Matthew N. Mastroeni

Contact Information	Department of Mathematics
	Oklahoma State University
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	Stillwater, OK 74078
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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) M. Mastroeni. *Koszul almost complete intersections.* J. Algebra 501 (2018), 285–302.

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

Conference Presentations

- *AMS Special Session on Interactions Between Combinatorics and Commutative Algebra*, November 2018, Fayetteville, AR.

- *AMS Special Session on Commutative Algebra and Complexity*, October 2018, Ann Arbor, MI.

- *AMS Special Session on Commutative and Combinatorial Algebra*, March 2018, Columbus, OH.

- *AMS Special Session on Commutative Algebra in All Characteristics*, January 2018, San Diego, CA.

- *Structures on Free Resolutions*, October 2017, Lubbock, TX.

Invited Talks	■ Algebra Seminar, University of Arkansas, April 2018.

Invited Talks

- 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.

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 and Mentoring Experience

Teaching Assistant
University of Illinois, 2012 – 2018.

- 11 semesters of experience.
- On the university's List of Teachers Ranked as Excellent for 10 semesters in a row.
- Served as Head TA in Spring 2015, responsible for supervising 14 TA's and helping with course administration.
- Served as the primary course instructor in Spring 2018.

Graduate Student Mentor – Illinois Geometry Lab
University of Illinois, June 2017.

- Mentored four undergraduates doing research on a combinatorial game involving commutative Noetherian rings.
- Taught relevant aspects of commutative algebra and using Macaulay2 to compute examples, posed research questions, and gave students feedback on their work.

Teaching Assistant
Syracuse University, 2010–2012.

- Served as the primary course instructor for 3 semesters.

SERVICE
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.

Seminar Organizer – Commutative Ring Theory Seminar
University of Illinois, Fall 2014 – Spring 2018.

PROFESSIONAL
DEVELOPMENT

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.

Macaulay 2 Workshop, University of Utah, May 2016.

RTG Local Cohomology Workshop, University of Illinois Chicago, February 2015.