

Professor Simon Dobson BSc MA DPhil CEng FBCS

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Background

Primary and professional qualifications

DPhil Computer Science, University of York UK	1993
BSc (hons) 1st class Computing Science, University of Newcastle upon Tyne UK	1989
Fellow, British Computer Society	2008
Chartered IT Professional	2004
Chartered Engineer	1996

Current position

Head of School for Computer Science	2017 – date
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Career

University of St Andrews UK (Professor of Computer Science)	2009 – date
University College Dublin IE (College lecturer)	2004 – 2009
Aurium IE (Founder and CEO of a research-led start-up company)	2001 – 2003
Trinity College Dublin IE (Research fellow; Lecturer)	1997 – 2001, 2003 – 2004
STFC Rutherford Appleton Laboratory UK (Research fellow; Scientific officer)	1992 – 1997

Research

Current main research interests

Design, analysis and programming of sensor- and data-driven adaptive systems. Interpretation of noisy data using situation recognition and statistical machine learning. Complex networks and their application to biological and environmental modelling.

Current and recent grant portfolio

Name	Supporter	Area	Role	Value
S4	EPSRC	Adaptive sensing	Institutional lead	£900K/£4.2M
SER	CENSIS	Environmental sensing	Institutional lead	£26K
TransM	Microsoft	Complex network epidemiology	Principal investigator	\$20K
SAPERE	EU FET	Long-lived adaptive systems	Institutional lead	€450K/€2.5M
Clarity	SFI	Sensor networks	Co-investigator	€6M/€16M
Lero	SFI	Autonomic systems	Co-investigator	€1M/€11M

Career totals

Principal/institutional lead investigator on grants worth over £9M. *Collaborator/co-investigator* on grants totalling a further £30M. *Commercial funding* to found and lead a start-up company, raising €650K in venture funding and growing it to a value in excess of €1.8M.

Selected recent professional activities

Administration and leadership. Head of School for Computer Science, 2017 – date. University Research Excellence Board, 2018 – date. Director, St Andrews Institute for Data-Intensive Research, 2014 – date. Director of Research for Computer Science, 2010 – 2017. Member, UKCRC, 2011 – date. External examiner, Lancaster University, MSc programme, 2013 – date; UCD Dublin, BSc programme, 2014 – date. British Computer Society Distinguished Dissertation panel chair 2013 – 2015.

Programme and policy development. Scotland-China Innovation and Technology Association, 2018 – date. CPHC/BCS Distinguished Dissertations panel, 2010 – 2016 (chair, 2013 – 2015). European Research Consortium for Informatics and Mathematics, national director 2006 – 2009 (vice-president, 2008 – 2009). Proposal reviewer, EU Framework Programmes, 2004 – date; EPSRC UK, 2008 – date; FCT PT, 2009. EU Framework programmes, invited expert for Situated and Autonomic Communications initiative 2003 – 2005. IBEC/ICT Ireland industry group on academic/industrial R&D, member 2003 – 2009.

Editorial activities. Associate editor, ACM Transactions on Autonomous and Adaptive Systems, 2011 – 2017. Editorial board, Journal of Network and Systems Management, 2007 – 2017; Springer Verlag Birkhäuser series on Autonomic Computing, 2008 – date. Guest editor, Computer Networks, 2008; Cluster Computing Journal, 2009.

Keynotes and invitations. Invited lecture series, Swiss doctoral winter school, 2012; Keynote, 6th International Workshop on Managing Ubiquitous Communications and Services, 2009; 5th IEEE International Conference on Autonomic Computing, 2008; European Telecommunications Standards Institute 1st “Infinity Initiative” workshop, 2007; IFIP Autonomic Networking, 2006.

Conference and workshop organisation. IEEE International Conference on Autonomic Computing, Local chair 2006; workshops chair 2007; programme co-chair 2008; general co-chair 2009; member of steering committee 2007 – date.

Selected recent publications

Danilo Pianini, Simon Dobson, and Mirko Viroli. Self-stabilising target counting in wireless sensor networks using Euler integration. In *Proceedings of the Eleventh IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO'17)*, pages 11–20, September 2017

Juan Ye, Graeme Stevenson, and Simon Dobson. Detecting abnormal events on binary sensors in smart home environments. *Pervasive and Mobile Computing*, 33:32–49, December 2016

Simon Dobson, Mirko Viroli, José Luis Fernandez-Marquez, Franco Zambonelli, Graeme Stevenson, Giovanna di Marzo Serugendo, Sara Montagna, Danilo Pianini, Juan Ye, Gabriella Castelli, and Alberto Rosi. Spatial awareness in pervasive ecosystems. *The Knowledge Engineering Review*, 31(4):343–366, December 2016

Saray Shai, Dror Kenett, Yoed Kenett, Miriam Faust, Simon Dobson, and Shlomo Havlin. Critical tipping point distinguishing two types of transitions in modular network structures. *Physical Review E*, 92, December 2015

Emanuele Strano, Saray Shai, Simon Dobson, and Marc Barthélemy. Multiplex networks in metropolitan areas: generic features and local effects. *Journal of the Royal Society Interface*, 12(111), October 2015

Lei Fang and Simon Dobson. Towards data-centric control of sensor networks through Bayesian dynamic linear modelling. In *Proceedings of the Ninth IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO'15)*, September 2015

Juan Ye, Graeme Stevenson, and Simon Dobson. KCAR: a knowledge-driven approach for concurrent activity recognition. *Pervasive and Mobile Computing*, 19:47–70, May 2015

Saray Shai and Simon Dobson. Coupled adaptive complex networks. *Physical Review E*, 87(4), April 2013

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