Curriculum Vitæ

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Education

2011–2015 PhD, Mathematics, Queen Mary University of London, supervisor Dr Matthew Fayers. Thesis: Representation theory of Khovanov–Lauda–Rouquier algebras.
2007–2011 MMath, Mathematics, The University of Warwick. First class honours.

Positions held

2017– Whyburn Instructorship, University of Virginia.
2015–2017 JSPS Postdoctoral Fellowship, Osaka University. Working with Professor Susumu Ariki.
2015 Visiting postdoc, University of East Anglia. Working with Dr Sinéad Lyle. Supported by 150th Anniversary Postdoctoral Mobility Grant, LMS.

Grants and awards

2018 Research in Pairs – Scheme 4, LMS (Co-Investigator).
2017 Humboldt Research Fellowship for Postdoctoral Researchers, Alexander von Humboldt Foundation (declined in favour of a longer position at The University of Virginia).
2015 Research in Pairs – Scheme 4, LMS (Co-Investigator).
2014 150th Anniversary Postdoctoral Mobility Grant, LMS.
2012 Eileen Colyer Prize, Queen Mary University of London.

Research interests

Representation theory of symmetric groups and their Hecke algebras, Ariki–Koike algebras, Khovanov–Lauda–Rouquier algebras, and quantum groups. Combinatorics of multipartitions and tableaux.

Publications (See my arXiv page)

In preparation

10. Spin quiver Hecke algebras of type $\mathfrak{osp}(1|2n)$ are affine super-cellular, *with* Robert Muth.

Preprints (submitted)

9. Decomposable Specht modules indexed by bihooks, *with* Louise Sutton, arXiv:1808.00949.

Published papers

accepted 8. An analogue of row removal for diagrammatic Cherednik algebras, *with Chris Bowman*, Math. Z., *to appear*, arXiv:1601.05543, DOI.

7. Specht modules for quiver Hecke algebras of type C, *with Susumu Ariki* and *Euiyong Park*, Publ. Res. Inst. Math. Sci., *to appear*, arXiv:1703.06425.

2018 6. On bases of some simple modules of symmetric groups and Hecke algebras, *with Melanie de Boeck*, *Anton Evseev* and *Sinéad Lyle*, Transform. Groups **23** (2018), no. 3, 631–669, arXiv:1606.06939, DOI.

5. On the semisimplicity of the cyclotomic quiver Hecke algebra of type C, Proc. Amer. Math. Soc. **146** (2018), no. 5, 1845–1857, arXiv:1704.07655, DOI.

4. Kleshchev's decomposition numbers for diagrammatic Cherednik algebras, *with Chris Bowman*, Trans. Amer. Math. Soc. **370** (2018), no. 5, 3551–3590, arXiv:1507.06631, DOI.

2017 3. A family of graded decomposition numbers for diagrammatic Cherednik algebras, *with Chris Bowman* and *Anton Cox*, Int. Math. Res. Not. IMRN. **2017** (2017), no. 9, 2686–2734, arXiv:1503.07088, DOI.

2016 2. Generalised column removal for graded homomorphisms between Specht modules, *with Matthew Fayers*, J. Algebraic Combin. **44** (2016), no. 2, 393–432, arXiv:1404.4415, DOI.

2014 1. Decomposable Specht modules for the Iwahori–Hecke algebra $\mathscr{H}_{\mathbb{F},-1}(\mathfrak{S}_n)$, J. Algebra **418** (2014), 227–264, arXiv:1308.4296, DOI.

Invited talks

2018 Jun. Oberseminar zur Algebra und Algebraischen Kombinatorik, Leibniz University of Hanover.
2018 Mar. Geometric representation theory seminar, University of Toronto.
2018 Mar. Algebra seminar, University of Waterloo.
2018 Mar. Mathematical physics seminar, Perimeter Institute, Waterloo.
2017 Dec. Representation Theory of Symmetric Groups and Related Algebras, Institute for Mathematical Sciences, National University of Singapore.
2017 May Representation theory seminar, Kyoto University.
2016 Nov. Mathematics Seminar, Korea Institute for Advanced Study, Seoul.
2016 Jun. London Algebra Colloquium, City University London.
2016 May NUS Representation theory seminar, National University of Singapore.
2015 Nov. Symposium on representation theory 2015, Izunagaoka, Shizuoka prefecture.
2015 Aug. Representation theory of Hecke algebras, City University London.
2015 Apr. Algebra and Combinatorics seminar, Tulane University, New Orleans.
2015 Feb. Birmingham algebra seminar, University of Birmingham.
2015 Feb. Cambridge algebra seminar, University of Cambridge.
2015 Jan. York algebra seminar, The University of York.
2014 Nov. London Algebra Colloquium, Imperial College London.
2014 Nov. Leeds algebra seminar, University of Leeds.

Other talks

2018 Oct. University of Virginia Algebra Seminar, University of Virginia.
2018 Apr. Mid-Atlantic Algebra, Geometry, and Combinatorics (MAAGC) Workshop, Drexel University (presented poster).
2017 Oct. University of Virginia Algebra Seminar, University of Virginia.
2017 Jun. Young Algebraists' Conference 2017, École Polytechnique Fédérale de Lausanne.
2017 May Short course (7 hours) on diagrammatic Cherednik algebras, Osaka University.
2016 Dec. Symposium on representation theory 2016, Okinawa.
2016 Jun. Short course (10 hours) on Universal graded Specht modules, Osaka University.
2015 Nov. Osaka Representation Theory Seminar, Osaka City University.
2015 Sep. Pure Maths Research Seminar, University of East Anglia.
2014 Jul. Representations of symmetric groups, Hecke algebras and KLR algebras, University of Birmingham.
2013 Feb. Pure Mathematics Colloquium, Queen Mary University of London.

Teaching and outreach

2019	Fall Semester – teaching Survey of Algebra (Math 3354), University of Virginia.
2019	Spring Semester – teaching Lie Algebras (Math 8710), University of Virginia.
2019	Spring Semester – Directed Reading Program with a community scholar (high school student taking university mathematics courses at UVA).
2018	Fall Semester – teaching Calculus III (Math 2310), University of Virginia.
2018	Spring Semester – taught Survey of Algebra (Math 3354), University of Virginia.
2017	Fall Semester – taught Elementary Linear Algebra (Math 3351), University of Virginia.
2011–2015	Teaching assistant for a broad range of algebra and geometry modules, Queen Mary University of London.
2013	Representing Queen Mary's pure mathematics research group at "Research in the UK" event for Part III students, University of Cambridge.
2010–2011	Taught all core first year modules to small supervision groups, The University of Warwick.

Journals refereed for

- Journal of Algebra.
- Journal of Pure and Applied Algebra.
- Science China Mathematics.
- SIGMA. Symmetry, Integrability and Geometry. Methods and Applications.
- Algebraic Combinatorics.
- Journal of the Korean Mathematical Society.

Reviewed for

- Zentralblatt MATH,
- MathSciNet Mathematical Reviews.

Academic Society Membership

- London Mathematical Society.