

Matthew Woolf

Contact Information

Department of Mathematics, Statistics, and Computer Science
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Research

I am primarily an algebraic geometer with some interest in representation theory and number theory. My current research interests are derived categories, moduli spaces of sheaves, birational geometry, and the interplay between these three. I am also interested in using methods from these three fields to study problems of classical algebraic geometry.

Academic Positions

Research Assistant Professor, University of Illinois at Chicago, 2014-

Education

Ph.D. Mathematics, Harvard University (2010-2014)

B.S. Mathematics with honors, University of Chicago (2006-2010)

Publications and Preprints

1. M. Woolf, *Cohomology of Moduli Spaces of Stable Complexes on the Plane*, in preparation
2. M. Woolf, *Strong Franchetta Conjecture for Linear Systems*, arXiv:1402.2128
3. I. Coskun, J. Huizenga, M. Woolf, *The Effective Cone of the Moduli Space of Sheaves on the Plane*, arXiv:1401.1613

4. M. Woolf, *Nef and Effective Cones on the Moduli Space of Torsion Sheaves on the Projective Plane*, arXiv:1305.1465

Dissertation

Relative Jacobians of Linear Systems, advised by Joe Harris

Invited Talks

- UIC Algebraic Geometry Seminar, Nonrationality of Certain Hypersurfaces, October 2014
- Rice Algebraic Geometry Seminar, Strong Franchetta Conjecture for Linear Systems, February 2014
- VIASM Workshop on Birational Geometry and Stability of Moduli Stacks and Spaces of Curves, Moduli of Representations of Quivers, January 2014
- Graduate Workshop on Geometry of Hilbert Schemes, Gaeta Resolutions of Ideal Sheaves and Effective Divisors on Relative Jacobians, Simons Center for Geometry and Physics, November 2013
- Harvard/MIT Algebraic geometry seminar, Effective and Nef Divisors on Moduli Spaces of One-Dimensional Sheaves on the Projective Plane, September 2013
- AMS Special Session on Moduli Spaces in Algebraic Geometry, Effective Divisors on the Moduli Space of One-dimensional Sheaves on the Projective Plane, April 2013

Teaching

- Instructor for Math 210: Calculus III, UIC, Fall 2014
- Instructor for Math 21a: Multivariable calculus I, Harvard University, Fall 2013
- Various TA Duties, Harvard University, 2011-2012

Personal

I am a citizen of both the UK and the US.