

Authors

Wolfgang Dietrich

Diploma in Electrical Engineering, Institute of Technology, Darmstadt, Germany, 1952. From 1952-1956 he participated in the construction of the electronic computer DERA at the Institute of Applied Mathematics, at Darmstadt. He then joined IBM in 1956 as an Associate Engineer in the Research Laboratory, Zurich, Switzerland, where he is engaged in investigating the switching properties of thin magnetic films. Member of the German Nachrichtentechnische Gesellschaft (NTG).

John Greenstadt

B.A., 1944, Brooklyn College; M.S., 1947 and Ph.D., 1953, Yale University (all in Physics). Joined IBM in 1952 as a programmer in the 701 Data Processing Center, after having worked previously in nuclear reactor design and applied mechanics. Was a problem analyst and estimator in the DPC. In 1957, he became a member of the Mathematics and Applications Department in the Data Processing Division, now located in White Plains. Is engaged in analysis and programming of new applications and mathematical techniques, such as petroleum distillation, corporate simulation, nonlinear programming and differential equations. He is a member of the APS and ACM, as well as Pi Mu Epsilon and Sigma Xi.

Melvin Klein

M.E., Stevens Institute of Technology, 1940; M.S., Stevens Institute of Technology, 1942; A.M. in Physics, Columbia University, 1948. Worked at Federal Telecommunications Laboratories, 1942-1946, on instrument landing equipment and radio direction finders. Graduate Student and Assistant in Physics at Columbia, 1946-1950. Employed at Radio Receptor Company, 1950-1958, working on radar beacon design and development of semiconductor devices. Joined IBM in 1958 in the Semiconductor Development Department, Data Systems Division, Poughkeepsie, N. Y. and is currently engaged in transistor and diode development. Member, American Physical Society, IRE, Electrochemical Society.

Andrew P. Kordalewski

B.A. in Physics, Gettysburg College, 1952; graduate work at Syracuse University, 1952. Worked in the Semiconductor Department of General Electric Company, 1952-

1957, and was mainly concerned with alloy transistor development. Joined IBM Semiconductor Section at Product Development Laboratory, Poughkeepsie, in 1957 and worked on advanced device development. Returned to the Advanced Rectifier Engineering Section of the Semiconductor Department, General Electric Company in 1958. Is a member of IRE and Sigma Pi Sigma.

Norman M. Kroll

A.B., 1942, M.A., 1943, Ph.D. (Physics) 1948, Columbia University. Was Assistant in Physics at Columbia 1942-1944, Staff Member of Columbia Radiation Laboratory 1943-1948, National Research Fellow at Institute for Advanced Study 1948-1949; Assistant Professor of Physics at Columbia 1949-1952, Associate Professor 1952-1954, Professor 1954. Fulbright Fellow, University of Rome, 1955-1956. Guggenheim Fellow, 1955-1956. Consultant to IBM Watson Laboratory at Columbia University, 1956. His fields of interest are microwave physics, microwave tube design, quantized field-theory, and nuclear physics. Is a member of American Physical Society.

Istvan Palócz

Dipl. Ing. 1945, Docent 1954, at the University of Technical Sciences, Budapest, Hungary. Was Research Engineer 1945-1958, Manager of Quality Control Department, 1948-1950, Research Consultant on Electron Tubes, 1950-1956, Tungstam Company. Assistant Professor 1950-1954, Associate Professor 1954-1956, at the University of Technical Sciences, Budapest. Since 1957 has been staff member of Watson Research Laboratory at Columbia University, engaged in theoretical studies of microwaves and microwave tubes. Was recipient of Hungarian National Award for Excellent Teaching in 1956. Is Senior Member of IRE.

Peter J. Price

Studied physics at Oxford and Cambridge Universities, obtaining a Ph.D. in Theoretical Physics from the latter in 1951. Subsequently research assistant to the late Fritz London at Duke University, and a member of the Institute for Advanced Study at Princeton, before joining IBM in 1953. Since then he has been a member of the physics group of Watson Research Laboratory at Columbia University. His principal field of research is solid state physics.

Walter E. Proebster

M.S. in Electrical Engineering, Institute of Technology, Munich, Germany, 1951; Ph.D. in Electrical Engineering, Institute of Technology, Munich, Germany, 1956. From 1951-1956 he was associated with the Department of Electrical Communications at the Institute of Technology, Munich, charged with the development of the electronic circuits of the computer PERM. Joined IBM in 1956 as Project Manager in charge of research on switching circuits and thin magnetic films at the Research Laboratory, Zurich, Switzerland. He is an Associate of the American Institute of Radio Engineers, and a member of the German Nachrichtentechnische Gesellschaft and the Swiss Society of Automation.

John M. Radcliffe

B.Sc. in Mathematical Physics, 1950, and Ph.D. in Mathematical Physics, 1953, University of Birmingham, England. Junior Research Fellow, Royal Radar Establishment, Great Malvern, England, 1953-1956. Research Associate, Department of Physics, University of Illinois, 1956-1958. Is presently Assistant Professor, Department of Physics, Carnegie Institute of Technology. Member of the American Physical Society.

J. Paul Roth

Degree of B.M.E., University of Detroit, 1946; M.S. (Mathematics), 1948; Doctor of Philosophy (Mathematics), University of Michigan, Ann Arbor, 1953. Joined IBM in July, 1956. Was employed as Research Engineer, Continental Aviation and Engineering Corporation, Detroit, Michigan 1946-1947; Research Associate, Mathematics Group, Engineering Research Institute, University of Michigan, Ann Arbor, 1947-1953; Pierce Instructor of Mathematics, University of California at Berkeley, 1953-1955; Staff Mathematician, electronic computer project, Institute for Advanced Study, Princeton, working under grant supported by Army, Office of Naval Research and Air Research and Development

Command; Visiting Assistant Professor of Mathematics, Princeton University, 1957-1958. Presently Manager of Department of Applied Combinatorial Mathematics, IBM Research Center at Yorktown Heights. Is a member of American Mathematical Society, Society for Industrial and Applied Mathematics, Mathematical Association of America and Sigma Xi.

Richard F. Rutz

A.B., Shurtleff College, 1941; M.S. in Physics, State University of Iowa, 1947. Worked in the Electronics Section of the Research Division of Sandia Corporation, 1948-1951. Joined IBM in 1951 and is engaged in semiconductor device research at the Research Laboratory in Poughkeepsie. Member of American Physical Society, IRE and Sigma Xi.

Eric G. Wagner

A.B. in Physics at Harvard University, 1953. Presently working part time towards M.A. in Mathematics at Columbia University. Joined IBM in 1953 and worked on the logical design of the SAGE Computer. Since 1956 has been working in switching theory in the Applied Combinatorial Mathematics Department at the Yorktown Heights Research Center. Is associate member of IRE.

Michael M. Woolfson

B.A. in Physics, Oxford University, 1947; M.A. (Oxon), 1951; Ph.D. in Physics, Manchester University, 1952; Fellow of Cambridge University. Joined Manchester at Cavendish Laboratory as Imperial Chemical Industries Fellow of Cambridge University. Joined Manchester College of Science and Technology in 1955 as Lecturer in Physics. On leave from Manchester for year 1959 to work with the Mathematics and Applications Department of the Data Systems Division at White Plains. Main research field: Mathematical aspects of x-ray crystallography.

Contents of Previous Four Issues

October 1958

Vol. 2, No. 4

● Conference Papers

Communication Sciences in a University Environment
by J. B. Wiesner 268-275

Problems in Scientific Communication
by E. de Grolier 276-281

How Much Science Can You Have at Your Fingertips?
by I. J. Good 282-288

Channels with Side Information at the Transmitter
by C. E. Shannon 289-293

Artificial Auditory Recognition in Telephony
by E. E. David, Jr. 294-309

The Role of Large Memories in Scientific Communications
by M. M. Astrahan 310-313

A Business Intelligence System
by H. P. Luhn 314-319

Chess-Playing Programs and the Problem of Complexity
by A. Newell, J. C. Shaw and H. A. Simon . . . 320-335

Intelligent Behavior in Problem-Solving Machines
by H. L. Gelernter and N. Rochester 336-345

Computation in the Presence of Noise
by P. Elias 346-353

● Article

Machine-Made Index for Technical Literature — An Experiment
by P. B. Baxendale 354-361

January 1959

Vol. 3, No. 1

● Articles

Automatic Failure Recovery in a Digital Data Processing System
by R. H. Doyle, R. A. Meyer and R. P. Pedowitz . . 2-12

Diffusion Attenuation, Part I
by J. A. Swanson 13-17

Diffusion Attenuation, Part II
by J. A. Swanson and K. Y. Sih 18-24

On the Mathematical Theory of Error-Correcting Codes
by H. S. Shapiro and D. L. Slotnick 25-34

The Thermal Equivalent Circuit of a Transistor
by P. R. Strickland 34-45

The Multipurpose Bias Device—Part II: The Efficiency of Logical Elements
by B. Dunham, D. Middleton, J. H. North, J. A. Sliter and J. W. Weltzien 46-53

An Analysis of Adequate Inventory Levels
by J. J. Sopka 54-57

Two-Parameter Lifetime Distributions for Reliability Studies of Renewal Processes
by B. J. Flehinger and P. A. Lewis 58-73

An Experimental Modulation-Demodulation Scheme for High-Speed Data Transmission
by E. Hopner 74-84

● Short Communications

Application of Phase-Contrast Metallography in a Production Laboratory
by G. Koves 85-92

Observations of Rotational Switching in Ferrites
by W. L. Shevel, Jr. 93-95