

Authors

David B. Bogy

University of California, Berkeley

Dr. Bogy is an Associate Professor of Applied Mechanics at Berkeley and since 1972 has been a consultant to the applied technology group at the IBM Research laboratory in San Jose. His current technical interests include work in anisotropic elastic composites, and various types of contact problems on elastic media. He received a B.A. in geology and mechanical engineering and an M.S. in mechanical engineering in 1959 and 1961, both from Rice University, Houston, Texas, and a Ph.D. in applied mathematics in 1966 from Brown University, Providence, Rhode Island. After postdoctoral work in elasticity at the California Institute of Technology, he joined the faculty at the University of California at Berkeley in 1967. Dr. Bogy is a member of the American Society of Mechanical Engineers and Sigma Xi.

Kinsell L. Coulson

University of California, Davis

Professor Coulson is presently in the department of agricultural engineering, where his interests lie in the areas of atmospheric radiation with special emphasis on the solar radiation regime, molecular and aerosol scattering of radiation in planetary atmospheres, and reflection from planetary surfaces. He received a B.S. from Northwest Missouri State College, Maryville, in 1942, and an M.A. in 1952 and a Ph.D. in meteorology in 1959, both from the University of California at Los Angeles. Professor Coulson is a member of the American Geophysical Union, the American Meteorological Society, and the Solar Energy Society.

Bernard Dimsdale

Santa Monica, California

Dr. Dimsdale recently retired from IBM. He last served as an industry consultant at the Los Angeles Scientific Center, working on the development of numerical geometry applications for a variety of industries such as manufacturing and biostereometry. He has also worked in the area of natural languages and served as the development manager for an information retrieval group working in conjunction with the University of California at Los Angeles. During his career with IBM, he was the programming manager for the Project Mercury space effort, and the programming development manager for the inventory control project IMPACT. He received an IBM Industry Grant for 1974 to 1975. Dr. Dimsdale received his B.S. in chemistry from the University of Minnesota, Minneapolis, in 1933, and his M.A. and Ph.D. degrees in mathematics from the same institution in 1935 and 1940. He is a member of the American Mathematical Society, the Mathematical Association of America, the Society for Industrial and Applied Mathematics, the American Association for the Advancement of Science, the Association for Computing Machinery, and Sigma Xi.

Malcolm C. Easton

Research Division, Yorktown Heights, New York

Dr. Easton is a member of the storage management analysis and algorithms group at the Thomas J. Watson Research Center, where he joined IBM in 1973. His current technical interests center on methods for evaluating performance of hierarchical storage systems. He received a B.S. in physics in 1964 from Massachusetts Institute of Technology. In 1972 he received an M.S. and in 1973 a Ph.D., both in applied mathematics, from the State University of New York at Stony Brook. In 1966 and 1967 he was affiliated with the Downstate Medical Center and from 1967 to 1970 with New York Medical College, both in New York City. At each institution he served as a faculty member, carrying out research and development in the field of medical applications of computers, supervising a group of scientific programmers, and teaching occasional courses.

Eduardo B. Fernández

Data Processing Division, Los Angeles, California

Dr. Fernández joined IBM in 1973 and is a staff member at the Los Angeles Scientific Center, where he is currently working on data base systems security and performance. Previously he was an Associate Professor at the University of Chile, Santiago, from 1963 to 1972. He received the degree of Ingeniero Electricista from Universidad Técnica F. Santa María Valparaíso, Chile, in 1960, an M.S. in electrical engineering from Purdue University, Lafayette, Indiana, and a Ph.D. in computer science from the University of California at Los Angeles in 1972. Dr. Fernández is a member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

David Gries

Cornell University, Ithaca, New York

Dr. Gries received a B.S. degree from Queens College, New York, in 1960, an M.S. degree from the University of Illinois, Urbana, in 1963, and the Dr. rer. nat. degree from the Technische Hochschule, Munich, Germany, in 1966, all in mathematics. He served as Assistant Professor of Computer Science at Stanford University from 1966 to 1969 and joined the computer science department of Cornell University in 1969. He is known for his texts *Compiler Construction for Digital Computers* and *An Introduction to Programming—A Structured Approach*, coauthored with R. Conway. His current interests include programming methodology and programming language design.

Paul Halpern

Data Processing Division, Palo Alto, California

Dr. Halpern is a member of the applied physics department at the Palo Alto Scientific Center. He has been with IBM since 1968. Currently he is involved in the application of microprocessors to real-time acquisition of environmental data. He received a B.S. from the City College of New York in 1961, an M.S. from New York University in 1963, both in meteorology, and a Ph.D. in atmospheric science from the University of California at Davis, in 1975. Dr. Halpern has published papers in the fields of numerical weather prediction, air pollution meteorology, terrestrial radiative transfer and solar energy harvesting. He is a member of the American Geophysical Union and the American Meteorological Society.

Jakob H. Hohl

General Technology Division, Burlington, Vermont

Dr. Hohl is an advisory engineer in the product assurance area at the Burlington laboratory, where he is involved in reliability evaluation of semiconductor memory circuits. He joined IBM in 1956 at the Zurich Research Laboratory where he worked on magnetic core and transistor logic circuits, electronic instrumentation, and memory development. He transferred to the development laboratory in Burlington in 1966 and has been involved in circuit design for magnetic film and semiconductor memories. Dr. Hohl received the Diploma in electrical engineering from the Technikum, Winterthur, Switzerland, in 1953, an M.S.E.E. degree from the University of Vermont, Burlington, in 1970, an M.S. degree in physics and a Ph.D. in electrical engineering from the University of Arizona, Tempe, in 1972 and 1977. Dr. Hohl is a member of the Institute of Electrical and Electronics Engineers.

Harold J. Hovel

Research Division, Yorktown Heights, New York

Dr. Hovel joined IBM in 1968 working on GaAs lasers and then developing ZnSe-Ge and GaN-Si bi-stable switches for computer applications. He is now a member of the semiconductor science and technology department at the Thomas J. Watson Research Laboratory, where his current research interests include semiconductor device physics, solar energy, and high efficiency GaAs solar cells. Dr. Hovel received his B.S., 1964; his M.S., 1965; and his Ph.D., 1968, in electrical engineering from Carnegie Institute of Technology, Pittsburgh, Pennsylvania. In 1974, he received the Eta Kappa Nu engineering honorary society's Outstanding Young Engineer of the Year Award. Dr. Hovel is a member of the American Physical Society, the Institute of Electrical and Electronics Engineers, and Sigma Xi.

Juan M. Lafuente

System Communications Division, Poughkeepsie, New York

Dr. Lafuente is an advisory programmer in a compiler development group. He joined IBM in 1962 at the Poughkeepsie laboratory, where he worked on computer-aided design, computer graphics, and problem-oriented languages. From 1973 to 1976 he worked at the Mohansic laboratory on the design and implementation of interactive language facilities for use by non-programmers. Dr. Lafuente received the B.S. degree in mechanical engineering in 1961 from Tulane University, New Orleans, and the M.S. degree in mechanical engineering in 1962 from Louisiana State University, Baton Rouge. In 1968 he received an M.S. degree in applied mathematics from New York University. He attended Cornell University, Ithaca, New York, from 1969 to 1972 on an IBM resident graduate fellowship and specialized in programming language semantics and compiler design. He received his Ph.D. in computer science from Cornell University in 1977. Dr. Lafuente is a member of the Association for Computing Machinery.

Tomas Lang

University of California, Los Angeles

Dr. Lang received an electrical engineering degree from the University of Chile, Santiago, in 1963; an M.S. from the University of California at Berkeley in 1965; and a Ph.D. degree from Stanford University in 1974. He served as Professor of Electrical Engineering at the University of Chile from 1964 to 1973 and joined

the computer science department of the University of California at Los Angeles in 1974. His research and teaching interests are in computer architecture, logic design, and parallel computers and computation. Dr. Lang is a member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

Henri J. Nussbaumer

Compagnie IBM France, La Gaude

Dr. Nussbaumer, who is an IBM Fellow, initially joined IBM France at the development laboratory in Paris in 1957, where he worked on solid state circuits. In 1960 he transferred to the Poughkeepsie laboratory and worked on electrodeposition of magnetic films. He returned to IBM France at La Gaude in 1962 as manager of an advanced development group working on parametric circuits. He was appointed manager of line switching product development in 1964, manager of technology from 1965 to 1973, and manager of education and technical vitality from 1973 until 1975. He received an IBM Outstanding Contribution Award in 1969 for work on electronic crosspoint switches. Dr. Nussbaumer graduated from the Ecole Centrale des Arts et Manufactures, Paris, in 1954, and received his doctorate degree from the University of Nice in 1977.

Philippe Quandalle

University of Nice, France

Mr. Quandalle received his Master's degree in mathematics from the University of Nice in 1976. He is currently working on a doctorate degree in a joint program between the University and IBM France, Centre d'Etudes et Recherches, La Gaude. His main activities concern computational complexity and discrete transforms.

Frank E. Talke

Research Division, San Jose, California

Dr. Talke joined IBM in 1969 at the Research laboratory and has been manager of a mechanics and hydrodynamics project in the applied science complex in San Jose since 1971. In this capacity he has been studying the mechanical aspects of magnetic recording technology. In 1971 he received an IBM Outstanding Contribution Award for his investigations in friction, wear, and lubrication of disk files. In addition to his work with IBM, he has also taught graduate courses at the University of Santa Clara, California. He attended the University of Stuttgart, Germany, where he received a Diplom-Ingenieur degree in applied mechanics in 1965, and the University of California at Berkeley, where he received a Ph.D. degree in mechanical engineering in 1969.

Christopher Wood

Data Processing Division, Los Angeles, California

Dr. Wood is located at the Los Angeles Scientific Center, where he has been working in the area of data base security and performance since 1976. He first joined IBM in 1970 as a systems engineer in London, England, specializing in the data base area. In 1966 he obtained a B.S. in physics from Imperial College, London University, and in 1969, a Ph.D. from Balliol College, Oxford University, in theoretical physics. Dr. Wood is a member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.