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Research Interests	Noncommutative algebraic geometry, noncommutative algebra, algebraic geometry.
Employment	**University of Edinburgh**, Senior Lecturer, 2015-present. **University of Edinburgh**, Lecturer, 2011-2015. **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	**Ideals in the enveloping algebra of the positive Witt algebra**, with A. Petukhov. arxiv: 1710.10029. **A new family of Poisson algebras and their deformations**, with Cesar Lecoutre. *Nagoya Math. J.,* to appear. arxiv: 1611.04306. **On a dynamical Mordell-Lang conjecture for coherent sheaves**, with Jason Bell and Matt Satriano. *J. London Math Society*, to appear. arxiv: 1611.05885. **Ring-theoretic blowing down: I**, with D. Rogalski and J. T. Stafford. *Journal of Noncommutative Geometry*, to appear. arxiv: 1603.08128. **Generalised Witt algebras and idealizers**, with Špela Špenko. *J. Algebra*, **483** (2017), 415-28. **Path algebras of quivers and representations of locally finite Lie algebras**, with J. Hennig. *International Mathematics Research Notices*, (2017) no. 19, 6036-6084. **Maps from the enveloping algebra of the positive Witt algebra to regular algebras**, with C. Walton. *Pacific J. Math*, **284** (2016), no. 2, 475-509. **Noncommutative blowups of elliptic algebras**, with D. Rogalski and J. T. Stafford. *Algebras and Representation Theory*, **18** (2015), 491-529. **Classifying orders in the Sklyanin algebra**, with D. Rogalski and J. T. Stafford. *Algebra & Number Theory*, **9** (2015), 2055-2119. **Naive blowups and canonical birationally commutative factors**, with T. A. Nevins. *Math. Z.* **280** (2015), 1125-1161 **The universal enveloping algebra of the Witt algebra is not noetherian**, with C. Walton. *Advances in Mathematics*, **262** (2014), 239–260. **Algebras in which every subalgebra is noetherian**, with D. Rogalski and J. T. Stafford. *Proc. Amer. Math. Soc*, **142** (2014), 2983-2990. **Prime spectra of derived quiver representations**, with Y.-H. Liu.

Communications in Algebra, **41** (2013), no. 8, 3013-3031.
Moduli spaces for point modules on naïve blowups, with T. A. Nevins. *Algebra & Number Theory*, **7** (2013), no. 4, 795–834.
Some noncommutative projective surfaces of GK-dimension 4, with D. Rogalski. *Compos. Math.* **148** (2012), no. 4, 1195-1237.
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.
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), 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.

Major Grants	EPSRC, "Moduli techniques in graded ring theory," awarded September 2014. 3 years starting September 2015, £362,111. NSF Postdoctoral Research Fellowship, 2008-2011. $119,000.
Other Grants	ICMS, "Linking Noncommutative Rings and Algebraic Geometry" conference grant. Awarded May 2016, £18,000. Glasgow Mathematical Journal Trust, conference grant. Awarded December 2016, £1500. American Mathematical Society Simons Travel Grant, 2011-2014. $4000.
Doctoral Students	Christopher Campbell, 2012-16. Ph.D. awarded 2016. Dissertation: **The Deformation Theory of a Birationally Commutative Surface of Gelfand-Kirillov Dimension 4.** Simon Crawford, since September 2014. Ph.D. expected 2018. Dissertation: **Singularities of noncommutative surfaces**. Ruth Reynolds, since September 2016. Ph.D. expected 2020.
Postdocs Supervised	Špela Špenko, 2015- 2017. Cesar Lecoutre, 2015.
Awards, Honors, and Fellowships	Edinburgh University Students' Association Award for Excellence in Teaching in Science and Engineering, 2013. 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	**Chain conditions in the enveloping algebra of the Witt algebra**. University of Leeds algebra seminar, November 2017.

Chain conditions in the enveloping algebra of the Witt algebra. University of Leeds algebra seminar, November 2017.
Noncommutative birational geometry. Pure Mathematics Colloquium, University of Sheffield, October 2017.
Overrings of Sklyanin algebras. Joint meeting of the Edinburgh Mathematical Society and the Societat Catalana de Matemàtiques, Edinburgh, September 2017.
Ideals in the enveloping algebra of the positive Witt algebra. Workshop on Lie Theory, Representation Theory, and Algebraic Groups, Manchester, September 2017.
Ideals in the enveloping algebra of the positive Witt algebra. Noncommutative and nonassociative structures in physics and geometry, Queen's University Belfast, August 2017.
The birational geometry of noncommutative surfaces. Cambridge-Oxford-Warwick (COW) seminar, Imperial College, June 2017.
Sklyanin algebras are minimal surfaces. University of Bristol algebra seminar, March 2017.
Sklyanin algebras are minimal surfaces. University of York algebra seminar, March 2017.
Sklyanin algebras are minimal surfaces. University of Oxford algebra seminar, February 2017.
A family of quantized projective spaces. Generalized Geometry and Noncommutative Algebra, Clay Mathematics Institute, Oxford, December 2016.
Noncommutative rational surfaces. University of California Santa Barbara algebra seminar, November 2016.
Noncommutative minimal surfaces. University of California San Diego algebra seminar, November 2016.
Noncommutative minimal surfaces. Seattle Noncommutative Algebra Day, October 2016.
Noncommutative birational geometry of surfaces. University of Washington algebra and algebraic geometry seminar, October 2016.
Noncommutative minimal surfaces. Noncommutative, derived, and homotopical methods in geometry, Antwerp, September 2016.
A family of quantized projective spaces. Bridges Between Noncommutative Algebra and Algebraic Geometry, Banff International Research Station, September 2016.
Deformations of a noncommutative surface of dimension 4. Homological Methods in Algebra and Geometry, African Institute for Mathematical Sciences Ghana, August 2016.
Contracting (-1) curves on noncommutative surfaces. University of Oxford geometry seminar, May 2016.
Birational transforms of noncommutative projective surfaces. University of Waterloo Pure Mathematics Colloquium, April 2016.
A family of AS-regular algebras and their semiclassical limits, II. University of Kent algebra seminar, February 2016.
Contracting noncommutative (-1) curves. University of Warwick algebra seminar, December 2015.
Dynamics and ring theory. Colloquium, University of Reims, September 2015.

Homomorphic images of the enveloping algebra of the Witt algebra.
University of Reims algebra seminar, September 2015.
An elementary proof that the enveloping algebra of the Witt algebra is not noetherian. University of Leeds algebra seminar, March 2015.
Quivers and representations of locally finite Lie algebras. University of Manchester algebra seminar, December 2014.
Families of representations of the Witt algebra. Noncommutative Algebraic Geometry, Shanghai, August 2014.
The universal enveloping algebra of the Witt algebra is not noetherian. Algebra seminar, University of Waterloo, June 2014.
The universal enveloping algebra of the Witt algebra is not noetherian. Algebra seminar, University of New Brunswick, June 2014.
Ring-theoretic blowing down. Interactions between Algebraic Geometry and Noncommutative Algebra, Mathematisches Forschungsinstitut Oberwolfach, May 2014.
Dynamics of automorphisms, noetherian rings, and the Virasoro algebra. Algebra seminar, Institut Henri Poincaré, April 2014.
The universal enveloping algebra of the Witt algebra is not noetherian. Jornadas de Álgebra No Conmutativa, Universidad de Málaga, April 2014.
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 Mathematial 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 P1xP1. 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.

Lecture Series and Workshops	*Noncommutative projective algebraic geometry*. Weeklong research workshop, Women in Noncommutative Algebra and Representation Theory, Banff International Research Station, March 2016. **Noncommutative algebraic geometry.** Kent Algebra Days-Young Researchers, University of Kent, July 2014.
Expository and Outreach Talks	**Noncommutative algebraic geometry: group actions, dynamics, and calculus.** London Mathematical Society Women in Mathematics Day, International Centre for the Mathematical Sciences, April 2016. **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 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	Supervised **6 projects** (BSc. level) and 2 **dissertations** (MMath level) for final year University of Edinburgh students. Supervised **summer reading/research projects** for undergraduate students in 2015 and 2017. **Group Theory**, University of Edinburgh, Fall 2014, Fall 2015, Fall 2017 **Algebraic Geometry.** University of Edinburgh, Spring 2012, Fall 2012, Spring 2014, Spring 2015. **Introduction to Linear Algebra.** University of Edinburgh, Fall 2011, Fall 2012, Fall 2013 (course organizer). **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.
Conferences and Workshops Organised	Lead organiser, "Linking Noncommutative Rings and Algebraic Geometry," International Centre for the Mathematical Sciences, Edinburgh, June 2017. Workgroup leader, Women in Noncommutative Algebra and Representation Theory (WINART), Banff International Research Station, March 2016. 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.
Administration and Leadership	Director of Internationalisation, School of Mathematics, 2016-present. School of Mathematics Policy and Advisory Committee, 2016-present. London Mathematical Society Publications Committee, 2015-present. Founder and organiser, School of Mathematics Teaching Cafe, 2014-2016. International Exchange Coordinator, School of Mathematics, 2014-2016. School of Mathematics Equality and Diversity Committee, 2012-2016. Departmental representative to the London Mathematical Society, 2012-2015.
Other Service	Editor, Proceedings of the Edinburgh Mathematical Society, 2016-present. EPSRC Associate Peer Review College, 2016-present. Atlantic (Canada) Association for Research in the Mathematical Sciences Scientific Review Panel, 2015-present.
Memberships	London Mathematical Society. Edinburgh Mathematical Society. American Mathematical Society. Association of Women in Mathematics.