Contributors

I. J. Bahl was born in Sham Chaurasi, Punjab, India, on January 27, 1944. He received the M.Sc. degree in physics and M.Sc. (Tech.) in electronics from the Birla Institute of Technology and Science, Pilani, India, in 1967 and 1969, respectively. In 1975 he received Ph.D. degree in electrical engineering from the Indian Institute of Technology, (IIT) Kanpur, India.

From 1969 to 1970, he worked in Tropo-Scatter Communication Project, in the Department of Electrical Engineering at IIT, Kanpur. From 1974 to 1979 he was with the Advanced Centre for Electronic Systems, IIT, Kanpur as a Research Engineer, where he was engaged in research on p-i-n diode phase shifters, transmission lines for microwave integrated circuits, printed antennas, microwave circuits, and industrial applications of microwaves. In January 1979, he joined the Department of Electrical Engineering, University of Ottawa, Ottawa, Ont., Canada, as a Post Doctoral Fellow, where he is now working on the projects related to microwaves in biological systems. He coauthored a book on *Microstrip Lines and Slotlines* (Dedham, Artech House, 1979).

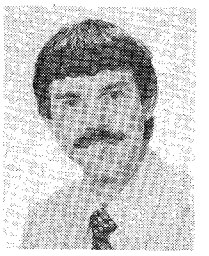
Fernando Bardati (S'63–M'66) was born in Rome, Italy, on March 29, 1941. He obtained his electronic engineering degree at the University of Rome, Rome, Italy, in 1965.

In 1966 he joined the Institute of Electronics, University of Rome, as Assistant Professor of Microwaves, doing research on the propagation of electromagnetic and elastic waves in anisotropic media and, more recently, on the microwave heating of biological tissues. Since 1971 he has been engaged as Associate Professor in educational activities concerning applied electronics and electrical measurements.

Dr. Bardati is a member of the Associazione Elettrotecnica ed Elettronica Italiana (AEI).

S. R. Borgaonkar was born in Bombay, India, on February 1, 1952. He received the B.E. degree in electronics from Bangalore University, Bangalore, India, in 1973, and the M.Tech. degree in microwave and radar engineering from the Indian Institute of Technology, Kharagpur, India, in 1975. He is presently working towards the Ph.D. degree at the Indian Institute of Science, Bangalore, India.

He is employed on a project concerning the application of microwave circuit theory for broad-banding YIG tuned devices.



P. V. Brown was born in Washington, DC, in 1947. He received the B.S.E.E. degree from Case–Western Reserve in 1969, and the M.S.E.E. degree from the University of Maryland, College Park, in 1978.

Originally interested in analog circuit design, he has branched into medical research studying the effects of microwave energy on fundamental biological systems and processes.

David C. Chang (S'65–M'67–SM'76) was born in Hupeh, China, on September 9, 1941. He received the B.S. degree in electrical engineering from Cheng Kung University, Tainan, Taiwan, China, in 1961 and the M.S. and Ph.D. degrees in applied physics from Harvard University, Cambridge, MA, in 1963 and 1967, respectively.

He joined the University of Colorado, Boulder, in 1967, and is now a Professor of Electrical Engineering and Director of the Electromagnetics Laboratory. In 1972, he was a Visiting Professor at Queen Mary College, University of London, London, England. In addition, he was also a Guest Worker with the theoretical study group at the Environmental Research Laboratory, U.S. National Oceanic and Atmospheric Administration in 1975 and 1976. He is a Consultant to Kaman Science Corp., Colorado Springs, CO, and a Consultant to Southeastern Center for Electrical Engineering Education, Inc., Bridgeport, NY.

Dr. Chang is a member of Sigma Xi and the International Scientific Radio Union Commissions A, B, C, and E. He is currently chairman of the IEE-MTT-S 15 subcommittee on Microwave Field Theory, and chairman of the Denver Chapter of the IEEE EMC/IM group.

W. Allan Cook was born on August 31, 1930, in Pennsylvania. He received the B.S. degree in mechanical engineering from Drexel University, Philadelphia, PA, in 1952.

He has spent his career with E. I. DuPont de Nemours and Company, Wilmington, DE, in the Engineering Research and Development Division. Currently, he is a Research Fellow at their Engineering Physics Laboratory. He has worked in a variety of process and instrumentation activities covering atomic energy, explosives, synthetic fibers, and film production. His current activities are centered on industrial microwave heating and medical transponders.

Mr. Cook is a member of Pi Tau Sigma, Tau Beta Pi, Phi Kappa Phi, and International Microwave Power Institute.

J. Brian Davies (M'73) was born in Liverpool, England, on May 2, 1932. He received the B.A. degree in mathematics from Jesus College, Cambridge, England, in 1955, the M.Sc. degree in mathematics in 1957, and the Ph.D. degree in mathematical physics in 1960, both from the University of London, London, England.

From 1955 to 1963 he worked at the Mullard Research Laboratories, Salfords, Surrey, England, except for the period between 1958 and 1960 spent at University College, London. In 1963 he joined the staff of the Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, England. Since 1967 he has been on the staff at University Colledge, London, where he is now Reader in Electrical Engineering. For the year 1971–1972 he was a Visiting Scientist at the National Bureau of Standards, Boulder, CO. His work has been concerned with problems of electromagnetic field theory, and he is currently interested in computer methods of solving such problems.

Dr. Davies is a member of the Institution of Electrical Engineers (London).

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Hatsuaki Fukui (SM'69) received the Doctor of Eng. degree in electrical engineering from Osaka University, Osaka, Japan.

From 1949 to 1954 he did research work on a variety of microwave electron tubes at Osaka City University, Japan, followed by a year of industrial experience as a microwave Design Engineer at Shimada Physical and Chemical Industrial Company, Tokyo, Japan. In 1955 he joined Tokyo Tsushin Kogyo (the former name of Sony Corporation), Tokyo, Japan, where he was engaged in the early development of transistors for consumer electronics use with increasing responsibility. In 1960 he was also in charge of the Esaki tunnel-diode operation from design theory to sales promotion. A year later he was assigned Manager of Advanced Technology Department concerning the realization of marketable solid-state UHF TV and stereo receivers. In 1962, he joined Bell Telephone Laboratories, Murray Hill, NJ. First, he worked in the field of microwave semiconductor devices, such as Ge and Si bipolar transistors, GaAs bulk-effect devices and Si avalanche diodes, and their subsystems. Second, he was engaged in the study and development of electrooptical devices and subsystems for future Picturephone® use, which included cathode-ray tubes, storage tubes, cross-field electron-guns, cold-cathodes, phosphors, plasma display devices, Si diode-array camera tubes, and charge-coupled imaging devices. He also supervised the development of *III–V* compound vacuum-decomposition techniques. Since 1973 he has been involved in the GaAs MESFET development project for microwave applications.

Dr. Fukui has been listed in Marquis' "*Who's Who in the World*" and other biographical references.

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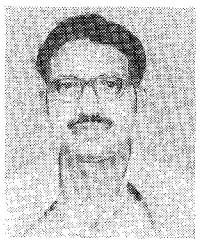

Ramesh Garg was born in Hissar, Punjab, India, on October 18, 1945. He received the M.Sc. degree from Punjab University, Chandigarh, India, in 1968, and the Ph.D. degree from the Indian Institute of Technology, Kanpur, in 1975, both in physics.

Since 1974 he has been with the Advanced Centre for Electronic Systems at Indian Institute of Technology, Kanpur, India. His research activities have been primarily in the ares of microwave integrated circuits, antennas, phased-array radar, Gunn circuits, and fiber optic communication systems. He is a contributor to the book *Microwave Integrated Circuits* (K. C. Gupta and A. Singh, Eds., Halsted Press, 1974). He is also a coauthor of the book '*Microstrip lines and Slotlines*' (Artech House, 1979).

Dr. Garg was a recipient of the outstanding paper award at the 1976 IEEE (India Section) Annual Convention. He has also received the Best Paper Award from Institution of Electronics and Telecommunication Engineers, (IETE), India.

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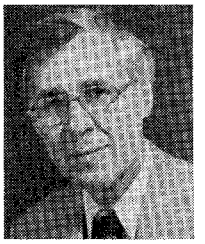

William J. Getsinger (S'48–A'50–M'55–SM'69) was born in Waterbury, CT, on January 25, 1924. He received a B.S.E.E. from the University of Connecticut, Storrs, in 1949, and the M.S.E.E. and the degree of Engineer in electrical engineering from Stanford University, Stanford, CA, in 1959 and 1961, respectively.

Since 1950 he has worked on microwave components at Technicraft Laboratories, the Westinghouse Electric Company, Stanford Research Institute, and Massachusetts Institute of Technology Lincoln Laboratories, Cambridge. In 1969 he joined COMSAT Laboratories, where he is presently Manager of the Microwave Circuits Department. He was Project Manager of the COMSTAR Centimeter Wave Beacon Project at COMSAT Laboratories.

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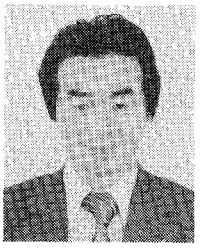

Akio Hashima was born in Kyoto, Japan, on September 8, 1939. He received the B.E. degree from Shizuoka University, Hamamatsu, Japan, in 1963.

In 1963 he joined Matsushita Electric Industrial Company, Ltd., Osaka, Japan. Since 1964 he has been engaged in the research and development of television tuners and microwave equipments for consumer use in Wireless Research Laboratory.

Mr. Hashima is a member of the Institute of Television Engineers of Japan.

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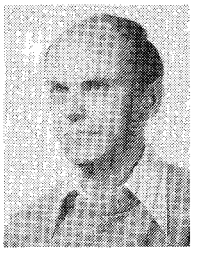
John H. Jacobi (M'77) was born in Houston, TX, on August 24, 1937. He received the B.S. degree from Rose–Hulman Institute of Technology, Terre Haute, IN, in 1959, and the M.S. degree from the University of Maryland, College Park, in 1969.

He has worked at Collins Radio Company, Ling–Temco–Vought and NASA Goddard Space Flight Center, as a specialist in radio frequency circuit and system design. From 1969 to 1974, he worked for Hewlett-Packard in the field of computer-aided data acquisition and control. In 1974, he joined Walter Reed Army Institute of Research, Washington, DC, where he is currently engaged in research on biological effects of electromagnetic radiation.



Marek Jaworski was born in Kraków, Poland, on July 3, 1944. He received the M.S. degree in electrical engineering from the Warsaw Technical University, Warsaw, Poland, in 1968, and the Ph.D. degree in physics from the Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, in 1976.

From 1968 to 1969, he was a Research Assistant in the Department of Electrical Engineering, Warsaw Technical University, Warsaw, Poland. Since 1969 he has been with the Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, where he has been working in the area of microwave spectroscopy. His current research interests include microwave diagnostics of semiconductors, numerical analysis, and electromagnetic-wave theory.

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William M. Kelly was born in Ireland in 1949. He received the B.Sc. degree from the University College Galway in 1971, and the M.Sc. and Ph.D. degrees from the University of California, Santa Cruz, in 1976. He then returned to the University College Galway as a Post-Doctoral Fellow.

He was employed as Research Physicist by De Beer's Industrial Diamond Division, Shannon, Ireland, working on the applications for microwave device heat sinks. This was followed by a stay at the University of California, Santa Cruz, investigating paraelectric resonance in the alkali halides, using broad-band spectrometers in 75–150 GHz region. Since 1977, he has been Senior Scientist at the Solid State Electronics Laboratory, University College, Cork, Ireland. Principle areas of involvement are the fabrication of GaAs Schottky diodes and FET devices, and the design of mixers and diplexers for the millimeter and submillimeter regions.

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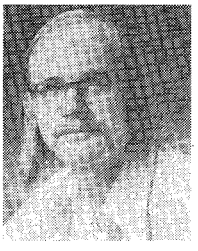

Edward F. Kuester (S'73–M'76) was born in St. Louis, MO, on June 21, 1950. He received the B.S. degree from Michigan State University, East Lansing, in 1971, and the M.S. and Ph.D. degrees from the University of Colorado, Boulder, in 1974 and 1976, respectively, all in electrical engineering.

Since 1976, he has been an Assistant Professor in the Department of Electrical Engineering at the University of Colorado, Boulder. His research has included the electromagnetic theory of open waveguiding structures in optics as well as at microwave frequencies.

Dr. Kuester is a member of the Optical Society of America, and an Associate Member of URSI Commission B.

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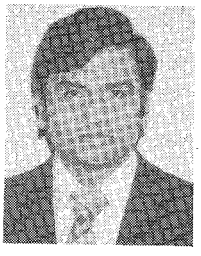

Mysore R. Lakshminarayana was born in Sira, Karnataka, India. He received the B.E. degree from Bangalore University, Bangalore, India, in 1969, and the M.E.E. and Ph.D. degrees in electronic engineering from the University of Delaware, Newark, in 1974 and 1978, respectively.

From 1969 to 1970 he was a Lecturer in electronic engineering at Mysore University, Mandya, India. From 1970 to 1977 he was a Research Fellow and Teaching Assistant at the University of Delaware, where he did research on electronic transport properties of semiconductors, and microwave devices and systems. From 1977 to 1978 he worked as a Post Doctoral Research Fellow. He did research on microwave modulation of lasers and integrated optics. He joined the Electronic Engineering Faculty, California State Polytechnic University, Pomona, in September 1978. His current research deals with microwave and laser applications.

Dr. Lakshminarayana is a member of Eta Kappa Nu.

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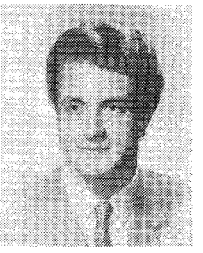

Paolo Lampariello (M'73) was born in Rome, Italy, on May 17, 1944. He obtained his degree in electronic engineering at the University of Rome, Rome, Italy, in 1971.

In 1971 he joined the Institute of Electronics, University of Rome, as Assistant Professor of Electromagnetic Fields. From 1976 to 1977 he was Associate Professor in Electromagnetic Waves Theory and Techniques at the University of Calabria, Italy. He is presently an Associate Professor in Electromagnetic Fields and Circuits at the University of Rome. His research activities are in the fields of electromagnetic and elastic wave propagation in anisotropic media, and electromagnetic interaction with biological tissues.

Dr. Lampariello is a member of the Associazione Elettrotecnica ed Elettronica Italiana (AEI).

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Lawrence E. Larsen was born in Denver, CO, in 1943. He attended the University of Colorado College of Arts & Sciences, Boulder, and also the School of Medicine, graduating in 1968 with an M.D. magnacum laude. This was followed by a two-year NIH Post Doctoral Fellowship at the Brain Research Institute, University of California, Los Angeles, in biomathematics.

He then entered active duty as a Research Physiologist in the U.S. Army at Walter Reed Army Institute of Research, Department of Microwave Research, Washington, DC, from 1970 to 1973. He then accepted an appointment as Assistant Professor of Physiology & Computer Science at Baylor College of Medicine in Houston, TX. He returned to Walter Reed in 1975 as Associate Chief for Biophysics, Department of Microwave Research and became Chief, Department of Microwave Research in 1977. He is presently serving as Lieutenant Colonel, Medical Corps, U.S. Army Medical Research and Development Command.

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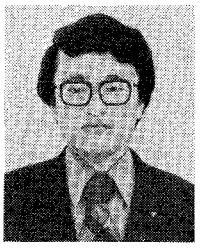
Young Soo Lee (M'63) received the B.S. and M.S. degrees in electronics engineering from Seoul National University, Seoul, Korea, in 1963 and 1967, respectively, and the S.M. (E.E.) and Electrical Engineer degrees from the Massachusetts Institute of Technology, Cambridge, in 1969.

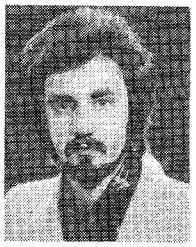
Since September 1969, he has been a member of the technical staff at COMSAT Laboratories, specializing in microwave active and passive circuits and subsystems as applied to communications satellites. He is currently engaged in the development of an onboard regenerative repeater for future digital satellite communications systems.



Toshihiko Makino was born in Tsuyama, Japan, on August 10, 1947. He received the B.E. and M.E. degrees in electrical and electronic engineering from Kyoto University, Kyoto, Japan, in 1970 and 1973, respectively.

In 1973 he joined Wireless Research Laboratory, Matsushita Electric Industrial Company Ltd., Osaka, Japan. He has been engaged in the research and development of microwave solid-state oscillators.

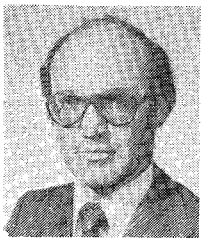
Mr. Makino is a member of the Institute of Electronics and Communication Engineers of Japan.



D. Mirshekar-Syahkal was born in Tehran, Iran, in 1951. He received the B.Sc. degree in electrical engineering from Tehran University, Tehran, Iran, and the M.Sc. in microwaves and modern optics from University College, London, England. He is now working towards his Ph.D. degree at University College, London.

Robert A. Moore (S'54–M'58–SM'67) was born in Cullman, AL, on August 12, 1932. He received the B.S. degree from the University of Alabama, University, in 1954, and the M.S. and Ph.D. degrees from Northwestern University, Evanston, IL, in 1956 and 1960, respectively, all in electrical engineering.

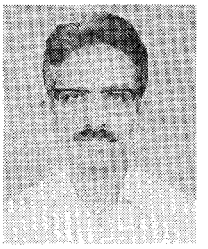
Except for six months active army duty at the Switching Devices Group, Fort. Manmouth, NJ, where he conducted research on ferrite devices, he has been employed by the Aerospace Division, Defense and Space Center, Westinghouse Electric Corporation, Baltimore, MD. During this period he has conducted studies on microwave propagation and radar systems. More recently he has been concerned with ferrimagnetic techniques and devices. He is presently in charge of the Solid-State Microwaves Group, where he is concerned with the development of microwave integrated circuit devices.



Larry D. Partain (S'64–M'72) was born in McKinney, TX, in 1942. He received the B.S. degree in electrical engineering from the University of Tennessee, Knoxville, in 1965, and the Ph.D. in electrical engineering from The Johns Hopkins University, Baltimore, MD, in 1972.

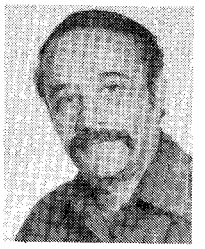
He was appointed Assistant Professor of Electrical Engineering at the University of Delaware, Newark, in 1971, and Associate Professor in 1976. In 1978 he joined the Engineering Research Division of the Lawrence Livermore Laboratory. His research has been concerned with the characterization of solid-state devices and materials with particular emphasis on microwave emitting components, low cost, thin film, solar cells, and hall-effect devices.

Marian W. Pospieszalski, for a photograph and biography please see page 288 of the March 1979 issue of this TRANSACTIONS.



S. N. Rao (M'62) was born in India, on May 20, 1936. He received the B.E. degree from the University of Madras, India, in 1957, and the M.S. and Ph.D. degrees from the University of Illinois, Urbana, in 1959 and 1962, respectively, all in electrical engineering.

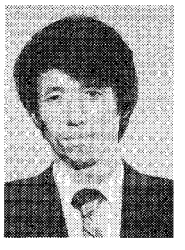
Since 1964, he has been a Professor in the Division of Electrical Sciences, Indian Institute of Science, Bangalore, India.



Lawrence R. Sparrow received the B.Ch.E. degree from the City College of New York, New York, NY, in 1950.

He is currently Manager of the Materials and Chemical Processing Department at COMSAT Laboratories, Clarksburg, MD. He is involved in advising on materials selection for various aerospace communications applications, and in process development for these applications. This has involved printed circuitry, microwave circuitry, bonding processes, hybrid processing, metallization materials and procedures. His past experience includes work on aircraft materials and tooling, processing of passive electrical components, and development of hybrid circuit facilities.

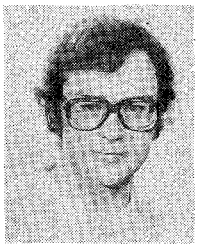
He is a member of AES, ISHM, ASTM, SPE, and SAMPE, and holds nine patents in tooling and component processing.



Yusuke Tajima was born in Chiba, Japan, on February 19, 1945. He received the B.S. degree in electrical engineering from Tokyo University, Tokyo, Japan, in 1968.

After graduation, he joined the Toshiba Research and Development Center, Kawasaki, Japan, where he has been engaged in the research and development of microwave semiconductor devices and circuit components. From 1973 to 1974 he worked on FET amplifier design as an Exchange Engineer at Raytheon Research Division, Waltham, MA.

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



Bengt Ulriksson was born in Sveg, Sweden, in 1954. He received the M.S. degree in electrical engineering from Chalmers University of Technology, Gothenburg, Sweden, in 1977.

In 1977 he joined the Division of Network Theory, Chalmers University of Technology, as a Research and Teaching Assistant, where he has been working with stripline directional couplers and diode phase shifters.

Gerard T. Wrixon (M'75) was born in Limerick, Ireland, on May 25, 1940. He received the B.E. degree from the National University of Ireland, Cork, Ireland, the M.Sc. degree from the California Institute of Technology, Pasadena, and the Ph.D. degree from the University of California, Berkeley, all in electrical engineering, in 1961, 1964, and 1969, respectively.

From 1961 to 1963 he was with Fokker, the Royal Netherlands Aircraft Factory, Amsterdam, the Netherlands, as a Research and Development Engineer. From 1964 to 1965 he was an Instructor in the Electrical Engineering Department at Loyola University, Los Angeles, CA. While a graduate student at the University of California, Berkeley, he served as a Research Assistant in the Radio Astronomy Laboratory and Acting Instructor in the Electrical Engineering Department. From 1969 to 1974 he was a Member of the Technical Staff at the Crawford Hill Laboratory, Bell Laboratories, Holmdel, NJ. He is currently a Lecturer in Electrical Engineering at University College, Cork, Ireland, and Director of the Solid State Electronics Laboratory. He is a Consultant to the European Space Agency and the Engineering Experiment Station, Georgia Institute of Technology, on the design of Schottky-barrier diodes and mixers for millimeter and submillimeter applications.

Dr. Wrixon was the recipient of the Microwave Prize at the 1978 European Microwave Conference.