

Andrew Lobb

Employment

- 2020- Durham University, Professor
- 2019-2020 Okinawa Institute of Science and Technology, Excellence Chair
- 2015-2019 Durham University, Associate Professor (Reader)
- 2011-2015 Durham University, Assistant Professor (Lecturer)
- 2009-2011 SUNY Stony Brook, Postdoc
- Spring 2010 MSRI, Postdoc
- 2007-2009 Imperial College London, Chapman Fellow (postdoc)

Education

- 2002-2007 **PhD**, *Harvard*.
- 1998-2002 **MMath**, *Oxford*.

Papers

- Cyclic quadrilaterals and smooth Jordan curves, (with Greene).
- The rectangular peg problem, (with Greene), under review.
- A refinement of Khovanov homology, (with Watson), to appear in **Geom. Topol.**
- Almost positive links are strongly quasipositive, (with Feller and Lewark), under review.
- A calculus for flow categories, (with Orson and Schuetz), under review.
- A counterexample to Batson's conjecture, **Math. Res. Lett.** 26(6) 2019 1789-1789.
- An \mathfrak{sl}_n stable homotopy type for matched diagrams (with Jones and Schuetz), to appear in **Adv. Math.**
- On spectral sequences from Khovanov homology (with Zentner), to appear in **Algebr. Geom. Topol.**
- On the functoriality of Khovanov-Floer theories (with Baldwin and Hedden), **Adv. Math.** 2019 345: 1162-1205
- Upsilon-like concordance invariants from $\mathfrak{sl}(n)$ knot cohomology, (with Lewark), **Geom. Topol.** 23 (2019) 745-780.
- Khovanov homotopy calculations using flow category calculus, (with Orson and Schuetz), to appear in **Experiment. Math.**

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- Framed cobordism and flow category moves, (with Orson and Schuetz),
Algebr. Geom. Topol. 18 (2018), 2821-2858.
- A Khovanov stable homotopy type for colored links (with Orson and Schuetz),
Algebr. Geom. Topol. 17 (2017) 1261-1281.
- Morse moves in flow categories (with Jones and Schuetz),
Indiana Univ. Math. J. 2017 66(5): 1603-1657
- New quantum obstructions to sliceness (with Lewark),
Proc. Lond. Math. Soc. 112 (2016), No. 1, 81-114
- 2-strand twisting and knots with isomorphic quantum knot homologies,
Geom. Topol. 18 (2014), 873-895.
- The quantum \mathfrak{sl}_n graph polynomial and a moduli space (with Zentner),
Int. Math. Res. Not. IMRN 2014, Vol. 2014, No. 7: 1956-1972.
- The Kanenobu knots and Khovanov-Rozansky homology,
Proc. Amer. Math. Soc. 142 (2014), Number 4, 1447-1455
- A note on Gornik's perturbation of Khovanov-Rozansky homology,
Algebr. Geom. Topol. 12 (2012), 293-305.
- Computable bounds for Rasmussen's concordance invariant,
Compos. Math. 2011, Vol 147, Issue 02, 661-668.
- On Casson-type instanton moduli spaces over definite 4-manifolds (with Zentner),
Q. J. Math., 2011, Vol 62, Issue 2, 433-450.
- A slice genus lower bound from $\mathfrak{sl}(n)$ Khovanov-Rozansky homology,
Adv. Math., 2009, Vol 222, Issue 4, 1220-1276.

Non-pure papers

- Threaded rings that swim in excitable media (with Elizabeth Bromley, Brette Chapin, Antonio Cincotti, David Evans, Kate Horner, Fabian Maucher, Jonathan Steed, and Paul Sutcliffe), **Phys. Rev. Lett.**, 2019, Vol. 123.
- Social learning errors and the evolution of material culture, (with Lauren Scanlon, Jeremy Kendal, and Jamie Tehrani), **Evolutionary Human Sci.**, 2019, Vol. 1.

Recent Grants

- LMS grant and various smaller sums to support the British Mathematical Colloquium 2017.
- **Principal Investigator** EPSRC EP/M000389/1, New homotopy-type invariants of knots, 2015-2017 £201000.
- **Co-Investigator** Leverhulme Programme Grant 2014-2020 £1700000.
- LMS/EPSRC Grant to host a Summer School at Durham, 2013
- **Principal Investigator** EPSRC EP/K00591X/1 *Knot homology: Theory and Computation*, 2013-2014. £89000.

PhD students and postdocs

- 2018-2019 Carlo Collari, Accademia dei Lincei funded postdoc.
- 2017-2021 Oliver Singh, EPSRC funded graduate student.
- 2015-2017 Patrick Orson, postdoc hired on EPSRC grant EP/M000389/1
- 2014-2018 Will Rushworth, EPSRC funded graduate student.
- 2014-2020 David Evans, Leverhulme funded graduate student, joint supervision with Prof Paul Sutcliffe (Mathematical Physics).
- 2014-2019 Lauren Scanlon, Leverhulme funded graduate student, joint supervision with Dr Jeremy Kendal (Anthropology)
- 2012-2016 Jonathan Grant, EPSRC funded graduate student
- 2013-2014 Lukas Lewark, postdoc hired on EPSRC grant EP/K00591X/1.

Selected recent and forthcoming talks

- Nov 2020 Lisbon, Portugal
- Oct 2020 Tel Aviv, Israel
- Oct 2020 Imperial College, UK
- Sep 2020 BC, Canada
- Sep 2020 Stanford, USA
- Sep 2020 Montreal, Canada
- Jun 2020 Galway, Ireland
- Mar 2020 Tokushima, Japan
- Jan 2020 Oxford, UK
- Mar 2019 Vancouver, Canada

Sep 2018 Zurich, Switzerland
Sep 2018 Bern, Switzerland
May 2018 Oslo, Norway
Apr 2018 Stony Brook, USA
Apr 2018 Columbia, USA
Apr 2018 Boston College, USA
Mar 2018 UQAM, Canada
Mar 2018 Aspen, USA
Feb 2018 CIRM, France
Jan 2018 Budapest, Hungary

Selected Service

- *Organizer* Week-long onference at CMO, Oaxaca, April 2020. (Postponed.)
- *Organizer* Week-long conference at OIST, Okinawa, March 2020
- *Organizer* Six week programme at Kavli Institute, UCSB, Nov-Dec 2018
- *Organizer* Week-long workshop at the Aspen Center for Physics, Mar 2018
- *Chairman* British Mathematical Colloquium 2017
- *Principal Organizer* Six month programme at Newton Institute, 2017
- *Organizer* Prospects in Mathematics, Durham, 2013
- *Organizer* LMS-EPSRC Low-dim topology summer school, Durham, 2013
- *Organizer* Knot homologies conference, Stony Brook, 2010
- *PhD committee member* For Michael Snape (Glasgow), Benjamin Bode (Bristol), Carlo Collari (Pisa), Paul Wedrich (Cambridge), Lukas Lewark (Paris).
- Referee for various mathematics journals and reviewer for MathSciNet.

Academic References

Reference	University	email
Mikhail Khovanov	Columbia	khovanov@math.columbia.edu
Jacob Rasmussen	Cambridge	jar60@dpms.cam.ac.uk
András Stipsicz	Renyi Institute	stipsicz.andras@renyi.mta.hu