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Qualifications

… → 2013 Fellow of Higher Education Academy , FHEA

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… → 2001 PhD in Electrical and Computer Engineering, McMaster University, Canada

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Research output

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Grants

1.Principal investigator for Cognitive Radar within Autonomous Systems (4 year PhD studentship funded by Defence Science Technology Lab, UK, commencing Summer/Fall 2012), £105,000.
2.Principal investigator for collaboration with Thiruchi NIT, India under UKIERI Thematic Partnerships 2012-2014, £40,000.
3.University Defence Research Centre (DSTL funded), £55000 for spectrum sensing research.
4.Principal investigator for Defence Science and Technology Laboratory (DSTL) University Defence Research Centre (UDRC) on Signal Processing formed under the EPSRC and the DSTL strategic partnership, funded jointly by EPSRC and DSTL £120,000, 2010-2012; see
http://mod-udrc.org/members/sellathurai.
5.Principal investigator for EPSRC Standard grant for “Advanced signal processing techniques for multi-user multiple-input multiple-output broadband wireless communications (EP/D07827X/1),” value £210,325; period 2/1/2007-1/1/2010.
6.Co-Investigator for “A Systematic Study of Physical Layer Network Coding: From Information-theoretic Understanding to Practical DSP Algorithm Design”, EPSRC - EP/I037156/1, £235,459.00, Feb. 2012-Jan. 2015 (with Newcastle University, UK).
7.Co-Investigator for “Cognitive radio oriented wireless networks (CROWN),” EU-FP7 – FET-open scheme, Partners: QinetiQ (Malvern), Infineon Technology (France), EURECOM (France), Darmstadt University of Technology (Germany) and Athens Institute of Technology (Greece), CROWN- 233843, EU contribution 2.3 M€, (£500,000.00) May 2009-April 2012 coordinated by Edinburgh; see http://www.fp7-hiatus.eu/.
8.Co-Investigator for “enHanced Interference Alignment Techniques for Unprecedented Spectral Efficiency (HIATUS)”, EU-FP7 – FET-open scheme. Partners: Athens Information Technology (Greece), KTH (Sweden), Ericsson Research (Sweden), Supelec (France), University Pompeu Fabra (Spain), Vienna University of Technology (Austria), EU contribution 2.7 M€ March 2011- February 2014; see http://www.fp7-hiatus.eu/.
9.Co-Investigator, “Bridging the gap between design and implementation of soft-detectors for Turbo-MIMO wireless systems,” EPSRC -EP/G026092/1, £342,562.00, Dec. 2008-May 2012.
10.Principal investigator, Distinguished Visiting Fellowship Grant to invite Prof. Haykin to ECIT, Queen’s university of Belfast, 2010.
11.Principal investigator for EPSRC –CASE-CNA for research on “MIMO-RADAR,” value £60,864; period 10/2006-03/2010.
12.Principal investigator for Industrial collaboration QinetiQ, Portsmouth for project “MIMO- RADAR,” value £21000, 10/2006-10/2009.
13.Principal Investigator with Huawei Consulting grant £80,000.
14.Network Member “Building links with India: “Cognitive wireless systems for universal access,” EPSRC - EP/G033528/1, £125,167.00, Nov. 2008-May 2011.
15.Network Member “Signal Processing and Information Theoretic study of Cognitive Radio Networks,” UK India Education and Research Initiative (UKIERI), British Council, £50,000, Jan. 2009 – March 2011, Collaboration with IIT Delhi, India; see http://www.interact-uki-cwsua.org/.

AWARDS AND PRIZES

•Co-recipient of Institute of Electrical and Electronic Engineering (IEEE) Communications society Fred W. Ellersick Prize Article Award awarded for the best paper published in any Communication Society periodicals in the calendar year 2004.
•Public Service Award - from the Deputy Minister of Industry Canada in recognition to the public service through exceptional research work. Award includes a Plaque and Honorarium, 2005.

•Intellectual Property Award. In recognition of outstanding contributions towards innovative technology development, transfer and commercialization of Advanced Error Correcting Codes. This includes Monetary awards based on the Intellectual Property Commercialization during the years 2006, 2007 and 2008.
•Industry Canada Technology Transfer Recognition Award. This award recognizes distinguished revenue from commercialization of research and includes a Plaque and Honorarium.
•Recognized by Prime Minister of Canada, Speaker and the Cabinet for innovation, creativity and skills. This award includes a Framed Letter of Certificate signed by Prime Minister of Canada and presented and honoured in the House of Common.
•Natural Sciences and Engineering Research Council (NSERC) Doctoral Prize in engineering and computer sciences for year 2002. These prizes honour two best students, based on their PHD Thesis and performance, completing doctoral studies in engineering and computer sciences at Canadian Universities. Received a Silver Medal, Plaque and $5000 Monetary Award.
•Selected Expert Paper at the IEEE International Conference on Acoustic Speech and Signal Processing (ICASSP 1999),
•Received travel grants from International Conference on Communications (ICC 2001) ad Information Theory Symposiums (2001 and 2006). These awards are given to young researcher presenting distinguished papers.
•Ontario (Canada) Research Scholarship for Science and Technology (1998-2001)

Supervised Postdoctoral research fellows since 2007

-Dr. David Wilcox, RF (under EPSRC/DSTL)
-Dr. Christos Masouros, RF under EU-FP7 CROWN Project
-Dr. Pei Xiao, RF, under EPSRC
-Dr. Minhua Ding, RF, RF under EU-FP7 CROWN Project
-Dr. Caijun Zhong, under EPSRC
-Dr. Sajid Ahmed, under SOCAM

Present PhD students

-Fiona Ni Mhearain (Satellite Communications) 2011-2014Funded by DEL –support from Alcatel Lucent and European Space Agency for internships
-Rongrong Qian (Interference Alignment) 2011 -2014Funded by CSC (Living) and Heriot-Watt (Fees)
-National PhD studentship – George Tsistrakis 2012-2016 DSTL funded

PhD Graduates

-Dr. Sajid Ahmed – OFDM, completed 2006 (Research Fellow at University of Edinburgh)
-Dr. Li Zhang – Space-time codes and OFDM (2007) (Huawei China)
-Dr David C. Wilcox – MIMO-RADAR, completed March 2011 (collaboration with QinetiQ)
-Dr Sudharsan Ganesan (EPSRC funded)– Relay Networks, completed April 2011 (Consultant at TCS Innovation Labs-Bangalore, Tata Consultancy Services)
-Dr. Wei Liu (CSC funded) – full diversity space-time code designs (Assistant Professor at National Defense Technical University, Hunan, China)
-Dr. Ayse Kortun (Spectrum Sensing) 2008-2011
-Dr. Md. Sarkar – Physical Layer Secrecy (2009-2012) (Research Fellow, University of Edinburgh)
-Dr. Faheem Khan- Spectrum sharing for Cognitive radio (2008-2011)
-Dr. Jiang Xue, Random matrix theory applications (2009-2012)
-Haichuan Zhou, Interference alignment (2009-2012)

Professional Activities

1.Organizer: EEE WCNC 2013 - WORKSHOP - New Advances for Physical Layer Network Coding, 2013, Shanghai, China.
2.National publicity Champion for ICC 2013, Budapest.
3.TPC: ICC Workshop Beyond LTE-A, ICC 2013, Budapest.
4.Organizer: The IEEE UK-India International Conference on Cognitive Radio Systems (2009 December and 2010 December)
5.Associate Editor for IEEE Transactions on Signal Processing. I have been part of the Editorial Board since 2009 and have been serving my 2nd term with IEEE Transactions on Signal Processing.
6.Technical Program Committee for Sensor Signal Processing for Defence, organized by MOD-UDRC in Signal Processing, Imperial College, London, since 2010.
7.Technical Program Committee for Canadian Conference on Electrical and Computer Engineering' since 2004.
8.Technical Program Committee IEEE International Conference on Communications – Wireless Communications Symposium and Symposium on Signal Processing for Wireless Communications since 2006.
9.Reviewer for IEEE Transactions on Signal Processing, Communications, Wireless Communications and Vehicular Technology; Information Theory and Journal on Selected Areas in Communications. (about 40 papers reviewed each year)
10.Reviewer for text books and monographs for Elsevier publishers and Wiley (honorarium received for this activity).

11.Member of the Scientific Women's Academic Network and IEEE Women in Engineering Society.
12.Member of IEEE Women in Information Theory and member of the Canadian Society of Information Theory.
13.Peer review college member EPSRC.
14.EU proposal reviewer.