) was born in Lexington, Mass., on March 16, 1931. He received the Associate degree in electronic engineering and the B.S. degree in industrial technology from Northeastern University, Boston, Mass., in 1960 and 1964, respectively.

He joined Sylvania Electric Company, Waltham, Mass., in 1957 where, until 1966, he was concerned with the development, manufacture, and testing of microwave components for ECM and phased array systems.

Over the period 1966-1968, as an Advanced Development Engineer in the Electronic Systems Division, he was responsible for MIC component development. In late 1968 he joined the Semiconductor Division, Woburn, Mass., where he continued MIC component development until 1969, when he became responsible for the production of Sylvania's microwave solid-state product line. In 1970 he joined Sanders Associates, Nashua, N. H., as a Product Engineering Supervisor in the development of microwave integrated modules. Since 1971 he has been employed by Raytheon Company, Special Microwave Devices Operation, Waltham, Mass., as a Section Head responsible for product engineering on solid-state avalanche-diode oscillators and amplifiers.

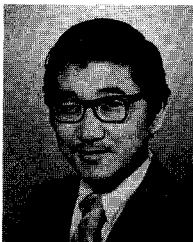
Mr. Kelley has coauthored several papers on integrated microwave circuits and is a member of the Professional Group on Microwave Theory and Techniques.



**Hidemitsu Komizo** (M'72) was born in Tokyo, Japan, on December 3, 1939. He received the B.S. degree in electrical engineering from the University of Electro-Communications, Tokyo, Japan, in 1962.

In 1962 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan. He has since been engaged in the research and development of microwave components and circuits, e.g., circular waveguide transmission circuits, filters, tunnel-diode and transistor amplifiers, and frequency converters (receiving mixer and transmitting up-converter). He is currently working on transferred electron devices, IMPATT-diode oscillators and amplifiers, and microwave integrated circuits.

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

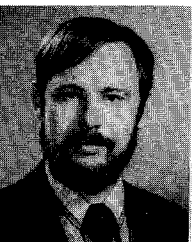


**H. J. Kuno** (S'61-M'63) was born in Osaka, Japan, on March 27, 1938. He received the B.S., M.S., and Ph.D. degrees in engineering from the University of California, Los Angeles, in 1961, 1963, and 1966, respectively.

From June 1961 to September 1966 he was with the Electronics Division of the National Cash Register Company, Hawthorne, Calif. His work concerned various projects, including the development of various digital and analog solid-state circuits, the charac-

terization and application of semiconductor devices and integrated circuits, and the development of high-speed thin magnetic film memories. From September 1965 to September 1966 he was a Post-Graduate Research Engineer, supported by a NASA Research Grant at the University of California, Los Angeles, investigating microwave and millimeter-wave propagation in solid-state plasmas. From October 1966 to July 1969 he was with the RCA Microwave Applied Research Laboratory, David Sarnoff Research Center, Princeton, N. J., as a member of the technical staff where he worked on solid-state microwave devices and high-power semiconductor devices. In July 1969 he joined Hughes Research Laboratories, Torrance, Calif., where he is currently Head of the Microwave Circuit Section in charge of research and development programs on solid-state microwave and millimeter-wave devices and circuits.

Dr. Kuno is a member of the American Physical Society and Tau Beta Pi.



**Richard W. Laton** (S'65-M'66-S'70-M'71) was born in Springfield, Ill., on October 31, 1937. He received the B.S. degree from the U. S. Naval Academy, Annapolis, Md., in 1959, and the M.S.E. and Ph.D. degrees in electrical engineering from the University of Michigan, Ann Arbor, in 1965 and 1973, respectively.

From 1959 to 1969 he served on active duty in the U. S. Navy and was involved in the construction of Navy shore facilities. From 1970 to 1972 he was employed by the Electron Physics Laboratory of the University of Michigan, Ann Arbor, doing research in IMPATT devices and their applications. He is currently a staff member at M.I.T. Lincoln Laboratory, Lexington, Mass., where he is engaged in research on solid-state devices for array radars.

Dr. Laton is a member of Tau Beta Pi and is a Registered Professional Engineer in the State of North Carolina.



**F. John Lidgley** was born in Surrey, England, on January 16, 1947. He received the B.Sc. degree in applied physics from Borough Polytechnic (now Polytechnic of the South Bank), London, England, in 1969.

Since 1970 he has been working on transferred electron devices in the Microwave Group, University of Surrey, Guilford, Surrey, England, where he is registered for a Ph.D. degree.



**John W. Monroe** (S'66-M'70) was born in Utica, N. Y., on November 5, 1945. He received the B.S., M.S., and Ph.D. degrees from Cornell University, Ithaca, N. Y., in 1966, 1968, and 1970, respectively.

Prior to joining Hewlett-Packard, Palo Alto, Calif., he developed a variety of oscillators and amplifiers using IMPATT and transferred electron devices at Watkins-Johnson Company. He is currently employed in the Microwave Components Department, Hew-

lett-Packard, where he is responsible for the manufacture of a number of transistor and IMPATT amplifiers.

Dr. Monroe is a member of Tau Beta Pi, Eta Kappa Nu, and the American Association for the Advancement of Science.



**S. F. Paik** (S'56-M'62) was born in Seoul, Korea, on November 12, 1935. He received the B.S. degree in electrical engineering from Northwestern University, Evanston, Ill., in 1958 and the M.S. and Ph.D. degrees from Stanford University, Stanford, Calif., in 1959 and 1961, respectively.

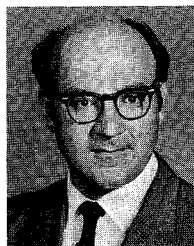
From 1959 to 1961 he was a Research Assistant at Stanford Electronics Laboratories. He was with Raytheon Research Division, Waltham, Mass., from 1961 to 1964, and dur-

ing the academic years 1964-1966 he was on the faculty of the Electrical Engineering Department at Northwestern University. After a brief association with NASA Electronics Research Center, Cambridge, Mass., in 1966, he joined Microwave Associates, Inc., Burlington, Mass., where he was engaged in R&D activities in high-power microwave tubes, gas-discharge devices, and solid-state microwave amplifiers. Since 1970 he has been with the Special Microwave Devices Operation (Micro State) of Raytheon Company, Waltham, Mass., where he is responsible for development of solid-state amplifiers and sources for microwave communication systems.

Dr. Paik is a member of Tau Beta Pi, Eta Kappa Nu, Pi Mu Epsilon, Phi Eta Sigma, and Sigma Xi.



**Dean F. Peterson** (S'67-M'67-S'70-M'71), for a photograph and biography please see page 65 of the January 1973 issue of this TRANSACTIONS.



**Octavius Pitzalis, Jr.** (S'58-M'60) graduated from Missouri University, Columbia, Mo., in 1959 and has taken graduate courses at New York University, New York.

Since 1959 he has been employed at the U.S. Army Electronics Command, Fort Monmouth, N. J. Until 1963 he specialized in digital microelectronics and micropower linear integrated circuits. From 1963 to the present he has been active in the develop-

ment of high-power broad-band transistor amplifiers in HF, UHF, and VHF. For the past four years he has had prime responsibility at USAECOM for the development of transistor microwave integrated power amplifiers.



**P. J. Tanzi** (S'61-M'73) received the B.S. degree from Tufts University, Medford, Mass., in 1963 and the M.S. degree from Northeastern University, Boston, Mass., in 1967, both in electrical engineering.

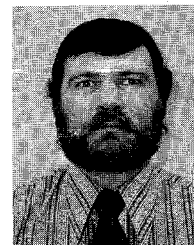
From 1963 to the present he has been with the Communication Systems Laboratory, Raytheon Company, Norwood, Mass., as a Circuit Design Engineer. Since 1967 he has been engaged in the design and development of digital communications systems.



**Harry A. Willing** (A'54-M'58) was born in Milford, Conn., on August 12, 1929. He received the B.S.E.E. degree from the University of Connecticut, Storrs, in 1952, and the M.S.E.E. degree from the University of Florida, Gainesville, in 1963.

From 1952 to 1957 he was with the Norden Division of United Aircraft, where he worked on the design and development of equipment for the production testing of missile components. From 1957 to 1963 he was with

Electronic Communications, Inc., where he designed VHF-UHF cavities and worked on adaptive antenna systems for tropospheric scatter links. From 1963 to 1967 he was with Sperry Microwave Electronics Division, where he investigated the electrical properties of microstrip lines on ferrite materials and the acoustic properties of various single-crystal media. From 1967 to 1971 he was with Texas Instruments, Incorporated, where he was engaged in the design and development of MIC's. Since 1971 he has been with Communications and Electronics, Martin Marietta Aerospace, Orlando, Fla., where he is currently designing RF power amplifiers for commercial microwave applications.



**Larry I. Yarrington** received the Ph.D. degree in solid-state physics from Ohio State University, Columbus, in 1969.

From 1969 through 1971 he was a Professor of Physics at Wright State University, and, while there, was instrumental in establishing curriculum for a bi-disciplinary doctoral program between biology and physics. In August 1971, he joined the Wright-Patterson AFB Avionics Laboratory, Ohio, and is presently involved in the develop-

ment of microwave power sources in solid-state as well as thermionic devices.