Contributors to This Issue

Robert R. Boorstyn, B.E.E., 1958, City College of New York; M.S., 1963, Ph.D., 1966, Polytechnic Institute of Brooklyn; Sperry Gyroscope Company, 1958–1961; Polytechnic Institute of Brooklyn, 1961—. Presently an associate professor, Mr. Boorstyn's current research interest is in computer communication networks. Chairman, New York Metropolitan chapter of IEEE Information Theory Group; Associate Editor, Networks journal; member, IEEE, Eta Kappa Nu, Tau Beta Pi, Sigma Xi.

John R. Cavanaugh, B.S. (Electrical Engineering), 1961, Ohio University; M.S. (Electrical Engineering), 1963, New York University; Bell Laboratories 1961—. Mr. Cavanaugh has worked on determining acceptable picture quality standards for broadcast television transmission. He is currently a member of the Network Objectives Department working on subjective evaluations of digital telephone systems. Member, Phi Kappa Phi, Tau Beta Pi, Eta Kappa Nu.

Richard W. Hatch, B.S. (Electrical Engineering), 1952, Northeastern University; M.S. (Mathematics) 1958, Stevens Institute of Technology; Bell Laboratories, 1952—. Mr. Hatch worked for several years on the design of microwave radio relay systems and in 1961 and 1962 supervised groups working on the ground transmitter, systems analysis, and communications tests for the TELSTAR® satellite. In 1962 he became head of a department engaged in transmission systems engineering studies of network performance and maintenance. He currently heads a department responsible for studies of customer opinion and network performance leading to recommendations concerning network performance objectives. Member, Tau Beta Pi, Eta Kappa Nu.

Frank K. Hwang, B.A., 1960, National Taiwan University; M.B.A., City University of New York; Ph.D. (Statistics), 1968, North Carolina State University; Bell Laboratories, 1967—. Mr. Hwang spent the fall of 1970 visiting the Department of Mathematics of National Tsing-Hua University. He has been engaged in research in statistics, computing science, discrete mathematics, and switching networks.

Nuggehally S. Jayant, B.Sc. (Physics and Mathematics), 1962, Mysore University; B.E., 1965, and Ph.D., 1970 (Electrical Communication Engineering), Indian Institute of Science, Bangalore; Research Associate at Stanford University, 1967–1968; Bell Laboratories, 1968—. Mr. Jayant was a Visiting Scientist at the Indian

Institute of Science January-March 1972 and August-October 1975. He has worked on coding for burst error channels, detection of fading signals, statistical pattern discrimination, spectral analysis, and problems in adaptive quantization and prediction, with special reference to speech signals.

J. B. Lastovka, B.S. (Physics), 1962, John Carroll University; Ph.D. (Physics), 1967, Massachusetts Institute of Technology; Staff Member in the Division of Sponsored Research, Massachusetts Institute of Technology, 1967–1970; Bell Laboratories, 1970—. Since joining Bell Laboratories Mr. Lastovka has been engaged in research related to various aspects of hydrodynamic instabilities.

Dietrich Marcuse, Diplom Vorpruefung, 1952, Dipl. Phys., 1954, Berlin Free University; D.E.E., 1962, Technische Hochschule, Karlsruhe, Germany; Siemens and Halske (Germany), 1954–1957; Bell Laboratories, 1957—. At Siemens and Halske, Mr. Marcuse was engaged in transmission research and studying coaxial cable and circular waveguide transmission. At Bell Laboratories, he has been engaged in studies of circular electric waveguides and work on gaseous masers. He spent one year (1966–1967) on leave of absence from Bell Laboratories at the University of Utah. He is presently working on the transmission aspect of a light communications system. Mr. Marcuse is the author of three books. Fellow, IEEE; member, Optical Society of America.

Arun N. Netravali, B. Tech. (Honors), 1967, Indian Institute of Technology, Bombay, India; M.S., 1969, Ph.D., 1970 (Electrical Engineering), Rice University; Optimal Data Corporation, 1970–1972; Bell Laboratories, 1972—. Mr. Netravali has worked on various aspects of signal processing. Member, Tau Beta Pi, Sigma Xi.

David C. Rife, B.S.E.E., 1960, University of Washington; M.E.E., 1962, New York University; Ph.D. (E.E.), 1973, Polytechnic Institute of Brooklyn; Bell Laboratories, 1960—. Mr. Rife has worked on data carrier systems, automatic calling units, and data test equipment. He is currently supervisor of a group engaged in the development of an automated data station testing system. Senior member, IEEE; member, Tau Beta Pi, Phi Beta Kappa, Sigma Xi.

Romesh Saigal, B. Tech. (Honors) (Mechanical Engineering), 1961, M. Tech (Industrial Engineering), 1963, Indian Institute of Technology, Kharagpur, India; Ph.D. (Operations Research), 1968, University of California (Berkeley); Assistant Professor, University of California, Berkeley, 1967–1973; Bell Laboratories, 1973–1976; North-

western University, 1976—. Mr. Saigal has worked primarily on mathematical programming. Member, ORSA, Mathematical Programming Society.

Marvin R. Sambur, B.E.E. (1968), City College of New York; S.M. (1969) and Ph.D. (1972), Massachusetts Institute of Technology; Bell Laboratories, 1972—. Mr. Sambur is a member of the Acoustics Research Department and has worked in the areas of speech recognition, speaker recognition, low-bit-rate vocoder systems, encryption techniques, and digital waveform coders. Member, MPA-TC subcommittee on Speech Recognition and Understanding, Eta Kappa Nu, Tau Beta Pi, Sigma Xi.

John L. Sullivan, B.S.E.E., 1953, Iowa State University; M.S.E.E 1959, Newark College of Engineering; Bell Laboratories, 1953—. Mr. Sullivan has worked on television test equipment and on establishing objectives for exchange area trunks, wide-area data service, electronic telephone sets and TOUCH-TONE® calling. He presently supervises a group responsible for recommending local transmission objectives. Group activities include subjective testing to determine observer reaction to telephone message impairments, and using these test results in studies of present and future network transmission performance for speech. In addition, he is involved in Bell System, national, and international standards activities. Member, Acoustical Society of America.

