

**CONTACT
INFORMATION**

Department of Mathematics
Vanderbilt University
1326 Stevenson Center Lane
Nashville, TN 37240

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Citizenship: US

APPOINTMENTS

2016 - present Visiting Assistant Professor, Vanderbilt University
2013 - 2016 RTG Instructor, University of Texas at Austin

DEGREES

2013 Ph.D. in Mathematics, Stanford University.
Advisors: Ralph Cohen, Andrew Blumberg
2007 B.S. in Mathematics, MIT.

**VISITING POSITIONS
AND RESEARCH
VISITS**

May - June, 2017. Simons Center for Geometry and Physics, as part of the program *Mathematics of Topological Phases of Matter*
May - June, 2018. Institute for Advanced Study, as part of the *Summer Collaborators* program (with Inna Zakharevich)

PUBLICATIONS

- *The Algebraic K-Theory of Varieties*. To appear in *Transactions of the American Mathematical Society*. <http://arxiv.org/abs/1505.03136>
- *A Guide to Computing Stable Homotopy Groups*. To appear in *Topological and Quantum Field Theory in Interaction*, a proceedings of an NSF-CBMS conference. <https://arxiv.org/pdf/1801.07530.pdf>
- *Topological Hochschild Homology and Higher Characteristics*. Joint w/ Kate Ponto. To appear in *Algebraic and Geometric Topology*. <https://arxiv.org/abs/1803.01284>.

**PAPERS AND
PREPRINTS**

- *Derived ℓ -adic ζ -functions*. Joint w/ Jesse Wolfson and Inna Zakharevich. Submitted. <http://arxiv.org/abs/1703.09855>.
- *Classification of Symmetry Protected Phases via Homotopy Theory*. Submitted. <http://arxiv.org/abs/1708.04264>.
- *Derived Koszul Duality and Topological Hochschild Homology*. Submitted. <http://arxiv.org/abs/1401.5147>
- *(Co)Homology of Spectral Categories*. <http://arxiv.org/abs/1512.07521>.
- *Devissage for Combinatorial K-Theory*. Joint w/ Inna Zakharevich. In preparation.
- *K-Theory with Squares*. Joint w/ Inna Zakharevich. In preparation.
- *Scissors Congruence and the Rank Filtration in K-theory*. Joint w/ Inna Zakharevich. In preparation.
- *Fixed Point Theory and TR*. Joint w/ John Lind, Cary Malkiewich, Kate Ponto, and Inna Zakharevich. In preparation.

INVITED TALKS

Talk Title TBD, University of British Columbia
Talk Title TBD, Michigan State University, November 8, 2018.
Talk Title TBD, EPFL, October 8-22, 2018.
Talk Title TBD, EPFL, October 8-22, 2018.
Talk Title TBD, Cornell, October 4, 2018.
Fixed Point Theory and the Cyclotomic Trace, SUNY-Albany, September 21, 2018.

Cutting up Space: The Dehn Invariant, Union College, September 20, 2018.
Fixed Point Theory and the Cyclotomic Trace, Indiana University, September 4, 2018.
Combinatorial K-Theory, Devissage and Localization, Homotopy Theory Berlin, June 22, 2018.
An Introduction To, and Extension Of, Algebraic K-Theory, University of Kentucky, April 10, 2018.
THH and Fixed Point Invariants, University of Virginia, November 9, 2017.
Devissage for Cut and Paste K-theory, University of Illinois, Urbana-Champaign, October 24, 2017.
Lifting the Zeta Function, Johns Hopkins University, April 17, 2017.
A Spectral Lift of the Zeta Function, Vanderbilt University, April 15, 2016.
The Algebraic K-Theory of Varieties, Stanford University, Oct 27, 2015.
The Algebraic K-Theory of Varieties, University of Kentucky, Sept 10, 2015.
The Algebraic K-Theory of Varieties, University of Chicago, March 10, 2015.
The Algebraic K-Theory of Varieties, University of Illinois, Feb 10, 2015.
 MIT Topology Seminar, MIT, March 31, 2014.
 Joint Mathematics Meetings, Baltimore MD, Jan 17, 2014.
Topological Hochschild Homology and Koszul Duality University of California Riverside, November 27, 2012.
Topological Hochschild Homology and Koszul Duality Johns Hopkins University, November 19, 2012.
Topological Hochschild Homology and Koszul Duality University of Illinois Urbana-Champaign, November 13, 2012.
Topological Hochschild Homology and Koszul Duality University of Chicago, October 30, 2012.
Topological Hochschild Homology and Koszul Duality Northwestern University, October 29, 2012.

TEACHING
EXPERIENCE -
PRIMARY
INSTRUCTOR

At Vanderbilt University

Fall 2018 Math 1300 — Accelerated Calculus for Engineers
 Spring 2018 Math 3200 — Introduction to Topology
 Fall 2017 Math 2300 — Multivariable calculus
 Spring 2017 Math 2300 — Multivariable calculus
 Fall 2016 Math 3200 — Introduction to Topology

At UT-Austin

Fall 2015 Math 392C — Rational Homotopy Theory
 Spring 2015 Math 361 — Complex Analysis
 Fall 2014 Math 408C — Calculus I
 Spring 2014 Math 408M — Multivariable Calculus
 Fall 2013 Math 408D — Calculus II

TEACHING
EXPERIENCE -
TEACHING
ASSISTANT

At Vanderbilt University

Fall 2016 Math 1300 — Accelerated Single Variable Calculus

At Stanford University

Winter 2012 Math 121 — Modern Algebra II, Galois Theory
 Fall 2012 Math 51 ACE — Multivariable calculus and linear algebra. Special two hour section, coordinated with engineering diversity program (ACE).
 Spring 2011 Math 51 — Multivariable Calculus and Linear Algebra
 Winter 2011 Math 116 — Complex Analysis
 Spring 2010 Math 151 — Differential Topology
 Fall 2009 Math 51 — Multivariable Calculus and Linear Algebra
 Spring 2009 Math 20 — Integral Calculus
 Fall 2008 Math 52A — Advanced Multivariable Calculus

CONFERENCES
ORGANIZED

Shanks Workshop on Homotopy Theory. March 25-26, 2017, Vanderbilt University

CONFERENCES
ATTENDED

Midwest Topology Seminar. University of Kentucky, September 6, 2018.
 Homotopy Theory Summer, Berlin. June 18 - 22.
 Midwest Topology Seminar. Indiana University, April 28, 2018.
 Homotopy Theory on the Ecliptic. August 18-21, 2017. Reed College.
 Homotopy Theory: Tools and Applications. July 17-21, 2017. University of Illinois at Urbana-Champaign.
 Strongly Correlated Topological Phases of Matter. May 10 - June 10, 2017. Simons Center for Mathematics and Physics.
 Cornell Topology Festival. May 12-14, 2017. Cornell University, Ithaca, NY.
 Conference on Invertible Objects and Duality in Derived Algebraic Geometry and Homotopy Theory. April 3-7, 2017. Regensburg, Germany.
 Midwest Topology Seminar. September 17-18, 2016 Purdue University, West Lafayette, Indiana.
 Reimagining the Foundations of Algebraic Topology. April 7-11, 2014. MSRI, Berkeley, California.
 Introductory Workshop, Algebraic Topology. January 27-31, 2014. MSRI, Berkeley, California.
 Workshop on Equivariant, Chromatic and Motivic Homotopy Theory. March 25-29, 2013. Northwestern University, Evanston, Illinois.
 Midwest Topology Seminar. October 27-28, 2012. Michigan State University, East Lansing, Michigan.
 The Legacy of Daniel Quillen: K-theory and Homotopical Algebra. October 6-8, 2012. Cambridge, MA.
 Fourth Arolla Conference on Algebraic Topology. August 20-26, 2012. Arolla, Switzerland.
 Stanford Symposium. July 23-27, 2012. Stanford, CA.
 West Coast Algebraic Topology Summer School: Algebraic K-theory. July 16-20, 2012. Stanford, California.
 Michigan Derived Algebraic Geometry RTG Learning Workshop. May 17- 19, 2012. Ann Arbor, Michigan.
 Park City Mathematics Institute : Moduli Spaces of Riemann Surfaces. July 3- July 23 2011, Park City Utah.
 Conference on Homotopy Theory and Derived Algebraic Geometry. Aug. 30 - Sept. 3 2010. Fields Institute, Toronto.
 MSRI Hot Topics: The Kervaire Invariant. Oct 25-Oct 29 2010, MSRI, Berkeley, California.
 West Coast Algebraic Topology Summer School: Homotopy Theory of Moduli Spaces. Aug 9-14 2010, University of Oregon, Eugene, Oregon.
 Copenhagen Topology Conference 2010. Jan 8 - Jan 10, 2010, Copenhagen, Denmark.

OTHER
EMPLOYMENT

July 2007 - Jun 2008. Quantitative Analyst at Edison Mission Marketing and Trading.

COMPUTER SKILLS

Experience with Windows, Mac, and Linux machines. Programming languages: Extensive experience with Mathematica and familiarity with Matlab, Python, Haskell, Scheme (LISP), Perl. Experience with the database program FileMaker and with SQL and Microsoft Access.