Authors

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Mr. Brennan is a member of an applied research department at the Thomas J. Watson Research Center. He is currently working in the area of electrical analysis of packages associated with high-performance machines. He received IBM Outstanding Contribution Awards in 1975 for his work in providing methods and programs for the interactive design of circuits and in 1978 for analytical techniques and programs which calculate the capacitance and inductance of the complex structures utilized in packaging. He obtained A.B. and M.S. degrees in physics from Fordham University, New York, New York, in 1948 and 1950. Prior to joining IBM in 1960, he was engaged in microwave tube research at the Evans Signal Laboratory, Bolma, New Jersey, and the Electron Tube Laboratory at Stanford University, California. Mr. Brennan is a member of the American Association of Physics Teachers, the American Physical Society, and Sigma Xi.

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Dr. Coppersmith is a member of a mathematical science department at the Thomas J. Watson Research Center. His interests include combinatorics and cryptography. He is presently working on cryptanalysis, factorization, and modem design. He received the B.S. in mathematics from the Massachusetts Institute of Technology in 1972, and the M.S. and Ph.D. in mathematics from Harvard University in 1975 and 1977, having won the Putnam competition in undergraduate mathematics. He joined IBM in 1977, having worked part-time since 1969 both at Yorktown and at the Cambridge Scientific Center in Massachusetts. He has worked on the development of the Data Encryption Standard (DES) from 1973 to 1975, and on digital speech transmission from 1976 to 1978. Dr. Coppersmith is a member of the American Mathematical Society and Phi Beta Kappa.

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Dr. Gaensslen received his Dipl.-Ing. and Dr.-Ing. degrees in electrical engineering from the Technical University in Munich, Germany, in 1959 and 1966. Prior to 1966 he served as Assistant Professor in the Department of Electrical Engineering of the same university. During this period, he was working on the synthesis of linear and digital networks. In 1966 he joined IBM at the Thomas J. Watson Research Center, where he is presently a research staff member in the semiconductor science and technology department. His current technical interests are centered around various aspects of advanced integrated circuits like miniaturization, device simulation, ion implantation, and low temperature operation.

Sherry Gillespie

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Dr. Gillespie joined IBM at Burlington, Vermont, in 1975, in a bipolar reliability group. She is currently a staff engineer working on electron beam lithography in an advanced technology area. She received the B.A. from Vassar College, Poughkeepsie, New York, in 1965; the M.S. from the University of Pennsylvania, in 1966; and the Ph.D. from Temple University, Philadelphia, Pennsylvania, in 1975, all in physics. Her past work involved the study of physical mechanisms that pose reliability concerns for products. Dr. Gillespie is a member of the American Physical Society.

Algirdas J. Gruodis

Data Systems Division, East Fishkill, New York

Dr. Gruodis joined IBM at Poughkeepsie, New York, as a junior engineer in 1959. He has held various engineering and management positions in the logic circuit design areas. At the present time, he is a senior engineer in a computer aided package design department. He received his B.E. in 1958 and M.E. in 1959 in electrical engineering, and as a participant of the IBM Graduate Resident Study Program, his M.S. in 1966 and Ph.D. in 1971 in applied science, all from Yale University, New Haven, Connecticut. Dr. Gruodis has received six IBM invention awards for a total of 46 inventions related to logic circuits. Dr. Gruodis is a member of the Institute of Electrical and Electronics Engineers.

D. T. Lee

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Dr. Lee is an Assistant Professor in the Department of Electrical Engineering and Computer Science at Northwestern University. He received his B.S. degree in electrical engineering from the National Taiwan University, Taipei, in 1971; and his M.S. and Ph.D. degrees in computer science from the University of Illinois, Urbana, in 1976 and 1978. He was a summer visitor at the IBM Thomas J. Watson Research Center, Yorktown Heights, New York, in 1977 and 1979. His current research interests include design and analysis of algorithms, computational geometry, discrete mathematics of computation, and data base systems. Dr. Lee is a member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

Michael F. McAllister

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Mr. McAllister is a senior engineering lab specialist with a packaging group in East Fishkill. He is currently engaged in large scale inductance measurements and the prediction of package parameters. He received the A.A.S. degree in electronics from DeVry Institute of Technology, Chicago, Illinois, in 1970, and a B.S. in electrical engineering from Union College, Schenectady, New York, in 1979. Before joining IBM in 1974, he was with the M & P Laboratory at General Electric Company, Schenectady, where he was responsible for instrumentation and measurements of dynamic and static structural tests.

Norman Raver

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Mr. Raver joined IBM in 1961 and worked on the development of information retrieval and library systems. Later he worked on data base requirements for the process industry and was involved with early development of file design generation. Then he worked on text processing and voice recognition and was originator of the data base design aid. More recently, Mr. Raver has been involved in defining the electrical characteristics of a computer package for a superconducting environment. In 1975 he taught data base design at IBM's Systems Research Institute. Prior to joining IBM, he served with the U.S. Air Force and was employed by ITT, where he was manager of hardware and software development groups. Mr. Raver received a B.S. from the City College of New York in 1948 and an M.S. from the Polytechnic Institute of Brooklyn in 1951, both in electrical engineering.

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Dr. Ruehli joined IBM at the Zurich, Switzerland, Research laboratory in 1958, where he worked on thin magnetic film memories. In 1963 he transferred to the Thomas J. Watson Research Center to work in the area of semiconductor circuits and devices. He moved to Burlington, Vermont, in 1966, where he was associated with the mathematical and engineering analysis group at the Components Division laboratory. From 1971 to 1978 he was a research staff member in a circuit and computer design automation group developing new techniques for analysis of the electrical parameters of computer hardware technologies. Since 1978, he has been manager of a computer aided design group. He received his Telecommunication Engineering degree in 1963 from Abend Technicum Zurich. In 1972 he received his Ph.D. in electrical engineering from the University of Vermont. In 1975 and 1978 he received IBM Outstanding Contribution Awards for his work in the interactive circuit design and electrical interconnection area. Dr. Ruehli is a senior member of the Institute of Electrical and Electronics Engineers.

Constantine M. Sakkas

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Mr. Sakkas received a B.S. in 1963 and an M.S. in 1965, both in mechanical engineering from the University of Missouri, where he also served as a teaching assistant instructor in applied mathematics from 1963 to 1965. He joined IBM in 1965 in a scientific computation department in Poughkeepsie, New York, where he worked on the development of software tools in the area of thermal, stress, and electrical analysis. In 1970, he joined an engineering design system group where as a member of a four-man team of an advanced design techniques department he participated in the development of the FET (RMS) automatic placement program. In 1973, he was promoted to advisory engineer and he is currently working on the development of packaging analysis tools as a member of a custom layout analysis department. Mr. Sakkas is a member of Tau Beta Pi and Pi Tau Sigma.

Ajit Singh

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Dr. Singh has been on the faculty of the Department of Electrical Engineering as an Associate Professor since 1970. His previous research has been in the area of electron beam wave interactions. He has worked for IBM's Data Systems Division in East Fishkill, New York, in a packaging area for three consecutive summers (1976–1978). From 1960 to 1961 he was a research scholar at Calcutta University, India; and he was on the faculty of the Department of Electrical Engineering at the Indian Institute of Technology, Bombay, from 1961 to 1966. Dr. Singh received his B.A. in 1957 from Panjab University, India; his M.Sc. (Tech) in radio physics in 1960 from Calcutta University; and his M.A. in mathematics in 1969 and his Ph.D. in electrical engineering in 1972, both from the University of Michigan, Ann Arbor.

William T. Weeks

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Dr. Weeks is currently a senior engineer in a computer aided package design department at the East Fishkill laboratory. He received a B.A. from Williams College, Williamstown, Massachusetts, in 1954 and an M.S. and Ph.D. in physics from the University of Michigan, Ann Arbor, in 1956 and 1960. He joined IBM in 1960 and has worked in the areas of scientific computation, memory analysis and simulation, and computer aided circuit design. He received IBM Outstanding Contribution Awards in 1968 and 1973 for his contributions to memory simulation and computer analysis of electrical circuits. Dr. Weeks is a member of Phi Beta Kappa and Sigma Xi.

Chak-Kuen Wong

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Dr. Wong joined IBM in 1969 as a member of a computer science department at the Thomas J. Watson Research Center. His current interests include abstract and concrete computational complexity theory, optimization problems related to data allocation, magnetic bubble memory structures, and theory of fuzzy sets. Dr. Wong received the B.A. degree in mathematics from the University of Hong Kong in 1965 and the M.A. and Ph.D. degrees in mathematics from Columbia University, New York in 1966 and 1970. For the academic year 1972–73 he was a Visiting Associate Professor of Computer Science at the University of Illinois, Urbana. He received an IBM Outstanding Invention Award in 1971 for a new family of sorting methods.

Leon Li-Heng Wu

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Dr. Wu is an advisory engineer working on advance package modeling and design. After joining IBM in 1968, he worked on diffusion profile modeling, silicon defect studies, device modeling, and thermal printer design. In 1962, he received his B.S. in electrical engineering from the National Taiwan University, Taipei. Dr. Wu received his M.S. in 1965 and his Ph.D. in 1968, both in electrical engineering, from Carnegie Mellon University, Pittsburgh, Pennsylvania.