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Research Interests Noncommutative algebraic geometry, noncommutative algebra, algebraic geometry.

Employment **University of Edinburgh**, 2011-. Lecturer.
Princeton University, 2009-2011. Instructor and National Science Foundation Postdoctoral Research Fellow.
University of Washington, 2008-09. Researcher and National Science Foundation Postdoctoral Research Fellow.

Education **Ph.D. 2008**, University of Michigan, Mathematics. Dissertation: The geometry of birationally commutative graded domains (supervisor: J. T. Stafford).
M.S. 1995, University of Michigan, Mathematics.
B.A. 1993, Oberlin College, with Highest Honors in Mathematics.

Publications and Preprints **Noncommutative blowups of elliptic algebras**, with D. Rogalski and J. T. Stafford. arxiv: 1308.2216.
Classifying orders in the Sklyanin algebra, with D. Rogalski and J. T. Stafford. arxiv: 1308.2213.
The universal enveloping algebra of the Witt algebra is not noetherian, with C. Walton. arxiv: 1304.0114.
Naive blowups and canonical birationally commutative factors, with T. A. Nevins. arxiv: 1206.0760.
Algebras in which every subalgebra is noetherian, with D. Rogalski and J. T. Stafford. *Proc. Amer. Math. Soc.*, to appear. arxiv: 1112.3869.
Prime spectra of derived quiver representations, with Y.-H. Liu. *Communications in Algebra*, **41** (2013), no. 8, 3013-3031. arxiv: 1109.1513.
Some noncommutative projective surfaces of GK-dimension 4, with D. Rogalski. *Compos. Math.* **148** (2012), no. 4, 1195-1237. arxiv: 1101.0737.
Moduli spaces for point modules on naïve blowups, with T. A. Nevins. *Algebra & Number Theory*, **7** (2013), no. 4, 795-834.
A derived equivalence for a Del Pezzo surface of degree 6 over an arbitrary field, with M. Blunk and S. P. Smith. *Journal of K-Theory* **8** (2011), 481-492. arxiv: 0908.3281.
Classifying birationally commutative projective surfaces. *Proceedings of the LMS* **103** (2011), part 1, 139-196.
Geometric idealizer rings. *Transactions of the AMS* **363** (2011), 457-500.
G-algebras, twistings, and equivalences of graded categories. *Algebras and Representation Theory*, **14** (2011), no. 2, 377-390.
Geometric algebras on projective surfaces. *Journal of Algebra* **324** (2010), no. 7, 1687-1730.
The Dixmier-Moeglin equivalence for twisted homogeneous coordinate

rings, with J. Bell and D. Rogalski. *Israel J. Math* **180** (2010), no. 1, 461-507.
Rings graded equivalent to the first Weyl algebra. *Journal of Algebra* **321** (2009), no. 2, 495-531.
A general homological Kleiman-Bertini theorem. *Algebra & Number Theory* **3** (2009), no. 5, 597-609.

**Awards,
Honors, and
Fellowships**

Edinburgh University Students' Association Award for Excellence in Teaching in Science and Engineering, 2013.
 NSF Postdoctoral Research Fellowship, 2008-2011.
 Horace H. Rackham Distinguished Dissertation Award, University of Michigan, 2009.
 Sumner Myers Award, University of Michigan Department of Mathematics, 2008.
 Wirt and Mary Cornwell Prize, University of Michigan Department of Mathematics, 2008.
 University of Michigan Rackham Predoctoral Fellowship, 2007-2008.
 NSF Graduate Fellowship, 1993-1996.
 Phi Beta Kappa, 1992.
 Sigma Xi, 1991.

**Invited Talks:
Conferences
and Research
Seminars**

Dense orbits, noncommutative projective surfaces, and the Virasoro algebra. Algebra seminar, University of Kent, December 2013.
Dense orbits, noncommutative projective surfaces, and the Virasoro algebra. Colloquium, Queen Mary University London, December 2013.
The universal enveloping algebra of the Witt algebra is not noetherian. Classical Aspects of Ring and Module Theory, Bedlewo, Poland, July 2013.
The universal enveloping algebra of the Witt algebra is not noetherian. Journées d'Algèbre, Clermont-Ferrand, June 2013.
Noncommutative algebraic geometry and applications. 6th Southeastern Lie Theory Workshop, Louisiana State University, May 2013.
The universal enveloping algebra of the Witt algebra is not noetherian. Interactions between Noncommutative Algebra, Representation Theory, and Algebraic Geometry, MSRI, April 2013.
What are the noncommutative projective surfaces?. Connections for Women: Noncommutative Geometry and Representation Theory, MSRI, January 2013.
Noncommutative del Pezzo surfaces. Glasgow-Edinburgh-Liverpool-Newcastle algebraic geometry seminar, November 2012.
Maximal orders in the Sklyanin algebra. New Trends in Noncommutative Algebra and Algebraic Geometry, Banff International Research Station (Canada), October 2012.
Supernoetherian algebras. University of Manchester, August 2012.
Graded maximal orders in a generic Sklyanin algebra. British Mathematical Colloquium workshop on noncommutative geometry, University of Kent, April 2012.
Algebras in which every subalgebra is noetherian. University of Glasgow, February 2012.
A family of 4-dimensional examples. MAXIMALS (University of Edinburgh and Heriot-Watt University), February 2012.
Prime spectra of derived quiver representations. University of Stuttgart, December 2011.
Supernoetherian algebras. Newcastle University, October 2011.
Supernoetherian algebras. University of Leeds, October 2011.

Moduli spaces in graded ring theory. University of Edinburgh, October 2011.

A dichotomy in GK-dimension 5. Noncommutative Algebraic Geometry Shanghai Workshop 2011, Shanghai, September 2011.

Naive blowups and canonical birationally commutative factors. New developments in noncommutative algebra and its applications, ICMS, Skye, June 2011.

Some new algebras with quartic growth. Temple University, April 2011.

Canonical birationally commutative factors of noetherian graded algebras. University of Edinburgh, March 2011.

Graded algebras with quartic growth associated to $P^1 \times P^1$. University of Connecticut, October 2010.

A counterexample in GK-dimension 4. New Trends in Noncommutative Algebra, University of Washington, August 2010.

A birationally commutative surface of GK-dimension 4. Interactions Between Algebraic Geometry and Noncommutative Algebra, Mathematisches Forschungsinstitut Oberwolfach, May 2010.

Low-dimensional noncommutative geometry. Colloquium, Temple University, April 2010.

Point schemes and point stacks of graded algebras. University of Illinois, March 2010.

Point schemes and point stacks of noncommutative graded algebras. Princeton University, February 2010.

The Dixmier-Moeglin equivalence for twisted homogeneous coordinate rings. AMS Special Session on Interactions Between Algebraic Geometry and Noncommutative Algebra, University of California Riverside, October 2009.

Transversality and noncommutative geometry. Princeton University, September 2009.

Quasi-regular algebras of dimension four. Noncommutative Algebra in Manchester, University of Manchester, August 2009.

Quasi-regular algebras of dimension four. University of Washington, July 2009.

Primitivity of twisted homogeneous coordinate rings. University of Glasgow, June 2009.

Primitivity of twisted homogeneous coordinate rings. University of Edinburgh, June 2009.

Transversality and noncommutative algebra. University of Warwick, May 2009.

Birationally commutative projective surfaces. Colloquium, University of Oregon, April 2009.

The geometry of (some) noncommutative surfaces. Colloquium, University of Michigan, March 2009.

Primitivity of twisted homogeneous coordinate rings and complex dynamics. University of Michigan, March 2009.

Transversality and noncommutative geometry. University of Illinois, March 2009.

Rings graded equivalent to the first Weyl algebra. University of Washington, February 2009.

Classifying birationally commutative projective surfaces. University of California San Diego, January 2009.

The geometry of noncommutative projective surfaces. University of Washington, November 2008.

Low-dimensional noncommutative geometry. Colloquium, University of California Santa Barbara, November 2008.

The classification of birationally commutative surfaces. Interactions between Noncommutative Algebra and Algebraic Geometry, Banff International Research Station (Canada), October 2008.

The classification of birationally commutative projective surfaces. AMS Special Session on Noncommutative Algebra and Geometry, Vancouver, October 2008.

The classification of birationally commutative projective surfaces (preliminary report). Maxwell Institute for the Mathematical Sciences (Edinburgh), April 2008.

A general homological Kleiman-Bertini theorem. University of Glasgow, April 2008.

Graded Morita theory and the first Weyl algebra. University of Manchester, March 2008.

The geometry of birationally commutative graded rings. AMS Special Session on Interactions between Noncommutative Algebra and Algebraic Geometry, Joint Meetings of the AMS and MAA, January 2008.

Rings graded equivalent to the first Weyl algebra. University of California San Diego, December 2007.

Rings graded equivalent to the first Weyl algebra. Leverhulme Algebra Workshop, University of Edinburgh, June 2007.

Noncommutative algebraic geometry and a general homological Kleiman-Bertini theorem. Program for Women and Mathematics on Algebraic Geometry and Group Actions, Institute for Advanced Study, May 2007.

Geometric idealizers and critical transversality. AMS Special Session on Noncommutative Algebraic Geometry, Miami University (Ohio), March 2007.

Idealizers, transversality, and a general homological Kleiman-Bertini theorem. University of Michigan, March 2007.

Rings graded equivalent to the first Weyl algebra. AMS Special Session on Noncommutative Algebra, Davidson College (North Carolina), March 2007.

Geometric idealizer rings. Noncommutative Algebraic Geometry Conference, Fudan University (Shanghai), September 2006.

Graded rings and equivalences of categories. University of Michigan, March 2006.

Equivalences of graded categories. Massachusetts Institute of Technology, March 1996.

Expository Talks

What is a noncommutative polynomial ring? Massachusetts Institute of Technology, April 2011.

Why should you care about noncommutative rings? Princeton University, September 2009.

The geometry of noncommutative projective surfaces. University of Washington, November 2008.

Basics of category \mathcal{O} . University of Michigan, January 2007.

The classification of noncommutative projective planes. University of Michigan, November 2006.

Introduction to D -modules. University of Michigan, October 2006.

Measuring division rings. University of Michigan, November 2005.

Undergraduate Talks

Abel's impossibility theorem. Albion College, November 2007.

The return of the quaternions. Oberlin College, March 2007; University of Michigan Math Club, April 2007.

**Teaching
Experience**

Algebraic Geometry. University of Edinburgh, Spring 2012 and Fall 2012.
Introduction to Linear Algebra. University of Edinburgh, Fall 2013 (course organiser), Fall 2012 and Fall 2011.
Advanced Linear Algebra with Applications. Princeton University, Fall 2011, Spring 2010.
Integral Calculus. University of Michigan, Winter 2007.
Differential Calculus. University of Michigan, Fall 1996.
Precalculus. University of Michigan, Winter 1995, Fall 1994.

Other Service

Co-organiser, Connections for Women: Noncommutative Algebraic Geometry and Representation Theory conference, MSRI (Berkeley), January 2013.
Organiser, Algebra and Representation Theory in the North (ARTIN) meeting, Edinburgh, December 2012.
Referee for Journal of Algebra, American Journal of Mathematics, Glasgow Journal of Mathematics, Michigan Mathematical Journal, Transactions of the AMS.
Reviewer for Mathematical Reviews.
London Mathematical Society Representative, University of Edinburgh, 2012-13.

Memberships

London Mathematical Society.
Edinburgh Mathematical Society.
American Mathematical Society.
Association of Women in Mathematics.