Geoffrey Charles Fox

Ph.D. 1967, Theoretical Physics, Cambridge University

Current Positions

Director, Northeast Parallel Architectures Center

Professor of Computer Science, Syracuse University

Professor of Physics, Syracuse University

Research Interests

Geoffrey Fox is an internationally recognized expert in the use of parallel architectures and the development of concurrent algorithms. He leads a major project to develop prototype high-performance Fortran (Fortran90 D) compilers. He is also a leading proponent for the development of computational science as an academic discipline and a scientific method. His research on parallel computing has focused on development and use of this technology to solve large-scale computational problems. Fox directs InfoMall, which is accelerating the introduction of parallel computing into New York State industry and developing the corresponding software industry.

Awards and Honors

Senior Wrangler, Part III Mathematics, Cambridge, 1964

Alfred P. Sloan Foundation Fellowship, 1973-75

Fellow of the American Physical Society, 1990

Journal Editorships

Principal: Concurrency: Practice and Experience (John Wiley, Inc.)

Physics and Computers: International Journal of Modern Physics C (World Scientific)

Associate: Journal of Supercomputing, Computer Physics Communications

Important Recent Publications

Solving Problems on Concurrent Processors (with M. A. Johnson, G. A. Lyzenga, S. W. Otto, J. K. Salmon, and D. W. Walker), Vol. 1, Prentice-Hall, 1988; Vol. 2, 1990.

"Information Processing and Opportunities for HPCN Use in Industry," (with K. Mills), *Proceedings of HPCN Europe April 1994*, Munich, Germany, published as *High-Performance Computing and Networking*, W. Gentzsch, U. Harms editors, Springer-Verlag Lecture Notes in Computer Science 796, 1–14, 1994.

"Computational Toolkit for Colliding Black Holes and CFD", (with N. P. Chrisochoides and T. Haupt), *25th AIAA Fluid Dynamics Conference*, Colorado Springs, June 1994, AIAA-94-2249.

"The Architecture of Problems and Portable Parallel Software Systems," *Proceedings of Supercomputing '91*, Albuquerque, NM, November 18–22, 1991.

"Fortran D Language Specifications" (with S. Hiranandani, K. Kennedy, C. Koelbel, U. Kremer, C.-W. Tseng, and M. Y. Wu), Technical Report CRPC-TR90079, Center for Research on Parallel Computation, December 1990, Revised, April 1991.

"Practical Parallel Supercomputing: Examples from Chemistry and Physics" (with P. Hipes and J. Salmon), *Proceedings of Supercomputing '89*, ACM Press, Reno, Nevada, pp. 58–70, November 1989. IEEE Computer Society and ACM SIGARCH, Reno, Nevada.

"Approaches to Physical Optimization," in *Proceedings of 5th SIAM Conference on Parallel Processes for Scientific Computation*, pp. 153–162, J. Dongarra, K. Kennedy, P. Messina, D. Sorensen, R. Voigt, editors, SIAM, 1992. C3P-959, CRPC-TR91124

"Parallel Computing and Education," *Daedalus, Journal of the American Academy of Arts and Sciences*, 121 (1992), pp. 111–118. C3P-958, CRPC-TR91123.

Parallel Computing Works! (with P. Messina and R. Williams), Morgan Kauffman, San Francisco, CA, 1994.