



## Curriculum Vitae

### Professor Rachel Cardell-Oliver

School of Computer Science & Software Engineering  
The University of Western Australia

#### **Section A: Qualifications**

**PhD** University of Cambridge, 1992

Dissertation: *The Formal Verification of Hard Real-Time Systems*

**MSc** Computer Science by Research, University of Western Australia, 1987

Dissertation: *The Design and Implementation of a Programming Environment for a Network of Computers using Modula-2 Based Distributed Objects*

**BSc (1st class honours)** Computer Science, University of Western Australia, 1984

#### **Section B: Appointments and Employment History**

**Associate Dean Research**, Faculty of Engineering, Computing and Mathematics, The University of Western Australia, Australia from March 2008

**Associate Professor** School of Computer Science & Software Engineering, The University of Western Australia, Australia from July 2007

**Deputy Head of School** School of Computer Science & Software Engineering, The University of Western Australia, Australia, March 2007-March 2009

**Senior Lecturer** School of Computer Science & Software Engineering, The University of Western Australia, Australia, 2001-07

**Visiting Researcher** Computing Laboratory, University of Kent, August-October 2004

**Deputy Head (Research)** Department of Computer Science, University of Essex, UK, 1997-2001

**Senior Lecturer** Department of Computer Science, University of Essex, UK, 1999-2001

**Lecturer** Department of Computer Science, University of Essex, UK, from 1992-1999

**Computer Scientist**, Cambridge Computer Science Research Centre, SRI International, UK, 1992 as a research officer on the SAFEMOS project with INMOS Ltd and the Universities of

Oxford and Cambridge. Developed tool support with the HOL theorem-prover for the design and analysis of real-time systems using timed transition systems

**Cadet Research Scientist**, Information Technology Division, Defence Science and Technology Organisation, Australia, Aug 1988 to Jan 1992. Seconded to the Computer Laboratory, University of Cambridge from Oct 1988

**Postgraduate Research Student**, Computer Laboratory, University of Cambridge, UK Oct 1988 to Jan 1992. Worked in Professor Gordon's automated reasoning group on the verification of real-time systems using the HOL theorem prover. Contributed new generic specification techniques for modelling protocol and communication channel behaviours

**Senior Tutor**, Department of Computer Science, The University of Western Australia, July 1987 to July 1988, Tutor Nov 1984 to July 1987. Responsible for tutorial and laboratory teaching in all final year courses for around 80 undergraduates

**Postgraduate Research Student**, Department of Computer Science, The University of Western Australia, part time Feb 1985 to Feb 1987. Designed and built a network file system for a heterogeneous network of computers. The file system software was deployed in the Department's main 3rd year teaching laboratory

### ***Section C: Prizes, Awards and Grants***

#### **UWA Centre for the Advancement of Teaching and Learning Improving Student Learning Grant: \$3,000**

Automatic, Formative Assessment Tools for Timely Feedback to Support Student Learning in Software Engineering and Programming Units  
June to December 2009

#### **CSIRO Land and Water: \$30,915**

*Data Management Tools for Hydrological Observation Data from Heterogeneous Sensor Networks*

Rachel Cardell-Oliver and Olga Baron CSIRO  
July 2007 to December 2007

#### **Motorola Global Software Group: \$99,000**

#### **CRC for Plant-Based Management of Dryland Salinity: \$138,000**

#### **University of WA, Faculty of ECM and CSSE: \$60,000**

*Wireless Sensor Networks for high resolution acquisition of environmental information required for salinity impact assessment*

Rachel Cardell-Oliver, Keith Smettem, Steve Burgess, David Glance  
2005 to 2008

#### **University of Kent, study visit grant 2004: £ 2,250**

#### **Water Corporation of WA: \$56,472**

*Characterising the transient spatial variability of infiltration and consequences for the water balance and groundwater recharge under Banksia woodland on the Gnaragara mound*

Keith Smettem and Rachel Cardell-Oliver  
2003 to 2005

**University of WA Research Grants Scheme: \$12,500**

*Software Engineering of Wireless Sensor Networks for Environmental Monitoring Viticulture and Salinity Research*

Jan 2004 to Dec 2004

**University of WA, Faculty of Engineering, Computing and Mathematics Start up grant \$18,000**

*Executing Test Cases for Distributed Real-Time Systems*

Oct 2001 to Oct 2002

**UK Government EPSRC Grant GR/L26087: £ 140,079**

Principal Investigator: Rachel Cardell-Oliver

*Integrating Test & Verification for Real-Time and Fault-Tolerant Systems in a Trustworthy Tool*

with the University of Bremen, Germany and Industrial Control Services Technology, UK.

Jan 1997 to Jan 2000

*On completion, rated “a very significant contribution to the field” with “excellent management and use of resources” [EPSRC project review GR/L26087 2001]*

**UK Government EPSRC Grant GR/L57913: £ 227,019**

Principal Investigator: Ray Turner

Co-investigators: Martin Henson, Mike Sanderson, Rachel Cardell-Oliver

*Implementing Constructive Z*

Jan 1998 to Dec 2000

**British Telecom Grant ML761230: £ 14,500**

Principal Investigator: Rachel Cardell-Oliver

*Analysing Real-Time Properties of Large IP Networks*

Jan 1998 to Jan 1999

**Study visit awards Royal Society (1996) £ 800 and the British Council (1995) £ 450**

**University of Essex Research Promotion Fund: £ 5,705**

Principal Investigator: Rachel Cardell-Oliver

*Systems Integration for Time-Critical Systems: a feasibility study*

with BAeSEMA, New Maldon, UK

Dec 1998 to Apr 1999

**University of Essex Research Promotion Fund: £ 6,000**

Principal Investigator: Rachel Cardell-Oliver

*Tools for the Formal Specification and Verification of Safety Critical Computer Systems*

with the Cambridge Computer Science Research Centre of SRI International,

Apr 1994 to Dec 1994

**PhD Scholarships:**

Defence Science and Technology Organisation of Australia,

Cambridge Commonwealth Trust,  
Overseas Research Studentship from UK Government

**Australian Computer Society Prize** for the Best Honours Computing Student, UWA, 1984

Grant Applications Currently Under Review

## **Section D: Publications**

### **Book Chapters (B1)**

1. ACF: An Autonomic Communication Framework for Sensor Networks, Sun J and Cardell-Oliver R, In [Advances in Ad Hoc Networking](#) of [IFIP International Federation for Information Processing](#) Volume 265/2008, pages 37-48, ISSN 1571-5736 (Print) 1861-2288 (Online) DOI=[http://dx.doi.org/10.1007/978-0-387-09490-8\\_4](http://dx.doi.org/10.1007/978-0-387-09490-8_4) (from 7<sup>th</sup> *IFIP Annual Mediterranean Ad Hoc Networking Workshop*, Med-Hoc-Net 2008), June 23-27, Palma de Mallorca, Spain, 2008
2. Analysis of Retransmission, Streaming and Opportunistic Data Delivery Methods in Wireless Sensor Networks, Jingbo Sun and Rachel Cardell-Oliver, Section 2.5.8.3, Chapter 2, in *Wireless Mesh Networking with 802.16, 802.11, and ZigBEE* (Editor George Aggelou), McGraw Hill, 525 pages, 0071482563 / 9780071482561, September 2008
3. Sensory Data Monitoring, Rachel Cardell-Oliver, Chapter 8 in *Learning from Data Streams -- Processing Techniques in Sensor Networks*, Editors M Gaber and J Gama, Springer Verlag, 2007
4. Combining Tools for the Verification of Fault-Tolerant Systems, Buth, B., Cardell-Oliver, R. and Peleska, J, In (B.Buth, R.Berghammer and J.Peleska eds.) *Tools for System Development and Verification*, Monographs of the Bremen Institute of Safe Systems Vol. 1 (1998), Shaker Verlag, pp. 41-69 (29pp)
5. HTTDs and HOL: On the use of a graphical specification language and an interactive theorem prover for the formal development of a real-time production cell, Cardell-Oliver, R. In (C.Lewerentz and T.Lindner eds.) *Case Study Production Cell, A Comparative Study in Formal Software Development*, Lecture Notes in Computer Science 891 (1995) Springer Verlag, pp. 261-276
6. An Embedding of Timed Transition Systems in HOL, Hale, R. Cardell-Oliver, R. and Herbert, J. In (Editor J.Bowen) *Towards Totally Verified Systems* (1994) Elsevier pp. 71-90 (this paper also appeared as a refereed article in *Journal of Formal Methods in System Design*)

### **Journal Papers (C1)**

7. *Representation and Recognition of Situations in Sensor Networks*, Rachel Cardell-Oliver and Wei Liu, to appear in *IEEE Communications Magazine*, Special Issue on

Situation Management (accepted November 2009)

8. *Harnessing wireless sensor technologies to advance forest ecology and agricultural research*, S. S. O. Burgess, M. L. Kranz, N. E. Turner, R. Cardell-Oliver, T.E. Dawson, *Journal of Agricultural and Forest Meteorology*, [Volume 150, Issue 1](#), 15 January 2010, Pages 30-37, DOI [10.1016/j.agrformet.2009.08.002](#)
9. \*\* FlexiTP: A Flexible-Schedule-Based TDMA Protocol for Fault-Tolerant and Energy-Efficient Wireless Sensor Networks, Lee, Winnie Louis; Datta, Amitava; Cardell-Oliver, Rachel, In *Parallel and Distributed Systems, IEEE Transactions on* , vol.19, no.6, pp.851-864, June 2008, ISSN: 1045-9219, Digital Object Identifier: 10.1109/TPDS.2007.70774 (CORE rank A+, Thompsons ISI impact factor 1.146 2008)
10. \*\* A Reactive Soil Moisture Sensor Network: Design and Field Evaluation, Rachel Cardell-Oliver, Keith Smettem, Mark Kranz and Kevin Mayer, in *International Journal of Distributed Sensor Networks*, pp. 149 – 162, Volume 1, Number 2 / April-June 2005, DOI 10.1080/15501320590966422
11. \*\* Conformance Test Experiments for Distributed Real-Time Systems, Rachel Cardell-Oliver, In *ACM SIGSOFT Software Engineering Notes , Proceedings of the 2002 ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)*, Volume 27, Issue 4, pp159-163, ACM Press, July 2002. DOI <http://doi.acm.org/10.1145/566171.566196> (CORE rank A)
12. \*\* Conformance Tests for Real-Time Systems with Timed Automata Specifications, Rachel Cardell-Oliver. *Formal Aspects of Computing Journal*, Vol 12 Issue 5, (2000), pp. 350-371, DOI 10.1007/s001650070009 (CORE rank A, Thompsons ISI impact factor 0.698 2008)
13. An Equivalence Theorem for the Operational and Temporal Semantics of Real-Time, Concurrent Programs, Cardell-Oliver, R.M. *Journal of Logic and Computation* Vol. 8:4 (1998) Oxford University Press, pp. 545-567
14. \*\* A practical and complete algorithm for testing real-time systems, Cardell-Oliver, R. and Glover, T, In *International Symposium on Formal Techniques for Real-Time and Fault Tolerant Systems (FTRTFTS)*, Lecture Notes in Computer Science 1486 (1998) Springer Verlag pp. 251-261 DOI 10.1007/BFb0055330
15. \*\* An Embedding of Timed Transition Systems in HOL, Hale, R. Cardell-Oliver, R. and Herbert, J, *Journal of Formal Methods in System Design* Vol. 3:1&2 (1993) Kluwer pp. 151-174 , DOI 10.1007/BF01383987 (CORE rank A)
16. A Mechanised Theory for the Verification of Real-Time Program Code Using Higher Order Logic, Cardell-Oliver, R. In *Proceedings of the Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFTS)*, Lecture Notes in Computer Science 571 (1992) Springer Verlag pp. 375-392
17. \*\* Using Higher Order Logic for Modelling Real-Time Protocols. Cardell-Oliver, R. In *Proceedings of TAPSOFT 91 Volume 2*, Lecture Notes in Computer Science 494 (1991) Springer Verlag pp. 259-282

## Fully Refereed, International Conference Papers (E1)

18. An Efficient Approach using Domain Knowledge for Evaluating Aggregate Queries in WSN, Chi Yang and Rachel Cardell-Oliver, Accepted to appear in *Fifth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP-2009), Melbourne, 7-10 December 2009*
19. Wireless soil moisture sensor networks for environmental monitoring and vineyard irrigation, Christof Hübner, Rachel Cardell-Oliver, Rolf Becker, Klaus Spohrer, Kai Jotter, Tino Wagenknecht, International Society for Electromagnetic Auqametry, *ISEMA 2009*, 1-5 June 2009, Helsinki, Finland, <http://radio.tkk.fi/isema2009/> (refereed abstracts)
20. A Space and Time Requirements Logic for Sensor Networks, Cardell-Oliver, R.; Reynolds, M.; Kranz, M., In *Leveraging Applications of Formal Methods, Verification and Validation, 2006. ISoLA 2006. Second International Symposium on* , pp.283-289, 15-19 Nov. 2006 Digital Object Identifier: 10.1109/ISoLA.2006.23 Date Published in Issue: 2008-03-05 10:04:07.0
21. An autonomic communication framework for sensor networks. Sun, J. and Cardell-Oliver, R. 2007. Poster Paper in *Proceedings of the 5th international Conference on Embedded Networked Sensor Systems* (Sydney, Australia, November 06 - 09, 2007). SenSys '07. ACM, New York, NY, 439-440. DOI=<http://doi.acm.org/10.1145/1322263.1322335>
22. A fault-tolerant node scheduling scheme to extend the lifetime of wireless sensor networks. Pazand, B., Datta, A., and Cardell-Oliver, R. 2007. Poster Paper in *Proceedings of the 5th international Conference on Embedded Networked Sensor Systems* (Sydney, Australia, November 06 - 09, 2007). SenSys '07. ACM, New York, NY, 423-424. DOI= <http://doi.acm.org/10.1145/1322263.1322327>
23. A TDMA-Based MAC Protocol for Industrial Wireless Sensor Network Applications using Link State Dependent Scheduling, Valence Phua, Amitava Datta and Rachel Cardell-Oliver, in *IEEE GLOBECOM Conference, Wireless Communications and Networking Symposium*, 2006
24. A Novel Systematic Resource Transfer Method for Wireless Sensor Networks, Winnie Louis Lee, Amitava Datta and Rachel Cardell-Oliver, in *IEEE GLOBECOM Conference, Wireless Ad Hoc and Sensor Networks Symposium*, 2006
25. FlexiMAC: A Flexible TDMA-based MAC Protocol for Fault-tolerant and Energy-Efficient Wireless Sensor Networks, Winnie Louis Lee, Amitava Datta and Rachel Cardell-Oliver, in the *14<sup>th</sup> IEEE International Conference on Networks*, ICON 2006
26. A Rule-Based Language for Programming Wireless Sensor Actuator Networks using Frequency and Communication, Shondip Sen and Rachel Cardell-Oliver, in *3<sup>rd</sup> Workshop on Embedded Networked Sensors*, Cambridge MA, May 2006

27. An Experimental Evaluation of Temporal Characteristics of Communication Links in Outdoor Sensor Networks, Jingbo Sun and Rachel Cardell-Oliver, in *ACM Workshop on Real-World Wireless Sensor Networks*, REALWSN '06, Uppsala June 2006
28. \*\* ROPE: A Reactive, Opportunistic Protocol for Environment Monitoring Sensor Networks, Rachel Cardell-Oliver, EmNetS-II. The *Second IEEE Workshop on Embedded Networked Sensors*, Sydney, May 2005, pp. 63-70.  
<http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=31513&isYear=2005>
29. \*\* Field Testing a Wireless Sensor Network for Reactive Environmental Monitoring, Rachel Cardell-Oliver, Keith Smettem, Mark Kranz and Kevin Mayer, *International Conference on Intelligent Sensors, Sensor Networks and Information Processing* ISSNIP-04, Melbourne, December 2004.
30. Formal Specification and Analysis of Performance Variation in Sensor Network Diffusion Protocols, Sule Nair and Rachel Cardell-Oliver, In *7<sup>th</sup> ACM Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MobiSWiM)*, Venice, October 2004, ACM Press, pp. 170-173,  
<http://doi.acm.org/10.1145/1023663.1023694>
31. Evaluating the Impact of Limited Resource on the Performance of Flooding in Wireless Sensor Networks, Patrick Downey and Rachel Cardell-Oliver, In *International Conference on Dependable Systems and Networks (ICDSN)*, Florence June 2004.
32. A Method for Verifying Real-Time Properties of Ada Programs, Gerdsmeyer, Thorsten & Cardell-Oliver, Rachel, In *7<sup>th</sup> IEEE International Conference on Engineering Complex Systems*, (ICECCS 2001), Skövde, Sweden, pp.35-47, IEEE Press, ISBN 0-7695-1159-7, June 2001
33. Analysing Scheduling Behaviour using Generic Timed Automata, Gerdsmeyer, T and Cardell-Oliver, R. In *Computing: The Australasian Theory Symposium 2001* Elsevier Electronic Notes in Theoretical Computer Science, Volume 42 (Guest Editor Colin Fidge), January 2001 ISBN: 0444508090
34. Simulating IP Networks using Interval Temporal Logic, Gerdsmeyer, T and Cardell-Oliver, R. In *Proc. of the 13<sup>th</sup> European Simulation Multiconference Volume 1* (1999) The Society for Computer Simulation International, pp. 409-416
35. A Modular Tool for Test Generation for Real-Time Systems, Glover, T. and Cardell-Oliver, R. in *IEE Digest No. 99/006 Colloquium on Applicable Modelling, Verification and Analysis Techniques for Real-Time Systems* (1999) pp. 3/1-3/4
36. A Framework for the Test and Verification of Real-Time Systems, Cardell-Oliver, R. and Glover, T, In *IEE Real-Time Systems Colloquium Digest No 98/306*, (1998) pp. 5/1-5/4
37. An Embedding of Timed Transition Systems in HOL (Preliminary Version), Cardell-Oliver, R. Hale, R. and Herbert, J. In *Higher Order Logic Theorem Proving and Its*

*Applications (TPHOLS)*, IFIP Transactions A-20 (1993) North Holland pp. 263-278

38. Distributed programming with repeatable operations: experience with the MODUS file system, Cardell-Oliver R and Tsang CP, In *TENCON'89 Fourth IEEE Region 10 International Conference*, IEEE, 1989

## Technical Reports, Abstracts & Workshops

39. K.R.J. Smettem, R. Cardell-Oliver, M. Krantz and K. Meyer, *Development and testing of a reactive wireless sensor network for soil moisture monitoring*, Geophysical Research Abstracts, Vol. 7, 01468, 2005, SRef-ID: 1607-7962/gra/EGU05-A-01468, European Geosciences Union
40. Doug Palmer, Rachel Cardell-Oliver, Geoff James and Peter Corke, Emergent Protocols for Viral Networks. In *Proc. Complex Adaptive Systems in Defence Workshop*, Adelaide, July 2004
41. *Why Flooding is Unreliable in Multi-hop, Wireless Networks*, Rachel Cardell-Oliver, Technical Report UWA-CSSE-04-001, February 2004.
42. *A Method for Verifying Real-Time Properties of Ada Programs* A, Gerdsmeier, Thorsten & Cardell-Oliver, Rachel, Department of Computer Science Technical Report CSM-340, October 2000
43. *Analysis of Scheduling Behaviour with Timed Automata - Protected Objects*, Gerdsmeier, Thorsten & Cardell-Oliver, Rachel, Department of Computer Science Technical Report CSM-339, October 2000
44. *A Theorem Proving Abstraction of Model Checking*, Cardell-Oliver, R. & Southon, C, Department of Computer Science Report CSM-253, University of Essex, October 1995
45. *Linking Notations and Theories in a Proof Tool*, Cardell-Oliver, R. and Hale, R. Department of Computer Science Report CSM-245, University of Essex, August 1995

## Dissertations

38. *The Formal Verification of Hard Real-Time Systems*, Cardell-Oliver, R. PhD Thesis, University of Cambridge, Jan 1992
39. *The Design and Implementation of a Programming Environment for a Network of Computers using Modula-2 Based Distributed Objects*, Cardell-Oliver, R. MSc (research) Thesis, Department of Computer Science, University of Western Australia, Feb 1987

## **Current Work: Papers in Review**

*Heuristic Algorithm for Finding Boundary Cycles in Location-free Low Density Wireless Sensor Networks*, Lanny Sitanayah, Amitava Datta, Rachel Cardell-Oliver (submitted Oct 09)

*APT: An Adaptive Hybrid Data Delivery Protocol for Tiered Wireless Sensor Networks*, Jingbo Sun and Rachel Cardell-Oliver (submitted Nov 09)

## **Section E: Research Supervision**

### **Research Fellows**

Research Associate Mark Kranz, *Sensor Network Software for Environmental Monitoring*, 2005-2008 and

Senior Research Officer Tim Glover, *Integrating Test and Verification of Real-Time and Fault-Tolerant Systems*, 1997-2000

### **Completed Higher Degrees by Research**

PhD, Jingbo Sun, *A Framework for Building Autonomic Environmental Sensor Networks*, Awarded March 2009

MSc, Lanny Sitanayah, *Boundary Detection* (joint supervision with A.Prof Datta), Awarded March 2009

PhD, Valance Phua, *Adaptive Protocols for Industrial Wireless Sensor Networks* (joint supervision with A.Prof Datta), Awarded March 2009

PhD, Babak Pazand, *Scheduling for Sensing Efficiency in Wireless Sensor Networks* (joint supervision with A.Prof Datta), Awarded 2008

PhD, Winnie Louis Lee, *Flexible-Schedule-Based TDMA Protocols for Supporting Fault-Tolerance, Resource Transfer, and Peer-to-Peer Communication in Wireless Sensor Networks* (joint supervision with A.Prof Datta), Awarded 2007

PhD, Terry Woodings (joint supervision with A.Prof Bundell and A Prof Thomas), *The Variation in Software Project Parameters as a Measure of Process Control*, from February 2004, Awarded 2006, The University of Western Australia

PhD, Thorsten Gerdsmeyer, *Deductive and Algorithmic Analysis of Real-Time Concurrent Ada Programs*, supervised 1999-2001, submitted under minimum time and Awarded 2002, the University of Essex

MSc (research) Thorsten Gerdsmeyer, *Analysing Real-Time Properties of Large IP Networks*, Awarded 1999 (sponsored by British Telecom), the University of Essex

MSc (research) Chris Southon, *Automatic Verification of Real-Time Requirements of Timed Transition Diagrams*, Awarded 1995, the University of Essex

## **Current Higher Degree Research Students at UWA**

PhD, Anthony Blond, Smart Homes (joint supervision with Dr Liu) from March 2009

MSc, Lesley Zhang, Automatic Assessment with Test Cases for Software Engineering Courses, from December 2008

PhD, Cheng Liu, Ad hoc Networks (joint supervision with Dr McDonald) from December 2008

PhD, Chi Yang, Efficient Query Processing in Sensor Networks (joint supervision with Dr McDonald) from June 2008

## **Honours and Taught Course Masters Supervision**

I have supervised over 40 taught course MSc and honours projects at the University of Western Australia and at the University of Essex. My recent UWA honours students and their projects are detailed below. At Essex we taught over 200 coursework masters students and 80 honours students a year, and so I regularly supervised 5 to 10 student projects each year.

Asad Naveed, 2009, Evaluating the Quality of Test Suites, Master of Comp. Sci.

Rieky Barady, 2009, Improving the Quality of Java Swing GUI programs written by First-year Computing Students, Master of Comp. Sci.

You Hai Lim, 2009, Tool Support for Learning Programming Style, BE(SE)

Tim Burrough, 2007-8, Sensid on SunSPOTS (joint supervision with Mark Kranz)

David Hng, 2007, Automated image analysis of Geographic Raster Data (joint supervision with Dr E-J. Holden)

Jimm Boh, 2006-7, Teaching Test Driven Development

Tiang Cheng, 2006, Heterogeneous Sensor Networks for Aged Care

Mark Kranz, 2004-5, SENSID: Situation Detection for Sensor Networks

Kamini Manickam, 2005, Evaluation of Tools for Sensor Network Programming

Jock Meston, 2005, Efficiency and robustness in the gathering of data in wireless sensor networks: making every bit count

Mark Moss, 2005, Evaluation of Event-Aware Environmental Data Compression Schemes for Wireless Sensor Networks

Cathy Rye, 2005, Development of a Web-Based Interface for Analysis of Environmental Data from a Wireless Sensor Networks (joint supervision with A.Prof Smettem, School of Environmental Systems Engineering)

Samantha Chen, 2003-4, Protocol simulation for WSNs

Pat Downey, 2004, Boris: An Extensible Java Simulator for Wireless Sensor Networks

Niraj Vatvani, 2004, Analysis of Mica2 Mote Performance

Anna Parsons, 2003, Software Engineering a Wireless Sensor Network for Environmental Monitoring

## **Section F: Service - Commitment to Quality with International Focus**

### *Invited Member on International Conference Committees*

1. ACSW 2010 (Australasian Computer Science Week), Doctoral Consortium Co-Chair, Brisbane, January 18-21, 2010
2. AWSN 2009 (Adaptation in Wireless and Sensor Networks) in conjunction with the 7th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC-09) (<http://cse.stfx.ca/~euc09/>)
3. [LCN09 34th IEEE Conference on Local Computer Networks](#)
4. [ICC'2009 – Ad-Hoc and Sensor Networking Symposium](#) in [IEEE International Conference on Communications'2009](#)
5. SPOTS 2009 [International Conference on Information Processing in Sensor Networks \(IPSN\) track on Sensor Platforms, Tools and Design Methods, San Francisco](#), April 13-16, 2009
6. **AWSN-08** The 2008 [International Workshop on Adaptation in Wireless Sensor Networks](#) in conjunction with The 2008 International Conference on Intelligent Pervasive Computing (IPC-08) Sydney, Australia, December 10-12, 2008
7. **ASWEC09** [20th Australian Software Engineering Conference](#) 2009
8. **ASWEC08** [19<sup>th</sup> Australian Software Engineering Conference](#) 26-28 March 2008, Perth, Australia
9. **SenseApp08**, Third IEEE International Workshop on Practical Issues in Building Sensor Network Applications Montreal Canada 23rd October 2008
10. **Med-Hoc-Net 2008**, 7th IFIP Annual Mediterranean Ad-Hoc Networking Conference <http://medhocnet08.uib.es/>
11. **SenSys 2007**, Sydney, Poster Co-Chair, SenSys is the leading international sensor network conference <http://sensys.acm.org/2007/>
12. **SENSORCOMM 2007**, The First International Conference on Sensor Technologies and Applications, Valencia, Spain, October 2007 <http://www.iaria.org/conferences2007/CfPSENSORCOMM07.html>
13. **International Workshop on Formal Approaches to Testing of Software**, Program Committee Member 2007
14. **International Workshop on Formal Approaches to Testing of Software**, Program Committee Member 2006
15. **International Workshop on Formal Approaches to Testing of Software**, Program Committee Member 2005
16. **International Workshop on Formal Approaches to Testing of Software**, Program Committee Member 2004
17. **IEEE Vehicular Technology Conference (VTC) 2007**, Track on Ad Hoc and Sensor Networks <http://www.ieeevtc.org/vtc2007spring>
18. **SenseApp 2006**, First IEEE International Workshop on Practical Issues in Building Sensor Network Applications,
19. **2nd International Conference on Intelligent Sensors, Sensor Networks and Information Processing**, ISSNIP 05, <http://www.issnip.org>
20. **International Workshop on Scientific Instruments and Sensors on the Grid**, ISSOC 05, <http://www.cs.binghamton.edu/~kchiu/isog05/>
21. **IFIP MedHocNets, Mediterranean Conference on Ad Hoc Networks**, 2005
22. **5th International Conference on Technology and Automation 2005 (ICTA'05)**, Oct. 15-16, Thessaloniki, Greece, (sponsored by IEEE, in cooperation with EURASIP) <http://icta05.teithe.gr>

23. **First IEEE Workshop on Embedded Networked Sensors (EmNetS-I) 2004**
24. **Workshop On Testing Real-Time and Embedded Systems**, a Satellite Workshop of the Formal Methods 2003 Symposium
25. **Euromicro Conference on Real-Time Systems**, Delft, June 2001
26. **Euromicro Conference on Real-Time Systems**, Stockholm, June 2000

#### *Journal & Conference Reviewing*

IEEE Communications Magazine (2009), ACM Transactions on Sensor Networks (2009), IEEE Transactions on Mobile Computing (2008), IEEE Transactions on Parallel and Distributed Systems (2007), IEEE Transactions on Software Engineering (2006), Journal of Intelligent and Robotic Systems (2003), Journal of Theoretical Computer Science (2000), Journal of Microprocessors and Microprocessor Design (2000), Journal of Formal Methods in System Design (1994), Conference on HOL Theorem Proving and Applications (1994)

#### *External Examiner PhD*

University of NSW (2008), University of British Columbia (2005), University of York (1999), University of Cambridge (1996)

#### *External Examiner MSc (research)*

The University of Western Australia (1998)

#### *International Grant Reviewing*

Australian Research Council (AusReader 2008), UK EPSRC (2005), Netherlands (2006)

## **Section G – Undergraduate Teaching**

[Introduction to Software Engineering CITS1220](#)

[Complex Systems CITS7211](#)

Wireless and Mobile Computing CITS7219 (guest lectures)

[Java Programming CITS1200](#) (co-lecturer)

[Software Requirements and Project Management CITS23220](#)

Discrete Structures

Software Engineering Design (UWA 2001-2003)

Reactive Real-Time Systems (University of Essex)

Software Testing and Maintenance (University of Essex)

*Last updated June 2009*