

## Contributors to This Issue

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**W. N. Bell**, B.S., 1967, Pratt Institute; M.S., 1969 (mathematics) Stevens Institute of Technology; Bell Laboratories, 1967–1973; New Jersey Bell, 1973–1975; Bell Laboratories, 1975—. Mr. Bell has worked on problems of crosstalk and inductive interference in telephone cables. He is presently a member of the Loop Topology and Methods Department and is concerned with loop plant utilization and construction budget analysis.

**Martin B. Brilliant**, B. A., 1955, Washington and Jefferson College; S.B., S.M., 1955, ScD., 1958, Massachusetts Institute of Technology; Bell Laboratories, 1955 and 1966 —. Mr. Brilliant has also held positions with the Air Force Cambridge Research Center; National Company, Inc.; Hazeltine Research Corporation; University of Kansas; and Booz Allen Applied Research, Inc. At Bell Laboratories, he worked in 1955 on a transistor pulse generator for the Electronic Central Office. Since 1966 he has been concerned with systems engineering problems in integrated digital switching and transmission and in network objectives. Member, AAAS.

**Paul E. Butzien**, B.S. (Electrical Engineering), 1961, Newark College of Engineering, and M.S. (E.E.), 1962, New York University; Pacific Telephone and Telegraph (Portland, Oregon), 1948–1953; Bell Laboratories, 1953—. Mr. Butzien has done research in electron tubes, superconductivity, and other cryogenic and high vacuum device studies, solid state microwave amplifiers, and phased array antenna elements. More recently he has been working on exploratory antenna measurements and is presently employing a data-gathering system of his design to study the spatial radiation characteristics of the Bell System pyramidal horn-reflector antenna. Member, IEEE.

**T. C. Chu**, B.S., 1964, Cheng Kung University (Taiwan); M. S., 1967, Syracuse University; Ph.D., 1971, Aerospace Engineering, Cornell University; Bell Laboratories, 1972—. Mr. Chu has worked the T4M digital transmission system, optical fiber connector and splice designs, and fiberguide transmission system. Member, OSA, Sigma Xi.

**William G. French**, B.A., 1965, University of California, Riverside; Ph.D., 1969, University of Wisconsin; Bell Laboratories, 1969—. Mr. French has worked on fundamental studies of glass as well as glass purification techniques and the development of low-loss optical fiber materials. His present interests are concerned with vapor deposition methods for the fabrication of low-loss fibers with low dispersion characteristics. Member of the Optical Society of America, American Chemical Society, and American Ceramic Society.

**D. L. Jagerman**, B.E.E., 1949, Cooper Union; M.S., 1954, and Ph.D. (mathematics), 1962, New York University; Bell Laboratories, 1963—. Mr. Jagerman has been engaged in mathematical research on quadrature, interpolation, and approximation theory. Also he has done research on the theory of widths and entropy with application to the storage and transmission of information. His work for the past several years concerns the theory of queueing systems applied to telephone traffic and computer flow time problems.

**R. H. Knerr**, B.S.E.E., 1960, Technical University, Aachen, Germany; Dipl. Ing., 1962, National Polytechnical Inst. (ENSEEHT), Toulouse, France; Ph.D. (E.E.), 1968, Lehigh University; Bell Laboratories, 1968—. Mr. Knerr has been engaged in R&D on microwave ferrite devices, IMPATT diode amplifiers, bipolar transistor amplifiers, GaAs FET microwave power amplifiers, and GaAs FET low-noise amplifiers. He is currently concerned with low-cost microwave receiver techniques. Senior member, IEEE; chairman IEEE-S-MTT Technical Committee on Microwave and Millimeter Wave Integrated Circuits; member IEEE-S-MTT Administrative Committee.

**Benjamin F. Logan, Jr.**, B.S. (Electrical Engineering), 1946, Texas Technological College; M.S., 1951, Massachusetts Institute of Technology; Eng.D.Sc. (Electrical Engineering), 1965, Columbia University; Bell Laboratories, 1956—. While at MIT, Mr. Logan was a research assistant in the Research Laboratory of Electronics, investigating characteristics of high-power electrical discharge lamps. Also at MIT he engaged in analog computer development at the Dynamic Analysis and Control Laboratory. From 1955 to 1956 he worked for Hycon-Eastern, Inc., where he was concerned with the design of airborne power supplies. He joined Bell Laboratories as a member of the Visual and Acoustics Research Department, where he was concerned with the processing of speech signals. Currently, he is a member of the Mathematical Research Department. Member, Sigma Xi, Tau Beta Pi.

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**Curtis A. Siller, Jr.**, B.S.E.E., 1966, M.S., 1967, and Ph.D., 1969, University of Tennessee; Bell Laboratories, 1969—. Mr. Siller has done exploratory work in linear antenna theory; designed, theoretically analyzed, and participated in the experimental testing of large-aperture microwave antennas; and assessed antenna system performance as it impacts on the terrestrial radio network. Most recently he has been investigating the relationship of environmental siting factors to antenna performance degradation, studying the effect of coating antenna radomes with hydrophobic materials, and pursuing methods to ameliorate signal impairment during periods of multipath fading. Member, Phi Eta Sigma, Eta Kappa Nu, Tau Beta Pi, Phi Kappa Phi, and Sigma Xi.

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**C. B. Swan**, B.Sc., 1954, University of New Brunswick, Canada; M.A.Sc., 1959, University of Toronto; Ph.D., 1963, University of Toronto; Bell Laboratories 1962—. From 1962 to 1968 Mr. Swan studied the interaction of microwaves with ionized gases and developed varactor diode harmonic generators and IMPATT diode oscillators. Since 1969 he has supervised the Microwave Integrated Circuit and Device Group at the Allentown, Pennsylvania, Laboratories. Senior member, IEEE; member, Association of Professional Engineers of Ontario.

**Deborah Y. Sze** will receive her A.B. from the Division of Engineering and Applied Physics of Harvard University in 1978. She is a student member of the Harvard Society of Engineers and Scientists and of the National Society of Professional Engineers. She was a Summer Research Associate at Bell Laboratories in 1976.

