

# DAVID MEHRLE

(he/him/his)

(614) 458-8176  
[davidm@uky.edu](mailto:davidm@uky.edu)  
[davidmehrle.net](http://davidmehrle.net)

## EMPLOYMENT

July 2022– June 2025 **Postdoctoral Scholar**, University of Kentucky.

## EDUCATION

May 2022 **PhD in Mathematics**, Cornell University.  
**Advisor:** Inna Zakharevich  
**Thesis title:** Commutative and Homological Algebra of Incomplete Tambara Functors

May 2018 **MS in Mathematics**, Cornell University.

June 2016 **Master of Advanced Study**, Cambridge University.  
Part III Mathematics. Graduated with distinction.

May 2015 **MS in Mathematics**, Carnegie Mellon University.

May 2015 **BS in Mathematics**, Carnegie Mellon University.

## PAPERS AND PREPRINTS

- [1] **The homotopy of the  $KU_G$ -local equivariant sphere spectrum.** *arXiv preprint*, 2023. With T.N. Carawan, R. Field, B.J. Guillou, and N.J. Stapleton. [\[arXiv\]](#)
- [2] **Free incomplete Tambara functors are almost never flat.** *International Mathematical Research Notices*, 2022. With M.A. Hill and J.D. Quigley. [\[Journal\]](#) [\[arXiv\]](#)
- [3] **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. [\[Journal\]](#) [\[arXiv\]](#)
- [4] **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. [\[Journal\]](#) [\[arXiv\]](#)
- [5] **Walk Modularity and Community Structure in Networks.** *Network Science* 3, 2015. With A. Strosser and A. Harkin. [\[Journal\]](#) [\[arXiv\]](#)

## AWARDS

2022 **Gitner Prize for Teaching Assistants.** A university-wide award for teaching assistants across all departments.

2021 **Eleanor Norton York Award** for academic achievements and progress in research.

2018 **Graduate Student Teaching Award** for teaching friendly, helpful, engaging courses and recitations, and for excellence in course administration.

## INVITED TALKS

April 2023 Electronic Computational Homotopy Theory Research Seminar (Online)

Nov. 2022 University of Virginia Topology Seminar

March 2022 SUNY Binghamton Topology Seminar

Nov. 2021 UCLA Topology Seminar

Nov. 2021 Cut-and-paste K-Theory Focused Research Group Seminar (Online)

October 2021 Rochester Topology Seminar  
October 2021 Johns Hopkins Topology Seminar  
May 2021 GROOT Summer Seminar [\[YouTube\]](#)

## TEACHING

UNIVERSITY OF KENTUCKY (primary instructor unless otherwise noted)

Spring 2023 MA 352: Knot Theory  
Spring 2023 MA 213: Multivariable Calculus  
Fall 2022 MA 322: Matrix Algebra and Applications

## CORNELL UNIVERSITY

Spring 2022 **Teaching Assistant**, Math 1920: Multivariable Calculus for Engineers.  
Fall 2021 **Teaching Assistant**, Math 1910: Calculus II for Engineers.  
Spring 2021 **Grader**, Math 6510: Graduate Algebraic Topology.  
Fall 2020 **Teaching Assistant**, Math 1300: Mathematical Explorations.  
Spring 2020 **Grader**, Math 3340: Abstract Algebra.  
Fall 2019 **Head Teaching Assistant**, Math 1910: Calculus II for Engineers.  
Summer 2019 **Graduate Mentor**, Cornell Summer Program for Undergraduate Research.  
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.

## SERVICE

2023 **Journal Referee**.  
2023 **Reviewer** for zbMATH.  
Fall 2021 **Facilitator**, Cornell Mathematics Teaching Assistant Training.  
Spring 2021 **Co-organizer**, Electronic Computational Homotopy Theory Equivariant Algebra Reading Seminar.  
Fall 2019 **Facilitator**, Cornell Mathematics Teaching Assistant Training.  
2018-2020 **Mentor**, Cornell graduate student mentorship program for new graduate students.  
Fall 2018 **Facilitator**, Cornell Mathematics Teaching Assistant Training.  
July 2018 **Co-organizer**, Young Topologists' Meeting 2018. University of Copenhagen, Copenhagen, Denmark.  
Fall 2017 **Facilitator**, Cornell Mathematics Teaching Assistant Training.

## WORKSHOP PARTICIPATION

August 2022 University of Virginia RTG Collaborative Workshop.  
Fall 2021 Electronic Computational Homotopy Theory Reading Seminar: Hermitian K-Theory.

- Fall 2020 Electronic Computational Homotopy Theory Reading Seminar: Kervaire Invariant One.
- Spring 2020 Electronic Computational Homotopy Theory Reading Seminar: Topological Hochschild Homology.
- Fall 2019 Electronic Computational Homotopy Theory Kan Seminar.
- March 2019 Derived Algebraic Geometry and its Applications. Mathematical Sciences Research Institute.
- March 2019 Arizona Winter School. University of Arizona.
- February 2019 Introductory Workshop: Derived Algebraic Geometry and Birational Geometry and Moduli Spaces. Mathematical Sciences Research Institute.
- August 2017 Midwest Topology Summer School: Trace Methods in K-Theory. University of Indiana.

## --- **OTHER**

- 2017-2022 **Instructor.** Cornell Outdoor Education. Taught a variety of outdoor courses, including rock and ice climbing, mountain biking, and road biking.
- 2022 **Wilderness First Responder.** Certification expires 2025.