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Education

- BSc in Physics from Edinburgh University, Scotland, 1983-1987
- PhD in Computational Physics from Edinburgh University, Scotland 1987-1990.

Professional Experience

- 1988-1989 Visiting Research Scientist at Argonne National Laboratory, USA.
- 1989-1990 Materials Physicist at Harwell Laboratory, England.
- 1990-1991 Research Scientist at Edinburgh Parallel Computing Center, Scotland.
- 1991-1993 Technical Manager at Edinburgh Parallel Computing Center, Scotland.
- 1994- Research Scientist and Project Leader at Northeast Parallel Architectures Center, Syracuse, USA.

Awards, Honors and Professional Affiliations

Chartered Physicist
Fellow of the Royal Meteorological Society
Member of Society for Industrial and Applied Mathematics
Member of Institute of Electrical and Electronics Engineers (IEEE)
Member of the Materials Research Society (MRS)
Member of the Institute of Physics (IoP)
Member of the Association for Computing Machinery (ACM)

Journal Editorial Board Memberships

Concurrency, Practice and Experience (with special responsibility for electronic publishing).

Selected Publications

A transputer implementation of the CCITT reference model 6 Video coding algorithm. Graham Sexton and Kenneth A. Hawick Proc. 3rd IEEE Int. Conf. Image Processing, Warwick 1989.

Scientific modelling on the DAP N.B.Wilding, A.S.Trew, K.A.Hawick, G.S.Pawley Proc. IEEE, 79 (1991) No 4, 574-585 (Invited paper for special issue on parallel computation)

Chemical phase separation in binary Iron-Chromium alloys. Kenneth A. Hawick, J. Ernest Epperson, Colin G. Windsor and Vic. S. Rainey Proc. Materials Research Society Meeting, 1992, Vol 205.

A small angle neutron scattering investigation of phase separation in an Fe-Cr-Ni alloy. J. Ernest Epperson, Kenneth A. Hawick, Colin G. Windsor and Vic. S. Rainey Proc. Materials Research Society Meeting, 1992, Vol 205.

Dynamics of Bond Diluted Ising magnets Kenneth A. Hawick, Graeme J. Ackland and Wilson C-K. Poon Journal of Magnetism and Magnetic Materials 104-107(1992)423

Monte Carlo Renormalisation Group Study of the 3d Ising Model Clive F. Baillie, Rajan Gupta, Kenneth A. Hawick, G. Stuart Pawley Physical Review B 45 (1992) 10438-10453

Parallelisation of the Unified Model Data Assimilation Scheme Kenneth A. Hawick, R. Stuart Bell, Allan Dickinson, Patrick D. Surry and Brian J. N. Wylie Proc. of Workshop of Fifth ECMWF Workshop on Use of Parallel Processors in Meteorology, European Centre for Medium Range Weather Forecasting, Reading November 1992. (Invited paper)

High Performance Computing for Numerical Applications K. A. Hawick and D. J. Wallace Proc. of Workshop on Computational Mechanics in UK - 1993, Association for Computational Mechanics in Engineering, Swansea. (Keynote address) (Also EPCC technical Note EPCC-TN92-10)

Preliminary Evaluation of High-Performance Fortran as a Language for Computational Fluid Dynamics E.A.Bogucz, G.C.Fox, T.Haupt, K.A.Hawick, S.Ranka Proc. AIAA Fluid Dynamics Conference, June 1994, Colorado Springs, AIAA 94-2262

InfoMall: A Scalable Organisation for the Development of High Performance Computing and Communications Software and Systems G.C.Fox, E.A.Bogucz, D.A.Jones, K.Mills, M.Podgorny and K.A.Hawick Proc. HPCN 1994, Munich, Germany April 1994. Volume 2, PP137

A Scalable Paradigm for Effectively-Dense Matrix Formulated Applications G.Cheng, G.C.Fox and K.A.Hawick Proc. HPCN 1994, Munich, Germany April 1994. Volume 2, PP202

Quenching 2d Quantum Gravity C.F.Baillie, K.A.Hawick and D.A.Johnston Physics Letters B 328 (1994) 284-290

Biographical Summary

Hawick has over nine years experience with parallel and high performance computing systems and applying them for teaching purposes as well as commercial applications. Hawick headed the Numerical and Simulations Group of ten professional staff at Edinburgh Parallel Computing Centre which worked with external academic and industrial partners to make parallel computing systems of genuine use for computational science and engineering problems. Hawick has personally lead projects in areas including weather and climate simulations, computational fluid dynamics simulations, reservoir simulation and computational electromagnetics simulations as well as a large number of computational physics projects. Hawick has been involved in teaching parallel computing and computational science to undergraduate and graduates at Edinburgh since 1989 through a summer student teaching program at Edinburgh, and has recently been involved with NPAC's Research Experiences for Undergraduates program. Hawick leads NPAC's High Performance Fortran Applications project to evaluate and disseminate information about the High Performance Fortran programming language.