

# CURRICULUM VITÆ

**SURNAME AND FIRSTNAMES:** WELLS — George Clifford  
**DATE OF BIRTH:** 27 February 1964  
**MARITAL STATUS:** Single  
**NATIONALITY:** South African  
**PRESENT POSITION HELD:** Professor, Head of Department  
Department of Computer Science, Rhodes University

## ACADEMIC QUALIFICATIONS

University	Degree	Class	Year Awarded
Rhodes University	BSc	I	1986
Rhodes University	BSc(Hons)	I	1987
Rhodes University	MSc	I	1990
University of Bristol (U.K.)	PhD		2001

## OTHER QUALIFICATIONS

Certified Programmer for the Java 2 Platform, Sun Microsystems (1999).  
Certificate in Human Resource Management, Rhodes University (2004).

## ACADEMIC EXPERIENCE

Employer	Position Held	Period
Rhodes University	Junior Lecturer	1/1987 – 12/1988
	Lecturer	1/1989 – 12/1996
	Senior Lecturer	1/1997 – 12/2002
	Associate Professor	1/2003 – 12/2008
	Professor	1/2009 – date
	<i>Head of Department</i>	<i>1/2003 – date</i>
University of Bristol (U.K.)	Temporary Lecturer	8/1994 – 6/1995
University of California Davis (U.S.A.)	Visiting Research Scholar	8/2008 – 6/2009

## MEMBERSHIP OF UNIVERSITY COMMITTEES

Lecturer's Representative, Rhodes University Senate	1992 – 1993
Rhodes University Staff Association (RUSA) Executive Committee	1992 – 1994
Chairman, Distributed Computing Committee	1991 – 1994, 1996
Computer Steering Committee	1992 – 1994, 1996
Rhodes University Senate	2003 – date
I.T. Steering Committee	2003 – date
Computer Laboratories Subcommittee	2003 – date

## AWARDS, SCHOLARSHIPS, FELLOWSHIPS AND GRANTS

Astra Holdings Bursary	Z\$3000	1984 – 1986
O D Schreiner Residence Bursary	25% of residence fees	1986
F R Furter Scholarship	R500	1986
Dr Kendall Scholarship	R900	1986
Kimberley Hall Bursary	R200	1986
Alexander Ogg Prize for Physics	R35	1986
David Adolph Bradlow Scholarship	R5000	1987 (Declined)
Rhodes University Academic Honours		1986
NRF Focus Area Grant (2004033000023) (Project: <i>Distributed Programming with Linda</i> )	R103 600	2005 – 2006
NRF Focus Area Grant (2007042500009) (Project: <i>Distributed Programming: Grids and Tuple Spaces</i> )	R180 000	2008 – 2009

## PUBLICATIONS

### Theses and Chapters in Books

Extending the Matching Facilities of Linda

G.C. Wells, A.G. Chalmers and P.G. Clayton,  
In *Coordination Models and Languages (Lecture Notes in Computer Science, Vol. 2315)*, Eds. F. Arbab and C. Talcott, Springer-Verlag, 2002, pp. 380–388.  
(ISI listed)

*A Programmable Matching Engine for Application Development in Linda*

G.C. Wells,  
PhD Thesis, Department of Computer Science, University of Bristol, 2001.

Extensions to Linda for Graphical Applications

G.C. Wells and A.G. Chalmers,  
In *High Performance Computing for Computer Graphics and Visualisation*, Eds. M. Chen, P. Townsend and J.A. Vince, Springer-Verlag, 1996, pp. 266–273.

*A Study of Real-Time Operating Systems for Microcomputers*

G.C. Wells, MSc Thesis, Department of Computer Science, Rhodes University, 1990.

### Research Publications in Refereed Journals

New and Improved: Linda in Java

G.C. Wells,  
*Science of Computer Programming*, **59**(1–2), January 2006, pp. 82–96.  
(ISI listed)

Linda implementations in Java for concurrent systems

G.C. Wells, A.G. Chalmers and P.G. Clayton,  
*Concurrency and Computation—Practice and Experience*, **16**(10), August 2004, pp. 1005–1022.  
(ISI listed)

Dynamic run-time application development using CORBA Objects and XML in the field of Distributed GIS

R.M. Preston, P.G. Clayton and G.C. Wells,  
*International Journal of Geographical Information Science*, **17**(4), April 2003, pp. 321–341.  
(ISI listed)

A Comparison of Four Microcomputer Operating Systems

G.C. Wells,  
*Real-Time Systems*, **5**(4), October 1993, pp. 345–368.  
(ISI listed)

An Implementation of Linda Tuple Space under the Helios Operating System

P.G. Clayton, E.P. Wentworth, F.K. de Heer Menlah and G.C. Wells,  
*South African Computer Journal*, **6**, March 1992, pp. 3–10.

An Evaluation of XENIX System V as a Real-time Operating System

G.C. Wells,  
*Microprocessing and Microprogramming*, **33**(1), September 1991, pp. 57–66.

An Approach to the Evaluation of Microcomputer Operating Systems with Respect to Real-time Issues

G.C. Wells,  
*Microprocessing and Microprogramming*, **33**(1), September 1991, pp. 45–55.

The Application of Real-Time Design Techniques to Simulation

G.C. Wells,  
*Software Engineering Journal*, **4**(6), November 1989, pp. 301–308.

## Papers in Peer-Reviewed Conference Proceedings

### Interprocess Communication in Java

G.C. Wells,  
*Proc. 2009 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'09)*, Las Vegas, July 2009. Ed. H.R. Arabnia. CSREA Press, pp. 407–413.

### A Tuple Space Web Service for Distributed Programming

G.C. Wells, B. Mueller and L. Schulé,  
*Proc. 4<sup>th</sup> International Conference on Web Information Systems and Technologies (WEBIST 2008)*, Portugal, May 2008. Eds. J. Cordeiro, J. Filipe and S. Hammoudi, INSTICC Press, pp. 93–100.

### Prototyping a P2P SIP User Agent with Support for Multiple Overlays

M. Tsietsi, A. Terzoli and G.C. Wells,  
*Proc. 6<sup>th</sup> Annual IEEE Conference on Pervasive Computing and Communications (PerCom 2008)*, Hong Kong, March 2008. IEEE, pp. 474–479.

### A Peer to Peer Layer for SIP Based Realtime Multimedia Communication

M. Tsietsi, A. Terzoli and G.C. Wells,  
*Proc. Southern African Telecommunication Networks & Applications Conference 2007 (SATNAC 2007)*, Mauritius, September 2007.

### A Service Description Language for Distributed Agents in a Next Generation Network

A.G. Poulton, P.G. Clayton and G.C. Wells,  
*Proc. 2007 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'07)*, Las Vegas, June 2007.

### Grid Computing in an Academic Environment

G.C. Wells and G.A. Atkinson,  
*Proc. 2007 International Conference on Grid Computing and Applications (GCA'07)*, Las Vegas, June 2007. Ed. H.R. Arabnia. CSREA Press, pp. 49–55.

### Using a Tuple Space Web Service for Parallel Processing in Bioinformatics

B. Mueller, L. Schulé and G.C. Wells,  
*Proc. 1<sup>st</sup> Southern African Bioinformatics Workshop*, Johannesburg, January 2007. Eds. S. Hazelhurst and M. Ramsay, University of the Witwatersrand, pp. 34–37, ISBN 978-0-620-38113-0.

### Peer-to-peer and Large-Scale Distributed Computing, Communication and Control Systems

X. Zhao, P.G. Clayton, G.C. Wells and A. Terzoli  
*Proc. 7<sup>th</sup> Asia-Pacific Conference on Control & Measurement*, August 2006, Tibet, China.

### A Tuple Space Web Service for Distributed Programming

G.C. Wells,  
*Proc. 2006 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'06)*, Las Vegas, June 2006. Ed. H.R. Arabnia. CSREA Press, pp. 444–450.

### Coordination Languages: Back to the Future with Linda

G.C. Wells,  
*Proc. 2<sup>nd</sup> International Workshop on Coordination and Adaptation Techniques for Software Entities (WCAT'05)*, in conjunction with *ECOOP 2005*, Glasgow, July 2005, Eds. S. Becker, C. Canal, J.M. Murillo, P. Poizat and M. Tivoli, pp. 87–98.  
Published as *New Issues on Coordination and Adaptation Techniques*, Technical Report TR ITI-05-07, Dpto. de Lenguajes y Ciencias de Computación, Universidad de Málaga, ISBN 84-689-2747-3.

### New and Improved: Linda in Java

G.C. Wells,  
*Proc. 3<sup>rd</sup> International Conference on the Principles and Practice of Programming in Java (PPPJ 2004)*, Las Vegas, June 2004. Eds. P. Gibson, J. Power and J. Waldron, ACM International Conference Proceedings Series, pp. 67–74.

### A Dynamic, Runtime-Extensible, Client-Managed Service Framework

D.C. Parry, G.C. Wells and P.G. Clayton,  
*Proc. South African Telecommunication Networks & Applications Conference 2003 (SATNAC 2003)*,

Fancourt, September 2003.

- Implementing Location Services in the location-transparent, distributed environment of the Internet  
P.G. Clayton, R.M. Preston and G.C. Wells,  
*Proc. International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2003)*, Las Vegas, June 2003. Ed. H.R. Arabnia. CSREA Press, pp. 1387–1392.
- Extending the Matching Facilities of Linda  
G.C. Wells, A.G. Chalmers and P.G. Clayton,  
*Proc. 5<sup>th</sup> International Conference on Coordination Models and Languages (COORDINATION 2002)*,  
York, U.K., April 2002. Eds. F. Arbab and C. Talcott, Springer-Verlag, pp. 380–388.
- XML to Facilitate Management of Multi-Vendor Networks  
G.A. Halse, G.C. Wells and A. Terzoli,  
*Proc. South African Telecommunication Networks & Applications Conference 2001 (SATNAC 2001)*,  
Wild Coast, September 2001.
- Location Services: The importance of location in the location-transparent medium of the Internet  
R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. South African Telecommunication Networks & Applications Conference 2001 (SATNAC 2001)*,  
Wild Coast, September 2001.
- Extending Linda to Simplify Application Development  
G.C. Wells, A.G. Chalmers and P.G. Clayton,  
*Proc. International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2001)*, Las Vegas, June 2001. Ed. H.R. Arabnia. CSREA Press, pp. 108–114.
- A Comparison of Linda Implementations in Java  
G.C. Wells, A.G. Chalmers and P.G. Clayton,  
*Communicating Process Architectures 2000*, Canterbury, September 2000.  
Eds. P.H. Welch and A.W.P. Bakkers. IOS Press, *Concurrent Systems Engineering Series*, Vol. 58, pp. 63–75.
- An Extended Version of Linda for Distributed Multimedia Applications  
G.C. Wells, A.G. Chalmers and P.G. Clayton,  
*Proc. South African Institute of Computer Scientists and Information Technologists Conference 1999 (SAICSIT '99)*, Hartebeespoort, November 1999.  
Published electronically as an extension of the *South African Computer Journal*, **24**,  
November 1999: <http://www.cs.wits.ac.za/~philip/SAICSIT/SAICSIT-99/electronic/ideas/Wells.pdf>.
- Creating a Web-based Spatiotemporal GIS using Java and VRML  
R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. Webnet '99*, Hawaii, October 1999.
- Mine is Better than Yours — A Vendor-independent Analysis and Evaluation of Firewalling Paradigms  
S. Kwatsha and G.C. Wells,  
*Proc. South African Telecommunication Networks & Applications Conference 1999 (SATNAC '99)*,  
Durban, September 1999.
- Integrating CORBA and Mobile Agents as a method for reducing Internet Bandwidth  
R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. South African Telecommunication Networks & Applications Conference 1999 (SATNAC '99)*,  
Durban, September 1999.
- An Overview of Temporal Object Models and Their Application to VGIS  
R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. South African Telecommunication Networks & Applications Conference 1998 (SATNAC '98)*,  
Cape Town, September 1998, pp. 471–478.
- A Distributed Virtual Reality Interface for use in Articulated Figure Animation  
L. Casanueva, S. Bangay and G.C. Wells,  
*Proc. TeleTraffic '97: Towards a Competitive Modern Communications Infrastructure*, Grahamstown,  
September 1997, Eds. P.G. Clayton and E.P. Wentworth, Rhodes University, 1997, pp. 111–118.

#### Distributed Virtual GIS

R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. TeleTraffic '97: Towards a Competitive Modern Communications Infrastructure*, Grahamstown,  
September 1997, Eds. P.G. Clayton and E.P. Wentworth, Rhodes University, 1997, pp. 119–125.

#### An Extended Version of Linda for Transputer Systems

G.C. Wells, P.G. Clayton and A.G. Chalmers,  
*Parallel Processing Developments (Proc. 19th World Occam and Transputer User Group Technical Meeting*, Nottingham, April 1996), Ed. B.C. O'Neill, IOS Press, 1996, pp. 233–240.

#### Extensions to Linda for Graphical Applications

G.C. Wells and A.G. Chalmers,  
*International Workshop on High Performance Computing for Computer Graphics and Visualisation*,  
Swansea, U.K., July 1995, pp. 174–181.

#### An Extended Linda System using PVM

G.C. Wells and A.G. Chalmers,  
*PVM Users' Group Conference*, Pittsburgh, U.S.A., May 1995. (Proceedings distributed electronically:  
<http://www.cs.cmu.edu/Web/Groups/pvmug95.html>).

#### An Implementation of Linda Tuple Space under the Helios Operating System

P.G. Clayton, E.P. Wentworth, F.K. de Heer Menlah and G.C. Wells,  
*Proc. Sixth Southern African Computer Symposium*, Caledon, July 1991, pp. 95–106.

### **Papers in Other Conference Proceedings**

#### Using Java and Linda for Parallel Processing in Bioinformatics for Simplicity, Power and Portability

G.C. Wells and T.J. Akhurst,  
*Proc. IPSI-2005 USA, International Conference on Advances in the Internet, Processing, Systems, and Interdisciplinary Research*, Cambridge, Massachusetts, USA, July 2005, p. 18 (abstract, full paper on CD-ROM), ISBN 86-7466-117-3.

#### Issues Affecting the Storage of Packet Filtering Rules in Hash Tables

S. Kwatsha and G.C. Wells,  
*Proc. M.Sc and Ph.D. Conference*, June 2000.

#### Firewalls as Global Solutions to Security Problems

S. Kwatsha and G.C. Wells,  
*Proc. M.Sc and Ph.D. Conference*, Golden Gate, June 1999.

#### Mine is Better than Yours — A Vendor-independent Analysis and Evaluation of Firewalling Paradigms

S. Kwatsha and G.C. Wells,  
*Proc. M.Sc and Ph.D. Conference*, Golden Gate, June 1999.

#### Using CORBA to implement distributed GIS tools for use in a Web-based Spatiotemporal GIS

R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. M.Sc and Ph.D. Conference*, Golden Gate, June 1999.

#### Web-based Spatiotemporal GIS

R.M. Preston, P.G. Clayton and G.C. Wells,  
*Proc. MSc and PhD Conference*, Stellenbosch, June 1998, Stellenbosch University, pp. 72–76.

#### An Implementation of Linda

G.C. Wells,  
*Proc. 5<sup>th</sup> Computer Science Research Students' Conference*, Katberg, September 1990, pp.302–307.

#### The Application of Real-Time Design Techniques to Simulation

G.C. Wells,  
*Proc. 3<sup>rd</sup> Computer Science Research Students' Conference*, Dikhololo, September 1988.  
Abstracted in *Quaestiones Informaticae* 6(4), April 1989, p. 152.

## A Proposed Study of Real-Time Operating Systems

G.C. Wells,

*Proc. 2<sup>nd</sup> Computer Science Research Students' Conference*, Stellenbosch, October 1987.

## Other Publications and Presentations

### Investigating Interoperation Issues in Peer to Peer SIP (*Poster*)

M.J. Tsietsi, G.C. Wells and A. Terzoli,

*Proc. Southern African Telecommunication Networks Applications Conference (SATNAC) 2006*, Stellenbosch, South Africa, September 2006, ISBN: 0-620-37043-2.

### *Proc. 32<sup>nd</sup> Annual Southern African Computer Lecturer's Association Conference (SACLA 2002)*

Fish River Sun, Eastern Cape, June 2002.

Eds. G.C. Wells and J.B. McNeill.

### Interconnectivity and Interoperability in UNIX

G.C. Wells, *UNIX: The Open Systems Market Choice*, Johannesburg, June 1994.

### A Strategic View of UNIX

G.C. Wells, *AITEC South: "Computing and Communications in Practice"*, Harare, Zimbabwe, November 1991.

### UNIX to UNIX Communications — A Brief Summary

G.C. Wells, *Technical Document 87/17*, Department of Computer Science, Rhodes University, 1987.

### Real-Time Programming with UNIX

G.C. Wells, *Technical Document 87/25*, Department of Computer Science, Rhodes University, 1987.

### *Tower FORTH — A FORTH Interpreter for the NCR Tower*

G.C. Wells, Honours Project Report, Department of Computer Science, Rhodes University, 1986.

## Reviewing Activities

Invited member of programme committees:

- Special Track on the 25<sup>th</sup> ACM Symposium on Applied Computing 2010 (SAC'10).
- Communicating Process Architectures 2009 (CPA 2009).
- International Conference on the Principles and Practice of Programming in Java (PPPJ) 2009.
- Special Track on the 24<sup>th</sup> ACM Symposium on Applied Computing 2009 (SAC'09).
- Second International Conference on Well-being in the Information Society (WIS 2008).
- Special Track on the 23<sup>rd</sup> ACM Symposium on Applied Computing 2008 (SAC'08).
- International Conference on the Principles and Practice of Programming in Java (PPPJ) 2007.

Reviewed papers for the following journals and conferences:

- *Science of Computer Programming*, Elsevier Press.
- *ACM Crossroads*.
- *South African Computer Journal (SACJ)*.
- *Transactions of the South African Institute of Electrical Engineers (SAIEE)*.
- Southern African Computer Lecturers' Association (SACLA) Conference, 2009.
- Southern African Telecommunication Networks and Applications Conference (SATNAC), 2001–2009.
- Southern African Computer Lecturers' Association (SACLA) Conference, 2002 (Programme Committee Chair).
- South African Institute of Computer Scientists and Information Technologists (SAICSIT) Conference, 1999, 2005.

## MEMBERSHIP OF PROFESSIONAL BODIES

Member of the Association for Computing Machinery (ACM).

Member of the South African Institute for Computer Scientists and Information Technologists (SAICSIT).

Member of the SAICSIT Council (2000–2001).

## TEACHING EXPERIENCE

- 1987 CS2: An Introduction to Database Theory (4 weeks)  
CS3: Programming Language Translation (7 weeks)  
CS4: Programming in the UNIX Environment (2 weeks)
- 1988 CS2: An Introduction to Database Theory (4 weeks)  
CS3: Programming Language Translation (7 weeks)  
CS4: Programming in the UNIX Environment (2 weeks)
- 1989 CS2: Computer Organisation (8 weeks)  
CS3: Programming Language Translation (7 weeks)  
CS4: Programming in the UNIX Environment (4 weeks)
- 1990 CS2: Computer Organisation (8 weeks)  
CS3: Programming Language Translation (7 weeks)  
CS4: Programming in the UNIX Environment (4 weeks)
- 1991 CS1: Introduction to Programming in Modula-2 (5 weeks)  
CS2: Computer Organisation (8 weeks)  
CS4: Programming in the UNIX Environment (4 weeks)
- 1992 CS1: Programming in the Large (2 weeks)  
CS4: Programming in the UNIX Environment (4 weeks)  
CS4: Advanced Computer Architecture (4 weeks)
- 1993 CS1: Programming in the Large (2 weeks)  
CS4: Programming in the UNIX Environment (4 weeks)  
CS4: Advanced Computer Architecture (4 weeks)
- 1994 CS1: Introduction to Programming (6 weeks)  
CS4: Advanced Computer Architecture (4 weeks)
- 1994/1995 (While on sabbatical leave at the University of Bristol, U.K.)  
CS1: Introduction to Programming  
CS1: Searching and Sorting Algorithms and Algorithm Complexity  
CS2: Programming Language Theory  
CS2: Design Methodologies
- 1995 CS1: Programming (7 weeks)  
CS4: Advanced Computer Architecture (4 weeks)
- 1996 CS1: Programming (5 weeks)  
CS2: Advanced Programming (6 weeks)  
CS4: Advanced Computer Architecture (4 weeks)
- 1997 CS1: Programming (5 weeks)  
CS2: Introduction to C++ (3 weeks)  
CS2: Advanced Programming (6 weeks)  
CS4: Advanced Computer Architecture (4 weeks)  
CS4: Programming in Java (4 weeks)
- 1998 CS1: Programming (6 weeks)  
CS2: Advanced Programming (6 weeks)  
CS4: Project Management (3 lectures)  
CS4: Advanced Computer Architecture (4 weeks)  
CS4: Programming in Java (3 weeks)
- CS3 (University of Fort Hare): Introduction to Programming in Java
- 1999 CS2: Introduction to C++ (3 weeks)  
CS2: Advanced Programming (6 weeks)  
CS4: Advanced Computer Architecture (4 weeks—also taken by UPE Honours students)  
CS4: Programming in Java (3 weeks)

- 2000 (On sabbatical leave)  
 CS4 (University of Port Elizabeth): Advanced Computer Architecture (4 weeks)
- 2001  
 CS1: Java Programming (5 weeks)  
 CS2: Introduction to Java (3 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2002  
 CS1: Java Programming (5 weeks)  
 CS2: Advanced Programming (7 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2003  
 CS1: Java Programming (5 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2004  
 CS1: Java Programming (5 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2005  
 CS1: Java Programming (4 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2006  
 CS1: Java Programming (4 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2007  
 CS1: Java Programming (4 weeks)  
 CS2: Advanced Programming (6 weeks)  
 CS4: Advanced Computer Architecture (4 weeks)
- 2008  
 CS1: Information Technology in Society (1 week)  
 CS2: Advanced Programming (6 weeks)
- 2009:  
 CS4: Distributed and Parallel Programming (4 weeks)  
 CS1: Java Programming (4 weeks)

#### **OTHER TEACHING, RESEARCH AND RELATED ACTIVITIES**

- Arranged sponsorship from IDI Technology Solutions for annual student prizes in Computer Science (2003–2009).
- Arranged sponsorship from SAP Africa and Microsoft SA for annual student prizes in Computer Science (2002).
- Arranged sponsorship from Sun Microsystems South Africa for First Year Programming Competition prizes (2002–2008).
- Publicity Co-Chair for Africa, 3<sup>rd</sup> IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2003), Darmstadt, Germany, December 2003.
- Member of the Reference Group for the Meraka e-Skills Institute, 2008.
- Co-organiser of the *National Colloquium on Information and Communication Technology Education and Training and the Production of Graduates*, March 2007 (see <http://www.cs.ru.ac.za/ictskills/>).
- External advisor, Review of the School of Computer Science, University of Kwazulu-Natal, October 2007.
- Regular reviewer for project proposals for the National Research Foundation (NRF) in the Information and Communication Technology sector.
- Member of the NRF Appraisal Committee for the Information and Communication Technology Research Niche Area at the University of the Western Cape (November 2003 and July 2004).
- Member of the Advisory Committee for University of the Western Cape, in the NRF University Research Development Programme (URDP) (October 2002).
- External advisor for the selection committee for new Professor/Associate Professor, University of the Transkei, May 2003.
- External advisor for the selection committee for new Professor/Associate Professor, University of Fort Hare, May 2003.



Attended Human Resource Development workshop on the Recruitment and Selection Policy for Support Staff (September 2002).

Proceedings Editor (joint editor with J.B. McNeill) and Programme Chair for the 32nd Annual Southern African Computer Lecturers' Association Conference (SACLA 2002), Fish River Sun, Eastern Cape, 27–29 June 2002.

Attended Research Supervision Workshop (February 2002).

Presented a number of Java training courses at various levels for Sun Microsystems South Africa and CS Educational Systems (1999–2001).

Presented a workshop at the National Festival of Science and Technology entitled *Java Programming for the Web* (March 1999).

Attended the Academic Development Centre's Professional Development Programme module on Evaluation (August 1998).

Presented a workshop at the National Festival of Science and Technology entitled *Java Programming for the Web* (March 1998).

Presented a workshop at the National Festival of Science and Technology entitled *Visual Programming Master Class* (April 1997).

## POSTGRADUATE STUDENT SUPERVISION

Student	Date	Field of Research
<i>Honours</i>		
A Singer	1987	A FORTH Interpreter
R Grey	1988	A Relational Database Kernel in Modula-2
Z R Nyinywa	1988	A CLANG Compiler in C
P Ranchod	1992	An X Terminal Emulator (X Server) for PC's
G Graham <sup>1</sup>	1994	A Linda Preprocessor for C++
J Band	1996	An Investigation of Java
M Preston	1996	An Investigative Comparison Between Arcview's Database and using ODBC to Connect to SQL Windows
R Laubscher	1996	Teletraffic Visualisation
J Balarin <sup>2</sup>	1997–1998	Network Traffic Visualisation through Operational Analysis and Discrete Event Simulation
B Irwin	1998	Home Appliance Control System
R Naude <sup>1</sup>	2001	R.E.X. (Rhodes E-commerce eXchange)
D Parry <sup>1</sup>	2001	ANY Project (Presentation Layer)
P Daya	2001	Video-on-Demand, A Distributed Processing Approach
J Hitchcock	2001	Generating Intelligences—A Study of Different Approaches
N Smit	2002	Integrating multiple multimedia streams
U Rudraraju and F Mabvudza <sup>1</sup>	2002	Design of a website for the sale of Rhodes Memorabilia
G Patrick <sup>1</sup>	2002	Investigating Redhat Linux 7.2 to Determine Modifications Required for Redhat Linux to be Recognised by Organisations as a Viable Workstation Operating System ( <i>Information Systems Research Project—winner of award for best IS Research Project</i> )
R Cloran <sup>1</sup>	2003	Internet traffic monitoring for FreeBSD
Y Motara	2003	An agent-based framework for calendaring and related applications
A Black <sup>1</sup>	2003	An evaluation of the OO Approach to Databases under Windows
C Morley <sup>1</sup>	2003	RDBS vs ODBS: A comparison of Query Languages
P West <sup>1</sup>	2003	Relief Texture Mapping
A Peirson <sup>1</sup>	2003	Interactive Synthesis of Avatar Motion from Preprocessed Motion Data
V Kukic <sup>1</sup>	2003	Image Plugins for GIMP ( <i>winner of award for best Honours Research Project</i> )
J Pretorius <sup>1</sup>	2003	Real Time Animation and Control of Bi-Pedal Locomotion
G A Atkinson	2006	An Investigation of Grid Computing ( <i>winner of award for best Honours Research Project</i> )
<i>MSc</i>		
D G Williams	1991–1992	Towards Language and Machine Independence in a Compiler Back End
R Roos	1992	Facilities for Multiple Applications under UNIX
J Mountjoy <sup>1</sup>	1992	Aspects of the Parallelisation of Functional Languages
W Humphries <sup>1</sup>	1992	Visual Languages and Programming Environments
R M Preston <sup>1</sup>	1997–1998	Web-based Spatiotemporal GIS (upgraded to PhD)

L Casanueva <sup>1</sup>	1997	A Distributed Virtual Reality Video Conferencing Animation Interface
J I Balarin <sup>2</sup>	1999–2005	Realtime Immersive Audio techniques for Dynamic Virtual Environments
B V W Irwin	1999–2001	An Investigation of Mechanisms for Bandwidth Conservation and Control of Internet Connections
S Kwatsha	1999–2002	An Investigation of Internet Security Mechanisms
G A Halse	2001–2002	Novel Approaches to the Monitoring of Computer Networks (Recipient of the <i>CSSA Eastern Cape Student of the Year Award 2002</i> )
D C Parry <sup>1</sup>	2002–2003	The Next Generation Portal—Dynamic Service Delivery ( <i>degree awarded with distinction; winner of award for best Research Student</i> )
M K Wright <sup>1,2</sup>	2003–2005	A Detailed Investigation of Interoperability for Web Services
R A Cloran <sup>1</sup>	2004	The Semantic Web
Y Motara <sup>1</sup>	2004	Network Monitoring for the Early Enforcement of Service Level Agreements
T J Akhurst	2004	The Role of Parallel Computing in Bioinformatics ( <i>Coursework MSc in Bioinformatics — mini-thesis</i> )
M J Tsietsi <sup>1</sup>	2006–2007	Peer-to-Peer SIP ( <i>degree awarded with distinction</i> )
L Schulé	2006–2007	Extending a Tuple Space Web Service with Programmable Matching Facilities ( <i>Exchange student — mini-thesis</i> )
B Mueller	2006–2007	Extending a Tuple Space Web Service with Programmable Matching Facilities ( <i>Exchange student — mini-thesis</i> )
P W Mulumba <sup>1</sup>	2007–2008	Distributed video streaming frameworks ( <i>degree awarded with distinction</i> )
B Friedman <sup>1</sup>	2008–	Charon: a concurrent processing framework
<i>PhD</i>		
R M Preston <sup>1</sup>	1999–2002	RADGIS—An improved architecture for runtime-extensible, distributed GIS applications
X Zhao <sup>1</sup>	2003–2007	Reconfigurable Distributed Systems
B V W Irwin <sup>1,2</sup>	2003–	The use of distributed intrusion detection systems for the patterning and detection of Internet attacks and malware distribution
M J Tsietsi <sup>1</sup>	2008–	Architectures for Distributed Media Services Platforms

<sup>1</sup> Co-supervised. <sup>2</sup> Part-time.

## EXTERNAL EXAMINING

2009, University of Pretoria, CS Honours, Communicating Sequential Processes.  
2009, University of the Witwatersrand, MSc Thesis, *TCP behaviour modification for improving communication throughput on Beowulf class computational clusters*.  
2005–2007, University of Cape Town, general external examiner for all Computer Science undergraduate, Honours and taught Masters courses.  
2007, Nelson Mandela Metropolitan University, CS3, Advanced Programming.  
2006, Nelson Mandela Metropolitan University, MSc Thesis, *A Comparison Framework for Server Virtualisation Systems: A Case Study*.  
2006, University of Fort Hare, MSc Thesis, *A Comparison of Open Source Native XML Database Products*.  
2005, Nelson Mandela Metropolitan University, CS3, Multimedia Technology.  
2005, University of Port Elizabeth, MSc Thesis, *The Development of a Model to Evaluate Application Performance in a Customer Network*.  
2004, University of Port Elizabeth, Honours & MSc, Compiler Construction.  
2004, University of the Witwatersrand, MSc Thesis, *QoS Provisioning to a SOHO Telecommunications Client Using a DPE-Enabled Gateway*.  
2003, University of the Witwatersrand, MSc Thesis, *Control and Management of Customer Premises Network with DPE-Enabled Residential Gateway*.  
2003, University of Port Elizabeth, Honours & MSc, Compiler Construction.  
2003, University of Port Elizabeth, CS3, Advanced Programming.  
2002, University of Port Elizabeth, Honours, Compiler Construction.  
2002, University of the Witwatersrand, MSc Thesis, *Federation of OO Databases Using the CORBA Trading Service*.  
2001, University of Port Elizabeth, CS3, Advanced Programming.  
2001, Midrand Graduate Institute, CS3, Operating Systems.  
1999, University of Port Elizabeth, CS3, Algorithmics.  
1999, University of Natal (Durban), CS3, Computer Organisation.

1998, University of Port Elizabeth, CS3, Algorithmics.  
1998, University of Natal (Durban), CS3, Computer Organisation.  
1993, University of Natal (Pietermaritzburg), Honours, UNIX System Programming.  
1993, University of Natal (Durban), CS3, Computer Organisation.  
1992, University of Natal (Durban), MSc Thesis, *Built-in Tests for a Real-Time Embedded System*.

#### **INTERNAL EXAMINING**

2003, X. Zhao, MSc Thesis, *A Comparative Analysis of Java and .NET Mobile Development Environments for Supporting Mobile Services*.  
2002, H. Winnemöller, MSc Thesis, *Implementing Non-photorealistic Rendering Enhancements with Real-Time Performance*.

#### **OTHER ACTIVITIES AND INTERESTS**

- Elder (member of leadership team) in local church (River of Life Christian Assembly).
- Cycling.
- Geocaching (see [www.geocaching.com](http://www.geocaching.com)).