

DAVID MEHRLE

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EDUCATION

- 2016+ **Cornell University, Ithaca, NY.**
PhD Student in Mathematics, MS in Mathematics 2017. Expected graduation: 2021.
Advisor: Inna Zakharevich.
Research Area: Homotopy theory, derived algebraic geometry.
- 2015-2016 **Cambridge University, Cambridge, England.**
Master of Advanced Study (Part III Mathematics) with distinction.
- 2011-2015 **Carnegie Mellon University, Pittsburgh, PA.**
MS in Mathematics, BS in Mathematics with University and College Honors.

PAPERS

- [1] **Constructing Families of Moderate-Rank Elliptic Curves over Number Fields.** *Minnesota Journal of Undergraduate Mathematics* **2**, 2017. With A. Chang, S.J. Miller, T. Reiter, J. Stahl, and D. Yott. [\[PDF\]](#) [\[arXiv\]](#)
- [2] **Newman's Conjecture in Function Fields.** *Journal of Number Theory* **157**, 2015. With A. Chang, S.J. Miller, T. Reiter, J. Stahl, and D. Yott. [\[PDF\]](#) [\[arXiv\]](#)
- [3] **Walk Modularity and Community Structure in Networks.** *Network Science* **3**, 2015. With A. Strosser and A. Harkin. [\[PDF\]](#) [\[arXiv\]](#)

TALKS

- March 2019 **Topological Hochschild homology of \mathbb{Z} and \mathcal{O}_K as Thom spectra.** Arizona Winter School, University of Arizona, Tucson Arizona. Project presentation.
- March 2018 **Why is Algebraic K -theory Hard?** NYRGM, Syracuse University, Syracuse, New York. Expository Talk.
- October 2017 **Stable Homotopy Theory and Algebra over Spheres.** BUGCAT, Binghamton University, Binghamton, New York. Expository Talk.
- July 2017 **An Eckmann-Hilton Argument for 2-categories.** Young Topologists' Meeting, KTH Royal Institute of Technology, Stockholm, Sweden.
- January 2015 **Newman's Conjecture for Function Field L -functions.** Joint Mathematics Meetings, San Antonio, Texas.
- January 2015 **A Family of Rank Six Elliptic Curves over Number Fields.** Joint Mathematics Meetings, San Antonio, Texas.
- September 2014 **Newman's Conjecture for Function Field L -functions.** Québec-Maine Number Theory Conference, Université Laval, Quebec City, Canada.
- August 2014 **A Family of Rank Six Elliptic Curves over Number Fields.** Young Mathematician's Conference, Ohio State University.
- January 2014 **Community Detection in Graphs based on a Generalization of Modularity.** Joint Mathematics Meetings, Baltimore, Maryland.
- August 2013 **Community Detection in Graphs based on a Generalization of Modularity.** Young Mathematician's Conference, Ohio State University.

TEACHING

- Fall 2018 **Head Teaching Assistant**, Math 1910: Calculus II for Engineers.
Summer 2018 **Instructor**, Math 1910: Calculus II for Engineers.
Fall 2017 **Head Teaching Assistant**, Math 1910: Calculus II for Engineers.
Spring 2017 **Instructor**, Math 1110: Calculus I.
Spring 2017 **Instructor**, Math Explorers' Club. An extracurricular program for high-schoolers.
Fall 2016 **Teaching Assistant**, Math 1910: Calculus II for Engineers.

GRANTS AND AWARDS

- Spring 2019 **Cornell University Research Travel Grant** (\$2000) for travel to MSRI for four weeks during the Spring semester.
Fall 2018 **Graduate Student Teaching Award** for teaching friendly, helpful, engaging courses and recitations, and for excellence in course administration.

SERVICE AND OTHER ACTIVITIES

- March 2019 **Project Group Participant**, Arizona Winter School. University of Arizona.
February 2019 **Participant**, Introductory Workshop: Derived Algebraic Geometry and Birational Geometry and Moduli Spaces. Mathematical Sciences Research Institute.
2018-2019 **Mentor**, Cornell graduate student mentorship program for new graduate students.
July 2018 **Co-organizer**, Young Topologists' Meeting 2018. University of Copenhagen, Copenhagen, Denmark.
June 2018 **Participant**, Homotopy Theory Summer Berlin: Equivariant homotopy theory and K-theory. Freie Universität Berlin, Berlin, Germany.
May 2018 **Participant**, Chromatic Homotopy Theory: Journey to the Frontier. University of Colorado Boulder.
August 2017 **Participant**, Midwest Topology Summer School: Trace Methods in K-Theory. Indiana University, Bloomington.
Summer 2014 **Counselor**, PROMYS Program. Boston University. A summer program for advanced high school students.