

Academic Curriculum Vitae: Paul Townend

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Nationality British

Employment History

2006 - present Research Fellow, School of Computing, University of Leeds
2005 - 2006 Research Associate, School of Computing, University of Leeds

Academic History

2002 - 2006 PhD. Computer Science, *University of Leeds (May 2006)*
2000 - 2002 MSc. Computer Science (by Research), *University of Durham (June 2002)*
1997 - 2000 BSc. (Hons) Computer Science, *University of Durham (June 2000)*

Track Record

April 2011 – present. **STRAPP.** *Researcher and Lead Architect on the “truSTed digital spaces through timely Reliable And Personalised Provenance” (STRAPP) project. Funded by Rolls-Royce Ltd., Cybula Ltd., and the UK Technology Strategy Board. TSB Project number TP19253. Grant amount: £1,370,000. I developed the overall project framework to integrate provenance information into the systems of the two commercial partners and am lead developer of a software demonstrator that integrates this framework into the Rolls-Royce Equipment Health Management system for aircraft engines.*

October 2008 – March 2011 **GENeSIS.** *Researcher and Lead Architect on the "Generative e-Social Science" (GENeSIS) project. Funded by ESRC. Grant number RES-149-25-1078. Grant amount: £1,370,056.77. I refined and developed Web Services to process and display social-science simulation results, and developed a series of clients to interact with these services. Developed underlying infrastructure for project data, which utilised distributed storage and security.*

May 2006 - April 2009 **COLAB.** *Researcher (Lead) on the “COLAB: e-Science Collaboration between Leeds and Beihang in China For Grid-Enabled Visualisation Applications” project. Funded by EPSRC, reference number EP/D077249/1. Grant amount: £76,823. I co-authored and managed this international research collaboration between the University of Leeds and Beihang University, China, which resulted in the development of a Grid Middleware for High-Assurance Systems, incorporating security, provenance and fault-injection technologies.*

April 2005 – Sept 2008 **MoSeS.** *Researcher and Architect on the “Modelling and Simulation for e-social Science” (MoSeS) project. Funded by ESRC, grant reference RES-149-25-0034. Grant amount: £602,641.95. I developed an infrastructure to support e-social science experiment, through the use of service-based technology. Additionally, I developed a computational architecture for the project as a whole, and was principle developer of the project demonstrator system.*

Research Supervision

MSc Che Wan Amiruddin Samsudin, *awarded 2011*

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| PhD | Junaid Arshad, <i>awarded 2011</i> | David Webster, <i>awarded 2013</i> |
| | Peter Garraghan, <i>to submit 2013</i> | Waraporn Leesakul, <i>to submit 2014</i> |
| | Qing Lan, <i>to submit 2015</i> | Hussain Aljahdali, <i>to submit 2015</i> |

Current Teaching activities

I lecture and co-run two MSc. level postgraduate courses, entitled "Problem Solving with Computers" and "Advanced Distributed Systems"; these cover programming and distributed systems theory and practice.

Professional Activities

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| Team Leader | Team Leader of the University of Leeds Distributed Systems and Services. |
| Lab Manager | Lab manager for the DSS Lab at the University of Leeds; responsible for H&S compliance. |
| PC member | IEEE HASE 2008 (Nanjing, China); IEEE SOSE 2011 (Los Angeles, USA); IEEE DSN 2012 (Boston, USA); IEEE ISORC 2012 (Shenzhen, China); IEEE ICDCS 2013 (Philadelphia, USA); IEEE SOSE 2013 (San Francisco, USA) IEEE CSE 2013 (Sydney, Australia); IEEE iVCE 2014 (Oxford, UK) |
| PC Chair | UK e-Science All Hands Meeting 2011 (York, UK), IEEE iVCE 2012 (Shenzhen, China) IEEE SOSE 2014 (Oxford, UK) |
| Local Chair | IEEE SRDS 2006 (Leeds, UK); RNEC 2008 (Leeds, UK) |
| Publicity Chair | IEEE SRDS 2007 (Beijing, China); IEEE ISORC 2013 (Paderborn, Germany) |
| Workshop Chair | IEEE ISORC 2014 (Reno, USA) |
| General Chair | WODSOG 2006 (Leeds, UK); IEEE iVCE 2013 (San Francisco, USA) |
| Editor | IEEE Distributed Systems Online Journal, Dependability Topic (2004-2007), Philosophical Transactions of the Royal Society A: Cloud Computing (January 2013) |

Awards

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| Best Paper | "Modelling and Simulation for e-Social Science: Current Progress", UK e-Science AHM 2007 |
| WUN travel | World University Network award for 2 month visit at Penn State University, USA, Oct-Dec 2011 |
| Best Paper | "Interface refactoring in performance-constrained web services", IEEE ISORC 2012 |
| Best Paper | "An Approach for Characterizing Workloads in Google Cloud to Derive Realistic Resource Utilization Models", IEEE SOSE 2013 |
| IEEE SOSE | "Honor and Appreciation Award" for "outstanding contribution", March 2013 |

Selected Publications

- 2012** J. Arshad, P. Townend, J. Xu, W. Jie, "Cloud computing security: Opportunities and pitfalls", in International Journal of Grid and High Performance Computing 4(1):52-66 Jan 2012
- 2012** D. Webster, P. Townend, J. Xu, "Interface refactoring in performance-constrained web services", in Proc. 15th IEEE International Symposium on Object/Component/Service-Oriented Real-Time Distributed Computing, 2012
- 2011** C. Venters, P. Townend, L. Lau, K. Djemame, V. Dimitrova, A. Marshall, J. Xu, C. Dibsedale, N. Taylor, J. Austin, J. McAvoy, M. Fletcher, S. Hobson, "Provenance: Current Directions and Future Challenges for Service Oriented Computing" in Proc. IEEE International Symposium on Service-Oriented System Engineering, Los Angeles, USA, 2011
- 2011** Garraghan P, Townend P, Xu J, "Byzantine fault-tolerance in federated cloud computing", in Proc. IEEE International Symposium on Service-Oriented System Engineering, p280-285, 2011
- 2010** B. Wu, M. Birkin, P. Rees, A. Heppenstall, A. Turner, M. Clarke, P. Townend, J. Xu, "Moses: An innovative way to model heterogeneity in complex social systems", in Proc. 2010 International Conference on Computer Modeling and Simulation. 3: 366-370. 2010
- 2009** P. Townend, J. Xu, M. Birkin, A. Turner, B. Wu, "MoSeS: Modelling and Simulation for e-Social Science", in Philosophical Transactions of the Royal Society, Series A, vol. 367, 2009.