

Peter Richtárik

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Research Interests

big data optimization, randomized algorithms, convex optimization, numerical analysis, machine learning, randomized numerical linear algebra, first-order methods, randomized coordinate descent, stochastic gradient descent, variance reduction, iteration complexity, parallel and distributed computing, supercomputing

Academic Positions

2017– **Associate Professor**, King Abdullah Univ. of Science and Technology (KAUST), Saudi Arabia
2016– **Associate Professor**, School of Mathematics, University of Edinburgh, United Kingdom
2013 **Invited Visiting Scientist**, Simons Institute for the Theory of Computing, UC Berkeley
2009–2016 **Assistant Professor**, School of Mathematics, University of Edinburgh, United Kingdom
2007–2009 **Postdoctoral Fellow**, Center for Operations Research and Econometrics and Department of Mathematical Engineering, Catholic University of Louvain, Belgium (host: Yu. Nesterov)

Education

2007 **PhD, Operations Research, Cornell University**, advisor M. J. Todd
2006 MS, Operations Research, Cornell University
2001 Mgr, Mathematics, Comenius University, Slovakia, Summa Cum Laude, ranked #1
2001 Bc, Management, Comenius University, Slovakia, Summa Cum Laude, ranked #1
2000 Bc, Mathematics, Comenius University, Slovakia, Summa Cum Laude, ranked #1

Awards, Distinctions & Nominations

2016 **SIAM SIGEST Outstanding Paper Award**
2016 **EUSA Best Research or Dissertation Supervisor Award¹** (2nd Prize)
since 2016 **Faculty Fellow of the Alan Turing Institute**
2016 **EPSRC Fellowship in Mathematical Sciences²**
2014 Nominated for the **Chancellor's Rising Star Award³**, University of Edinburgh
2013 **Simons Institute Visiting Scientist Fellowship**, UC Berkeley

¹EUSA = Edinburgh University Students' Association. One first and one second prize are given each year across all disciplines and levels of seniority at the University of Edinburgh.

²In total, 5 fellowships in mathematics were awarded in the UK in this round at all levels of seniority.

³One of two nominated from the School of Mathematics

2013	Nominated for the 2014 Microsoft Research Faculty Fellowship ⁴
2011 & 2012 since 2011	Nominated for the Innovative Teaching Award , University of Edinburgh Honorary Fellow , Heriot-Watt University
2007	CORE Fellowship , Université catholique de Louvain
2002	Cornell University Graduate Fellowship
2001	Dean’s Prize and Rector’s Prize , Comenius University
1992–2001	Winner of Numerous Mathematical Olympiads and Competitions

Grants⁵

2017–2020	RUB 8,000,000 (PI) , MIPT grant, Moscow Institute of Physics and Technology (MIPT), Russian Federation
2017–2018	\$79,281 (PI) , KAUST Office of Sponsored Research Conference Support Grant URF/1/3347-01, “Optimization and Big Data”, Joint with: Marco Canini (KAUST, PI)
2016–2020	£70,000 EPSRC CASE ⁶ PhD Studentship for Filip Hanzely
2016–2020	£45,000 (PI) , Amazon Research Grant
2016–2020	£823,211 (PI) , EPSRC Early Career Fellowship in Mathematical Sciences EP/N005538/1, “Randomized Algorithms for Extreme Convex Optimization”
2016–2020	\$20,000 (PI) , Amazon EC2 Grant (partner funding associated with the EPSRC Fellowship)
2015	£20,000 (PI) , Alan Turing Institute Scoping Workshop Grant, “Distributed Machine Learning and Optimization”, Joint with: Artur Czumaj (Warwick, PI), Ilias Diakonikolas (Edinburgh, PI), Mark Girolami (Warwick, PI), Raphael Hauser (Oxford, PI), John Shawe-Taylor (UCL, PI)
2015	£12,000 (PI) , Alan Turing Institute Scoping Workshop Grant, “Theoretical and Computational Approaches to Large Scale Inverse Problems”, Joint with: Simon Arridge (UCL, PI), John Aston (Cambridge, PI), Carola-Bibiane Schönlieb (Cambridge, PI), Andrew Stuart (Warwick, PI), Jared Tanner (Oxford, PI)
2014–2017	\$180,000 , Google Europe Doctoral Fellowship for Jakub Konečný
2013–2015	£125,849 (PI) , EPSRC First Grant EP/K02325X/1, “Accelerated Coordinate Descent Methods for Big Data Optimization”
2014–2015	£40,000 (PI) , School of Mathematics Grant, “Accelerated Coordinate Descent Methods for Big Data Optimization”, matching funding for my postdoc Z. Qu
2013	£18,785 (PI) , NAIS Travel Grant, my 2 students spending semester at Berkeley
2012–2014	£66,300 (PI) , NAIS Lecturer Grant, paying for a proportion of my time
2012–2014	£10,000 (PI) , NAIS Startup Grant
2012–2013	£49,518 (Co-I) , EPSRC grant EP/J020567/1, “Algorithms for Data Simplicity”, Joint with: Jared Tanner (Oxford, PI)
2011–2014	£646,264 (Co-I) , EPSRC and RCUK grant EP/I017127/1, “Mathematics for Vast Digital Resources”, Joint with: Burak Büke (Edinburgh, Co-I) and Jacek Gondzio (Edinburgh, PI)

Other Grants⁷

2014–	£42 million + £5 million, “The Alan Turing Institute”. I am one of a small number of people who helped to prepare Edinburgh’s bid.
2014–2023	£4.5 million, EPSRC grant, “Maxwell Institute Graduate School in Mathematical Analysis and Applications”, PI: Anthony Carbery (Edinburgh). I am one of the named PhD supervisors on the grant.

⁴Selected universities can nominate a single candidate. No European scientists got the award in 2014.

⁵All small grants (value below £10k) are excluded from this list. The total value of the 16 small grants excluded is £42,090.

⁶CASE = Cooperative Awards in Science and Engineering

⁷Large grants which I helped to prepare but where I am not formally an investigator.

2014–2021 £5.03 million, EPSRC grant, “Centre for Doctoral Training in Data Science”, PI: Chris Williams (Edinburgh). I am one of 45 named potential PhD advisors at U of Edinburgh.

Advising Experience

09/2017– PhD student: Konstantin Mishchenko
08/2017– PhD student: Viktor Lukáček
08/2017 PhD student: Filip Hanzely
08/2017– MS/PhD student: Samuel Horváth
08/2017– MS/PhD student: Alibek Sailanbayev
05/2017– Postdoc: Artitra Dutta
09/2016–07/2017 PhD student: Filip Hanzely (transferred to KAUST)
03/2016–07/2016 Postdoc: Robert Gower
10/2015– PhD student: Nicolas Loizou
10/2015–02/2017 PhD student: Theo Pavlakou (now: Google; 2nd advisor; main advisor: Iain Murray)
03/2015–03/2016 PhD student: Robert Gower (now: Postdoc at INRIA, Paris)
03/2015–06/2015 Visiting PhD student: Luca Bravi (from University of Florence)
10/2014–03/2015 Postdoc: Ademir Ribeiro (now: Associate Prof. at University of Paraná)
09/2014– PhD student: Dominik Csiba (Principal’s Career Development Scholar)
08/2013–07/2017 PhD student: Jakub Konečný (Google Doctoral Fellow)
12/2013–08/2015 Postdoc: Zheng Qu (now: Assistant Prof. at University of Hong Kong)
09/2012–02/2013 Visiting PhD student: Minnan Luo (now: Assistant Prof. at Xi’an Jiaotong University)
10/2012–07/2014 Postdoc: Olivier Fercoq (now: Assistant Prof. at Telecom ParisTech)
02/2012–07/2014 Postdoc: Rachael Tappenden (now: Assistant Prof. at University of Canterbury)
01/2012–06/2012 Postdoc: Jakub Mareček (now: IBM Research, Dublin)
09/2010–03/2014 PhD student: Martin Takáč (now: Assistant Prof. at Lehigh University, USA)
2010–2015 Supervised 20 MSc Dissertations
2010–2015 Supervised 7 undergraduate students supported by research scholarships (EPSRC, Nuffield, College, ...)

My Team: Awards

2017 (Lukáček) Dean’s Award⁸, KAUST
2017 (Mishchenko) Dean’s Award, KAUST
2017 (Hanzely) Dean’s Award, KAUST
2015 (Gower) **18th IMA Leslie Fox Prize**⁹ (2nd Prize; for joint paper [39])
2016 (Csiba) Postgraduate Essay Prize, School of Mathematics, University of Edinburgh
2016 (Hanzely) **CASE PhD Studentship**
2015 (Takáč) **OR Society Best Doctoral Dissertation Prize** (for year 2014)
2015 (Loizou) Leventis Foundation Grant
2015 (Loizou) Principal’s Career Development Scholarship¹⁰ (in Data Science)
2015 (Kisiala) Best Student Prize, OR MSc Programme, School of Mathematics, Edinburgh
2015 (Fercoq) **17th IMA Leslie Fox Prize** (2nd Prize; for joint paper [21])

⁸A cash award offered by the Dean of the CEMSE division at KAUST to a few of the best incoming PhD students.

⁹“The Leslie Fox Prize is a biennial prize established in 1985 by the IMA in honour of mathematician Leslie Fox (1918-1992). The prize honours young numerical analysts worldwide (any person less than 31 years old), and applicants submit papers for review. A committee [...] awards First Prize and Second Prizes based on mathematical and algorithmic brilliance in tandem with presentational skill”

¹⁰Principal’s Career Development Scholarship: A highly competitive scholarship offered to 3 incoming PhD students in mathematics at the University of Edinburgh each year.

2015 (Csiba)	Best Contribution Award (2nd Prize; for joint paper [35]), Workshop: Optimization and Big Data, Edinburgh. Committee: Arkadi Nemirovskii (Georgia Tech) and Rodolphe Jenatton (Amazon)
2015 (Konečný)	BASP Frontiers Best Contribution Award (1st prize in the field of signal processing; for joint paper [20]), Villars-sur-Ollon, Switzerland
2014 (Konečný)	Google European Doctoral Fellowship ¹¹ (\$180,000 unrestricted gift funding Jakub's PhD for 3 years)
2014 (Csiba)	Principal's Career Development Scholarship (in Data Science)
2013 (Konečný)	Principal's Career Development Scholarship (in Data Science)
2013 (Takáč)	16th IMA Leslie Fox Prize (2nd Prize; for joint paper [10])
2013 (Takáč)	SIAM Certificate in Recognition of Outstanding Efforts and Accomplishments, on behalf of the SIAM Chapter at the University of Edinburgh for academic year 2012–2013
2012 (Takáč)	INFORMS Computing Society Best Student Paper Prize (sole runner up; for joint paper [8]), Phoenix, Arizona
2012 (Banks-Watson)	Best Student Prize, OR MSc Programme, School of Mathematics, Edinburgh
2012 (Takáč)	Best Talk, SIAM National Student Chapter Conference, Manchester, UK
2012 (Takáč)	Best Talk, Edinburgh Postgraduate Colloquium, University of Edinburgh
2012 (Takáč)	Alice Margaret Campbell Bequest Fund Award for success in 1st year of PhD
2011 (Takáč)	Certificate of Appreciation, 24th Biennial Conf. on Numerical Analysis, Glasgow, UK
2011 (Takáč)	Best Poster, SIAM Student Chapter Conference, Edinburgh, UK

My Team: Selected Independent Achievements¹²

2017 (Horváth)	37th Place, V. Jarník Int. Mathematical Competition, Ostrava, Czech Republic
2016 (Horváth)	36th Place, V. Jarník Int. Mathematical Competition, Ostrava, Czech Republic
2016 (Horváth)	3rd Prize (143rd place), International Mathematical Competition for University Students, Blagoevgrad, Bulgaria
2016 (Sailanbayev)	Semifinal, Programming contest ACM ICPC in NEERC region, Almaty, Kazakhstan
2015 (Sailanbayev)	2nd Prize (95th place), International Mathematical Competition for University Students, Blagoevgrad, Bulgaria
2015 (Mishchenko)	1st Prize, Higher School of Economics Olympiad on Applied Mathematics and Informatics, Moscow, Russia
2015 (Mishchenko)	3rd Prize, MIPT Student Mathematical Olympiad, Moscow, Russia
2014 (Horváth)	18th Place, National Mathematical Olympiad, Bratislava, Slovakia
2014 (Horváth)	1st Place, Nitra District Mathematical Olympiad, Category A, Slovakia
2014 (Loizou)	Top 1% in mathematics at National and Kapodestrian University of Athens, Greece
2014 (Csiba)	Best Student Work in Applied Informatics in Czech and Slovak Republic, Annual Student Scientific Conference, Ústí nad Labem, Czech Republic
2014 (Sailanbayev)	2nd Prize (115th place), International Mathematical Competition for University Students, Blagoevgrad, Bulgaria
2014 (Hanzely)	2nd Prize (101st place), International Mathematical Competition for University Students, Blagoevgrad, Bulgaria
2014 (Hanzely)	9th Place, V. Jarník Int. Mathematical Competition, Ostrava, Czech Republic
2014 (Lukáček)	26th Place, V. Jarník Int. Mathematical Competition, Ostrava, Czech Republic
2013 (Sailanbayev)	Silver Medal, International Mathematical Olympiad, Santa Marta, Colombia
2013 (Hanzely)	Bronze Medal, International Mathematical Olympiad, Santa Marta, Colombia
2013 (Sailanbayev)	1st Place, National Mathematical Olympiad, Kazakhstan

¹¹Google quote: “Nurturing and maintaining strong relations with the academic community is a top priority at Google. Today, we’re announcing the 2014 Google PhD Fellowship recipients. These students, recognized for their incredible creativity, knowledge and skills, represent some of the most outstanding graduate researchers in computer science across the globe. We’re excited to support them, and we extend our warmest congratulations.”

¹²These awards are independent of my input.

2013 (Hanzely)	1st Place, National Mathematical Olympiad, Košice, Slovakia
2013 (Sailanbayev)	Gold Medal, International Zhautykov Olympiad, Almaty, Kazakhstan
2013 (Lukáček)	20th Place, V. Jarník Int. Mathematical Competition, Ostrava, Czech Republic
2013 (Lukáček)	3rd Prize (218th place), International Mathematical Competition for University Students, Blagoevgrad, Bulgaria
2012 (Mishchenko)	1st Prize, Moscow Mathematical Olympiad, Moscow, Russia
2012 (Mishchenko)	1st Prize, PhysTech International Olympiad in Mathematics
2012 (Hanzely)	Bronze Medal, Middle European Mathematical Olympiad, Solothurn, Switzerland
2012 (Sailanbayev)	Bronze Medal, International Mathematical Olympiad, Mar del Plata, Argentina
2012 (Sailanbayev)	Silver Medal, Balkan Mathematical Olympiad, Antalya, Turkey
2012 (Csiba)	FIDE International Master in Chess
2012 (Csiba)	3rd Prize, International Mathematical Competition, Blagoevgrad, Bulgaria
2012 (Konečný)	2nd Prize, International ChaLearn Competition, One shot learning of gestures from Microsoft Kinect videos
2012 (Fercq)	Gaspard Monge Prize “for best PhD thesis defended in France 2012 in mathematics or computer science, with significant contributions to Optimization and Operations Research”
2012 (Luo)	Google Anita Borg Scholarship, China
2012 (Lukáček)	2nd Place, International Correspondence Seminar in Mathematics (iKS)
2011 (Lukáček)	Bronze Medal (26th Place), Middle European Mathematical Olympiad, Varaždin, Croatia
2010 (Konečný)	Honourable Mention, International Mathematical Olympiad, Astana, Kazakhstan
2010 (Csiba)	Honourable Mention, Middle European Mathematical Olympiad, Žilina, Slovakia
2008 (Konečný)	Honourable Mention, Middle European Mathematical Olympiad, Olomouc, Czech Republic
2007–2009 (Takáč)	Winner, 3rd Place and Honourable Mention (twice), International Student Scientific Conference, Czech and Slovak Republic

Talks

I have given **more than 130 research talks** at conferences, workshops and seminars worldwide (USA, Canada, Brazil, Chile, United Kingdom, Belgium, China, India, Netherlands, Germany, France, Hong Kong, Switzerland, Greece, Hungary, Austria, Slovakia, Slovenia, Portugal, Mongolia). Out of these, 20+ are plenary talks at conferences and workshops, 40+ are seminar talks, 15+ are invited conference talks and the rest are contributed talks and talks at events I helped to organize. I regularly give talks at the premier international optimization conferences (each taking place once in 3 years): Int. Symposium on Mathematical Programming (Rio’06, Chicago’09, Berlin’12, Pittsburgh’15), SIAM Conf. on Optimization (Darmstadt’11, San Diego’14), Int. Conf. on Continuous Optimization (Ontario’07, Santiago’10, Lisbon’13).

Plenary Talks¹³

09/2017	Workshop on Decentralized Machine Learning, Optimization and Privacy , Lille, France
07/2017	Workshop on Convex Optimization and Applications , Fields Institute, Toronto, Canada (in honour of 70th birthday of Arkadi Nemirovski)
04/2017	Visual Computing - Modeling and Reconstruction , KAUST, Thuwal, KSA
01/2017	2017 BASP Frontiers Workshop , Villars-sur-Ollon, Switzerland
11/2016	Workshop on Distributed Machine Learning , Telecom ParisTech, Paris, France

¹³For the purpose of this CV, a plenary talk is any talk not given to a sub-audience; or a talk explicitly labeled as a plenary/keynote talk by the organizers of the workshop/conference. I am excluding here talks at events I organized or co-organized and declined invites to deliver a plenary talk.

- 11/2016 **SIAM Warwick Student Chapter Conference on Machine Learning and Statistics**, Coventry, UK
- 10/2016 **41st Woudschoten Conference**, Zeist, Netherlands. Two keynote lectures in the stream “Numerical methods for big data analytics”
- 09/2016 **Linear Algebra and Parallel Computing at the Heart of Scientific Computing**, a joint event of the Royal Society of Edinburgh and the French Embassy in London, Edinburgh, UK
- 09/2016 **“OR58”: The 58th Annual Conference of the Operational Research Society**, Portsmouth, UK (closing plenary)
- 06/2016 **2016 Int. Workshop on Modern Optimization and Applications (MOA 2016)**, Beijing, China
- 04/2016 **Einstein Center Mathematical Colloquium “Sparsity: Statistics, Optimization, and Applications”**, Berlin, Germany. “The purpose of this biannual scientific colloquium is bringing together mathematicians, scientists, and engineers to enjoy a series of talks on one topical issue of current or emerging interest to several fields within mathematics.”
- 03/2016 **Computationally and Statistically Efficient Inference for Complex Large-scale Data**, Oberwolfach, Germany
- 09/2015 **Statistical and Computational Challenges in Large-Scale Data Analysis**, Alan Turing Institute Workshop, Cambridge, UK
- 09/2015 **LMS Inverse Day: Large-Scale and Nonlinear Inverse Problems**, Edinburgh, UK
- 04/2015 **Maxwell Institute Probability Day**, Edinburgh, UK
- 01/2015 **Optimization and Statistical Learning**, Les Houches, France
- 01/2015 **Theory of Big Data Science**, University College London, UK
- 12/2014 **Optimization Workshop, Foundations of Computational Mathematics**, Montevideo, Uruguay
- 11/2014 **46th Conference of Slovak Mathematicians**, Jasná, Slovakia
- 09/2014 **Mathematical Methods in Economics and Engineering**, Smolenice, Slovakia
- 07/2014 **Understanding Complex and Large Industrial Data**, Lancaster, UK
- 05/2014 **9th Int. Conf. on Intelligent Systems: Theories and Applications**, Rabat, Morocco
- 02/2014 **Stochastic Gradient Methods**, Inst. for Pure and Applied Mathematics, Los Angeles, USA
- 12/2013 **NIPS Workshop on Optimization in Machine Learning**, Lake Tahoe, USA. Past plenary speakers: D. Bertsekas, L. Bottou, S. Wright (2008), N. Srebro, L. Vandenberghe, A. Nemirovski (2009), M. Schmidt, Yu. Nesterov (2010), B. Recht, S. Boyd (2011), P. Parillo, F. Bach (2012)
- 11/2013 **International Conference on Information Technologies and Society**, Slovenia
- 10/2013 **Parallel and Distributed Algorithms for Inference and Optimization**, Simons Institute for the Theory of Computing, University of California, Berkeley, USA
- 05/2013 **Big Data Mining**, Imperial College London, UK
- 03/2013 **Fête Parisienne in Computation, Inference and Optimization**, IHES, Paris, France
- 03/2013 **Edinburgh SIAM Student Chapter Conference**, Edinburgh, UK
- 02/2013 **Big Data and Social Media**, Glasgow, UK
- 01/2013 **Optimization and Statistical Learning**, Les Houches, France
- 07/2012 **Optimization in Machine Learning**, ICML workshop, Edinburgh, UK
- 07/2011 **Optimization Workshop, Foundations of Computational Mathematics**, Budapest, Hungary
- 05/2011 **Computational Complexity Challenges in Optimization**, Edinburgh, UK

Invited Lecture Series, Tutorials & Courses at Summer Schools

- 08/2017 **Randomized Optimization Methods** (Summer School, 5 hours), Data Science Summer School (DS³), École Polytechnique, France
- 10/2015 **Randomized Methods for Big Data: From Linear Systems to Optimization** (Tutorial), IEEE International Conference on Data Science and Advanced Analytics, Paris, France

2015	Randomized Algorithms for Big Data Optimization (PhD Course, 18 hours), Graduate School in Systems, Optimization, Control and Networks – Université catholique de Louvain, Belgium
09/2015	Optimization in Machine Learning (PhD Course, 8 hours), Machine Learning Thematic Trimester, Toulouse, France
07/2015	Modern Convex Optimization Methods for Large-Scale Empirical Risk Minimization (Tutorial, 2 hours, joint with M. Schmidt), ICML 2015, Lille, France
06/2014	Randomized Coordinate Descent Methods (PhD Course, 6 hours), Khronos-Persyval Days “High-Dimensional Learning and Optimization”, Grenoble, France
06/2014	Coordinate Descent Methods (Lecture, 2 hours), NATCOR PhD Course on Convex Optimization, Edinburgh, UK
02/2014	Gradient Methods for Big Data (Tutorial, 3 hours), Big Data: Challenges and Applications, Imperial College London, UK

Talks at Research Seminars

2017	Imperial College London, KAUST, Plymouth, Cardiff
2016	Cambridge, Edinburgh (3), Stanford (2), KAUST, The Alan Turing Institute, LSE, Southampton, Skoltech, Yandex
2015	Louvain, Oxford, IST Austria, UC Davis, UC Berkeley, Edinburgh
2014	Moscow, Paris, Hong Kong, Edinburgh (3)
2013	UC Berkeley, Google, SAS Inc, Louvain, Edinburgh
2012	Wisconsin, Cambridge, Glasgow, Cardiff, Bratislava
2011	Edinburgh, Oxford, London, Heriot-Watt, Louvain
2010	Birmingham, Nottingham, Southampton
2009	ETH Zürich, Linz, Louvain, Edinburgh (2)
2008	Liège, Bratislava
2007	Cornell (2), Louvain (2)

Teaching¹⁴

KAUST	Topics in Data Science: Big Data Optimization* (Fall 2017)
Edinburgh	Modern Optimization Methods for Big Data Problems* (Spring 2016)
	Optimization Methods in Finance* (Spring 2011, 2012, 2013, 2014, 2015)
	Game Theory* (Fall 2010, 2011, 2012)
	Computing and Numerics (Spring 2013)
	Dynamic & Integer Programming (Fall 2010)
	Mathematics for Chemical Engineers (Fall 2010)
Louvain	Nonlinear Optimization (Spring 2009), with Yu. Nesterov
Cornell	Optimization II/Nonlinear Optimization (Spring 2006)
	Engineering Probability and Statistics* (Summer 2005)
	Engineering Probability and Statistics (Summer 2003, Fall 2003)
	Optimization II (Spring 2004)
	Application of Game Theory and OR to IT (Spring 2005)
	Topics in Linear Optimization (Spring 2005)
	Combinatorial Optimization (PhD course taught by David Williamson, Fall 2006)
Comenius	Complex Analysis (Fall 1998)

Conference, Workshop and Seminar Organization (conference sessions excluded)

¹⁴I have proposed and developed from scratch courses marked with an asterisk. I was the instructor for all courses marked in bold. I was a TA (teaching assistant / tutor) for all other courses.

- 02/2018 **Optimization and Big Data 2018**, KAUST (co-organizer with M. Canini)
 2016 **NIPS** (programme committee)
 12/2016 **Symposium on Distributed Information Processing, Optimization, and Resource Management over Networks**, IEEE Global Conference on Signal and Information Processing, Greater Washington, D.C., USA (technical programme committee)
 06/2016 **International Conference on Machine Learning**, New York, USA (programme committee)
 04/2016 **International Conference on Internet of Things and Big Data**, Rome, Italy (programme committee)
 12/2015 **Mathematical Perspectives on Big Data**, a joint meeting of the London and Edinburgh mathematical societies, celebrating 150th anniversary of the former, Edinburgh (programme committee member)
 12/2015 **Theoretical and Computational Approaches to Large-Scale Inverse Problems**, Edinburgh (Alan Turing Institute Scoping Workshop)
 11/2015 **Distributed Machine Learning and Optimization**, Edinburgh (Alan Turing Institute Scoping Workshop)
 07/2015 **13th EUROPT Workshop on Advances in Continuous Optimization**, Edinburgh (programme committee)
 07/2015 **International Conference on Machine Learning**, Lille, France (programme committee)
 05/2015 **Optimization and Big Data 2015**, Edinburgh (founder and co-organizer; with Z. Qu)
 01/2015 **International BASP Frontiers Workshop 2015**, Villars-sur-Ollon, Switzerland
 12/2014 **Workshop: Numerical Algorithms and Intelligent Software**, Edinburgh
 09/2014 2 minisymposia at 4th IMA Conf. on Numerical Lin. Alg. and Optimisation, Birmingham
 05/2014 **Coordinate Descent Methods Symposium** at the SIAM Conference on Optimization, San Diego (24 speakers)
 2014– **All Hands Meetings on Big Data Optimization**, University of Edinburgh. This is a weekly interdisciplinary research seminar attended by faculty, postdocs and PhD students from the Schools of Mathematics, Engineering and Informatics and Heriot-Watt University
 07/2013 **Cluster Co-Chair** for “Convex and Nonsmooth Optimization” at the International Conference on Continuous Optimization (ICCOPT), Lisbon, Portugal (with F. Glineur). We organized 23 invited sessions in the cluster (=70 speakers). ICCOPT is the premiere conference in continuous optimization, taking place once in 3 years. Our cluster was twice as large as the second largest cluster.
 05/2013 **Optimization and Big Data 2013**, Edinburgh, 64 participants (founder and organizer)
 05/2012 **Optimization and Big Data 2012**, Edinburgh, 62 participants (founder and organizer)
 07/2011 2 minisymposia at 3rd IMA Conf. on Numerical Lin. Alg. and Optimisation, Birmingham
 07/2011 2 minisymposia at 24th Biennial Conf. on Numerical Analysis, Glasgow

Commissions of Trust

- 2017 Reviewer, ERC (European Research Council) Consolidator Grants
 2016 Habilitation Examiner, Institut de Mathématiques de Toulouse, Université Paul Sabatier, France (other examiners: Jean-Baptiste Hiriart-Urruty (Toulouse))
 2016 External PhD Examiner Télécom ParisTech, France (other examiners: Alexandre D’Aspremont (ENS) and Mikael Johansson (KTH))
 2016 Guest Editor, Journal of Computational Mathematics (co-editors: Xiaojun Chen, Yuhong Dai, and Yinyu Ye)
 2016 Reviewer, EPSRC Programme Grant Scheme
 2016 Internal PhD Examiner, School of Informatics, University of Edinburgh (external examiner: Manfred Oppel (TU Berlin))
 2016 External PhD Examiner, Automatic Control Dept, KTH Royal Institute of Technology, Sweden
 2015 External DPhil Examiner, Mathematical Institute, University of Oxford, UK (internal examiner: Jared Tanner)
 2015 Evaluator & Reviewer, EU Horizon 2020 grants totaling 36.2 million EUR

2015 Reviewer for Leverhulme Trust (2×)
 2015 Reviewer for Isaac Newton Trust
 2014– Associate Editor of Optimization (Frontiers in Applied Mathematics and Statistics)
 2014– Steering Committee (representing School of Mathematics), Centre for Doctoral Training in Data Science, University of Edinburgh (£5.03m grant from EPSRC)
 2013– Member, EPSRC Peer Review College
 2013 Evaluator & Reviewer, EU FP7 grants totaling 42.5 million EUR.
 2012–2014 Steering Committee (representing University of Edinburgh), Numerical Algorithms and Intelligent Software (£5m grant from EPSRC)
 2011– Reviewer, EPSRC
 2011– Faculty Advisor, SIAM Edinburgh Student Chapter
 2008– Reviewer for: Mathematical Programming, SIAM J. on Optimization, STOC, FoCM, SIREV, JMLR, ICML, NIPS, AISTATS, MACH, COAP, OMS, EJOR, CEJOR, JOGO and IEEE Signal Processing

Institutional Responsibilities

2016 Recruitment Panel, Chancellor’s Fellowships in “Mathematics of Data Science” and “Industrial Mathematics”
 2015 PhD Admissions, Data Science
 2015 Recruitment Panel, Lectureship in “Mathematics of Data Science”
 2014–2015 Part of a small team at The University of Edinburgh assisting with a bid for The Alan Turing Institute (successful) and subsequently with organizational planning
 2013–2016 PhD Admissions, OR & Optimization
 2009–2015 Director of Studies and Personal Tutor
 2009–2015 MSc Projects Coordinator, OR and Optimization Programme

Industrial Links & Collaborations

Google, Amazon, Baidu, SAS, Microsoft Research, IBM Research, Twitter, Arup, British Geological Survey, Western General Hospital, Confbuzz, Scottish Financial Risk Academy.

Membership of Scientific Societies

Society for Industrial and Applied Mathematics (SIAM)
 Mathematical Optimization Society (MOS)
 Edinburgh Mathematical Society (EMS)
 Isaac Newton Institute for Mathematical Sciences (INIMS)
 Institute for Operations Research and Management Science (INFORMS)
 Foundations of Computational Mathematics (FoCM)
 Slovak Mathematical Society (SMS)

References

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