

Chase Vogeli

Curriculum Vitae

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Research Interests

Algebraic topology, particularly algebraic K -theory, homological stability, and equivariant homotopy theory.

Education

- 2020 – 2026 **Ph.D. in Mathematics**, *Cornell University*, Ithaca, NY
Advisor: Inna Zakharevich
- 2021 – 2023 **M.Sc. in Computer Science**, *Cornell University*, Ithaca, NY
- 2016 – 2020 **B.Sc. in Mathematics**, *Massachusetts Institute of Technology*, Cambridge, MA
Minor in German Studies

Research

Publications

- 2025 **The Galois-equivariant K -theory of finite fields**, with David Chan
Proceedings of the London Mathematical Society, arXiv:2406.19481

Preprints

- 2025 **Derived induction theory for the K -theory of modular group rings**
In preparation.
- 2023 **Bredon homological stability for configuration spaces of G -manifolds**, with Eva Belmont and J.D. Quigley
arXiv:2311.02459
- 2019 **Uniformly vertex-transitive graphs**, with Simon Schmidt and Moritz Weber
arXiv:1912.00060

Software

- 2025 **C_p -Mackey functors in Macaulay2**, with Thomas Brazelton, David Chan, Benjamin Mudrak, Ben Spitz, Chenglu Wang, Michael Zeng, and Sasha Zotine
In preparation.

Talks & Presentations

Invited talks

- Oct 2025 *Galois descent and the K -theory of modular group rings*
AMS Fall Central Sectional Meeting. St. Louis, MO.
- Apr 2025 *Derived induction theory for modular representations*
University of Pennsylvania Geometry–Topology Seminar. Philadelphia, PA.
- Apr 2025 *Derived induction theory for modular representations*
University at Albany Algebra & Topology Seminar. Albany, NY.

- Mar 2025 *Derived induction theory for modular representations*
University of Virginia Topology Seminar. Charlottesville, VA.
- Oct 2024 *The Galois-equivariant K-theory of finite fields*
AMS Fall Eastern Sectional Meeting. Albany, NY.
- Sep 2024 *The Galois-equivariant K-theory of finite fields*
Binghamton University Geometry and Topology Seminar. Binghamton, NY.
- Mar 2024 *Equivariant homological stability*
“Trace Methods and Applications for Cut-and-Paste K-Theory” FRG Seminar. Online.
- Jul 2019 *Some applications of graph theory to the study of quantum symmetry*
Research Seminar in Free Probability Theory. Saarbrücken, Germany.

Contributed talks

- Mar 2025 *Derived induction theory for modular representations*
Upstate New York Topology Seminar. Binghamton, NY.
- Apr 2024 *Equivariant homological stability*
Graduate Student Topology and Geometry Conference. East Lansing, MI.
- Jan 2024 *Homological stability for equivariant configuration spaces*
Joint Mathematics Meetings. San Francisco, CA.
- Nov 2023 *The K-theory of the stable module category*
Binghamton University Graduate Combinatorics, Algebra, & Topology (BUGCAT) Conference. Binghamton, NY.
- Nov 2022 *Homological stability for equivariant configuration spaces*
BUGCAT Conference. Binghamton, NY.

Awards & Scholarships

- 2024 **Stephen and Margery Russel Distinguished Teaching Award**, Cornell University, College of Arts & Sciences
- 2023 **Torng Prize**, Cornell University, Department of Mathematics
Awarded for outstanding contributions to the teaching mission of the department.
- 2021 **Olivetti Egg**, Cornell University, Department of Mathematics
Voted as the best speaker in the Cornell graduate student mathematics colloquium.
- 2020 **Phi Beta Kappa**, MIT
- 2020 **Teaching Award**, MIT Experimental Study Group
Awarded for outstanding work as an undergraduate teaching assistant.
- 2019 **RISE Scholarship**, German Academic Exchange Service (DAAD)
Funded a summer research internship at Saarland University.

Teaching Experience

Cornell University Department of Mathematics

- Fall 2025 **MATH 6310: Algebra I (Graduate)**, Teaching Assistant
- Spring 2025 **MATH 1106: Calculus for the Life Sciences**, Teaching Assistant
- Spring 2024 **MATH 2210: Linear Algebra**, Teaching Assistant
- Fall 2023 **MATH 6310: Algebra I (Graduate)**, Teaching Assistant
- Spring 2023 **MATH 2210: Linear Algebra**, Teaching Assistant

Fall 2022 **MATH 1110: Calculus I**, Instructor
Spring 2022 **MATH 2220: Multivariable Calculus**, Teaching Assistant
Fall 2021 **MATH 1110: Calculus I**, Instructor
Spring 2021 **MATH 2220: Multivariable Calculus**, Teaching Assistant
Fall 2020 **MATH 1910: Calculus for Engineers**, Teaching Assistant
MIT Experimental Study Group
Spring 2020 **18.02 Calculus II**, Undergraduate Teaching Assistant
Fall 2019 **18.01 Calculus I**, Undergraduate Teaching Assistant
Fall 2018 **18.01 Calculus I**, Undergraduate Teaching Assistant
Fall 2017 **8.012 Honors Physics I**, Undergraduate Teaching Assistant

Service

Cornell University

2023 – 2025 **Organizer**, *Cornell Directed Reading Program*
2022, 2024 **Organizer**, *Olivetti Club*
Organized the Olivetti Club, the Cornell graduate student mathematics colloquium.
2021 **Organizer**, *"What is...?" Seminar*
Organized talks by faculty members aimed at graduate students seeking advisors.

Skills

Programming Python, C/C++, \LaTeX , GAP, MAGMA, SageMath, Macaulay2
Languages English (native), German (level B2)