

Morton Michael Astrahan

Born December 5, 1924, Chicago; died June 2, 1988, Los Gatos, Calif.; instrumental in the development of the I/O interrupt; organizer and first chairman, IRE Professional Group on Electronic Computers (forerunner of the IEEE Computer Society).

Education: BS, Northwestern University, 1945; MS, California Institute of Technology, 1946, PhD, electrical engineering, Northwestern University, 1949.

Professional Experience: joined IBM 1949 and remained with the corporation until his retirement on January 1, 1985.

Honors and Awards: fellow, IEEE, 1969; AFIPS Distinguished Service Award, 1975; Northwestern University Merit Award, 1984; IEEE Centennial Award, 1984.

Astrahan joined IBM on graduation from Northwestern University in 1949 and a year later was involved in the specification and logic design of IBM's 701 computing system (the Defense Calculator), which was also the company's first commercial stored-program binary computer. By 1952 he had complete responsibility for the I/O system development and the prototype testing for the AN/FSQ7 computer at IBM Poughkeepsie. The computer-developed for the SAGE Air Defense System, which was still in use in 1983-was the world's first large-scale special-purpose time-sharing system and the first to use active/stand-by duplexing. He contributed to the concepts of index registers for parallel computers, associative memory, and the I/O interrupt, which led to three patents. He moved to San Jose, Calif. in 1956, where his work included directing research in multiterminal communications systems and multiplexing systems. This work led to the first typewriter style terminal and one of the first text editors. In 1962 he worked at IBM World Trade in Paris, returning after two years to Los Gatos, where he worked on the definition and early development of a computer-aided instruction system in cooperation with Stanford University. In 1969 he worked with Raj Reddy and Arthur Samuel on speech recognition. In 1970 Astrahan turned his hand to database systems (including work on the Data Independent Accessing Model development of SQL), to System R, high-performance optimization, and highly available systems.

Mort Astrahan was deeply involved in the AFIPS Joint Computer Conference organization, serving on the Conference Committee for 34 years commencing in 1952.

BIBLIOGRAPHY

Biographical

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Astrahan, M. M., et al., "History of the Design of the SAGE Computer-The AN/FSQ-7," *Ann. Hist. Comp.*, Vol. 5, No. 4, Oct. 1983, pp. 340-349.

Significant Publications

Astrahan, M. M. and N. Rochester, "The Logical Organization of the New IBM Scientific Calculator," Proc. *ACM Nat'l Conf.*, ACM, N.Y, 1952, pp. 79-83.

Astrahan, M. M., et al., "Logical Design of the Digital Computer for the SAGE System," *IBM J. Research and Development*, Vol. 1, 1957, pp. 76-83.

UPDATES