#### Manuel R. DeSousa

Information Systems Division, Boulder, Colorado

Mr. DeSousa manages the Document Interchange Architecture development group within ISD Architecture, Boulder. He joined IBM in 1957 and has managed IBM publication development organizations throughout most of his career. In the late 1960s, he established IBM's first fully automated text-processing system for publications. The system utilized a terminal entry system, IBM's TERMTEXT for formatting, and photocomposition output. Mr. DeSousa has been involved with the development of several of IBM's text-processing systems and is now involved in the development of the document distribution application and document content data stream.

### Paul Halpern

Data Processing Division, Scientific Center, Palo Alto, California

Dr. Halpern has been with IBM since 1968. He has published papers in the fields of numerical weather prediction, air pollution meteorology, terrestrial radiative transfer, solar energy harvesting, and the real-time acquisition of environmental data. Currently he is investigating the potential use of meteorological satellite data for agricultural management. He received a B.S. degree 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 is a member of the American Meteorological Society and the American Geophysical Union.

# **Authors**

#### Joseph B. Major

IBM Canada, Limited, Montreal, Canada

Mr. Major is a consultant systems engineer in the Montreal Field Support Centre. Prior to joining IBM in 1965, he worked in operations research with Imperial Oil Limited. Earlier, he was assistant professor in the Department of Mathematics in the University of Debrecen, Hungary. Mr. Major has an M.A. degree in pure mathematics from the University of Kazan, U.S.S.R. His current interests include large system performance studies and methodologies.

## John W. Rettberg

Data Processing Division, Scientific Center, Palo Alto, California

Dr. Rettberg joined IBM in 1967. He received his Ph.D. from Columbia University for research in high-energy physics. Subsequently he has done research in nuclear physics and large-scale scientific computation. He is currently studying the use of vector processors for the solution of scientific problems.

# **Goran Sandberg**

IBM Svenska AB, Data Processing Division, Stockholm, Sweden

Mr. Sandberg is an advisory systems engineer in the Large DB/DC Group at the Nordic Field Systems Center. He joined IBM in 1965 as a systems engineer in Stockholm. From 1972 to 1974 he worked with IMS Development in Palo Alto, California. Since 1975 he has worked in the Cross Industry Marketing Center and the Nordic Field Systems Center in Stockholm, specializing in the data base area. Mr. Sandberg graduated as a civil engineer in chemistry from the Royal Institute of Technology, Stockholm, in 1964.

## The System R Group

Research Division, San Jose, California

The coauthors of the paper "System R: An architectural overview," M. W. Blasgen, M. M. Astrahan, D. D. Chamberlin, J. N. Gray, W. F. King, B. G. Lindsay, R. A. Lorie, J. W. Mehl, T. G. Price, G. R. Putzolu, M. Schkolnick, P. G. Selinger, D. R. Slutz, H. R. Strong, I. L. Traiger, B. W. Wade, and R. A. Yost, worked together at the IBM San Jose Research Laboratory for several years. W. Frank King, now Director of General Purpose Systems at IBM's Corporate Head-quarters, provided principal management direction as the manager of the Computer Science Department. Dr. King received the Ph.D. degree from Princeton University in 1970. Management was also provided by Irving L. Traiger, Donald D. Chamberlin, and Michael W. Blasgen. The others are research staff members in San Jose.