

Ashley K. Wheeler

CITIZENSHIP USA

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RESEARCH
INTERESTS Commutative Algebra, Algebraic Geometry

EDUCATION **University of Michigan**

Ph.D. in Mathematics, 2014

- Thesis: *Ideals Generated by Principal Minors*
- Advisor: Mel Hochster
- (Embedded) M.S. in Mathematics, 2011

Kansas State University

B.S. in Mathematics, 2008

- McNair Scholar
- Finalist, Distinguished Undergraduate Student in Research
- Nominee, Barry M. Goldwater Scholarship

United States Air Force Academy

- Attended 2003-2004, honorable discharge.
- Transferred to Kansas State University.

PUBLICATIONS *The Sandpile Group of a Thick Cycle Graph*, joint with D. Alar, J. Celaya, M. Henson, L. Garcia-Puente. In preparation.

Finiteness of Associated Primes of Local Cohomology Modules over Stanley-Reisner Rings, joint with R. Barrera and J. Madsen. In preparation.

Principal Minor Ideals and Rank Restrictions on their Vanishing Sets, to appear in *Journal of Algebra*. DOI:10.1016/j.jalgebra.2016.08.013. (arXiv:1503.05799)

Ideals Generated by Principal Minors, to appear in *Illinois Journal of Mathematics*. (arXiv:1410.1910v3)

CONFERENCE
TALKS *Local Cohomology over Stanley-Reisner Rings* (poster), KUMUNU, University of Kansas, KS. (October 2016)

Special Session on Combinatorial and Computational Commutative Algebra and Algebraic Geometry: Principal Minor Ideals with Matroid Theory, American Mathematical Society (AMS) Sectional Meeting, University of Utah, Salt Lake City, UT. (April 2016)

Ideals Generated by Principal Minors

Special Session on Recent Advances in Commutative Algebra, AMS Sectional Meeting, University of Memphis, Memphis, TN. (October 2015)

Joint Mathematics Meetings, Baltimore Convention Center, Baltimore, MD. (January 2014)

Symplectic Topology of Hamiltonian Systems with One Degree of Freedom

MKN (MO-KAN-NE) McNair Heartland Research Conference, Marriott Country Club Plaza Hotel, Kansas City, MO. (September 2007)

The Pennsylvania State University McNair Summer Research Conference, Pennsylvania State University, State College, PA. (August 2007)

Duality in the Euclidean and Projective Planes (joint work with Kledin Dobi), Young Mathematicians Conference (YMC), Ohio State University, Columbus, OH. (August 2007)

SERVICE

Panelist and Representative of the Mathematical Sciences Research Institute (MSRI), Tenth Annual National Alliance for Doctoral Studies in the Mathematical Sciences Field of Dreams Conference, St. Louis, MO. (Fall 2016)

Local Supervisor, William Lowell Putnam Mathematical Competition, University of Arkansas. (Fall 2016)

Assistant Faculty Advisor, Math Club, University of Arkansas. (SY 2016-2017)

Assistant Faculty Advisor, Arkansas Women in Statistics and Math (AWSM), University of Arkansas. (SY 2014-2015)

Divisors, Organized Mathematical Networking and Inquiry (OMNI), University of Arkansas. (October/November 2014)

Student Commutative Algebra Seminar, University of Michigan

Intro to Étale Extensions (October 2013)

Introduction to Semigroup Rings (April 2013)

Truncations and Polarization (October 2012)

Classical Solid Projective Geometry (March 2012)

Macaulay's Theorem and the EGH Conjecture (November 2011)

Local Cohomology and D-Modules (October 2011)

Student Algebraic Geometry Seminar, University of Michigan

Proper Push-Forward and Flat Pullback for Chow Groups (September 2012)

The Multiplier Ideal is a Test Ideal (February 2011)

TEACHING
EXPERIENCE

Fall 2016	Professor , <i>Survey of Calculus</i> (University of Arkansas) Math 2043. Selected topics in elementary calculus and analytic geometry for students in business, agriculture, and social sciences.
Summer 2016	Postdoctoral Assistant , <i>MSRI-UP 2016: Sandpile Groups</i> (Mathematical Sciences Research Institute) MSRI Undergraduate Program.
Spring 2016	Professor , <i>Calculus I</i> (University of Arkansas, also taught Spring-Summer 2015, Fall 2014)

Student comments:

"The snow days did not make it easy for her to cover all the material announced in the syllabus, but still she managed to catch up brilliantly during the last weeks of the semester!"

"Dr. Wheeler was an exceptional teacher. She has made a difference in the math department. I will take Dr. Wheeler for Calculus 3 this coming fall. She explains problems and answers all questions students have. She also lets you do problems on your own, and she walks to the back of the class to see students try the problem and answer any questions. The U OF A needs more teachers like Dr. Wheeler."

Fall 2015	Professor , <i>Calculus III</i> (University of Arkansas)
Fall 2014	Professor , <i>Discrete Mathematics</i> (University of Arkansas) Math 2603. Introductory study of sets, relations, logic, proofs, algorithms, counting methods, graph theory, trees, and Boolean algebras.
Fall 2012	Graduate Student Instructor (GSI) , <i>Calculus II</i> (University of Michigan)
Fall 2010	GSI , <i>Calculus I</i> (University of Michigan)
Summer 2010	GSI , <i>Differential Equations</i> (University of Michigan)
Fall 2009	GSI , <i>Data, Functions, and Graphs</i> (University of Michigan) Math 105. Mathematical modeling of real-life problems using linear, polynomial, exponential, logarithmic, and trigonometric functions.
Summer 2009	Graduate Student Teaching Assistant , <i>MSRI-UP 2009: Coding Theory</i> (Mathematical Sciences Research Institute)
Summer 2008	Instructor , <i>Graduate Records Examination (GRE) Preparation</i> (Kansas State University) Course sponsored by the McNair Scholars Program. Quantitative Reasoning portion of the GRE.

SOFTWARE AND COMPUTER LANGUAGE SKILLS	Proficiency:	\TeX , \LaTeX , <i>Macaulay2</i> , HyperText Markup Language (HTML)
	Some Experience:	\BibTeX , GNU Emacs, C/C#, <i>Mathematica</i> , <i>Maple</i> , JavaScript, Cascading Style Sheets (CSS)

HONORS, GRANTS, AWARDS	2015	Mathematical Research Community (MRC), Snowbird Resort, UT
	2014	Visiting Assistant Professor: Extended Offer (to SY 2016-2017), University of Arkansas
	2014	AMS Travel Grant: AMS Sectional Meeting, University of New Mexico
	2014	AMS Travel Grant: Joint Mathematics Meetings, Baltimore Convention Center
	2008 - 2011	Rackham Fellowship Award The Rackham Graduate School, University of Michigan
	2008	Outstanding Senior Award Mathematics Department, Kansas State University
	2008	1st Place Individual, Kansas Collegiate Mathematics Competition Mathematical Association of America (MAA) Kansas Section, Bethel College
	2007 - 2008	I-Center Undergraduate Scholar Award Center for the Integration of Undergraduate, Graduate and Postdoctoral Research, Mathematics Department, Kansas State University
	2007	Scored 19, 68th William Lowell Putnam Mathematical Competition (Earned Fung's Achievement Award at Kansas State University for top score, 2007)

	2007	Mathematical Association of America (MAA) Successful, Mathematical Contest in Modeling (MCM)
	2006	Consortium for Mathematics and Its Applications (COMAP) 2nd Place, The Eighth Annual S. Thomas Parker Mathematical Competition Mathematics Department, Kansas State University
CONFERENCES AND WORKSHOPS ATTENDED	November 2016	Tenth Annual National Alliance for Doctoral Studies in the Mathematical Sciences Field of Dreams Conference, St. Louis, MO
	October 2016	Society for Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Long Beach, CA
	October 2016	KUMUNU, University of Kansas, Lawrence, KS
	April 2016	AMS Sectional Meeting, University of Utah, Salt Lake City, UT
	January 2016	Joint Mathematics Meetings, Seattle, WA
	October 2015	KUMUNU, University of Missouri, Columbia, MO
	October 2015	AMS Sectional Meeting, University of Memphis, Memphis, TN
	March 2015	Recent developments in positive characteristic techniques in commutative algebra: Frobenius Operators and Cartier Algebras, Atlanta, GA
	September 2014	KUMUNU, University of Missouri, Columbia, MO
	April 2014	AMS Sectional Meeting, University of New Mexico, Albuquerque, NM
	January 2014	Joint Mathematics Meetings, Baltimore Convention Center, Baltimore, MD
	October 2013	AMS Sectional Meeting, University of Louisville, Louisville, KY
	April 2012	AMS Sectional Meeting, University of Kansas, Lawrence, KS
	April 2011	Underrepresented Students in Topology and Algebra Research Symposium (USTARS), University of Iowa, Iowa City, IA
	October 2009	SACNAS National Conference, Kansas City, MO
	March 2008	Workshop and Combinatorics of Partitions and q -Series Conference, University of Florida, Gainesville, FL
	January 2008	Joint Mathematics Meetings, San Diego Convention Center, San Diego, CA
	Fall 2007	Mathematics Advanced Study Semesters (MASS) Program, Pennsylvania State University, State College, PA
	October 2007	MSRI Workshop on Modern Mathematics and Society for Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Kansas City, MO
	September 2007	MKN (MO-KAN-NE) McNair Heartland Research Conference, Kansas City, MO
	August 2007	Young Mathematicians Conference (YMC), Ohio State University, Columbus, OH
	August 2007	The Pennsylvania State University McNair Summer Research Conference, Pennsylvania State University, State College, PA