
EMPLOYMENT

- 2022-present **Lafayette College**, Assistant Professor
2020-2022 **Swarthmore College**, Visiting Assistant Professor
2019-2020 **Colby College**, Visiting Assistant Professor
2018-2019 **Grinnell College**, Visiting Assistant Professor

EDUCATION

- 2018 **Ph.D. Mathematics**, University of California, Santa Barbara
Thesis: *The Geometry and Topology of the Dual Braid Complex*
Advisor: Jon McCammond
2014 **M.A. Mathematics**, University of California, Santa Barbara
2012 **B.A. Mathematics with Honors**, Grinnell College

GRANTS, AWARDS AND HONORS

- 2024-2026 **AIM SQuaRE**, "Dual Right-Angled Artin Groups"
with Rachael Boyd, Jon McCammond, Rose Morris-Wright, Chloé Postel-Vinay, Mireille Soergel
2021-2022 **MAA Project NExT Fellow** (Gold '21)
2020 **President's Fund for Racial Justice**, Swarthmore College
Course development grant: "Mathematics and Social Justice"
2018 **Excellence in Teaching Award**, UCSB Graduate Student Association
2017 **Outstanding Teaching Assistant**, UCSB Department of Mathematics
2012-2018 **Graduate Fellowship**, National Physical Sciences Consortium

PUBLICATIONS AND PREPRINTS

(mentored undergraduate coauthors denoted with an asterisk*)

11. **Noncrossing Partitions from Cones and Semicircles**
preprint, with K. Fang*, Y. Jiang*, E. Lin*, L. Lindenmuth*, E. Pokras*, G. Root*
10. **Continuous Noncrossing Partitions and the Dual Braid Complex**
preprint, with J. McCammond
9. **Geometric Combinatorics of Polynomials II: Polynomials and Cell Structures**
submitted, with J. McCammond
8. **Noncrossing Partition Lattices from Planar Configurations**
Discrete & Computational Geometry (2024), with S. Cohen*, A. Harsh*, S. Martin*
7. **The Polyhedral Tree Complex**
Combinatorial Theory, 2-3 (2022)
6. **Geometric Combinatorics of Polynomials I: The Case of a Single Polynomial**
Journal of Algebra, 607-B (2022), with J. McCammond
5. **Boundary Braids**
Algebraic & Geometric Topology, 20-7 (2020), with J. McCammond, S. Witzel
4. **Critical Points, Critical Values, and a Determinant Identity for Complex Polynomials**
Proceedings of the American Mathematical Society, 148-12 (2020), with J. McCammond
3. **Undesired Parking Spaces and Contractible Pieces of the Noncrossing Partition Link**
Electronic Journal of Combinatorics, 25-1 (2018), with J. McCammond

2. **A Decomposition of Parking Functions by Undesired Spaces**

Electronic Journal of Combinatorics, 23-3 (2016), with M. Bruce*, M. Hlavacek*, R. Kudo*, I. Nicolas*

1. **Hankel Transforms of Linear Combinations of Catalan Numbers**

Journal of Integer Sequences, 14-11.5.1 (2011), with C. French, W. Qian, B. Saderholm

UNDERGRADUATE RESEARCHERS SUPERVISED

————— **Lafayette College**

2025 Gina Root

2024 Kaiyi Fang, Yunting Jiang, Edgar Lin, Lucas Lindenmuth, Eleanor Pokras, Gina Root

————— **Swarthmore College**

2022 Stella Cohen, Andrew D. Harsh, and Spencer Park Martin

————— **University of California, Santa Barbara**

2015 Melody Bruce, Max Hlavacek, Ryo Kudo, and Ian Nicolas

TEACHING EXPERIENCE

————— **Lafayette College**

Math 104	A World of Mathematics	Spring 2023 (x2)
Math 162	Calculus II	Spring 2024, Fall 2022
Math 165	Calculus I+ (Workshop Calculus)	Fall 2023
Math 263	Calculus III	Spring 2025 (x2), Fall 2024 (x2)
Math 351	Abstract Algebra I	Fall 2023 (x2)
Math 352	Abstract Algebra II	Spring 2024
Math 358	Topology	Fall 2022
Math 378	Special Topic: Discrete and Computational Geometry	Fall 2024
Math 391	Independent Study (Lie Groups and Lie Algebras)	Fall 2023

————— **Swarthmore College**

Math 20	Mathematics and Social Justice	January 2021
Math 25	Single-Variable Calculus II	Fall 2021 (x2)
Math 27	Linear Algebra	Fall 2020
Math 67	Introduction to Modern Algebra	Spring 2022, Spring 2021 (x2)
Math 77	Advanced Topics in Algebra (Geometric Group Theory)	Spring 2022
Math 93	Directed Reading (Reflection Groups and Coxeter Groups)	Fall 2021

————— **Colby College**

Math 121	Single-Variable Calculus	Fall 2019 (x2)
Math 122	Series and Multi-Variable Calculus	Spring 2020 (x2)
Math 253	Linear Algebra	Spring 2020

Grinnell College

Math 131	Calculus I	Fall 2018 (x2)
Math 133	Calculus II	Spring 2019, Fall 2018
Math 444	Senior Seminar (Geometric Group Theory)	Spring 2019

University of California, Santa Barbara (Instructor of Record)

Math 4A	Linear Algebra with Applications	Summer 2017, Summer 2016
---------	----------------------------------	--------------------------

University of California, Santa Barbara (Teaching Assistant)

Math 34A	Calculus for the Life and Social Sciences (Head TA)	Winter 2015
Math 3A	Calculus I	Winter 2016
Math 3B	Calculus II	Winter 2016
Math 4A	Linear Algebra with Applications	Spring 2017, Spring 2016
Math 6A	Vector Calculus I	Fall 2016
Math 8	Transition to Higher Mathematics	Spring 2018, Winter 2017, Spring 2015, Fall 2014, Winter 2014, Fall 2013
Math 108A	Advanced Linear Algebra I	Fall 2017, Fall 2015, Spring 2014

SELECTED RESEARCH TALKS

(*upcoming talk)

Invited Talks (Conferences and Colloquia)

2024	AMS Fall Eastern Sectional Meeting <i>Special Session on Geometric Group Theory</i>	Albany, NY
2024	BIRS Workshop: Combinatorial Nonpositive Curvature	Banff, Canada
2023	Spring Topology and Dynamical Systems Conference <i>Special Session on Geometric Group Theory</i>	Rhodes College (virtual)
2022	Summer@ICERM REU	Providence, RI
2022	Bi-College Math Colloquium	Haverford College
2021	AMS Spring Southeastern Sectional Meeting <i>Special Session on Groups, Geometry, and Topology</i>	Atlanta, GA (virtual)
2014	Mathematics and Statistics Student Seminar	Grinnell College

Invited Talks (Research Seminars)

2025*	The Ohio State University	Geometric Group Theory Seminar
2025*	University of Iowa	Geometry and Topology Seminar
2023	University of California, Santa Barbara	Topology Seminar
2023	University at Albany	Algebra/Topology Seminar
2022	Haverford College	PATCH - Philadelphia Area Topology (Contact/Hyperbolic)
2022	University of Pennsylvania	Deformation Theory Seminar (virtual)
2022	Temple University	Geometry & Topology Seminar
2020	Otto-von-Guericke-Universität Magdeburg	Algebra & Geometry Seminar (virtual)
2019	Georgia Institute of Technology	Geometry & Topology Seminar
2018	Brown University	Geometry & Topology Seminar

Contributed Conference Talks

2020	Joint Mathematics Meetings AMS Special Session on <i>The Geometry of Complex Polynomials and Rational Functions</i>	Denver, CO
2019	Tech Topology Conference	Atlanta, GA
2019	Algorithms in Complex Dynamics and Mapping Class Groups	Providence, RI
2018	Tech Topology Conference	Atlanta, GA
2017	Tech Topology Conference	Atlanta, GA
2016	Tech Topology Conference	Atlanta, GA
2016	Topology Students Workshop	Atlanta, GA

PEDAGOGICAL DEVELOPMENT AND OUTREACH

2023-2026	Invited Project Participant , <i>Framing Mathematics as a Foundation for Ethical STEM</i>
Winter 2018	Mathlab Coordinator , UC Santa Barbara
2016-2017	Lead Teaching Assistant (<i>Math Department TA Training</i>), UC Santa Barbara
2016	Session Speaker (<i>Campus-wide orientation for new teaching assistants</i>), UC Santa Barbara
2013-2015	Math Circle Instructor (4 talks given), UC Santa Barbara

INTERDISCIPLINARY ACTIVITIES

2024	Co-Organizer , Math and Art Workshop with guest artist Gabriel Rico, Lafayette College
------	---

DEPARTMENT SERVICE

Seminar and Colloquium Organization

2023-present	Colloquium Co-Organizer	Lafayette College
2020-2022	Colloquium Helper	Swarthmore College
2018-2019	Colloquium Organizer (<i>Mathematics and Statistics Student Seminar</i>)	Grinnell College
2013-2018	Seminar Organizer (<i>Discrete Geometry & Combinatorics Seminar</i>)	UC Santa Barbara
2012-2017	Seminar Co-Organizer (<i>Hypatian Seminar</i>)	UC Santa Barbara

Committee Work

2023-2024	Tenure-Track Search Committee	Lafayette College
2023-2024	Linear Algebra Committee	Lafayette College

Events and Community Building

2023-2024	Teaching Lunch Co-Organizer	Lafayette College
2023-2024	Problem Group Co-Organizer	Lafayette College
2020-2022	Community Building Helper	Swarthmore College

Department Talks Given

2023	Pi Mu Epsilon Induction Ceremony	Lafayette College
2023	Cryptography Competition Kickoff Talk: Diffie-Hellman Key Exchange	Lafayette College
2022	Mathematical Adventures and Diversions: Configuration Spaces	Lafayette College
2021	Interactive Math Colloquium	Swarthmore College
2019	New Math Faculty Colloquium	Colby College

Other Contributions

2023-present Teaching Repository Manager

Lafayette College

COLLEGE SERVICE

Lafayette Undergraduate Thesis Committees

2025 Hanzhe Zhou (Computer Science and Mathematics, co-advisor)
Processes Between Different Representations of Binary Trees

2023 Brian Payne (Music)
A Blue Twilight

PROFESSIONAL SERVICE

Conference Organization

2022 Session Co-Organizer (*Teaching Undergraduate Topology*),
Nearly Carbon Neutral Geometric Topology Conference

Peer Review

Journal Referee (*Journal of Combinatorial Algebra*, *Proceedings of the AMS*)

Reviewer (*Mathematical Reviews* x4)

CONFERENCES AND WORKSHOPS ATTENDED

2024	AMS Fall Eastern Sectional Meeting	Albany, NY
2024	Banff International Research Station: Combinatorial Nonpositive Curvature	Banff, Canada
2024	Hot Topics: Artin Groups and Arrangements - Topology, Geometry, and Combinatorics	Berkeley, CA
2023	AIM Workshop - Geometry and Topology of Artin Groups	Pasadena, CA
2023	Framing Mathematics as a Foundation for Ethical STEM	Washington, DC
2023	Spring Topology and Dynamical Systems Conference	(virtual)
2022	Nearly Carbon Neutral Geometric Topology Conference	(virtual)
2022	MAA MathFest	Philadelphia, PA
2021	MAA MathFest	(virtual)
2021	Artin Groups, CAT(0) Geometry, and Related Topics	Columbus, OH (virtual)
2021	Perspectives on Artin Groups	Edinburgh, Scotland (virtual)
2021	AMS Spring Southeastern Sectional Meeting	Atlanta, GA (virtual)
2020	Joint Mathematics Meetings	Denver, CO
2019	Tech Topology Conference	Atlanta, GA
2019	ICERM Workshop - Algorithms in Complex Dynamics and Mapping Class Groups	Providence, RI
2018	Tech Topology Conference	Atlanta, GA
2018	Young Geometric Group Theory VII	Les Diablerets, Switzerland
2017	Tech Topology Conference	Atlanta, GA
2017	Algebraic and Geometric Combinatorics of Reflection Groups	Montréal, Canada
2017	Young Geometric Group Theory VI	Oxford, England
2017	Topology Students Workshop	Atlanta, GA
2016	Tech Topology Conference	Atlanta, GA

2016 MSRI Workshop - Geometry of Mapping Class Groups and $\text{Out}(\mathbb{F}_n)$	<i>Berkeley, CA</i>
2016 FPSAC (Formal Power Series and Algebraic Combinatorics)	<i>Vancouver, Canada</i>
2016 Topology Students Workshop	<i>Atlanta, GA</i>
2015 AMS Spring Western Sectional Meeting	<i>Las Vegas, NV</i>
2014 The Thin Manifold - Graduate Workshop	<i>Iowa City, IA</i>
2014 Joint Mathematics Meetings	<i>Baltimore, MD</i>
2013 A Day of Triangulations	<i>Los Angeles, CA</i>
2013 Joint Mathematics Meetings	<i>San Diego, CA</i>
2010 Iowa Summer Research Symposium	<i>Ames, IA</i>