

POSITIONS

2022 - 2026 National Science Foundation Mathematical Sciences Post-doctoral Research Fellow

University of California, Los Angeles, 06/2021 - present.  
Hedrick Assistant Adjunct Professor, mentor Mike Hill.

Research interests: vector bundles, chromatic homotopy theory, motivic homotopy theory, algebraic geometry, abstract homotopy theory.

EDUCATION

Harvard University, 09/2015 - 05/2021.  
Ph.D. supervised by Michael Hopkins.

“Complex rank 3 bundles on complex projective 5-space”.

University of Cambridge, 10/2014 - 06/2015.  
M.A.St., Part III of the Mathematical Tripos, Pure Mathematics.

University of Massachusetts Amherst, 09/2011 - 05/2014.  
B.S., Mathematics. Physics minor.  
Honors thesis supervised by Jenia Tevelev.

“Extremal divisors on moduli spaces of rational curves with marked points”.

Cape Cod Community College, 06/2009 - 05/2011.  
A.A., Mathematics, Science and Pre-Engineering.

PUBLICATIONS  
&  
PREPRINTS

“Compactly supported  $\mathbb{A}^1$ -Euler characteristic and the Hochschild complex,” with N. Arcila-Maya, C. Bethea, K. Wickelgren and I. Zakharevich. arXiv:2003.09347. *Topology and its Applications*, Vol 316 (2022),.

“The trace of the  $\mathbb{A}^1$ -local degree,” with T. Brazelton, R. Burklund, S. McKean, and M. Muro. arXiv:1912.04788. *Homology, Homotopy, and Applications*, Vol. 23, No. 1 (2021), 401-413.

“Localization in homotopy type theory,” with J.D. Christensen, E. Rijke, and L. Scoccola. arXiv:1807.04155. *Higher Structures*, Vol. 4 No. 1 (2020), 1-32.

“Extremal divisors on moduli spaces of rational curves with marked points.” arXiv:1309.7229. *Michigan Math. J.* Vol. 65 (2016), 251-285.

SELECTED  
HONORS

2021 - 2022 Liggett Instructor Award for teaching, UCLA.

2021 - 2023 AMS–Simons Travel Grant recipient.

2014 - 2019 National Science Foundation Graduate Research Fellow.

2014 - 2015 Churchill Scholar.

2014 Association for Women in Mathematics Alice T. Schafer Prize, runner-up.

2013 University of Massachusetts Rising Researcher Award.

2013 Chang Transfer Award, UMass Amherst Dept. of Physics.

2012 Hasbrouck Award, UMass Amherst Dept. of Physics.

2011 “29 Who Shine” award, MA Dept. of Higher Ed.

TEACHING  
&  
OUTREACH

Summer 2022: mini-course leader for the UCLA Summer Bridge Program for students from California State University campuses.

2021-2022: Instructor, UCLA. 4 sections of proof-based linear algebra.

2020 - 2021: Harvard University Derek Bok Center Pedagogy Fellow in Mathematics.

September 2017 - January 2022: MIT Talbot Workshop organizer.

Spring 2020, spring 2021: Directed Reading Program mentor.

Fall 2015 - spring 2019: organizer, Harvard Women in Math Lunch.

2018 - 2019: Teaching Fellow, Harvard University.

- Tutorial on categorical knot theory (summer 2019).
- Tutorial on category theory (summer 2018).
- Linear algebra (spring 2018).
- Course assistant, calculus and linear algebra (fall 2018).

Fall 2012 - spring 2014: Teaching Assistant, UMass Amherst Mathematics Department.

Fall 2009 - spring 2011: Peer Tutor, Cape Cod Community College Math Learning Center.

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TALKS

June 2022 ALPE Seminar, Toulouse. “Rank 3 vector bundles on complex projective 5-space.”

June 2022 Chromatic Homotopy and Friends conference, Mittag-Leffler Institute, Stockholm. “Chromatic invariants of vector bundles.”

April 2022 CalTech Geometry and Topology Seminar. “Chromatic invariants of vector bundles on projective spaces.”

November 2021 CalTech Algebra and Geometry Seminar. “A compactly supported motivic Euler characteristic via the Hochschild complex”.

October 2021 USC Algebra Seminar. “Chromatic invariants of vector bundles on projective spaces”.

November 2020 - March 2021. “Vector bundles on projective spaces.” Talks based on thesis work, given during final year of PhD.

- Rutgers Algebra Seminar.
- University of Copenhagen Topology Seminar.
- University of California San Diego Topology Seminar.
- University of California Los Angeles Topology Seminar.
- University of Chicago/ Northwestern Topology Seminar.
- University of Illinois Urbana–Champaign Topology Seminar.
- University of Stockholm Topology Seminar.
- University of Colorado Boulder Topology Seminar.
- University of Virginia Topology Seminar.

May 2020 K-theory and Related Topics conference. “A compactly supported  $\mathbb{A}^1$ -Euler characteristic via the Hochschild complex”.

November 2019 Boston University Pick My Brain Seminar. “2-plane bundles on complex projective 3-space.” Expository.

July 2019 European Talbot Workshop on Algebraic K-theory. “Continuity for K-theory and TC”. Expository.

March 2019 Women in homotopy theory and algebraic geometry II, Freie University Bonn. “Localization in Homotopy Type Theory.”

Fall 2018 Johns Hopkins Topology Seminar. “Localization in Homotopy Type Theory.”

Fall 2017 Kan Seminar at MIT, supervised by Haynes Miller. Talks on Adams’  $J(X)$  IV and Quillen’s  $K$ -theory of finite fields. Expository.

Spring 2015 Warwick Algebraic Geometry Seminar. “Extremal Divisors on Moduli Spaces of Rational Curves with Marked Points.”

## SELECTED CONFERENCES

June 2022: Toulouse-Montepelier joint ALPE Seminar. Speaker.

June 2022: Toulouse CATS60 Conference in honor of Carlos Simpson’s 60th birthday.

June 2022: Barcelona Conference on Higher Structures.

June 2022: Chromatic Homotopy Theory and Friends Workshop, Mittag-Leffler Institute, Sweden. Speaker.

October 2021: Talbot Workshop on Ambidexterity in Chromatic Homotopy Theory. Organizer.

June 2021: Viva Talbot! A virtual Talbot Workshop retrospective (Online). Organizer.

February 2020: MSRI program on higher categories and categorification, Connections for Women and Introductory Workshops.

January 2020: Homotopy type theory formalization boot camp. Contributed to a Wild Categories library: [github.com/HoTT/HoTT/tree/master/theories/WildCat](https://github.com/HoTT/HoTT/tree/master/theories/WildCat).

August 2019: Women in Topology III, project group mentored by Kirsten Wickelgren and Inna Zakharevich, with resulting paper.

July 2019: European Talbot Workshop on Algebraic K-theory, mentored by Ben Antieau and David Gepner. Speaker.

April 2019: Talbot Workshop on moduli spaces of manifolds. Mentored by Soren Galatius and Oscar Randal-Williams. Organizer.

March 2019: Women in homotopy theory and algebraic geometry II, Freie University Bonn. Speaker.

March 2019: Arizona Winter School on Arithmetic and Topology. Working group participant, with resulting paper.

January - February 2019: MSRI Connections for Women and Introductory Workshops, Derived Categories and Birational Geometry.

May 2018: Talbot Workshop on model-independent theory of  $\infty$ -categories. Mentored by Emily Riehl and Dominic Verity. Organizer.

Summer 2017: MRC in Homotopy Type Theory. Project under the supervision of J. Daniel Christensen, with resulting paper.

Summer 2013 REU in Algebraic Geometry, supervised by Jenia Tevelev (UMass). Project continued as honors thesis.

Summer 2013: UCLA Logic Summer School (Descriptive Set Theory and Applied Recursion Theory).

## TECHNICAL SKILLS

Coq: formalized mathematical proofs within the HoTT library.

github: experience using version control for collaborative projects.

Macaulay2: wrote program to compute divisor classes during summer 2013 REU.