

## Contributors to This Issue

A. A. BERGH, M.S. (Phys. Chem.), 1952, University of Szeged, Hungary; Ph.D. (Phys. Chem.), 1959, University of Pennsylvania; Bell Telephone Laboratories, 1959—. He was first engaged in process development and surface studies in the applied chemistry area. His work has included studies on metal semiconductor and oxide semiconductor interfaces, and on the effects of atomic hydrogen on surfaces and semiconductor devices. He is presently responsible for a group concerned with planar transistor technology and npn and pnpn transistor development.

O. E. DE LANGE, B.S. in E.E., 1930, University of Utah; M.A. (Physics), 1937, Columbia University; Bell Telephone Laboratories, 1930—. He was involved in studies of FM up to the start of World War II. The war years were spent on development and design of naval radar. The following period was devoted to studies of broadband pulse systems with emphasis on PCM. He was responsible for the satellite tracking radar employed at the Holmdel, N. J., Bell Laboratories for the Echo I Experiment. Recent years have been devoted to studies of light propagation and light transmission systems. Senior member, IEEE.

RICHARD W. HAMMING, B.S., University of Chicago, 1937; M.A., University of Nebraska, 1939; Ph.D., University of Illinois, 1942. Mathematics Instructor, University of Illinois, 1942–44; Professor, University of Louisville, 1944–45; Member of Staff at Los Alamos, 1945–46. In 1946, he joined Bell Telephone Laboratories, where he works in the general area of computing and computing machines. Member, ACM, SIAM, AMS, MAA, AAAS and IEEE.

R. D. HEIDENREICH, B.S., 1938, M.S., 1940, Case Institute of Technology; Bell Telephone Laboratories, 1945—. His work has been chiefly in the areas of electron microscopy and electron diffraction. He developed the thin metal section methods for transmission electron microscopy now widely used for studying defects in solids. His early application of electron methods to semiconductors resulted in chemical polishing techniques and long surface lifetime treatments for germanium. He has

conducted extensive joint research programs on magnetic materials which have correlated structure with magnetic anisotropy in both hard and soft permanent magnets. His more recent theoretical studies concerning elastic and inelastic scattering of electrons has led to his present interest in high-resolution electron imaging aimed toward resolving atomic configurations. Member, AAAS; Fellow, American Physical Society; Past President, Electron Microscope Society of America.

LUDWIK KURZ, B.E.E., 1951, M.E.E., 1955, College of the City of New York; Eng. Sc. D., 1961, New York University. He taught graduate and undergraduate courses at City College between 1951 and 1959. He was awarded the National Science Foundation Science Faculty Fellowship for the period 1959-1961. Since 1961, he has been a member of the faculty of New York University, where he is currently associate professor of electrical engineering.

JESSIE MACWILLIAMS, B.A., 1939, M.A., 1941, Cambridge, England; Ph.D., 1962, Harvard University; Bell Telephone Laboratories 1956—. Mrs. MacWilliams has been concerned with network analysis and synthesis, and with data systems studies, particularly in the field of error control. She is at present on leave of absence as a visiting professor in the department of mathematics of Cambridge University, England. Member, Mathematical Association of America and American Mathematical Society.

D. E. McCUMBER, B.E., 1952, and M.E., 1955, Yale University; A.M., 1956, and Ph.D., 1960, Harvard University; National Science Foundation Postdoctoral Fellow 1959-61; Bell Telephone Laboratories 1961—. His research as a theoretical physicist has been concerned with the analysis of the optical spectra of impurities in solids and with features of optical masers. Member, American Physical Society.

MICHAEL RAPPEPORT, B.S., 1957, Rensselaer Polytechnic Institute; M.E.E., 1958, Yale University; Bell Telephone Laboratories, 1959—. Since joining Bell Laboratories, he has worked on various analytical approaches to data transmission systems, stressing simulation approaches to studying such systems. Member, IEEE, and Institute of Mathematical Statistics.

BURTON R. SALTZBERG, B.E.E., 1954, New York University; M.S., 1955, University of Wisconsin; Eng. Sc. D., New York University,

1964; Bell Telephone Laboratories, 1957—. He has been engaged in the development of digital data communications systems. Member, IEEE, Eta Kappa Nu, Tau Beta Pi, and Sigma Xi.

D. T. YOUNG, B.S., 1956, M.E.E., 1960, University of Oklahoma; Bell Telephone Laboratories, 1960—. He initially worked on mode conversion problems in multimode waveguide. At present he is working on a solid-state repeater for a waveguide transmission system. Member, IEEE, Tau Beta Pi, Eta Kappa Nu and Sigma Xi.

