Contributors

Mohamad Deeb Abouzahra (M'79) was born in Beirut, Lebanon, on June 15, 1953. He received the B.Sc. degree in electronics and communications from the Department of Electrical Engineering, Cairo University, Egypt, in 1976, and the M.Sc. degree in electrical engineering from the University of Colorado, Boulder, in 1978.

From 1976 to 1977 he was with the Ministry of Education in Kuwait. At present he is a Ph.D candidate and a Research Assistant at the University of Colorado. His current fields of interest include the radiation from microstrip discontinuities, wide band dielectric directional couplers, and the dielectric image line.

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Patrick J. Bliek was born in Bordeaux, France on December 22, 1937. He received the M.S. and Doctor of Third Cycle degrees from Université de Provence, Marseille, France, in 1961 and 1964, respectively, all in physics.

From 1964 to 1972 he was with the Electrotechnical Laboratory, and since 1972 he has been with the Radioelectrical Laboratory, all at Université de Provence, Marseille. He is a lecturer at this university. His research work is concerned with scattering problems in microwave range and electromagnetic problems which are studied in microwave range. He is a member of the Societé Française des Electriciens et Electrotechnicien (S.E.E.).

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Lindsay C. Botten was born in Hobart, Tasmania, Australia in November 1952 and received his B.Sc. (Hons.) and Ph.D. degrees from the University of Tasmania in 1974 and 1978, respectively.

Since then he has been a lecturer in applied mathematics at The New South Wales Institute of Technology Broadway, New South Wales, Australia, and has pursued his research interests in electromagnetic scattering by gratings and grids.

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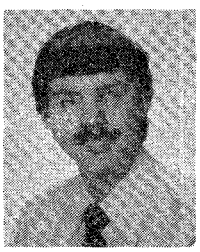
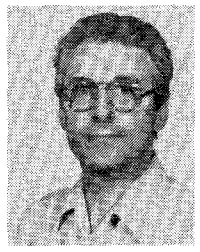


Peter V. K. Brown was born in Washington, D.C. in 1947. He received the BSEE degree from Case Western Reserve University, Cleveland, OH, in 1969, and the MSEE degree from University of Maryland, College Park, in 1978.

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

In his free time Mr. Brown makes amateur movies and is a avid audiophile.



Roger Deleuil who is professor (optics and electromagnetism) at the Université de Provence at Marseille, France, was born in 1934. He studied at the Université de Provence, Marseille, France, where he received his Maitrise and his Doctorat ès Sciences Physiques in 1969. His work is concerned with diffraction of electromagnetic waves from gratings and rough surfaces with experimentation in microwave region.

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Paul P. Delogne was born in Monceau, Belgium, on 14 May 1936. He studied at the Royal Military Academy of Brussels from 1954 to 1959 and received the degree of Telecommunications Engineer. He became a lecturer at the same school from 1963 to 1971 and received the Ph.D. degree from the University of Brussels in 1968.

Since 1971 he has been professor at the Catholic University of Louvain, Louvain-la-Neuve. He teaches or has taught electromagnetic theory, circuit theory, antennas, stochastic processes, telecommunications, microwave measurements, and microwave communication systems. His research activities covered the fields of antennas, surface wave transmission, microwave propagation in the atmosphere, satellite communications, digital television and speech synthesis. Since 1969 he has been active as a consultant of the National Institute of Extractive Industries (INIEX, Liége, Belgium) and the Régie Autonome des Transports Parisiens (RATP, France) in the field of subsurface radio communication whereon he holds three patents. He has designed many mine communication systems. Presently he is working on the project of a subsurface radar.

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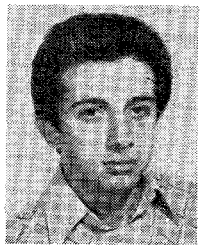

Guglielmo D'Inzeo was born in Milan, Italy, on January 26, 1952. He graduated in Electronics Engineering from the University of Rome, Rome, Italy in 1975.

After graduation he joined the Institute of Electronics, University of Rome, under a C.N.R. fellowship. From 1978 he has been Professore incaricato of E.M. Wave Theory and Technique at the University of Calabria. From 1979 has also been Professore incaricato of Applied Electronics of the University of Ancona, Ancona, Italy. His research activities have been concerned with Microwave Integrated Circuits and Electromagnetic Interaction with Biological Tissues.

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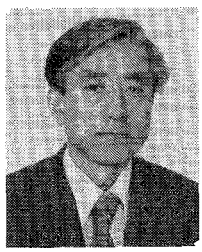

Kiyoshi Fukui (M'75) was born in Tokushima Prefecture, Japan, on January 13, 1930. He received the B.Sc. degree in physics in 1952 and D.Eng. degree in electronics engineering in 1964 both from Kyoto University, Kyoto, Japan.

From 1958 to 1962, he was a Research Assistant at the Department of Electronics, Kyoto University. From 1962 to 1967, he taught as an Assistant Professor at the Training Institute for Engineering Teachers, Kyoto University. In 1967, he became a Professor of Electronics at

the Himegi Institute of Technology, Himeji, Japan. Since 1971, he has been with the Department of Electronics, Okayama University. His research interest has been mainly in nonlinear phenomena in electronics such as locking phenomena in oscillators, frequency multiplication by variable capacitance, behavior of multiple-device structures and nonlinear wave propagation.

Dr. Fukui is a member of the Institute of Electronics and Communication Engineers of Japan and the Physical Society of Japan.

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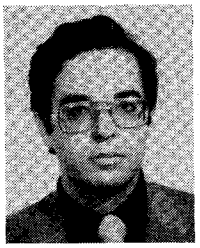

Franco Giannini was born in Galatina, Leece, Italy, on November 9, 1944. He received the degree in electronic engineering from the University of Rome, Rome, Italy, in 1968.

In 1968 he joined the Institute of Electronics, University of Rome, where he has been Assistant Professor since 1970. He was also Associate Professor of Microwaves at University of Ancona, Ancona, Italy, from 1973 to 1974 and of Solid-State Electronics at the University of Rome from 1974 to 1977. Presently he is Associate Professor of Applied Electronics at the University of Rome. He has been working on problems concerning theory and technology of active and passive components and electromagnetic pollution, including the interaction with biological tissues.

Dr. Giannini is a member of the Italian Electrical and Electronic Society (AEI).

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George I. Haddad (S'57–M'61–SM'66–F'72) was born in Aindara, Lebanon, on April 7, 1935. He received the B.S.E., M.S.E., and Ph.D. degrees in electrical engineering in 1956, 1958, and 1963, respectively, from the University of Michigan, Ann Arbor.

From 1957 to 1958 he was associated with the Engineering Research Institute of the University of Michigan, where he was engaged in research of electromagnetic accelerators. In 1958 he joined the Electron Physics Laboratory, University of Michigan, where he has been engaged in research of masers, parametric amplifiers, detectors, electron beam devices, and microwave solid-state devices. He held a University of Michigan Research Institute Fellowship for the academic year of 1958–1959 and a sponsored fellowship for the spring semester of 1959–1960. He served successively as Instructor, Assistant Professor, and Associate Professor in the Department of Electrical Engineering from 1960 to 1969. He is presently a Professor and Chairman of the Department of Electrical and Computer Engineering.

Dr. Haddad received the 1970 Curtis W. McGraw Research Award of the American Society of Engineering Education for outstanding achievements as an Engineering Teacher. He is a member of Eta Kappa Nu, Sigma Xi, Phi Kappa Phi, the American Physical Society, and the American Society for Engineering Education.

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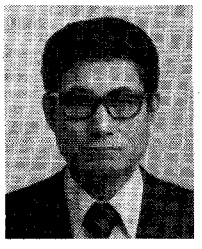

Yoshio Kobayashi (M'74) was born in Gumma, Japan, on July 4, 1939. He received the B. E. and M. E. degrees in electrical engineering from Tokyo Metropolitan University, Tokyo, Japan, in 1963 and 1965, respectively.

In 1965 he was appointed a Research Assistant in the Department of Electrical Engineering, Saitama University, Saitama, Japan. Since 1968 he has been a Lecturer in that department. His current research interests are in dielectric waveguides and resonators, dielectric resonator filters, and microwave measurement of dielectric materials.

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

Auguste A. Laloux (S'67–M'76) was born in Charleroi, Belgium, on 31 May 1945. He received the degree in electrical engineering in 1968 and the Ph.D degree in applied sciences in 1973, both from the Catholic University of Louvain, Belgium.

In 1968, he was with the Telecommunications and Microwaves Laboratory of the University of Louvain. In 1973, he became an Assistant Professor at the same university. His first research activities concerned the numerical computation of microwaves transmission lines. Since 1979, he has been Professor of Electrical Engineering and he is reponsible of the group "Data acquisition and processing" of the Telecommunication Laboratory.

Dr. Laloux is a member of the Benelux Committee of IEEE and Counselor of the IEEE Student Branch of the University.

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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, then attended the School of Medicine graduating in 1968 with an M.D. magna cum laude.

This was followed by a two-year NIH postdoctoral fellowship at the Brain Research Institute, UCLA, Los Angeles, CA, 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 and Computer Science at Baylor College of Medicine in Houston, TX. He returned to Walter Reed Army Institute of Research 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.

Dr. Larsen is a member of the Society for Neuroscience and the Biometric Society.

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Leonard Lewin (A'69–SM'75), for a photograph and biography please see page 57 of the January 1980 issue of this TRANSACTIONS.

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J. E. Lewis (S'69–M'69–SM'79), photograph and biography not available at the time of publication.

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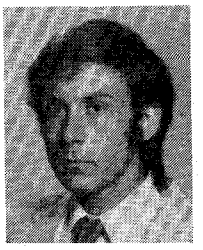

Richard K. Mains (S'79–M'79) was born in Chicago, IL on March 28, 1950. He received the M.Sc. degree in electrical engineering in 1974 from The Ohio State University and the Ph.D. degree in electrical engineering in 1979 from the University of Michigan, Ann Arbor.

At present, he is doing post-doctoral work in microwave semiconductor device simulation at the Electron Physics Laboratory, The University of Michigan.

N. A. Masnari (S'61–M'65–SM'70), photograph and biography not available at the time of publication.

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D. Maystre was born in Frejus, France on March 27, 1945. He graduated from the Ecole Normale Supérieure de Saint-Cloud and received the Agregation in 1968. His thesis in 1974 was on the electromagnetic theory of diffraction gratings and its applications.

Since 1968, he has been employed by the Centre National de la Recherche Scientifique where he is "Maitre de Recherches." He is involved in theoretical, numerical and phenomenological studies of direct and inverse problems in electromagnetism. He has published numerous papers in this field and is coauthor of two books to be published: *Electromagnetic Surface Modes* (A. D. Boardman, Ed., New York: Wiley), and *The Electromagnetic Theory of Gratings and its Applications* (R. Petit, Ed., New York: Springer-Verlag). He was the recipient of the "Prix Fabry-de Grammont" (1975).

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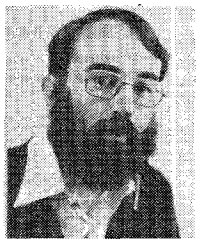

Ross C. Mc Phedran was born in Hobart, Tasmania, Australia in May 1948. He received his B.Sc (Hons.) and Ph.D. degrees from the University of Tasmania in 1969 and 1973, respectively.

During 1974 he was a C.S.I.R.O. post-doctoral research fellow at the Université d'Aix Marseille III. From 1975 to 1976 he was a Queen Elizabeth II post-doctoral research fellow at The University of Sydney, Sydney, Australia, and has continued there under an A.R.G.C. fellowship. His research interests are in the diffraction by singly, doubly and triply periodic structures.

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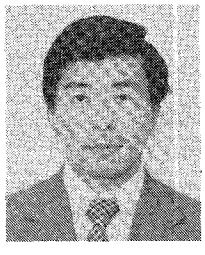

Shigeji Nogi was born in Osaka Prefecture, Japan, on December 26, 1945. He received the B.E. and M.E. degrees in electronics engineering from Kyoto University, Kyoto, Japan, in 1968 and 1970, respectively.

From 1970 to 1972, he was employed by the Central Research Laboratory, Mitsubishi Electric Corporation, Amagasaki, Japan. In 1972 he joined the Department of Electronics, Okayama University, where he has been engaged in research on microwave active circuits and nonlinear wave propagation.

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

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Takanori Okoshi (S'56–M'60), for a biography please see page 942 of the August 1980 issue of this TRANSACTIONS.

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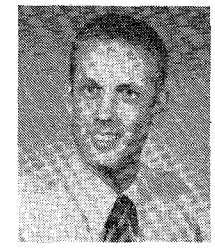
Kimiyuki Oyamada (S'79), for a biography please see page 942 of the August 1980 issue of this TRANSACTIONS.



Christen Rauscher (S'73–M'75), was born in Boston, MA, on November 4, 1944. He received the diploma in electrical engineering and the Ph.D. degree from the Swiss Federal Institute of Technology, Zurich, Switzerland, in 1969 and 1975, respectively.

From 1969 to 1976, he was employed as an Assistant and Research Associate at the Microwave Laboratory of the Swiss Federal Institute of Technology where he conducted research on computer-aided tolerance optimization of microwave active circuits and on IMPATT power amplifiers. He held a Postdoctoral Fellowship from the Swiss National Science Foundation from 1976 to 1978. He spent this time at Cornell University, Ithaca, New York and the Naval Research Laboratory, Washington, DC, investigating the nonlinear behavior of GaAs MESFET's and pursuing a new approach to the design of broadband varactor-tuned oscillators. He is presently employed at the Naval Research Laboratory, Washington, DC, engaged in research on microwave and millimeter-wave nonlinear circuits.

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Sembiam R. Rengarajan (S'77–M'79) was born in Mannargudi, India, on December 12, 1948. He received the B.E. (Hons.) degree in electronics and communication engineering from the University of Madras, India in 1971, and M. Tech. degree in electronics and electrical communication engineering from the Indian Institute of Technology, Kharagpur, in 1974. He is presently working towards a Ph.D. degree in electrical engineering in the University of New Brunswick, Fredericton, N.B., Canada.

During 1971–1972 and 1974–1976 he was employed by Bharat Electronics Ltd., Ghaziabad, India, where he was engaged in antenna development. From 1976 to 1979 he was a Graduate Research Assistant in the electrical engineering department of University of New Brunswick where he was also a Teaching Assistant. Since January 1980 he has been a Research Associate in the University of New Brunswick. He is due to take up a position as Assistant Professor in the electrical and computer engineering department of California State University, Northridge, CA, from August 1980.

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Adel A. M. Saleh (M'70–SM'76), for a photograph and biography please see page 815 of the July 1980 issue of this TRANSACTIONS.

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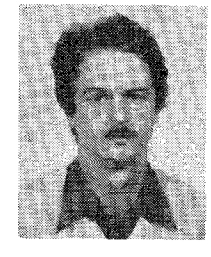
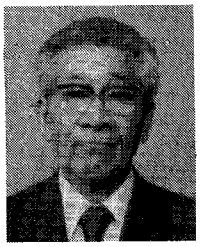


Roberto Sorrentino (M'77) was born in Rome, Italy, on December 27, 1947. He graduated in electronic engineering from the University of Rome, Rome, Italy, in 1971.

After graduation he joined the Institute of Electronics, University of Rome where he has been Assistant Professor since 1974. He was also Associate Professor of Microwaves at the University of Catania, Catania, Italy, from 1975 to 1976 and of University of Ancona, Ancona, Italy, from 1976 to 1977. He is presently Associate Professor of Solid-State Electronics at the University of Rome. His research activities have been concerned with electromagnetic wave propagation in anisotropic media, electromagnetic interaction with biological tissues, and microwave integrated circuits.



Shuzo Tanaka (SM'68) was born in Kyoto, Japan, on January 10, 1912. He received the B.E. degree in 1938 and the Eng. D. degree in 1959, both from Waseda University, Tokyo Japan.

From 1939 to 1967 he was with Toshiba Corporation and worked with the research laboratories of the company. He participated in the research and development of radar from 1939 to 1945. From 1945 to 1955 he worked on a wide variety of research problems in microwave circuits as the Head of Waveguide Research Group. During that period he published many papers on waveguide analysis, including the paper of the exact equivalent circuit representations of coaxial-to-waveguide junction. Since 1956 his main research activities have changed to the field of microwave antennas. He was especially interested in the researches of double-dish antennas and array antennas. These works resulted in the development of Modified Gregorian Antenna and Electronic Foster Scanner. In 1967 he was appointed Professor of Electrical Engineering in Saitama University, Urawa, Saitama, Japan. Since then he has performed basic researches on the guiding and radiating characteristics of dielectric cylinders and plate. He is now Professor of Electronic Engineering at Saitama Institute of Technology, Okabe, Saitama, Japan.

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

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Sander Weinreb (SM'70–F'78) was born December 9, 1936, in New York, NY. He received the B.S. (1958) and Ph.D (1963) degrees in Electrical Engineering from Massachusetts Institute of Technology, Cambridge, MA.

From 1960 to 1963 he was a Research Assistant at M.I.T. engaged in investigations of varactor frequency multipliers and digital autocorrelation techniques. In 1963 he joined Lincoln Laboratory where he was responsible for the radiometric equipment for the Haystack antenna. In 1965 he joined the National Radio Astronomy Observatory where he was Head of the Electronics Division and responsible for development of radio astronomy equipment for the Green Bank, WV, and Tucson, AZ observatories until 1977. He led the Electronics Design Group for the Very Large Array project from 1972 until 1975. In 1976 he took a two year leave at the Radio Astronomy Laboratory of the University of California, Berkeley and then returned to NRAO to specialize in the development of low noise devices.

Dr. Weinreb is a member of Sigma Xi, Eta Kappa Nu, Tau Beta Pi, and the International Scientific Radio Union. He is an advisor to the Netherlands Foundation for Radio Astronomy and the European Institute for Millimeter Wave Radio Astronomy.

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Harry A. Willing (A'54–M'58), 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 1963 to 1967 he was with the Sperry Microwave Electronics Division, where he was engaged in the studies of microwave properties of ferrite materials and the microwave 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 Modules. From 1971 to 1975, he was with the Communications and Electronics Division, Martin Marrietta Aerospace, where he designed solid-state RF power amplifiers for commercial microwave applications. He is presently with the Naval Research Laboratory, Washington, DC.

Overseas Abstracts

Papers from Journals Published in Australia, India, and Japan

Compiled jointly by Prof. T. Okoshi, University of Tokyo (former Associate Editor) and Prof. E. Yamashita, University of Electro-Communications, Tokyo, Japan (new Associate Editor).

The periodicals investigated are: 1) Transactions of the Institute of Electronics and Communication Engineers of Japan (Trans. IECEJ), 2) Journal of the IECEJ, 3) Journals of the Institution of Engineers (J.IE. (India)), Electronics and Telecommunication Engineering Division (Part ET), 4) Proceedings of the Institution of Radio and Electronics Engineers, (Proc. IREE (Australia)), and 5) Australian Telecommunication Research (ATR).

As for the Japanese papers in the Trans. IECEJ, which carry volume numbers J62B or J62C, single-page English summaries (1/4 page for Correspondences) will be found in the "Transactions of IECEJ, Section E" issued in the same month, where "E" denotes English. Papers carrying volume number E62 are papers written originally in English and will be found in Section E. Both the Section-J and Section-E issues are published from the IECEJ, Kikai-Shinko-Kaikan, 3-5-8 Minato-ku, Tokyo 105, Japan.

The fall translations of some Japanese papers will appear in *Electronics and Communications in Japan*, published by Scripta Publishing Co., 7961 Eastern Avenue, Silver Spring, MD 20910.

Amplifiers and Oscillators

1

External Injection Locking Characteristics in Opposite-Phase Self-Injection-Locked Oscillator, by Y. Iida and M. Morita (Faculty of Engineering, Kansai University, Suita-shi, 564 Japan): *Trans. IECEJ*, vol. J62-B, no. 1, pp. 66–73, January 1979.

An injection-locked oscillator with an additional arrangement