Matthew N. Mastroeni

Contact
Information

Department of Mathematics
Oklahoma State University
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`mnmastro/github.io`

Employment

Postdoctoral Fellow, Oklahoma State University, 2018 – present.

Education

Ph.D. in Mathematics
> University of Illinois at Urbana-Champaign, 2018.
> Thesis: *Betti Numbers of Koszul Algebras and Codimension Two Matrix Factorizations*
> Advisor: Hal Schenck

M.S. in Mathematics
> Syracuse University, 2012.

B.A. in Mathematics
> Ithaca College, 2009.

Research
Interests

Computational and homological aspects of commutative algebra, especially the structure of free resolutions.

Publications

(1) P. Mantero and M. Mastroeni. *Betti numbers of Koszul algebras defined by four quadrics.* Submitted.

(2) M. Mastroeni, H. Schenck, and M. Stillman. *Quadratic Gorenstein rings and the Koszul property II.* Submitted.

(3) M. Mastroeni, H. Schenck, and M. Stillman. *Quadratic Gorenstein rings and the Koszul property I.* Submitted.

(4) M. Mastroeni. *Koszul almost complete intersections.* J. Algebra 501 (2018), 285–302.

(5) M. Mastroeni. *Matrix factorizations and singularity categories in codimension two.* Proc. Amer. Math. Soc. 136 (2018), no. 11, 4605–4617.

Invited Talks

AMS Special Session on Combinatorial Techniques in Commutative Algebra – West Lafayette, IN	April 2020
Algebra Seminar – University of Arkansas	April 2019

INVITED TALKS (CONTINUED)	AMS Special Session on Interactions Between Combinatorics and Commutative Algebra – Fayetteville, AR	November 2018
	AMS Special Session on Commutative Algebra and Complexity – Ann Arbor, MI	October 2018
	Math Department Colloquium – Oklahoma State University	October 2018
	Algebra Seminar – University of Arkansas	April 2018
	Combinatorial and Commutative Algebra Seminar – Oklahoma State University	April 2018
	Commutative Algebra Seminar – University of Nebraska–Lincoln	April 2018
	AMS Special Session on Commutative and Combinatorial Algebra – Columbus, OH	March 2018
	AMS Special Session on Commutative Algebra in All Characteristics – San Diego, CA	January 2018
	Structures on Free Resolutions – Lubbock, TX	October 2017

HONORS AND AWARDS

Departmental TA Instructional Award
University of Illinois Math Department, 2017.

- Annual departmental award based on a teaching portfolio, student evaluations, an interview, and classroom observation.

REGS Day Award
University of Illinois Math Department, 2013.

- Award for the best summer research project on higher codimension matrix factorizations.

Donald E. Kibbey Prize
Syracuse University Math Department, 2010.

University Fellowship
Syracuse University, 2009.

TEACHING EXPERIENCE

Instructor (Oklahoma State University)

Math 2144 Calculus 1	Fall 2018
Math 2153 Calculus 2	Fall 2019
Math 3613 Intro to Abstract Algebra	Fall 2019, Spring 2019

Instructor (University of Illinois)

Math 124 Finite Mathematics	Spring 2018

TEACHING EXPERIENCE (CONTINUED)	**Grader (University of Illinois)**	
	Math 416 Abstract Linear Algebra	Spring 2018

Teaching Assistant (University of Illinois)

	Math 221 Calculus 1	Fall 2016, Fall 2015
	Math 231 Calculus 2	Fall 2017, Spring 2016, Spring 2015, Fall 2014, Spring 2014, Spring 2013, Fall 2012
	Math 241 Calculus 3	Fall 2013

Instructor (Syracuse University)

	MAT 221 Elementary Probability and Statistics 1	Fall 2011, Spring 2011
	MAT 286 Calculus for the Life Sciences	Spring 2012

Teaching Assistant (Syracuse University)

	MAT 121 Probability and Statistics for the Liberal Arts 1	Fall 2010

SERVICE AND MENTORING EXPERIENCE	**Graduate Affairs Committee Member**
	University of Illinois Math Department, Fall 2017 – Spring 2018.
	TA Teaching Awards Committee Member
	University of Illinois Math Department, Fall 2017.
	Graduate Student Mentor – Illinois Geometry Lab
	University of Illinois, June 2017.
	Seminar Organizer – Commutative Ring Theory Seminar
	University of Illinois, Fall 2014 – Spring 2018.

PROFESSIONAL DEVELOPMENT	CIME Recent Developments in Commutative Algebra Workshop	July 2019
	CBMS Conference on Applications of Polynomial Systems – Texas Christian University	June 2018
	Macaulay2 Workshop – University of Wisconsin Madison	April 2018
	MSRI Homological Conjectures Workshop	March 2018
	Stillman's Conjecture and other Progress on Free Resolutions – UC Berkeley	July 2017
	RTG Homological Conjectures in Commutative Algebra Workshop – University of Illinois Chicago	November 2016

Professional Development (Continued)	Macaulay2 Workshop – University of Utah	May 2016
	RTG Local Cohomology Workshop – University of Illinois Chicago	February 2015