

Geoffrey Charles Fox

Address: 111 College Place, NPAC, SU, 13244 gcf@nova.npac.syr.edu , <http://www.npac.syr.edu>,
Phone: (315) 443-2163, Fax: (315) 443-4741

Citizen Status: Permanent Resident Alien; Citizen of United Kingdom

Education: B.A. in Mathematics from Cambridge Univ., Cambridge, England (1961-1964) Ph.D. in Theoretical Physics from Cambridge University (1964-1967) M.A. from Cambridge University (1968)

Professional Experience:

1990- Professor of Computer Science, Syracuse University
1990- Professor of Physics, Syracuse University
1990- Director of Northeast Parallel Architectures Center
1979-1990 Professor of Physics, California Inst. of Tech.
1986-1988 Associate Provost for Computing, California Inst. of Tech.
1983-1985 Dean for Educational Computing, California Inst. of Tech.
1981-1983 Executive Officer of Physics, California Inst. of Tech.
1974-1979 Associate Professor of Physics, California Inst. of Tech.
1971-1974 Assistant Professor of Physics, California Inst. of Tech.
1970-1971 Millikan Research Fellow in Theoretical Physics, Caltech
1970 Visiting Scientist (April-May), Brookhaven National Laboratory
1969-1970 Research Fellow at Peterhouse College, Cavendish Lab., Cambridge
1968-1969 Research Scientist, Lawrence Berkeley Lab., Berkeley, Calif.
1967-1968 Member of School of Natural Science, Inst. for Advanced Study, Princeton, New Jersey

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,

Selected List of Publications:

- [1] Fox, G.C., Johnson, M.A., Lyzenga, G.A., Otto, S.W., Salmon, J.K., Walker, D.W., Solving Problems on Concurrent Processors, Vol. 1, Prentice-Hall, Inc. 1988; Vol. 2, 1990.
- [2] Fox, G.C., Coptly, N., Ranka, S., Shankar, R. "Solving the region growing problem on the Connection Machine," in Proceedings of the 22nd International Conference on Parallel Processing, volume 3, pages 102-105, 1993.

- [3] Fox, G. C., Messina, P., Williams, R., Parallel Computing Works!, Morgan Kaufmann, San Mateo Ca, 1994.
- [4] Fox G.C., Mills K., "InfoMall: an Innovative strategy for high-performance computing and communications application development", Internet Research, 4:31- 45, 1994.
- [5] Fox, G.C., Hiranadani, S., Kennedy, K., Koelbel, C., Kremer, U., Tseng, C.W., Wu, M.Y., "FortranD Language Specifications", Rice COMP TR90079, December 1990, Revised, April 1991.
- [6] Fox, G. C. "Approaches to Physical Optimization," in Proceedings of 5th SIAM Conference on Parallel Processes for Scientific Computation, pp 153-162, March 25-27, 1991, Houston, TX, J. Dongarra, K. Kennedy, P. Messina, D. Sorensen, R. Voigt, editors, SIAM, 1992. C3P-959, CRPC-TR91124
- [7] Fox G.C., Mansour N., "Parallel Physical Optimization Algorithms for allocating data to multicomputer nodes", Journal of Supercomputing, 8:53-80,1994.
- [8] Fox, G. C. "Parallel Computing and Education," Daedalus, Journal of the American Academy of Arts and Sciences, Vol. 121, No. 1, pps 111-118, Winter 1992. C3P-958, CRPC-TR91123.
- [9] Fox, G, Bozkus, Z., Choudhary, A., Haupt, T., and Ranka, S. "A compilation approach for Fortran 90D/HPF compilers on distributed memory MIMD computers," in Proceedings of the Sixth Annual Workshop on Languages and Compilers for Parallel Computing. Lecture Notes in Computer Science, Springer-Verlag, pp. 200–215. U. Banerjee, D. Gelernter, A. Nicolau, and D. Padua (editors).
- [10] Fox, G and Furmanski, W. "Computing on the Web – New Approaches to Parallel Processing – Petaop and Exaop Performance in the Year 2007", Submitted to IEEE Internet Computing, <http://www.npac.syr.edu/users/gcf/petastuff/petaweb/>

Summary of Interests: Fox is an internationally recognized expert in the use of parallel architectures and the development of concurrent software and algorithms. His activities include high performance Java and Fortran compilers and their runtime support. Fox has established a community activity to investigate value of Java in large scale networked computing. He is also a leading proponent for the development of computational science as an academic discipline and a scientific method. He has established at Syracuse University both graduate and undergraduate programs which cover both simulation and information technologies. All courses have been made available on the Web and his research includes HPCC technology to support education at both K-12 and University level. His research on parallel computing has focused on development and use of this technology to solve large scale computational problems with recent application foci including numerical relativity, earthquake prediction and financial modeling. Fox directs InfoMall, which is focused on accelerating the introduction of high speed communications and parallel computing into New York State industry and developing the corresponding software and systems industry. Much of this activity is in educational area where Fox is leading developments of new K-12 curricula material built using VRML, Java and other new technology. A recent set of activities center on Web collaboration technology and its application to synchronous distance education

Ph.D Advisor: Dr. Richard Eden Cambridge University, England