

Contributors



Heinz Beneking (SM'73) was born in Frankfurt/M., West Germany, on March 28, 1924. He received the Dipl.-Phys. degree from the University of Hamburg and the Ph.D. degree in applied physics in 1951 from the same university in West Germany.

He worked first with the Zentraltechnik, Nordwestdeutscher Rundfunk, than with Telefunken Company, Ulm, in Semiconductor Device Development. In 1954, he joined the staff of the Technical University of Aachen where he was first engaged in high-frequency problems. In 1956, he was appointed Senior Lecturer. After working again with Telefunken AG in 1961 he returned to the Technical University of Aachen, where he is teaching as full Professor in semiconductor circuits and technology. His main field of research interest lies in the interaction of technology and electrical behavior of semiconductor devices. This includes optoelectronic components as well as GaAs MESFET's and microlithography.

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Marianne Boudot was born in Paris, France on July 14, 1957. She received a degree from the Physics of Materials Department, National Institute of Applied Sciences (I.N.S.A.), Lyon, France, in 1980, and the DEA of atomic and molecular physics from Claude Bernard University, Lyon, in 1980.

She joined the Thomson-CSF Microwave Components Division (DCM) in 1980, where she initially worked on silicon and GaAs epitaxy. She is currently working on the research and development of 94-GHz IMPATT diodes.

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Nigel G. Chew was born in Swansea, United Kingdom, in April 1955.

He joined the Royal Signals and Radar Establishment, Malvern, England, in 1978, and has since worked on the structural characterization of electronic materials. His other area of interest is in laser-beam processing of materials.

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Daeje Chin was born in Kyngnam, Korea in 1952. He received the B.S. degree in electronic engineering from Seoul National University, Seoul, Korea, in 1974. He studied the two-dimensional analysis of semiconductor devices and received the M.S. degree in electrical engineering from the University of Massachusetts, Amherst, in 1979.

He is currently working toward the Ph.D. degree at Stanford University in the area of two-dimensional simulation of IC processes. His main area of interest is two-dimensional oxidation modeling. He expects to finish his dissertation by the summer of 1983 and then will join the IBM Thomas J. Watson Research Center, Yorktown Heights, NY.



Leon O. Chua (S'60-M'62-SM'70-F'74) was born in the Philippines on June 28, 1936. He received the B.S.E.E. degree from Mapua Institute of Technology, Manila, the Philippines, the S.M. degree from Massachusetts Institute of Technology, Cambridge, in 1961, and the Ph.D. degree from the University of Illinois, Urbana, in 1964.

He worked for the IBM Corporation, Poughkeepsie, NY, from 1961 to 1962. He joined the Department of Electrical Engineering, Purdue University, Lafayette, IN, in 1964, as an Assistant Professor. Subsequently, he was promoted to Associate Professor in 1967, and to Professor in 1971. Immediately following this, he joined the Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, where he is currently Professor of Electrical Engineering and Computer Sciences. His research interests are in the areas of general nonlinear network and system theory. He has been a consultant to various electronic industries in the areas of nonlinear network analysis, modeling, and computer-aided design. He is the author of *Introduction to Nonlinear Network Theory* (New York: McGraw-Hill, 1969) and coauthor of the book *Computer-Aided Analysis of Electronic Circuits: Algorithms and Computational Techniques* (Englewood Cliffs, NJ: Prentice-Hall, 1975). He has also published many research papers in the area of nonlinear networks and systems. He was the Guest Editor of the November 1971 Special Issue of IEEE Transactions on Education on "Applications of Computers to Electrical Engineering Education," and the Editor of the IEEE Transactions on Circuits and Systems from 1973 to 1975.

Dr. Chua is a member of Eta Kappa Nu, Tau Beta Pi, Sigma Xi. He was a member of the Administrative Committee of the IEEE Circuits and Systems Society from 1971 to 1974, and the past President of the IEEE Circuits and Systems Society. He has been awarded four patents and is a recipient of the 1967 IEEE Browder J. Thompson Memorial Prize Award, the 1973 IEEE W. R. G. Baker Prize Award, the 1973 Best Paper Award of the IEEE Circuits and Systems Society, the Outstanding Paper Award at the 1974 Asilomar Conference on Circuits, Systems, and Computers, the 1974 Frederick Emmons Terman Award, the 1976 Miller Research Professorship from the Miller Institute, the 1982 Senior Visiting Fellowship at Cambridge University, England, and the 1982-1983 Alexander Humboldt Senior U. S. Scientist Award.

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Timothy I. Cox was born in Birmingham, England, on April 14, 1954. He received the B.A. degree in chemistry from the University of Cambridge, England, in 1975. From 1975 to 1979 he remained at the University of Cambridge in the Department of Theoretical Chemistry where he did research on the structure and dynamics of simple molecular liquids using light scattering techniques. He received the Ph.D. degree in 1978.

He joined the silicon group of the Royal Signals and Radar Establishment, Malvern, England, in 1980 where his work has concentrated on the physics and design of novel devices and the problems associated with their fabrication. His current research interests include laser annealing of silicon and the chemistry of dry etching techniques.



A. G. Cullis received the B.A. degree (honours) in chemistry and the M.A. and D.Phil. degrees from the University of Oxford. His doctoral research was on semiconductor crystal growth.

Between 1972 and 1975 he carried out electron microscope studies of defect and impurity behavior in silicon at Bell Laboratories, Murray Hill, NJ. He joined the Royal Signals and Radar Establishment, Malvern, England, in 1975, where he has continued wide-ranging electron-microscope-based research into semi-

conductor properties. He has also supervised basic laser-annealing research, which focuses on investigations of novel rapid quenching phenomena.

Dr. Cullis is immediate past Chairman of the Electron Microscopy and Analysis Group of the Institute of Physics (U.K.) and is a member of the Böhmische Physical Society.

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B. T. Debney received the B.Sc. degree in mathematical physics in 1973 and the Ph.D. in theoretical solid state physics in 1976, both from the University of Birmingham, England.

In 1976 he joined the Plessey Company, working in the Theoretical Physics Group of the Allen Clark Research Centre. Since then his fields of research have been: solar cells, infrared detectors, optical-fiber communications, GaAs FET's, and transport in small devices.

Dr. Debney is a member of the Institute of

Physics.

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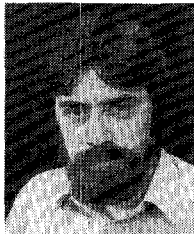


Jean-Claude De Jaeger was born in Lille, France, on February 1, 1952. He received the third cycle Doctorat degree from the University of Lille, Villeneuve d'Ascq, France, for work on millimeter IMPATT amplifier in 1977.

He joined the active components group of the Centre Hyperfréquences et Semiconducteurs (L.A. C.N.R.S. no. 287) University of Lille in 1974. He is presently a doctor in physic degree candidate and his thesis research concerns the study of heterojunction IMPATT devices. He

is currently an Assistant Professor at the University of Lille.

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Vasant G. I. Deshmukh was born in Bournemouth, England. He received the Ph.D. degree from the University of St. Andrews, Scotland, in 1977 for a study of the metal-nonmetal transition in arsenic-doped germanium using nuclear magnetic resonance. From 1976 until 1978, he held a postdoctoral fellowship at the University of Warwick, England, where he investigated metal-molten salt solutions using CW and pulsed NMR techniques.

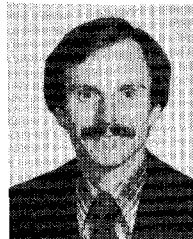
He joined the silicon group of the Royal Signals and Radar Establishment, Malvern, England, in November 1978 where he has worked primarily on technology and fabrication. His current research interests include dry etching techniques and novel devices.



Patrick De Visschere was born in Ruiselede, Belgium in 1952. He received the degree in electrical engineering and the Ph.D. degree in 1976 and 1981 both from the State University of Gent, Belgium.

Since 1976 he has been with the Laboratory of Electronics at the University of Gent as a member of a group working on thin film solar cells. His work has been sponsored by the European Community (1976-1977) and the National Fund for Scientific Research of Belgium (1978-present). Currently he is a Senior Research Assistant of this Institution. His main interests are numerical analysis of semiconductor devices, modeling of solar cells, and electromagnetic field theory, modeling of solar cells, and electromagnetic field theory.

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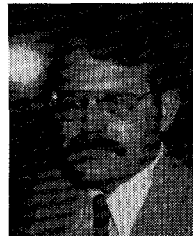


Robert W. Dutton (S'67-M'70-SM'80) received the B.S., M.S., and Ph.D. degrees from the University of California, Berkeley, in 1966, 1967, and 1970, respectively. He was the 1966-1967 Fairchild Fellow and a National Science Foundation Fellow from 1967 to 1970.

During the 1970-1971 academic year he was an Acting Assistant Professor at the University of California, Berkeley. In 1971 he joined the faculty in the Electrical Engineering Department at Stanford University where he is presently a Professor. He has held summer-staff positions at Fairchild, Bell Telephone Laboratories, Hewlett-Packard, and IBM Research during 1967, 1973, 1975, and 1977, respectively. In 1975 he received a NATO Senior Fellowship. His present research interests focus on IC process and device modeling as well as characterization using minicomputers.

Dr. Dutton is a member of Tau Beta Pi, Eta Kappa Nu, and Sigma Xi. He is also a member of the IEEE CANDE Committee.

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James C. Erskine (M'81) was born in Port Arthur, TX. He received the B.A. degree in physics from Washington and Jefferson College, Washington, PA and the M.S. and Ph.D. degrees from Western Reserve University, Cleveland, OH.

From 1966 to 1969 he was a Post Doctoral Fellow in Physics at Brandeis University, Waltham, MA where he continued his research on determining the momentum distribution of valence and conduction electrons in solids using the technique of positron annihilation. In 1969, he joined the Research Department of Zenith Radio Corp., Glenview, IL where he directed research on thin-film devices and later on semiconductor device reliability physics. In 1978 he joined the Electronics Department of the General Motors Research Laboratories, Warren, MI where he leads research in microelectronics.

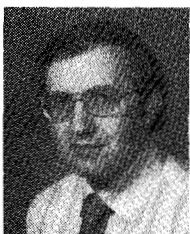
Dr. Erskine is a member of the American Physical Society, the American Vacuum Society, the Society for Information Display, and Sigma Xi.



Gabi Fernholz was born in Bucharest, Rumania, in 1951. She received the Dipl.-Ing. degree from the Technical University of Aachen, Germany and is currently working towards the Dr.-Ing. degree at the Institute of Semiconductor Electronics from the same university.

Her research activities are in the area of Si-MESFET's technology and frequency behavior.

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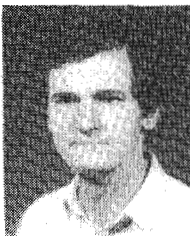
David K. Ferry (S'61-M'62-SM'72) received the B.S.E.E. and M.S.E.E. degrees in 1962 and 1963, respectively, from Texas Tech University, Lubbock, and the Ph.D. degree in 1966 from the University of Texas, Austin. He then spent a one-year tenure as a post-doctoral fellow at the Boltzmann Institute of Solid State Physics in Vienna, Austria.

From 1967 to 1973, he was a Faculty Member at Texas Tech University. From 1973 to 1977, he was associated with the Office of

Naval Research. In 1977, he became Professor of Electrical Engineering at Colorado State University, Fort Collins, where he continues research activities in the areas of semiconductor transport, particularly with emphasis in the transport and modeling in submicrometer semiconductor devices.

Dr. Ferry is a Fellow of the American Physical Society, and will be a Co-director of a NATO ASI on "Physics of Submicron Semiconductor Devices" in 1983.

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Michel Heitzmann was born in France in March 1951. He received a degree in physics engineering from the National Institute of Applied Sciences, (I.N.S.A.), Lyon, France, in 1973 and the doctor engineer degree in engineering in Paris, France, in 1977.

He joined the Thomson-CSF Microwave Components Division (DCM) Laboratories in 1979 and since has been working on microwave silicon IMPATT diodes.

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Jethro Hill was born in Rothbury, England, on February 11, 1948. He received the B.Sc. and Ph.D. degrees in physics from the University of Nottingham in 1970 and 1973, respectively. His research work for the Ph.D. degree and his subsequent three years postdoctoral fellowship at the University of Nottingham was devoted to the study of the tunnel rotation of methyl groups and their interaction with lattice vibrations using NMR, ESR, and thermal relaxation measurements. In the first year of his doctorate

studies, he won the University of Nottingham's Captain Black Research Scholarship.

He joined the Royal Signals and Radar Establishment, Malvern, England, in 1977 and was initially responsible for the physics and design of charge-coupled devices, taking particular interest in nonlinear transient charge injection. During 1980 and 1981 his work concentrated on the physics and development of novel devices and their processing. Since late 1981, he has been involved with nonlinear optics (particularly nonlinear refraction and optical bistability in narrow-band semiconductors) and picosecond optoelectronics to probe the short time scale characteristics of high-speed transport in devices.



Forrest W. Holroyd received the A.B. degree with distinction in mathematics and the B.S. degree with high distinction in physics from the University of Rochester in 1969, the M.S. degree from the University of Illinois at Urbana-Champaign in 1970, and the Ph.D. degree from McMaster University, Hamilton, Ont., Canada, in 1976.

He then accepted a postdoctoral fellowship and research associate position at the University of Toronto, Canada, where he investigated fundamental properties of transition metals at low temperatures. In 1979 he joined the Research and Development Center of the General Electric Company in Schenectady, NY, where he has since been working on the development of semiconductor power devices. His primary research interests focus on modeling of both fabrication and operation of such devices.

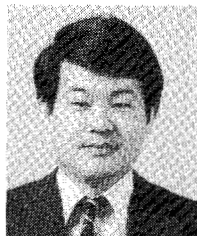
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Shih-Ming Hu received the Ph.D. degree in chemical engineering from Polytechnic Institute of Brooklyn, Brooklyn, NY in 1963.

Since graduating, he has been with IBM. His research interests include silicon surfaces and passivation, insulators, diffusion, defects, and yield.

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Tomohiro Itoh (S'76-M'77) was born in Yamaguchi, Japan, on June 13, 1951. He received the B.E. degree in electrical engineering, and the M.E. and Ph.D. degrees in electronic engineering from the University of Tokyo, Tokyo, Japan, in 1975, 1977, and 1980, respectively.

He joined the Nippon Electric Company, Ltd., Kawasaki, Japan, in 1980 and is now Supervisor of the Ultra High-Speed Device Research Laboratory, Microelectronics Research Laboratories. Since joining the company, he has been engaged in research and development of InP MISFET's.

Dr. Itoh is a member of IEEE Electron Devices and Microwave Theory and Techniques Societies, the Institute of Electronics and Communication Engineers of Japan, and the Japan Society of Applied Physics.

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J. S. Joshi received the Bachelor of Technology degree in electrical engineering in 1968 and the Master of Technology degree in electrical communication engineering in 1970, both from the Indian Institute of Technology, Powai, Bombay, India. In September 1976 he successfully completed a part-time industry sponsored Ph.D. programme with the Council of National Academic Awards (CNAA), London, England.

From 1970 to 1977, he worked at Mullard (Hazel Grove) Ltd., as a Microwave Engineer working on transferred electron device oscillators. In September 1977 he joined Allen Clark Research Centre, Plessey Research (Caswell) Ltd. He is now a Senior Principal Research Scientist responsible for GaAs FET oscillator and related work. He has several published papers in reputed international journals.

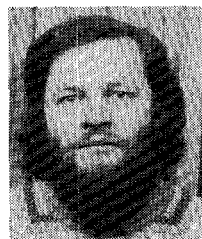
Dr. Joshi is a chartered Engineer and a member of the Institution of Electrical Engineers, London, England.



Sea-Chung Kim received B.S. degree in electrical engineering from Yonsei University in Seoul, Korea in 1973. He received M.S.E. and Ph.D. degrees from the University of Michigan, Ann Arbor, in 1976 and 1981, respectively.

He is currently working at Bell Laboratories, Allentown, PA. His area of interest is in the physics of semiconductor, batch-fabricated solid-state sensors, and LSI design and processing.

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Romain Kozłowski was born on July 17, 1955 in Vieux-Condé, France. He received the *Maîtrise en Electronique* in 1980 from the Université de Lille, Villeneuve d'Ascq, France.

He did research with the active components group of the Centre Hyperfréquences et Semiconducteurs, which is supported by the French National Center of Scientific Research (L.A. C.N.R.S. no. 287). He is presently a third degree candidate in electronics and his thesis research deals with heterojunctions IMPATT oscillators.

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Nadia Lifshitz graduated from Leningrad Electrotechnical Institute, Leningrad, USSR, with the M.S. degree in electrical engineering, and received the Ph.D. degree from Columbia University School of Engineering and Applied Science, New York City, in 1979.

She joined the Advanced LSI Development Laboratory, Bell Laboratories, Murray Hill, NJ, in May 1979.

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Serge Luryi (M'81) received his undergraduate education at the University of Leningrad, Leningrad, USSR, where he received the B.S. degree equivalent in physics in 1971. He received the M.Sc. and Ph.D. degrees at the University of Toronto, Toronto, Ont., Canada in 1975 and 1978, respectively, in theoretical physics.

He joined Bell Laboratories, Murray Hill, NJ, in 1980 after two years of postdoctoral studies. Since then, most of his research interests have been in the area of device physics.

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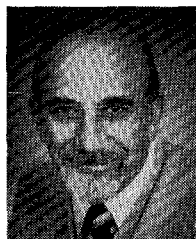
Guido Masetti was born in Bologna, Italy, in 1947. He graduated with a degree in electronic engineering from the University of Bologna in 1971.

From 1971 to 1975 he was with the Institute of Electronics, Faculty of Engineering, Bologna University. From 1975 to 1980 he was with the CNR LAMEL Laboratory, Bologna, and with the Electronic Department, Faculty of Engineering, Ancona University where he was Associate Professor of Electronic Components.

Since 1980 he has been full Professor of Electronic Components at the University of Ancona. His research activity includes modeling of the technological processes of IC design, modeling of MOS devices, and development of MOS linear integrated circuits.

John L. Moll (A'51-M'57-F'62), for a photograph and biography please see page 76 of the January 1983 issue of this TRANSACTIONS.

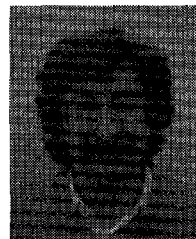
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David H. Navon (M'57-SM'74) was born in New York, NY. He received the Ph.D. degree in physics from Purdue University, West Lafayette, IN in 1953.

From 1954 to 1965 he was with the Transatron Electronic Corporation, Wakefield, MA, serving as Director of Research and Development. From 1965 to 1968 he was an Associate Professor in the Department of Electrical Engineering at MIT, Cambridge, MA. Since 1968 he has been with the University of Massachusetts, Amherst, as Professor of Electrical and Computer Engineering. During 1980 and 1981 he established and served as Director of the Applied Technology Center, School of Engineering. The academic year 1974 to 1975, he was Visiting Professor in the Applied Science and Technology School of the Hebrew University, Jerusalem, Israel, under a Fulbright Lectureship. In 1975 he spent a year with the United States General Accounting Office, Houston, TX, working on energy related matters. In 1981 he served as lecturer at the Nanjing Institute of Technology and the Fudan University, Shanghai, at the invitation of the Ministry of Education of China. His current research activities include computer simulation of semiconductor devices and emphasis on the behavior of submicrometer VLSI circuit-type structures.

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David S. Newman (M'82) was born in Brooklyn, NY. He received the B.S. degree in physics from City College of New York, New York City, in 1973. He then received the M.S. degree in atomic and molecular physics from the University of Connecticut, Storrs, in 1975. In 1979, he entered Colorado State University, Fort Collins, and received the Ph.D. degree in electrical engineering in 1982.

During 1976, he worked for SPIRE Corporation, Bedford, MA, on the development of ion-implanted solar cells, and then joined Fairchild Semiconductor, Wappinger Falls, NY, working on NMOS process development. While at Colorado State he worked for NCR microelectronics on CMOS process development.

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Soo-Young Oh (S'76-M'80) was born in Seoul, Korea, on March 13, 1950. He received the B.S. degree in electronics engineering from Seoul National University, Seoul, Korea, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, in 1976 and 1980, respectively. His graduate research was on MOS circuit modeling and 2-D device simulations.

He joined Hewlett-Packard in 1980 where he is a Project Leader for device and process modeling. His current research interest is the modeling of scaled submicrometer MOSFET's.



Keiichi Ohata was born in Osaka, Japan on April 17, 1947. He received the B.S. and M.S. degrees in electronic engineering from Kyoto University, Kyoto, Japan, in 1970 and 1972, respectively.

He joined the Nippon Electric Company, Ltd., Kawasaki, Japan in 1972 and is now Supervisor of the Ultra High-Speed Device Research Laboratory, Microelectronics Research Laboratories. He has been engaged in research of ohmic contacts to GaAs, development of low noise GaAs MESFET's, and research and development of InP MISFET's.

Mr. Ohata is a member of the Japan Society of Applied Physics and the Institute of Electronics and Communication Engineers of Japan.

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Y. W. Sing was born in Hong Kong on March 25, 1954. He received the B.S. degree from National Taiwan University, the M.S. and Ph.D. degrees from the University of California, Berkeley, all in electrical engineering, in 1975, 1977 and 1982, respectively.

From 1977 to 1979 he was with Raytheon Co., Semiconductor Division. He was the high-speed logic integrated circuit design group leader. From 1979 to 1981 he was with Hewlett-Packard Co., where he worked on VLSI development. In 1981, he joined Weitek Co. as a project manager and has worked on VLSI based systems.

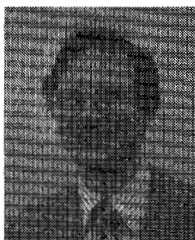
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Georges Salmer was born in Besançon, France, on August 7, 1939. He received the Dipl. Eng. degree from the Institut Supérieur d'Electronique du Nord, Lille, France, and the Doctorat ès Sciences Physiques degree from the University of Lille, Lille, France, in 1961 and 1966, respectively.

He joined the Centre Hyperfréquence et Semiconducteurs, University of Lille I, Villeneuve d'Ascq, France, in 1968. He is currently Professor at the University of Lille and group leader at the center. He is working on microwave solid-state devices, primarily IMPATT diodes and low noise and power FET's.

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James R. Sites received the B.S. degree from Duke University, Durham, NC, in 1965, and the M.S. and Ph.D. degrees from Cornell University, Ithaca, NY, in 1968 and 1969, respectively.

He worked at Los Alamos Scientific Laboratory from 1969 to 1971, and has been a member of the Physics Faculty at Colorado State University, Fort Collins, since 1971. During 1979-1980, he was a Visiting Staff Member at the Naval Ocean Systems Center in San Diego, CA. His research interests include electronic and optical characteristics of semiconducting and dielectric materials.

Dr. Sites is a member of the American Physical Society and serves on the Executive Board of the Rocky Mountain Chapter of the American Vacuum Society.

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Jose E. Schutt-Aine (M'82) was born in Petion-Ville, Haiti, on October 25, 1959. He received the B.S. degree in electrical engineering from M.I.T., Cambridge, in 1981.

He has been with Hewlett-Packard since 1981 working on microwave bipolar devices at the Technology Center, Santa Rosa, CA, where he is engaged in device analysis and microwave circuit design.

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Sandro Solmi was born in Bologna, Italy, on June 1945. He received the "Laurea" degree in physics from the University of Bologna in 1969.

After one year of training in the field of microelectronics at the Research and Development Laboratories of SGS-ATES in Milan, Italy, he joined the LAMEL Laboratory of the Italian National Research Council (CNR), where he is actively involved in the improvement of the silicon planar technology processes.

His research activity is mainly related to anomalous boron, phosphorus, and arsenic diffusion in silicon and to the crystallographic defects induced by these processes. His fields of research also include electrical transport in both poly and single-crystal silicon, laser and e-beam annealing of implanted silicon layers, precipitation phenomena, and ohmic contacts on shallow junctions. Since 1976 he has also been working in the area of solar cells for terrestrial applications.

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Maurizio Severi was born in Parma, Italy, on June 25, 1948. He graduated with a degree in electronic engineering from the University of Bologna in 1971.

In 1971 he joined the LAMEL Laboratory of the Italian National Research Council (CNR), where he has worked on a variety of problems related to physics and technology of silicon devices and integrated circuits. Since 1977 he has been engaged in research on silicon gate NMOS technology, and in the design and realization of simple MOS analog circuits. He is currently involved in research on VLSI process modeling, and on electrical and physical properties of polycrystalline silicon films.

zation of simple MOS analog circuits. He is currently involved in research on VLSI process modeling, and on electrical and physical properties of polycrystalline silicon films.

Victor A. K. Temple (M'75) for a photograph and biography please see p. 733 of the June 1983 issue of this TRANSACTIONS.



Cheng T. Wang received the M.S. and Ph.D. degrees in electrical and computer engineering from the University of Massachusetts in Amherst in 1978 and 1981, respectively.

He is currently an Assistant Professor in the Department of Electrical and Computer Engineering at the University of Miami, Coral Gables, FL. He has more than five years of experience in device simulation and has authored or co-authored several papers in this field and VLSI areas. His present interests can

be best described as being in the areas of CAD of IC's, which encompasses the silicon compiler down to the VLSI device simulation level.

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Hugh C. Webber received the B.Sc. degree in chemistry in 1969 from University College, London, England.

He joined the Royal Signals and Radar Establishment, Malvern, England, where he began working on lead chalcogenides for infrared detectors. He has worked on laser-beam processing of materials since 1978.



Kensall D. Wise (S'61-M'69) received the B.S.E.E. degree with the highest distinction from Purdue University in 1963, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, Stanford, CA, in 1964 and 1969, respectively.

From 1963 to 1965 (on leave 1965-1969) and from 1972 to 1974, he was a member of Technical Staff at Bell Telephone Laboratories, where his work was concerned with the exploratory development of integrated electronics for use in telephone communications. From 1965 to 1972 he was a Research Assistant and then a Research Associate and Lecturer in the Department of Electrical Engineering at Stanford, working on the development of integrated circuit technology and its application to solid-state sensors. In 1974 he joined the Department of Electrical and Computer Engineering at the University of Michigan, Ann Arbor, MI, where he is now serving as Professor and Director of the Electron Physics Laboratory. His present research interests focus on integrated circuits and the application of integrated circuit technology to solid-state sensors and microcomputer-controlled instrumentation.

Dr. Wise is presently serving as Chairman of the Technical Subcommittee on Solid-State Sensors of the IEEE Electron Devices Society and is a member of the Program Committee of the 1983 International Electron Devices Meeting. He is a member of the Electrochemical Society, Tau Beta Pi, Eta Kappa Nu, and Sigma Xi.

SPECIAL ISSUE
of the
IEEE TRANSACTIONS ON ELECTRON DEVICES FOR JULY 1984
on
III-V SEMICONDUCTOR PROCESSING

The fabrication of devices in III-V compounds requires very different chemistry and physical processes than for silicon. For example the absence of a stable native oxide and the lower processing temperatures necessary to prevent dissociation of the III-V compound are two problems that have required careful solutions. It is the purpose of this special issue to focus on the problems of fabricating device structures in materials such as GaAs, InP, GaAlAs, InAsP and GaP. The processing described in the papers may be new, original and experimental or it may be more established and relate to questions of reliability.

Subject areas include, but are not limited to:

- Bulk Material Growth (Czochralski, Bridgman, etc.)
- Wafer Preparation and Specification
- Material Qualification Techniques
- Thin Layer Material Growth (VPE, MBE, MOCVD, etc.)
- Material Doping (Ion Implantation, diffusion, etc.)
- Etching (chemical, ion milling, RIE, etc.)
- Contacts (specific contact resistance, metal systems, etc.)
- Interconnections (low resistance, RF, etc.)
- Three Dimensional Structuring (vertical channel, etc.)
- Encapsulation and Passivation (packaging, silicon nitride, etc.)
- Dicing (sawing, etching, etc.)
- Mounting (epoxy, low temp., solders, etc.)
- Evaluation Related to Device Processing (test patterns, special probes, etc.)

The deadline for submission of papers to the special issue is January 1, 1984. Publication of the special issue is scheduled for July 1984. All manuscripts should conform to standard format as indicated in the "Information to IEEE Authors" found on the inside back cover of the Transactions.

Contributions to this special issue, consisting of three copies, each complete with illustrations and one set of original illustrations should be sent to Dr. M. C. Driver at the address given below.

Dr. M. C. Driver
Guest Editor
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Pittsburgh, PA 15235

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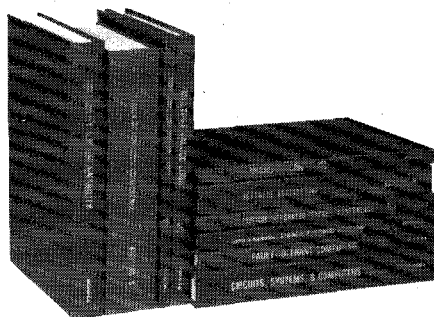
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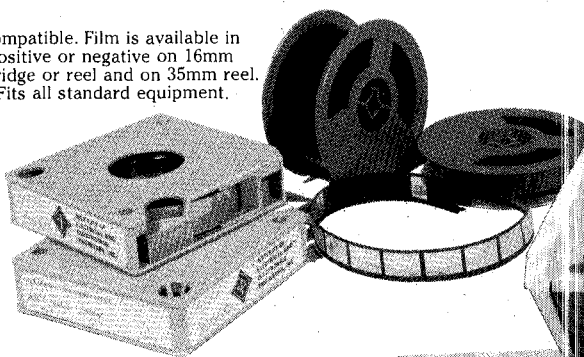
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