

# MATTHEW N. MASTROENI

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CONTACT INFORMATION	Department of Mathematics Oklahoma State University 401 Math Sciences Building Stillwater, OK 74078	<a href="mailto:mmastro@okstate.edu">mmastro@okstate.edu</a> <a href="https://github.com/mnmastro">mnmastro/github.io</a>
EMPLOYMENT	<b>Postdoctoral Fellow</b> , Oklahoma State University, 2018 – present.	
EDUCATION	<b>Ph.D. in Mathematics</b> University of Illinois at Urbana-Champaign, 2018. Thesis: <i>Betti Numbers of Koszul Algebras and Codimension Two Matrix Factorizations</i> Advisor: Hal Schenck  <b>M.S. in Mathematics</b> Syracuse University, 2012.  <b>B.A. in Mathematics</b> Ithaca College, 2009.	
RESEARCH INTERESTS	Computational and homological aspects of commutative algebra, especially the structure of free resolutions.	
PUBLICATIONS	<ol style="list-style-type: none"><li>(1) P. Mantero and M. Mastroeni. <i>Betti numbers of Koszul algebras defined by four quadrics</i>. Submitted.</li><li>(2) M. Mastroeni, H. Schenck, and M. Stillman. <i>Quadratic Gorenstein rings and the Koszul property II</i>. Submitted.</li><li>(3) M. Mastroeni, H. Schenck, and M. Stillman. <i>Quadratic Gorenstein rings and the Koszul property I</i>. Submitted.</li><li>(4) M. Mastroeni. <i>Koszul almost complete intersections</i>. J. Algebra 501 (2018), 285–302.</li><li>(5) M. Mastroeni. <i>Matrix factorizations and singularity categories in codimension two</i>. Proc. Amer. Math. Soc. 136 (2018), no. 11, 4605–4617.</li></ol>	
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	<b>Departmental TA Instructional Award</b> University of Illinois Math Department, 2017.	
	■ Annual departmental award based on a teaching portfolio, student evaluations, an interview, and classroom observation.	
	<b>REGS Day Award</b> University of Illinois Math Department, 2013.	
	■ Award for the best summer research project on higher codimension matrix factorizations.	
	<b>Donald E. Kibbey Prize</b> Syracuse University Math Department, 2010.	
TEACHING EXPERIENCE	<b>University Fellowship</b> Syracuse University, 2009.	
	<b>Instructor (Oklahoma State University)</b>	
	Math 2144 Calculus 1	Fall 2018
	Math 2153 Calculus 2	Fall 2019
	Math 3613 Intro to Abstract Algebra	Fall 2019, Spring 2019
	<b>Instructor (University of Illinois)</b>	
	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,  
MENTORING,  
AND OUTREACH

**Stillwater High School Math Seminar**

Stillwater, OK, November 2019.

**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

PROFESSIONAL DEVELOPMENT (CONTINUED)	RTG Homological Conjectures in Commutative Algebra Workshop – University of Illinois Chicago	November 2016
	Macaulay2 Workshop – University of Utah	May 2016
	RTG Local Cohomology Workshop – University of Illinois Chicago	February 2015