BIOGRAPHY OF JOHN BACKUS

John Backus was employed by IBM as a programmer for the Selective Sequence Electronic Calculator (SSEC) in 1950, after receiving his Master's degree in mathematics from Columbia University. Later he headed the development of the Speedcoding interpretive system for the IBM 701. He also took part in the design of the IBM 704 and was the original advocate for its built-in floating point operations. From early 1954 until late 1958 he was manager of the programming research group (later department) in IBM during its development of FORTRAN.

While Backus was a member of the committees that designed ALGOL 58 and ALGOL 60, he joined IBM Research. In the course of efforts to define ALGOL 58 more precisely, he employed the syntax description technique known as BNF; this technique was improved and used by Naur to describe the syntax of ALGOL 60 in the ALGOL Report.

After his work on ALGOL, Backus spent a number of years working on the mathematics of families of sets. For the last eight years he has been developing a functional style of programming and its associated algebra of programs.

In 1963 Backus was appointed an IBM Fellow. He received the W. W. McDowell Award of the IEEE in 1967, the National Medal of Science of 1975, and the Turing Award of the ACM in 1977. He is a member of the National Academies of Science and of Engineering.