Contributors

Colin S. Aitchison was born in Morecambe, England, in 1933. He received the B.Sc. and A.R.C.S. degrees in physics from Imperial College, London, England, in 1955.

Since then he has worked for the Mullard Research Laboratories, Redhill, Surrey, England, where he was initially concerned with the noise reduction properties of direct-injection phase-locked klystrons for use with Doppler radar. He now leads a group concerned with the use of microwave semiconductor devices in circuits, and is concerned with parametric amplifiers, harmonic generators, tunnel-diode amplifiers, mixers, Gunn, and avalanche sources, as well as circuits containing lumped elements and ferrite material.

Mr. Aitchison is a member of the Institute of Physics.

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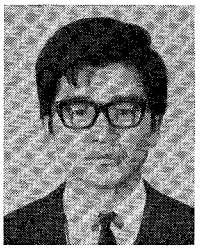

Yoshihiko Akaiwa was born in Nagasaki, Japan, on October 14, 1945. He received the B.S. degree in electronics engineering from Kyushu University, Fukuoka, Japan, in 1968.

In 1968 he joined the Nippon Electric Company, Ltd., Kawasaki, Japan, where he has been engaged in the research and development of microwave integrated circuits and ferrite devices.

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

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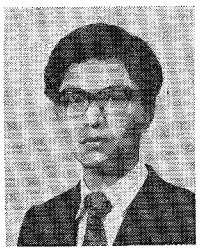

Yoshimasa Daido was born in Tokyo, Japan, on April 4, 1943. He received both the B.S. and M.S. degrees in electrical engineering from Tokyo Institute of Technology, Tokyo, Japan, in 1968 and 1970, respectively.

He joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan, in 1970, where he has been engaged in research of microwave oscillators and amplifiers using Gunn 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.

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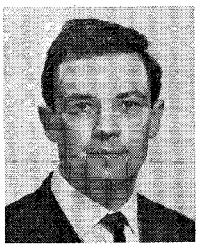

Robert Davies was born in Cardiff, South Wales, on September 15, 1938. He received the B.Sc. degree in electrical engineering at the University College of South Wales and Monmouthshire, Cardiff, in 1959, and the Ph.D. degree from Queens University, Belfast, Ireland, in 1964.

While at Queens University he was engaged in work on microwave ferrite components. He joined Mullard Research Laboratories, Redhill, Surrey, England, in 1964, and has worked on microwave semiconductor device characterization, parametric circuits, and microwave sources.

Ian David Higgins was born in Tickhill, England, on June 3, 1948. He received the B.Sc. degree in electronics from Victoria University of Manchester, College of Science and Technology, Manchester, England, in 1969.

Since 1969 he has been a member of the scientific staff of Mullard Research Laboratories, Redhill, Surrey, England, working on X-band lumped-element devices. His present interest is in Q-band tunable sources.

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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 Radio Transmission Engineering Department, Fujitsu Ltd., Kawasaki, Japan. In 1962 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., and is now a Chief Engineer of the Microwave Components and Circuits Section. Since 1956 he has been engaged in 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.

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Hirohisa Kawamoto (S'69–M'70) was born in Tokyo, Japan, in 1938. He received the B.S. degree in electronics from Kyoto University, Kyoto, Japan, in 1961, and the M.S. degree in 1966 and the Ph.D. degree in 1970, both in electrical engineering and computer sciences, from the University of California, Berkeley, where he held a University Scholarship and a Research Assistantship.

From 1961 to 1964 and from 1966 to 1968 he worked at Matsushita Electronics Corporation, Osaka, Japan. He studied the second breakdown of p-n junction and contributed to the development of high-frequency transistors that were resistive to a high pulsed-power dissipation; he developed several transistor circuits for television sets. In 1967 he was responsible for the entire operation of quality assurance in the Integrated Circuit Division. From 1964 to 1966 and from 1968 to 1969, he worked for the Electronics Research Laboratory at the University of California, Berkeley. He did the analysis and computer simulations on a breakdown caused by conductivity modulation in p-n-n^+ junctions. He also did research on radiation damage in semiconductors focusing on the recombination–generation processes inside neutron-irradiated silicon. In 1970 he was an Acting Assistant Professor in the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley. In 1970 he joined RCA Laboratories, Princeton, N. J., and has been working on high-efficiency microwave avalanche diodes.

Dr. Kawamoto is a member of Eta Kappa Nu and Sigma Xi.

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

In 1962 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan. Since then he has 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 (received mixer and transmitting up-converter). He is currently working on Gunn and avalanche diode oscillators and amplifiers, and microwave integrated circuits.

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

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Stuart R. Longley was born in Tatsfield, England, on January 6, 1940. He received the M.Sc. degree in microwave and quantum electronics from University College, London, England, in 1969.

From 1956 to 1961 he was a Student Apprentice with Mullard Research Laboratories, Redhill, Surrey, England. Since 1961 he has been a member of the scientific staff at Mullard where he has worked on ferrite components, solid-state sources, and parametric amplifiers. His present interests are in the application of YIG spheres for nonreciprocal devices and tunable sources.

Mr. Longley, a Chartered Engineer, is a member of IERE.

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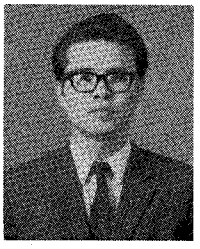

Minoru Maeda (M'70) was born in Kanagawa, Japan, on December 22, 1942. He received the B.S. and M.S. degrees in electrical engineering from Yokohama National University, Yokohama, Japan, in 1965 and 1967, respectively.

In 1967 he joined Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan. He has since been engaged in the research and development of active antennas with tunnel diode loading and millimeter-wave parametric amplifiers using packaged varactor diodes. He is presently working on lumped element microwave integrated circuits.

Mr. Maeda is a member of the Institute of Electronics and Communications Engineers of Japan.

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Takeshi Meguro was born in Miyagi, Japan, on October 28, 1941. He received the B.S. degree in electrical engineering from Tokyo Electrical Engineering College, Tokyo, Japan, in 1969.

In 1966 he joined the Radio Transmission Laboratory, Fujitsu Laboratories Ltd., Kawasaki, Japan, and has been engaged in the research and development of microwave components and circuits, such as filters, transistor amplifiers, frequency converters, and integrated circuits. He is currently working on Gunn- and avalanche-diode oscillators and amplifiers.

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

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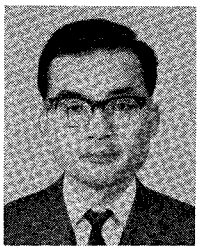

Shigemichi Nagano (M'71) was born in Shizuoka, Japan, on February 2, 1939. He received the B.S. degree in electronics engineering from Shizuoka University, Shizuoka, Japan, in 1961.

In 1961 he joined the Nippon Electric Company, Ltd., Kawasaki, Japan, where he is now a Research Leader of a group pursuing research on solid-state microwave and millimeter-wave electron devices including avalanche-diode and transferred electron oscillators and amplifiers.

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

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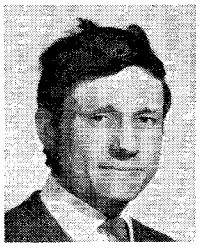

Barrie Hulme Newton was born in Manchester, England, on February 13, 1941. He received the B.Eng. degree in 1962 and the Ph.D. degree in 1965, both in electrical engineering, from the University of Sheffield, Sheffield, England.

The three years research work at Sheffield was on magnetically loaded aerials used in the low- and medium-frequency bands. From 1965 to the present time he has worked on microwave solid-state devices, including varactor harmonic generators and parametric amplifiers. His current research interests are in Gunn and IMPATT oscillators and amplifiers and their use in microwave integrated circuits.

Dr. Newton is an associate member of the IEE.

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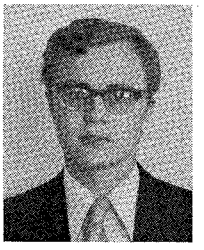

Thomas A. Saponas (S'70) was born in Watertown, S. D., on August 4, 1949. He is currently enrolled in a combined B.S.E.E. and M.S.E.E. program at the University of Colorado, Colorado Springs, from where he expects to graduate in June 1972.

In addition to his academic responsibilities he is active in student government and is the Student Representative to the University of Colorado Board of Regents. Prior to winning the MTT student paper contest he had co-authored with Dr. J. R. Ashley and presented two audio papers at recent AES conventions.

Mr. Saponas is a member of Tau Beta Pi and a student member of ACM and the Audio Engineering Society.

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William G. Spaulding (S'57–M'62) was born in Paris, Tenn., on December 19, 1931. He received the B.S. degree in electrical engineering from the University of Tennessee, Knoxville, in 1958, and the M.S. degree from the University of Alabama, Huntsville, in 1969.

He was employed by Sperry Electronic Tube Division, Gainesville, Fla., from 1958 to 1964 where he worked as a Product Engineer on microwave tubes. In 1964 he joined

the staff of McMorrow Laboratories, Army Missile Command, Huntsville, Ala., where he is engaged in research in microwave devices for application in phased array radar systems.

Mr. Spaulding has served two terms as chairman of the Huntsville MTT/AP Group and is a member of Eta Kappa Nu.

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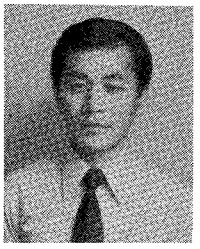

Atsushi Sumioka was born in Oita, Japan, on July 22, 1943. He was graduated from the Oita Technical High School, Oita, Japan, in 1962.

In 1962 he joined Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan. Since then he has been engaged in the development of millimeter-wave electron tubes and parametric amplifiers. At present, he is working on microwave integrated circuits.

Mr. Sumioka is a member of IECEJ.

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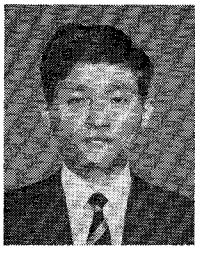
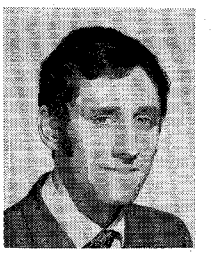


Itsuo Umebu was born in Osaka, Japan, on December 5, 1943. He received both the B.S. and M.S. degrees in electrical engineering from Kyoto University, Kyoto, Japan, in 1967 and 1969, respectively.

He joined Fujitsu Laboratories Ltd., Kawasaki, Japan, in 1969 and since then has worked on computer study of Gunn effect.

Mr. Umebu is a member of IECEJ and the Japan Society of Applied Physics.



John F. Wells was born in Luton, Bedfordshire, England, in 1942. He received an honors degree in electronics from the University of Southampton, Highfield, Southampton, England, in 1965.

Both at that time and subsequently he specialized in the manufacture and circuit applications of microwave semiconductor devices. Between 1965 and 1966 he worked for Associated Semiconductor Manufacturers at the Hirst Research Centre on the technology of Gunn-diode manufacture. From 1966 until 1970 he worked at Mullard Research Laboratories, Redhill, Surrey, England, on lumped-element MICs, during which time he was associated with various aspects, from technology to design, of complete active subsystems. Currently, he has no research involvement, having turned his interests towards general manufacturing management elsewhere in the Philips' group.

Mr. Wells is a corporate member of the IEE.

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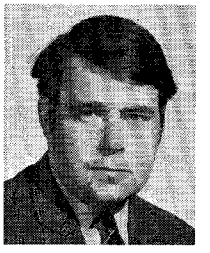

John Charles Williams was born in High Wycombe, England, on July 17, 1938. He received the B.Sc.(Eng.) and Ph.D. degrees in electrical engineering from Queen Mary College, University of London, London, England, in 1960 and 1965, respectively.

From 1964 he has been a member of the research staff at Mullard Research Laboratories, Redhill, Surrey, England, engaged initially on work into traveling wave masers and parametric amplifiers. Recently, his interests have been in the application of microwave integrated circuits into the consumer market.