

Weiyan Chen

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RESEARCH INTERESTS Geometric and algebraic topology, algebraic geometry, and representation theory.

EMPLOYMENT **University of Minnesota, Twin Cities**
Dunham Jackson Assistant Professor (August 2017 - May 2020)

EDUCATION **University of Chicago**
Ph.D. in Mathematics, June 2017
Dissertation: Analytic Number Theory for 0-cycles
Advisor: Benson Farb

Cornell University
B.A. in Mathematics and Philosophy, May 2012
summa cum laude in mathematics.

PUBLICATIONS AND PREPRINTS **Stability in the cohomology of the space of complex irreducible polynomials in several variables**, to appear in *International Mathematics Research Notices*.

Obstructions to choosing distinct points on cubic plane curves, in *Advances in Mathematics*, 340, 211-220 (December 2018).

Analytic number theory for 0-cycles, in *Mathematical Proceedings of the Cambridge Philosophical Society*, 1-24 (October 2017).

Cohomology of configuration spaces and spaces of maximal tori via counting points over finite fields. *Preprint*, ArXiv:1603.03931.

Homology of braid groups, the Burau representation, and F_q -points on superelliptic curves, in *Israel Journal of Mathematics*, Volume 220, Issue 2, pp 739-762 (June 2017).

Optimal control with reset-renewable resources, with R. Takei, Z. Clawson, S. Kirov, and A. Vladimirovsky, in *SIAM J. on Control and Optimization* 53/2: 712-744 (2015).

AWARDS AND HONORS **Lawrence and Josephine Graves Prize** (2016), Dept. Math., University of Chicago. Awarded to graduate lecturers for effective and responsible teaching.

Member of the American Mathematical Society (AMS)

INVITED TALKS

AMS Meeting at the University of Wisconsin-Madison, Madison, WI, September 14, 2019.

Arithmetic Topology, Pacific Institute of Mathematical Sciences (PIMS), Vancouver, BC, Canada, June 10, 2019.

Midwest Representation Stability Research Meeting, Chicago, IL, April 27, 2019.

Geometry and Topology Seminar, University of Chicago, Chicago, IL, April 2019.

Topology Seminar, University of Michigan, Ann Arbor, MI, March 2019.

“Braids, Resolvent Degree, and Hilbert’s 13th Problem”, Institute of Pure and Applied Mathematics (IPAM), Los Angeles, CA, February, 2019.

“Root of Topology”, summer school in geometry and topology, Chicago, IL, June 2018.
Department Colloquium, University of Southern California, Los Angeles, CA, April 18, 2018.

Number Theory Seminar, University of California at Irvine, April 17, 2018.

Topology Seminar, University of Minnesota, Minneapolis, MN, January 30, 2018.

Workshop on Representation stability and arrangements, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, January 14-20 2018.

No Boundaries: Groups in Algebra, Geometry and Topology (in honor of Benson Farb), Chicago IL, October 27-28, 2017.

Workshop on Braids in algebra, geometry and topology, International Center for Mathematical Sciences, Edinburgh, United Kingdoms, May 22-26 2017.

AMS Special Session on Representation Stability and its applications, Indiana University, Bloomington, Indiana, April 1-2 2017.

Geometry Seminar, Purdue University, West Lafayette, Indiana, February 6 2017.

Geometry Seminar, University of Michigan, Ann Arbor, Michigan, December 9 2016.

Workshop on Representation Stability, the American Institute of Mathematics, San Jose, CA, June 2016.

Algebra/Topology Seminar, University of Copenhagen, Copenhagen, Denmark, March 29, 2016.

Geometry Seminar, University of Virginia, Charlottesville, Virginia, March 22, 2016.

AMS Special Session on Topology and Combinatorics of Arrangements (in honor of Mike Falk), Stony Brook University, New York, March 19-20, 2016.

Geometry Topology Seminar, Georgia Tech, Atlanta, GA, August 31, 2015.

TEACHING EXPERIENCE

Spring	2020	Instructor, Honors Multivariable Calculus II
Spring	2020	Instructor, Calculus II
Fall	2019	Instructor, Honors Multivariable Calculus I
Spring	2019	Instructor, Graduate Algebraic Topology II
Fall	2018	Instructor, Honors Mathematical Analysis I
Spring	2018	Instructor, Calculus II
Fall	2017	Instructor, Applied linear algebra
Winter	2017	Instructor, Mathematics for Humanities Students: Geometry
Fall	2016	Instructor, Mathematics for Humanities Students: Number Theory
Spring	2016	Instructor, Calculus III
Winter	2016	Instructor, Calculus II
Fall	2015	Instructor, Calculus I
Spring	2015	Instructor, Calculus III
Winter	2015	Instructor, Calculus II
Fall	2014	Instructor, Calculus I
Spring	2014	College Fellow TA, Abstract algebra III
Winter	2014	College Fellow TA, Point-set topology
Fall	2013	College Fellow TA, Mathematical logic I

In 2009-10 and 2010-11 academic years, I was an undergraduate instructor for the Academic Excellence Workshops (AEW) in Cornell University, teaching mathematics and chemistry.

MENTORING UNDERGRADUATE

Math 4993: Directed study, University of Minnesota, Fall 2018. I mentored an undergraduate philosophy major on an independent reading course about abstract algebra and mathematical logic.

Math 4993: Directed study, University of Minnesota, Spring 2018. I mentored an undergraduate senior on an independent reading course about Galois theory.

Directed Reading Program, University of Chicago, Winter 2016. I mentored an undergraduate senior on an independent reading course about analytic number theory.

Research Experience for Undergraduates (REU), University of Chicago, Summer 2015 and 2016. I mentored two research groups of undergraduate students from underrepresented background. A group project led to a research paper titled “Statistics about polynomials over finite fields”.

SERVICE

Participant in the AMS Student Chapter at the University of Minnesota. I gave an introductory talk for the first-year graduate student about the connection between topology and arithmetic in Fall 2019.

Organizer of the *Farb and Friends Student Seminar* in topology, geometry, and dynamics, 2014-2015.

LANGUAGE

Chinese, English

REFERENCE

Craig Westerland, Associate Professor in the School of Mathematics, University of Minnesota, Twin Cities.
 cwesterl@umn.edu

Benson Farb, Professor in the Department of Mathematics, University of Chicago.
 farb@math.uchicago.edu