Professor Simon Dobson FRSE CEng FBCS

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Background

Academic 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, Royal Society of Edinburgh	2020
Fellow, British Computer Society	2008
Chartered Engineer	1996

Current position

Professor of Computer Science	2009 – date
Head of School	2017 – date

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
covid-19 tracker	Scottish CSO	Symptom tracking	Co-investigator	£25K
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

Academic 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 – 2017; UCD Dublin, BSc programme, 2014 – 2017. CPHC/BCS Distinguished Dissertation panel, 2010 – 2016 (chair, 2013 – 2015).

Programme and policy development. Scotland-China Innovation and Technology Association, 2018 – date. European Research Consortium for Informatics and Mathematics, national director 2006 – 2009 (vice-president, 2008 – 2009). Proposal reviewer, EU Framework Programmes, 2004 – 2016; 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 – 2011. Guest editor, Computer Networks, 2008; Cluster Computing Journal, 2009.

Keynotes and invitations. Keynote, Conference on Design and Architectures for Signal and Image Propcessing (DASIP), 2018; 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. Invited lecture series, Swiss doctoral winter school, 2012.

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

Michael Pitcher, Ruth Bowness, Simon Dobson, Raluca Eftimie, and Stephen Gillespie. Modelling the effects of environmental heterogeneity within the lung on the tuberculosis lifecycle. *Journal of Theoretical Biology*, 506, June 2020

Juan Ye and Simon Dobson. Xlearn: learning activity labels across heterogeneous datasets. *IEEE Transactions on Intelligent Systems and Technology*, 11(2), January 2020

Lei Fang, Juan Ye, and Simon Dobson. Discovery and recognition of emerging human activities using a hierarchical mixture of directional statistical models. *IEEE Transactions on Knowledge and Data Engineering*, 32(7):1304–1316, July 2020

Simon Dobson, Matteo Golfarelli, Simone Graziani, and Stefano Rizzi. A reference architecture and model for sensor data warehousing. *IEEE Sensors Journal*, 18, 2018

Danilo Pianini, Simon Dobson, and Mirki 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

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