

Alexander David Scott

Professor of Mathematics, University of Oxford

<http://people.maths.ox.ac.uk/scott/>

scott@maths.ox.ac.uk

Research interests

Combinatorics, graph theory, probability, connections with statistical physics and computer science

Employment and education

- Professor of Mathematics, University of Oxford (2006-)
- Fellow of Merton College, Oxford (2005-)
- Leverhulme Research Fellow (2017-2019)
- Reader in Mathematics at University College London (2001-2005)
- Lecturer in Mathematics at University College London (1996-2001)
- Visiting Professor, University of Memphis (1997)
- Junior Research Fellow at Trinity College, Cambridge (1993-1997)
- PhD, University of Cambridge (1995)

Editorial Boards

- Editorial Board of *Illinois Journal of Mathematics*, 2019-
- Editorial Board of *Combinatorics, Probability and Computing*, 2009-
- Managing Editor of *Combinatorics, Probability and Computing*, 1997-2009

Grants

- PI for EPSRC grant EP/V007327/1 on *Local-Global Interactions in Combinatorics* (2021-2024)
- Co-investigator for Marie Curie RISE grant *RandNET* (2021-2025)
- Leverhulme Research Fellowship (2017-2019)
- 21 annual grants each from the London Mathematical Society and the British Combinatorial Committee to support a One-Day Meeting in Combinatorics (1999-)
- Joint research group grant from the London Mathematical Society for OWL (Oxford, Warwick and London) seminar series with further support from British Combinatorial Committee (2005-7)
- Leverhulme Trust grant to bring Alan Sokal to the UK as Leverhulme Visiting Fellow (2005)
- Principal investigator for EPSRC grant GR/S26323/01, on *Statistical Mechanics on Graphs* (2004)
- Scheme 7 (Computer Science) grants from the London Mathematical Society to pursue joint projects with IBM (in 2002/2004/2007)

Enabling activity

Organizer or coorganizer for many meetings, workshops and seminars:

- Organizer for weekly Combinatorial Theory Seminar since arriving in Oxford (2005-), as well as various joint seminar afternoons and lecture series
- Co-founded online Oxford Discrete Mathematics and Probability seminar, open to all (2020-)
- Oberwolfach workshop on Graph Theory (Jan 2022)
- MATRIX workshop Structural Graph Theory Downunder II (Mar 2022)

- 22 One-Day Meetings in Combinatorics, at UCL (where he founded the meeting in 1999) and then at Oxford (from 2005)
- Banff workshop on New Perspectives in Colouring and Structure (March 2020, moved online)
- MATRIX workshop Structural Graph Theory Downunder (Melbourne, December 2019)
- Oberwolfach workshop on Graph Theory (January 2019)
- Clay workshop on Recent Advances in Extremal Combinatorics (Oxford, December 2018)
- Probabilistic Combinatorics: A celebration of the work of Colin McDiarmid (Oxford, April 2016)
- Clay workshop on Extremal and Probabilistic Combinatorics (Oxford, June 2014)
- Committee member for International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2020), EUROCOMB 2007 (Berlin), EUROCOMB 2009 (Seville), EUROCOMB 2011 (Budapest), EUROCOMB 2013 (Pisa)
- Oxford-Princeton Workshop on Graph Theory (Oxford, May 2008)
- Newton Institute programme on Combinatorics and Statistical Mechanics (Cambridge, January-July 2008)
- OWL (Oxford/Warwick/London) joint research group in Combinatorics, Probability and Statistical Physics, with funding from LMS and BCC (2005-7)
- Organizer (2001-2005) of the weekly UCL Pure Mathematics Colloquium, the UCL informal Pure Mathematics Seminar, the informal Combinatorics Seminar, and the London-area Combinatorics and Statistical Physics working group (2003-2005)

Teaching and service

Supervised 12 completed and 5 ongoing PhD dissertations, as well as numerous Masters and Undergraduate theses. Acted as PhD examiner for 27 PhD theses (20 as external examiner), and numerous Masters theses.

Head of Combinatorics research group (2005-). Sat on more than a dozen job committees (both as departmental and college representative); and acted as mentor and/or reviewer for many colleagues and postdocs.

In the last few years, acted as an assessor for the NSA Mathematical Sciences Grant Program; Simons Foundation Collaboration Grants Review; Netherlands Organisation for Scientific Research (NWO) grant review; BSF (U.S.-Israel Binational Science Foundation; Israel Science Foundation; NSERC (Canada); EPSRC (UK); Deutsche Forschungsgemeinschaft (German Research Foundation); National Science Center, Poland; ERC advanced grant referee; International Centre for Mathematical Sciences in Edinburgh; Czech Science Foundation; Chilean National Science and Technology Commission; ANR (L'Agence nationale de la recherche, France). Acted as search panel member or external expert for Harvard, Hamburg, the Institute for Basic Science (IBS, South Korea), LSE, City University, Qatar University, University of Vienna, Tel-Hai College, QMUL, Notre Dame, and Bangor. Acted as external assessor for colleges including Trinity (Cambridge), Churchill (Cambridge), and St Johns (Oxford).

Refereed for many journals and conferences, including: Acta Applicandae Mathematica, Acta Mathematica Sinica, Advances in Combinatorics, British Journal for Philosophy of Science, Bulletin of the London Mathematical Society, Combinatorica, Discrete Applied Mathematics, Discrete Mathematics, Electronic Journal of Combinatorics, EPL (Europhysics Letters), European Journal of Combinatorics, Graphs and Combinatorics, International Game Theory Review, International Journal of Combinatorics, Israel Journal of Mathematics, Journal of Algebra, Journal of Graph Theory, Journal of Combinatorial Theory Series A, Journal of Combinatorial Theory Series B, Journal of Discrete Algorithms, Journal of the

London Mathematical Society, Journal of Statistical Mechanics, Journal of Topology, Math Proc Camb Phil Soc, Proceedings of the London Mathematical Society, Random Structures and Algorithms, Scuola Normale Superiore, SIAM Journal on Discrete Mathematics, SODA, STOC, Swarm Intelligence, Theoretical Computer Science. Assessor for publishers including OUP, CUP, CRC and Francis and Taylor.

Outreach activities including visits to schools, talks and enrichment classes for groups of A Level students, in person and online admissions talks, pre-University bridging training for students.

Member of the LMS (joined 1996), AMS (joined 1996) and MAA (joined 2006).

Architectural consultancy included work on a major London development for Norman Foster's practice. Projects for Decoi Architects, including a show room and an apartment in Paris, a nightclub in Frankfurt, an office in Boston and a moving wall displayed at CEBIT and other events.

Occasional reviewer of books on mathematics and related subjects for *The Economist*.

Invited talks in last five years

Principal speaker at Atlanta Lecture Series in Combinatorics and Graph Theory XXIII (2019; two plenary talks and one lecture to students). Plenary talks at Graph Theory in Paris (2019), EUROCOMB 2019, Bratislava (2019), Random Structures and Algorithms, Zurich (2019), Symposium on Graphs in Nijmegen (2018), 5th International Combinatorics Conference (5ICC), Monash, Melbourne, Australia (2017), Southern Italian Workshop on Algorithms and Graphs, Bari (2016), Retirement conference for Colin McDiarmid (2016), Oberlin College, Fuzzy Vance Lecturer (2015)

Invited speaker at: Paul Erdős Lecture Series in Memphis (2019), Rio de Janeiro Workshop on Extremal and Structural Combinatorics (2018), Workshop on graphs, Bellair Research Institute (2018, 2017 (3 talks), 2015), Tutorial lecture at Banff workshop on Graph Coloring (2017), Tutte Centenary Conference, Cambridge (2017), SiGMa: Structure in Graphs and Matroids at Waterloo, Canada (2017), Banff workshop on Geometric and Structural Graph Theory (2017), Directed Graphs, Waterloo (2016), ETH workshop on Probabilistic and Extremal Combinatorics (2016), "Two One-Day Colloquia in Combinatorics" at QMUL (2015), STRUCO conference in Institut Henri Poincare, Paris (2015), Banff workshop on Methods and Challenges in Extremal and Probabilistic Combinatorics (2015), Scottish Combinatorics Conference, Glasgow (2015), Crossing the Boundaries: Science, Philosophy, Pseudoscience: Conference in honor of Alan Sokal's 60th birthday, École Normale Supérieure and Institut Henri Poincaré (2015), Graph Theory in the Andes, Santiago, Chile (2015).

Seminar talks in: Cambridge (2020,2017), Birmingham (2018), Princeton (2020,2019,2018, 2017, 2016, 2015, 2014), UCL (2017), Rutgers (2016), Warwick (2019, 2015), ETH Zurich (2015).

January 2021