

Kimball Strong

Curriculum Vitae

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Research Interests

Homotopy theory, algebraic models for spaces, weak higher categories, strict higher categories, strictification.

Education

- 2020–2026 **Ph.D. in Mathematics**, *Cornell University*, Ithaca, NY
Advisor: Inna Zakharevich
- 2020–2023 **M.Sc. in Computer Science**, *Cornell University*, Ithaca, NY
- 2016–2020 **B.A. in Mathematics**, *University of California, Berkeley*, Berkeley, CA

Research Papers

- Track dg-Categories*, in preparation
- An Enriched Approach to the Strictification of $(\infty, 1)$ -Categories*, preprint, <https://arxiv.org/abs/2510.04254>
- 2025 *Strictification of ∞ -groupoids is Comonadic*, Theory and Applications of Categories, Volume 44
- 2020 *Structure of Spectra of Precompletions*, with Erica Barrett, Emil Graf, Susan Loepf, and Sharon Zhang, Rocky Mountain Journal of Mathematics, Volume 50
- 2020 *Cardinalities of Prime Spectra of Precompletions*, with Erica Barrett, Emil Graf, Susan Loepf, and Sharon Zhang, AMS CONM issue 773: “Commutative Algebra: 150 Years with Roger and Sylvia Wiegand”

Awards & Scholarships

- 2023 **Teaching Award**, *Cornell University Department of Mathematics*
Awarded for excellence in teaching.
- Spring 2022 **Olivetti Egg**, *Cornell University Department of Mathematics*
Voted as the best speaker in the Cornell graduate student mathematics colloquium.
- 2016 **Regents’ and Chancellor’s Scholar**, *University of California, Berkeley*.

Talks and Presentations

Invited

- February 2026 *Strictifications of $(\infty, 1)$ -Categories*
SUNY Albany Algebra/Topology Seminar.
- July 2025 *Oh, the (number (approximately) of) places you’ll go!*
MathILy-Er Daily Gather.

- November 2024 *Strictifications of higher categories*
University of Virginia Topology Seminar.
- October 2024 *Strictifications of higher categories*
AMS Fall Northeastern Sectional Meeting, Special Session on Homotopy Theory and Algebraic K-Theory.
- September 2024 *Strictifications of higher categories*
Binghamton University Topology Seminar.
- Contributed**
- January 2026 *Strictification of Higher Categories*
JMM 2026 Special Session: New Voices in Homotopy Theory.
- January 2026 *A Whitehead Theorem for ∞ -Categories*
JMM 2026 Contributed Paper Session in Geometry and Category Theory.
- March 2025 *A strange (and surprising!) adjunction: $Set_*^{\vee} - Cat$ and $Set_*^{\times} - Cat$*
Upstate New York Topology Seminar 2025 at Binghamton University
- June 2024 *Strictification of ∞ -groupoids and coalgebraic models for spaces*
Algebraic Structures in Topology 2024. San Juan, PR.
- April 2024 *Strictification of ∞ -groupoids*
Graduate Student Topology and Geometry Conference 2024. University of Michigan. East Lansing, MI
- March 2024 *Strictification of ∞ -groupoids*
University at Buffalo Discourses of Grads.
- Nov 2023 *Strictification of ∞ -groupoids*
Binghamton University Graduate Combinatorics, Algebra, & Topology (BUG-CAT) Conference. Binghamton, NY
- Nov 2022 *Computing π_1 of the free grouplike E_2 -algebra on a point*
BUGCAT Conference. Binghamton, NY

Service

Cornell University

- 2021 – 2023 **Mentor**, *Directed Reading Program*
- Spring **Organizer**, *Homotopy Student Seminar*
- 2022–Fall 2024 Co-organized the graduate student seminar on Homotopy Theory along with Chase Vogeli.
- Spring 2024, **Facilitator**, *The Little Circle*
- Fall 2024, Volunteered to run a mathematics circle for 3-5 graders at local elementary schools.
- Spring 2025 Covered topics included game theory, probability, and graph theory.

Teaching Experience

MathILy-Er

- Summer 2022, **Assistant Instructor**
Facilitated inquiry based learning of mathematics for high schoolers, at level ranging from undergraduate to early graduate level mathematics.
- Summer 2023

Cornell University Department of Mathematics

Fall 2025 **Instructor**, MATH 1120: Calculus II
Spring 2025 **Teaching Assistant**, MATH 3110: Intro to Analysis
Fall 2024 **Teaching Assistant**, MATH 3110: Intro to Analysis
Spring 2024 **Teaching Assistant**, MATH 6510: Graduate Algebraic Topology
Fall 2023 **Teaching Assistant**, MATH 3110: Intro to Analysis
Spring 2023 **Teaching Assistant**, MATH 2220: Multivariable Calculus
Fall 2022 **Teaching Assistant**, MATH 1920: Multivariable Calculus for Engineers
Spring 2022 **Teaching Assistant**, MATH 1920: Multivariable Calculus for Engineers
Fall 2021 **Teaching Assistant**, MATH 1920: Multivariable Calculus for Engineers
[UC Berkeley Department of Mathematics](#)
Spring 2020 **Undergraduate Student Instructor**, Math H110: Honors Abstract Linear Algebra