

CURRICULUM VITAE
MEGAN E. STONE

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EDUCATION

Ph.D. in Mathematics

University of Arizona, December 2017.

Dissertation Topic: The Asymptotic Behavior of the Hermitian Two-Matrix Model.

Thesis Advisor: Nick Ercolani.

M.S. in Mathematics

University of Washington, 2010.

Thesis topic: The Gröbner Fan of the Cut Ideal.

Thesis Advisor: Rekha Thomas.

B.S. in Mathematics with honors

The Ohio State University, 2006.

Philosophy minor.

AWARDS

2016	EDGE (Enhancing Diversity in Graduate Education) alumni travel grant
2015	College of Science Service award for Mathematics, University of Arizona.
2014-2015, 2016	Mathematics Department Fellowship, University of Arizona.
2010	S-STEM (Scholarships in Science, Technology, Engineering and Mathematics) fellowship, University of Arizona.
2007-2008	GO-MAP (Graduate Opportunities and Minority Achievement Program) Fellow, University of Washington.
2006-2007	Van Meter Fellowship, University of Kentucky.
2005-2006	VIGRE Undergraduate Fellowship, Ohio State University.
2002-2006	Honors Fellowship, Ohio State University.

RESEARCH

2011-present	Random matrix theory, multiple orthogonal polynomials, and connections to Hurwitz numbers. Including PhD thesis work with Nick Ercolani.
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2013-2014	Participated in a working group on universal wave patterns in integrable nonlinear waves at the conference on integrable systems, random matrix theory, and combinatorics. October 23-27, 2013 at the University of Arizona. Continued to work with members of the working group (Peter Miller, Robert Buckingham, David Smith) in July 2014 in Ann Arbor, Michigan.
2008-2010	The Gröbner Fan of the cut ideal: Masters thesis work with Rekha Thomas at the University of Washington.
2005-2006	VIGRE Research Assistant, Ohio State University: Working group on groups, graphs and surfaces with Professor Henry Glover.
2005	Research Experience for Undergraduates, University of Washington: Inverse problems associated with discrete planar and non-planar networks. Organized and led by Professor Jim Morrow.

TEACHING EXPERIENCE

01/2017-05/2017	Primary Instructor: Introduction to Linear Algebra. Primary instructor duties: planned all lessons, delivered all lectures, wrote and graded exams, held office hours, assigned and graded homework.
08/2015-12/2015	Primary Instructor: Calculus I.
06/2015-07/2015	Primary Instructor: Trigonometry, online course.
01/2011-05/2011, 08/2011-12/2011, 06/2012-07/2012, 05/2013-06/2013, 06/2014-07/2014	Primary Instructor: College Algebra.
01/2014-05/2014	Primary Instructor: Introduction to Statistics and Biostatistics.
01/2013-03/2013, 08/2013-11/2013	Primary Instructor: Trigonometry.
08/2012-12/2012	Super teaching assistant: Undergraduate analysis. Assisted the primary instructor by holding a weekly problem session for students to supplement the class lectures, and held regular office hours. Also helped with grading.
01/2012-05/2012	Super teaching assistant: Introduction to Proof. Assisted the primary instructor by holding a weekly problem

session for students to supplement the class lectures, and held regular office hours.

- 01/2012-05/2012 Primary Instructor: Math in a Modern Society.
- 09/2008-04/2010 GK-12 Graduate Fellow, Emerson Elementary School, through the University of Washington.
As part of an NSF grant to immerse graduate students in science, technology, engineering, and mathematics in K-12 education, I worked with several teachers at Emerson Elementary School. I prepared lesson plans to supplement curriculum for grades K-2 during the 2008-2009 school year, and for grades K-5 during the 2009-2010 school year. The lesson plans were designed to be interactive, encourage critical thinking, and build connections between math and other disciplines.
- 06/2008-07/2008 TA for Pre-calculus, University of Washington.
Assisted primary instructor with grading, holding office hours, and problem sessions.
- 08/2006-05/2007 TA for Calculus II and III, University of Kentucky.
Held a discussion section for Calculus II and III. Went over homework problems and other problems relevant to class material. Graded homework and held review sessions for tests.
- 01/2005-12/2005 Mathematics Tutor, Calculus II, Ohio State University.
Worked individually with two undergraduate students. Focused on homework problems and other questions the students brought up.

ACTIVITIES

- 08/2013-05/2014 Graduate student representative, Department of Mathematics, University of Arizona.
- 08/2013 Graduate student mentor for the Mathematics department's integration workshop.
A workshop for the incoming graduate students.
- 08/2012-05/2013 Mathematics representative, AGCCS (Associate Graduate Council for the College of Science) at the University of Arizona.

PUBLICATIONS

G. Lozano and M. Stone. Eigenvalue explorations: a learning progression through high school number, quantity, and statistics domains. *Arizona Association of Teachers of Mathematics: OnCore Journal* Spring 2016 edition, 64-77.

(Submitted) M. Stone. Eigenvalue densities for the Hermitian two-matrix model. *A Celebration of the EDGE Program's Impact on the Mathematics Community and Beyond*, Springer-AWM. 2019.

INVITED TALKS

- 10/21/2018 AMS Fall Central Sectional meeting, University of Michigan. Presentation title: "Eigenvalue Densities for the Hermitian Two-Matrix Model."
- 04/08/2017 Association for Women in Mathematics (AWM) Research Symposium, UCLA.
"Eigenvalue Distributions for the Hermitian Two-Matrix Model."
- 03/30/2017 The Tenth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia.
"Eigenvalue Distributions for the Two-Matrix Model."
- 10/09/2016 AMS Western Sectional Meeting, University of Denver.
"Eigenvalue Distributions for the Two-Matrix Model."
- 04/01/2015 The Ninth IMACS International Conference.
"Hurwitz numbers and random matrix theory."
- 01/25/2014 Mathematics Educator Appreciation Day conference, University of Arizona.
"How to change the world: The power of mass point geometry and interactive mathematics. "

OUTREACH

- 2011-2017 University of Arizona Sonia Kovalevsky Day volunteer. I help with this annual workshop, which focuses on celebrating women in mathematics, by coming up with workshop ideas, writing and leading workshops, and inviting keynote speakers to the event.
- 08/2012-05/2016 Organizer for the Tucson Math Circle.
The Tucson Math Circle is an after school program designed to encourage middle and high school students to think creatively about mathematical problems that they might not be exposed to in their classrooms. I wrote lesson plans for the Math Circle, and I organized the circle by advertising to middle and high schools, sending out announcement emails, and scheduling the topics each week.
- 03/2015 Math Circle representative at Challenger Middle school Math night.

- Introduced students and parents to Zometools and explained the mathematical concepts illustrated with these tools. Discussed graph theory problems with students and parents via an interactive model of the Königsberg bridge problem.
- 12/2014 Volunteer for *Geometry in Context*, math outreach project funded by the University of Arizona and the NASA Space Grant Graduate Fellowship Program. Mathematics graduate student Joseph Thomas created a sequence of animations that promote student interest in mathematics and space science. I was the voice for a character in one of these animations.
- 04/19/2014 Math Circle representative at the Second Annual Chess and Science Festival and All-Girls Tournament. Angelina Belakovskaia, three time U.S. women's chess champion, invited the Tucson Math Circle to have an exhibit at this competition. Set up a Zometool exhibit and explained the mathematical concepts illustrated with these tools to students and parents attending the event.
- 04/26/2013 Guest presenter at a girls in science after school program at Sonoran Science Academy. I introduced hexaflexagons and showed the group how to construct them.
- 12/2013, 10/2014 Math Circle representative at Desert View High School Math nights. Introduced students and parents to Zometools, which are mathematical building toys that can be used to introduce a wide variety of mathematical concepts including minimal surface area and the golden ratio.
- 2011-2013 Arizona Mathematics Road Show volunteer. Assisted professor Bruce Bayly in transporting math tools and devices to various schools and science outreach events, and explained the mathematics behind these devices to students and parents. Planned and organized the Road Show exhibit at the AZ Science and Astronomy Expo on November 10, 2012.
- 03/2010 University of Washington Mathday volunteer. Organized a session on card tricks that involved binary numbers and DeBruijn sequences.
- 11/12/2009 Seattle MathFest volunteer. Worked individually with students and parents on a logic activity.