Dr Andrew Stephen McGough

Summary:
Qualifications: PhD & MSc in Computing Science, PGCE, BSc in Mathematics.
Current position: Technical Coordinator, London e-Science Centre, Imperial College London.
Publications: 4 Book Chapters, 10 Journal papers, 36 Conference papers

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Web Page: http://www.doc.ic.ac.uk/~asm
Date of Birth: 08/09/1971

Current Academic Post:

Technical Coordinator, London e-Science Centre, Imperial College London.
(Senior Research Associate)

Group Leader: Prof. John Darlington
Date: October 2004 – Present
Aim:

This position is a promotion from the Research associate post I previously held at Imperial College London. During my time in this post I have had the opportunity to take a leading role in the design and development of many of the projects within the London e-Science Centre, now the Imperial College Internet Centre, these have included the Imperial College e-Science Networked Infrastructure (ICENI), the GRIDCC Workflow Management Service and the standards based GridSAM project. My particular areas of interest include those of workflow enactment, workflow optimization, workflow Quality of Service, performance analysis, performance aware scheduling Grid/Internet security and resource reservation and job execution interfaces. These research strands have culminated in my active role in the successful project along with Cardiff University and CCLRC for the Workflow Optimization Services for e-Science Applications (WOSE) project; the GridSAM project to develop a standardized job submission and monitoring service for the Grid, and a part of the large European GRIDCC project within work package 4, real time interaction with existing Grid resources, which is focusing on Quality of Service and workflow optimization where I was workpackage leader.

I have taken on the role of lecturing half of the departmental Grid computing course, taking a lead role in course development, teaching and assessment. I have also taken an active role in assisting the PhD students within the Group. This has included paper writing techniques, academic advice and general encouragement. I have also been active during my time in the department with student projects for the advanced MSc course. I have also co-written a successful bid to the BBSRC for funding a week-long course to teach bioinformatics graduates the skills and techniques required to use the Grid.

As Technical Coordinator I have the responsibility for ensuring that academic standards are maintained in the group. This has been achieved through the development of a Grid reading group and a research group, which looks at the projects taking place in the group to promote academic achievements. I also work at a one to one level with members of the group to encourage their academic development. The role also involves discovering problems within the projects in the group and looking for the appropriate people within (or without) the group to help solve these problems.

My role includes work on the following projects:
GridSAM: This project is to develop a job submission and monitoring Web Service using a common job submission language that is consumed and converted into a format understood by the underlying Distributed Resource Manager. This is a direct outcome of my involvement, as one of the Chairs of the Job Submission Description Language (JSDL) working group within the OGF. GridSAM is one of the projects funded through the OMII managed program and has been successful in receiving funding in four rounds.

GridBS: In this project we are bringing together the Grid standards developed within the GridSAM project along with the matchmaking service from Condor. Resources are described to the Condor system, which has been modified to submit jobs to remote Grid resources using JSDL and the Basic Execution Service (BES). This project was jointly written with the Oxford e-Research Centre and the High Energy Physics group at Imperial College London.

Physics interrelations: I act as the technical leader for projects co-located between the High Energy Physics group and the London e-Science Centre. This involves the joint projects of GridBS, GridPP and the London Teir2 Grid. My work within GridPP is to look at the performance of the EGEE gLite project.
Bioinformatics interrelations: I act as an intermediary between our group and the Bioinformatics department. This has lead to joint projects between the groups: e-Protein - a two year BBSRC funded pilot project in Grid enabling protein annotation, MicroArray - a BBSRC funded project in analysis of Microarrays on the Grid and the teaching of short courses introducing the Grid to Bioinformaticians.

Former Projects:
GRIDCC: In this project I was leader of work-package 4, which developed a workflow system capable of providing real time access in the Grid. As this project was integrating instruments into the Grid there is a strong requirement for Quality of Service within the workflow system.
WOSE: In this project I lead an RA in performing research into workflow optimization techniques. This project was a follow on from the work I conducted in workflow optimization in ICENI.

e-Protein: In this project I lead an RA in the development of workflows allowing bioinformaticians to perform gene annotations and develop automated process to achieve this.

External Positions of Responsibility:
- OMII UK Product/Area Liasons for GridSAM, and Technical Advisory Group
- Lecturer at the International Summer School on Grid Computing 2006 & 2007
- GridQTL Scientific Advisory Board, GridNet$_2$ Advisory Board
- Co-Chair Global Grid Forum working group: Job Submission Description Language
- Program Committee: Supercomputing'05, HPDC 2006, e-Science 2006, Utility Grid 2006, The UK All Hands Meeting '05-'06, ICCS 2007, INGRID 2007, WORKS07, OGF 20
- Session Chair: The UK All Hands Meeting 2005; Utility Grid Workshop, COMSWARE 2006, New Delhi
- Paper reviewer: e-Science 2005, ICSE 2005
- Review panel member: EGEE NA3, NeSC Edinburgh April 2005.

References:

John Darlington
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Steven Newhouse
Program Manager
Microsoft
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Qualifications:

Ph.D. (2000) Department of Computing Science, Newcastle University

Title: Parallel Simulation.
Supervisor: Prof. Isi Mitrani.
Sponsorship: CASE funding in conjunction with DERA at Malvern.
Aim:

The work undertaken was to develop techniques and algorithms that allow simulations to be processed efficiently on parallel computers. The intention was to achieve almost linear speedup in terms of the execution times for the simulations when the processor count was increased. Rather than adopting the more conventional approach of space-parallel, simulation in which the physical entities within the simulation are distributed to different processes, the approach taken in this work was that of time-parallel simulation. In time-parallel simulation the simulation time frame is distributed between the different processes thus removing the restriction that the number of physical entities bounds the possible speedup. This does however lead to the difficulty of predicting the start conditions of any given portion of the time frame before computing all previous work. Techniques of parallel-prefix and relaxation were used to perform time-parallel simulations of ATM switches and TCP connections. Near linear speedup was achieved for these cases.

M.Sc. (1996) at Newcastle University

Computing Science.
Sponsorship: EPSRC.
Came top of year group.

The subjects studied included: Object orientated programming (C++), Programming and Data Structures, Machine and System Architecture, Software Engineering, Parallel Computation, Concurrent Programming & Operating Systems, Filing Systems and Databases, Group Project, Systems Analysis, Computer Networks and Communications, Reliability and Fault Tolerance, Declarative Programming. I completed a group project, with four other people, which produced a route planning system.

I completed a dissertation in Parallel simulation at the end of this course for which I was awarded the Philip Merlin Memorial Prize in Computing Science, for best dissertation.

P.G.C.E. (1994) at Durham University

Mathematics.

This course covered the teaching of mathematics in both secondary and sixth form schools. Teaching to age range 11 – 18+. Practice in teaching and lecturing; developing courses and teaching to a wide range of ability.

Degree (1993) at Durham University

Mathematics

The subjects studied included: Dynamical systems, Differential Geometry, Algebraic curves, Dynamics, Partial differential equations, Complex variables, Analysis, Electrodynamics, Continuum Mechanics, Partial derivatives and Waves, Special Relativity, Differential equations, Partial derivatives & Partial differential equations, Numerical analysis.
A number of courses undertaken required the use of programming to solve mathematical problems.

Publications:

Provided below is a list of significant publications. A complete list of my publications can be found at http://www.doc.ic.ac.uk/~asm/CV/Publications.html.

Publications: Books

Parallel Simulation, *A.S.McGough*, PhD Thesis, Newcastle University, 2000.

Publications: Chapters in Books

Grid-Enabled Remote Instrumentation, Editors: F. Davoli, N. Meyer, R. Pugliese and S. Zappatore, *A.S. McGough, A. Akram, D. Colling, L. Guo, C. Kotsokalis, M. Krznaric, P. Kyberd and J. Martyniak,* Chapter: Enabling Scientists through Workflow and Quality of Service, Springer Series on Signals and Communication Technology, preprint August 2008.

Grid-Enabled Remote Instrumentation, Editors: F. Davoli, N. Meyer, R. Pugliese and S. Zappatore, *D. Colling, T. Ferrari, Y. Hassoun, C. Huang, C. Kotsokalis, A.S. McGough, E. Ronchieri, Y. Patel and P. Tsanakas,* Chapter: On Quality of Service Support for Grid Computing, Springer Series on Signals and Communication Technology, preprint August 2008.

Workflows for eScience: Scientific Workflows for Grids, Editors: I.J. Taylor, D. Gannon, E. Deelman and M.S. Shields, *A.S.McGough, W. Lee, J. Cohen, E. Katsiri and J. Darlington*, Chapter ICENI**.** July 2006.

Component Models and Systems for Grid Applications, Editors V.Getov and T. Kielmann, *A. Mayer, A.S. McGough, N. Furmento, J. Cohen, M. Gulamali, L. Young, A. Afzal, S. Newhouse, and J. Darlington*, volume 1 of CoreGRID series, Chapter ICENI: An Integrated Grid Middleware to Support e-Science, p. 109--124 Springer, June 2004.

Publications: Journals

A Standards based approach to Enabling Legacy on the Grid, *A.S. McGough, W. Lee, and S. Das*, Future Generations in Computing Systems, 24(7), p. 731-743, Elsevier Science 2008**.**

Capacity Planning and Scheduling in Grid Computing Environments, *A.* Afzal, A.S. McGough, and J. Darlington, Future Generations in Computing Systems, 24(5), p. 404-414, Elsevier Science 2008.

GRIDCC: A Real-time Grid workflow system with QoS, *A.S. McGough, A. Akram, L, Guo, M. Krznaric, L. Dickens, D. Colling, J. Martyniak, R. Powell, P. Kyberd, C. Huang, C. Kotsokalis, and P. Tsanakas*, Scientific Programming, 15(4):213--234, Dec 2007.

An End-to-end Workflow Pipeline for Large-scale Grid Computing, *A.S. McGough, J. Cohen, J. Darlington, E. Katsiri, W. Lee, S. Panagiotidi, and Y. Patel,* Journal of Grid Computing, p. 1--23, Feb. 2006.

A Profitable Broker in a Volatile Utility Grid, *Y. Patel, A.S. McGough and J. Darlington,* International Transactions on Systems Science and Applications, Vol. 2, No. 2, pages 167-176, 2006.

Making the Grid Predictable through Reservations and Performance Modelling, *A.S. McGough, A. Afzal, J. Darlington, N. Furmento, A. Mayer and L. Young*, the Computer Journal, 48(3) 358-368, 2005.

RealityGrid: An Integrated Approach to Middleware through ICENI, *J. Cohen, A.S. McGough, J. Darlington, N. Furmento, G. Kong, A. Mayer*, Philosophical Transactions: Mathematical, Physical and Engineering Sciences, 363(1833):1817--1827, Aug. 2005.

ICENI: Optimisation of Component Applications within a Grid Environment, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, T. Field, and J. Darlington*, Parallel Computing, 28(12):1753--1772, 2002.

Efficient Parallel Simulation of a Sliding Window Protocol, *A.S. McGough, I. Mitrani, Performance Evaluation 48, pp 237-246, 2002.*

Parallel Simulation of ATM Switches using Relaxation, *A.S. McGough, I. Mitrani*, Performance Evaluation, 41, pp149-164, 2000.

Publications: Conference

Enabling QoS for Service-Oriented Workflow on GRID, L. Guo and A.S. McGough, A. Akram, D. Colling, J. Martyniak and M. Krznaric, In proceedings of the 7th International Conference on Computer and Information Technology (CIT2007), University of Aizu, Fukushima Japan, Oct. 2007.

GRIDCC: Real-timeWorkflow system, *A.S.McGough and A. Akram and L. Guo and M. Krznaric and L. Dickens and D. Colling and J. Martyniak and R. Powell and P. Kyberd and C. Kotsokalis*, In The 2nd Workshop on Workflows in Support of Large-Scale Science, HPDC2007, Monterey Bay California, USA, June 2007**.**

Capacity Planning and Stochastic Scheduling in Large-Scale Grids, *A. Afzal, J. Darlington, A.S.McGough,* **e-Science 2006.**

Stochastic Workflow Scheduling with QoS Guarantees in Grid Computing Environments, *A. Afzal, J. Darlington and A.S. McGough***,** GCC2006, Changsha, China, October 2006.

QoS-Constrained Stochastic Workflow Scheduling in Enterprise and Scientific Grids. *A. Afzal. J. Darlington and A S. McGough***,** Grid 2006, Barcelona, September 2006.

QoS support for workflows in a volatile Grid. *Y. Patel, A.S. McGough and J. Darlington***,** Grid 2006, Barcelona, September 2006.

A Profitable Broker in a Volatile Utility Grid. *Y. Patel, A.S. McGough and J. Darlington*, International Conference on Self-Organization and Autonomous Systems in Computing and Communications (SOAS'2006), Erfurt, Germany, September 2006.

GridWorkflow Scheduling in WOSE, *Y. Patel, A. S. McGough and J. Darlington*, The UK All Hands Meeting 2006, Nottingham, September 2006.

Grid Enabling Legacy Applications through a Standard Job Submission Interface, *A.S. McGough, W. Lee and S. Das,* GELA 2006, Paris, June 2006.

Workflow deployment in ICENI II, *A.S. McGough, W. Lee and J. Darlington***,** WSES, Reading, May 2006.

Adding Instruments and Workflow support to existing Grid Architectures, *D. J. Colling, L. W. Dickens, T. Ferrari, Y. Hassoun, C. A. Kotsokalis, M. Krznaric, J. Martyniak, A.S. McGough and E. Ronchieri*, WSES, Reading, May 2006.

The GRIDCC Project, A.S. McGough, D. Colling, Utility Grid, New Delhi, January 2006.

A Service-oriented Utility Grid Architecture Utilising Pay-per-use Resources, *J. Cohen, W. Lee, J. Darlington and A.S. McGough, Utility Grid, New Delhi,* January 2006.

ICENI II, *A.S. McGough, W. Lee and J. Darlington,* Utility Grid, New Delhi, January 2006.

Performance Evaluation of the GridSAM Job Submission and Monitoring System, *W. Lee, A.S. McGough, and J. Darlington* ,In UK e-Science All Hands Meeting, Nottingham, UK, September 2005.

ICENI II Architecture, *A.S. McGough, W. Lee, and J. Darlington*, In UK e-Science All Hands Meeting, Nottingham, UK, September 2005.

Lightweight Solution for Protein Annotation, *S. Das, A.S. McGough, J. Cohen, and J. Darlington*, In UK e-Science All Hands Meeting, p. 396--402, Nottingham, UK, September 2005.

A Standards Based Approach To Job Submission Through Web Services, *William Lee, A. Stephen McGough, Steven Newhouse and John Darlington*, in UK e-Science All Hands Meeting, Nottingham, UK September 2004.

Workflow Enactment in ICENI, *S. McGough, L. Young, A. Afzal, S. Newhouse, and J. Darlington*, in UK e-Science All Hands Meeting, p. 894--900, Nottingham, UK, September 2004.

Performance Architecture within ICENI, *A.S. McGough, L. Young, A. Afzal, S. Newhouse and J. Darlington*. in UK e-Science All Hands Meeting, p. 906-911. Nottingham, UK September 2004.

Performance guided scheduling in GENIE through ICENI, *M.Y. Gulamali, A.S. McGough, R.J. Marsh, N.R. Edwards, T.M. Lenton, P.J. Valdes, S.J. Cox, S.J. Newhouse, J. Darlington, and theGENIE team*, in UK e-Science All Hands Meeting, p. 792--799, Nottingham, UK, September 2004.

A Componentized Approach to Grid Enabling Seismic Wave Modeling Application, *D. Bhardwaj, J. Cohen, A.S. McGough, and S. Newhouse*, in The International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT), volume 3320 of Lecture Notes in Computer Science, p. 94-97, Singapore, December 2004.

ICENI Dataflow and Workflow: Composition and Scheduling in Space and Time, *A. Mayer, A.S. McGough, N. Furmento, W. Lee, S. Newhouse, and J. Darlington*, in UK e-Science All Hands Meeting,p. 627-634, Nottingham, UK, September 2003.

Load-balancing EU-DataGrid Resource Brokers, *W. Lee, A.S. McGough, S. Newhouse, and J. Darlington*, in UK e-Science All Hands Meeting, p. 137--144, Nottingham, UK, September 2003.

Scheduling Architecture and Algorithms within the ICENI Grid Middleware, *L. Young, A.S. McGough, S. Newhouse, and J. Darlington*, in UK e-Science All Hands Meeting, p. 5--12, Nottingham, UK, September 2003.

Meaning and Behaviour in Grid Oriented Components, *A. Mayer, A.S. McGough, M. Gulamali, L. Young, J. Stanton, S. Newhouse, and J. Darlington*, in 3rd International Workshop on Grid Computing, Grid 2002, volume 2536 of Lecture Notes in Computer Science, Baltimore, USA, November 2002.

Laying the Foundations for the Semantic Grid, *S. Newhouse, A. Mayer, N. Furmento, A.S. McGough, J. Stanton, and J. Darlington*, In AISB'02 Symposium AI and GRID Computing, April 2002.

Optimisation of Component-based Applications within a Grid Environment, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, T. Field and J. Darlington*, In SuperComputing 2001, Denver, USA, November 2001.

An Integrated Grid Environment for Component Applications, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, T. Field, and J. Darlington*, In 2nd International Workshop on Grid Computing, Grid 2001, volume 2242, of Lecture Notes in Computer Science, Denver, USA, November 2001.

A Component Framework for HPC Applications, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, and J. Darlington*, In 7th International Euro-Par Conference, volume 2150 of LNCS, p. 540-548, Manchester, UK, August 2001.

Efficient Parallel Simulation of a Sliding Window Protocol, *A.S. McGough and I. Mitrani, IFIP ATM & IP 2000, Ilkley U.K.* July 2000.

Efficient Distributed Simulation of a Communication Switch with Bursty Sources and Losses, *A.S. McGough and I. Mitrani*, in Proceedings of the 14th ACM/IEEE/SCS Workshop on Parallel and Distributed Simulation (PADS 2000), Bologna, Italy, 28-31 May 2000, pp. 85-92, Bruce, D., Donatiello, L. and Turner, S. (eds.), IEEE Computer Society Press.

Parallel Simulation of ATM Switches Using Relaxation, *A.S. McGough and I. Mitrani*, in Proceedings of the 6th IFIP International Conference on ATM Networks (IFIP ATM '98), West Yorkshire, UK, July 1998.

Parallel Simulation of ATM Switches, *A.S. McGough and I. Mitrani*, UK Sim '97, Keswick 1997.

Publications: Workshops

ICENI II: A Web Services-based Grid Middleware Stack, ***A.S. McGough***, *J. Cohen*. UK All Hands Meeting, Edinburgh, September 2008.

Adding Standards Based Job Submission to a Commodity Grid Broker, *D. Colling,* ***A.S. McGough****, J. Mack Smith and V. Novov, T. Ma, D. Wallom and X. Xiong*, UK All Hands Meeting, Edinburgh, September 2008.

GridSAM: Using Standards Based Job Submission in e-Science, ***A.S. McGough****, J. Mack Smith and V. Novov*, UK All Hands Meeting, Edinburgh, September 2008.

Predictable Workflow Deployment Services, ***A.S. McGough****, Ali Afzal, Anthony Mayer, Steven Newhouse, Laurie Young*, in Global Grid Forum 11, Service Based Grid Workshop, Honolulu, Hawaii, June 2004.

WS-JDML: A Web Service Interface for Job Submission and Monitoring, *William Lee,* ***A.S. McGough*** *and Steven Newhouse*, in Global Grid Forum 11, Service Based Grid Workshop, Honolulu, Hawaii, June 2004.

Using ICENI to run parameter sweep applications across multiple Grid resources, ***M.Y.Gulamali****, A.S. McGough, S.J. Newhouse, and J. Darlington*, In Global Grid Forum 10, Case Studies on Grid Applications Workshop, Berlin, Germany, Mar. 2004.

Publications: Invited Talks

GridSAM, A Standards Based Approach to Job Submission, A.S.McGough, Seminar, University of Bath, November 2006.

Workflow, Planning and Performance, *A.S.McGough*, "Trends in High-Performance Distributed Computing HPDC Amsterdam". Amsterdam, March 2006.

The GRIDCC Project, *A.S.McGough, D. Colling*, "Instruments and Sensors on the Grid", Melbourne, December 2005.

ICENI: An Integrated Grid Middleware to support e-Science, *Anthony Mayer, Andrew Stephen McGough, Nathalie Furmento, Jeremy Cohen, Murtaza Gulamali, Laurie Young, Ali Afzal, Steven Newhouse, John Darlington*, in ICS 2004 : 18th Annual ACM International Conference on Supercomputing, workshop on Component Models and Systems for Grid Applications.

ICENI: Optimising Component Applications within a Grid Environment, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, T. Field, and J. Darlington*, Software Components for High-Performance Scientific Computing, SIAM Activity Group on Supercomputing, Invited contribution, July 2002.

Publications: Technical Reports

Performance Models for Linear Solvers within a Component Framework, *N. Furmento, A. Mayer, A.S. McGough, S. Newhouse, and J. Darlington*, Technical report, ICPC, 2001.

Publications: Posters

GRIDCC - providing a real-time Grid for distributed instrumentation, *P.R. Hobson, A.S. McGough,* ***D. Colling****,* CHEP, Mumbai, 2006.

e-Protein: A distributed Pipeline for Structure-based Proteome Annotation using Grid Technology, ***S. Das****, A.S. McGough, Keiran Fleming, John Darlington and Michael Sternberg*, ISMB 2005, Michigan, June 25-29th 2005.

ICENI Making use of the Grid, *A.S. McGough, W. Lee,* ***S. Newhouse****, J. Darlington*, GlobusWorld 2004, San Francisco, CA., January 20-23rd 2004.

ICENI - Imperial College e-Science Networked Infrastructure, *A. Mayer, N. Furmento,* ***A.S. McGough****, J. Stanton, Y. Xie, W. Lee, M. Krznaric, M. Gulamali, A. Saleem, L. Young, G. Kong*, HPDC12, Seattle, June 22-24th 2003.

LeSC Centre Overview, *J. Darlington, S. Newhouse, A. Mayer, N. Furmento,* ***A.S. McGough****, J. Stanton, Y. Xie, W. Lee, M. Krznaric, M. Gulamali, A. Saleem, L. Young, G. Kong*, HPDC12, Seattle, June 22-24th 2003.

Project Bids:

GridSAM3: Funding for six months continued development of the GridSAM system to add new features requested by the user community. *A.S. McGough*, 7.2 Month RAE, £68,379.

GridBS: A one year project to integrate the Condor matchmaker within a standards based Grid environment. *A.S. McGough, D. Colling and D. Wallom,* 24 Months RAE, £140,865.

GridNET$_2$: Funding for sending two members of staff to GGF/OGF events in 2005-2008. *A.S.McGough*, £57 800.

OMII Security: Eighteen months of funding to investigate the security model used within the OMII infrastructure.18 Month RAE, £130 000.

GridSAM 2: Continuation funding from the OMII to develop GridSAM along with support for Resource Usage Service and security, *A.S. McGough*, 15 Month RAE, £86 401.

Bioinformatics Course: To run three one week courses to teach Grid technologies to Bioinformaticians, S. Butcher, J. Cohen, O. Jevons, W. Lee, A.S. McGough, 3.5 Month RAE £16 000.

GridSAM, Project sponsored by the OMII managed programme to develop a job submission and monitoring service based around the upcoming JSDL specification coming out of GGF. *A.S. McGough, W. Lee, J. Darlington*, 24 Month RAE, £124 444.

GridNET: Funds for hosting the JSDL face to face meeting in Imperial College London, A.S. McGough, £620.

WOSE: Workflow Optimisation, *J. Darlington, S. Newhouse, A.S. McGough, A. Mayer, N. Furmento*, 24 Months RAE, £138 265.

GRIDCC: (WP4) Workflow and Real time interaction with the Grid, J. Darlington, S. Newhouse, A.S. McGough, 72 Months RAE, £285 265.

Work Experience:

November 2000 – September 2004
Research Associate, London e-Science Centre, Imperial College London.
Project Title: Component Software and Grid Middleware
Supervisor: Prof. John Darlington
Sponsorship: EPSRC
Aim:

The work undertaken was to develop a component based parallel environment for solving high performance computing problems in a Grid enabled environment. My work included the development of a scheduling framework, along with a number of scheduling algorithms, within the Imperial College e-Science Network Infrastructure (ICENI). This has included work on developing a Job Description Markup Language (JDML), which lead me to become one of the Chairs of the Job Submission Description Language (JSDL) working group within the GGF.

August 2001 – September 2005
Assistant Warden Brabazon House and Beit Hall, Imperial College London. Brabazon house was a small hall of residence catering for seventy students. Due to the size of the hall there was no Warden and the Assistant Warden took on the role of Warden. The Assistant Warden was responsible for pastoral care and discipline of all students within the hall. The Assistant Warden was also responsible for representing the students in the hall and as a representative of the college to the students. Beit Hall was a larger hall with 250 students.

September 2001 – September 2004
Running an annual, one week, MPI Course in Imperial College London. Teaching RA and lecturers the MPI (Message Passing Interface) toolkit that allows the programming of parallel computers.

September 2002 – November 2003
Coordinating and running the UK e-Science Stand at SuperComputing. Responsible for designing, purchasing and installing the computer equipment for the UK stand at SC2002 & SC2003. Also took a role in the design and layout of the stand.

August 2002 – Present
Co-Chair of the GGF working group into Job Submission Description Language. The Global Grid Forum aims to develop standards for Grid middleware between different Grid organizations to foster interoptability. The Job Submission Description Language working group aims to define a common language for defining how to describe a job for execution on a remote resource.

March 2001 – August 2001
Subwarden Willis Jackson and Holbein Hall. This included a pastoral role with students within the hall of residence, along with a disciplinary role to deal with problems as they occurred.

October 1998 – September 2000
Part time Lecturer: Newcastle College. Teaching a foundation course in the computing language Java to evening class students with a wide range of abilities. This has included the writing of the course material, presentation and lecturing of the material to the students along with assessing and marking of student work.