

EDUCATION

University of Michigan

Ph.D., Mathematics, Expected 2026, Advisor: Sergey Fomin

San Francisco State University

M.A., Mathematics, June 2020, Advisors: Emily Clader and Dustin Ross

Stanford University

M.A., Secondary Math, California Single Subject Credential in Mathematics, June 2010

University of Chicago

B.S. (with Honors), Mathematics, June 2009

Budapest Semesters in Mathematics

Study abroad, Budapest, Hungary, Fall 2007

PROFESSIONAL POSITIONS

University of Michigan Undergraduate Program

Graduate Student Mentor, Fall 2025

Graduate Student Instructor, CompFor 221 Digital Media with Python, Fall 2024

Graduate Student Instructor, Math 115 Calculus I, Fall 2020, Winter 2021

Graduate Student Instructor, Math 116 Calculus II, Fall 2022, Winter 2023

Grader, Math 582 Introduction to Set Theory, Winter 2022

University of Michigan Math, Computer Science, and Statistics Scholars

Graduate Teaching Assistant, May 2023 – April 2025

University of Michigan Math and Science Scholars

Graduate Teaching Assistant, Mathematics of Cryptography, July 2021

San Francisco State University

Research Assistant and Grader, August 2019 – June 2020

Curriculum Developer, Math 198 Pre-Calculus, January 2019 – June 2019

Graduate Teaching Assistant, Math 197/198 Pre-Calculus, August 2018 – June 2019

San Francisco Unified School District

Teacher Coach, Project-Based Learning, August 2018 – June 2019

Curriculum Developer, Algebra I, August 2013 – June 2015

San Francisco International High School

9th and 10th Grade Math Teacher, August 2011 – June 2017

Student Support Liaison, August 2017 – June 2018

Supervised a student teacher, Stanford Teacher Ed Program, August 2014 – June 2015

Knowles Teacher Initiative, Kaleidoscope: Educator Voices and Perspectives

Associate Journal Editor, June 2016 – June 2018

City Arts and Technology High School

9th Grade Math Teacher, August 2010 – June 2011

University of Chicago

Teaching Assistant and Tutor, September 2006 – June 2009

PUBLICATIONS

- [1] B. Adenbaum, E. Barnard, M. Hlavacek, B. Kagy, N. Lesnevich, G. D. Nasr, and K. Waddle, [The poset of maximal tubings of the cycle graph is a lattice](#), [arXiv:2510.09429](#), (2025).
 - [2] K. Waddle, [Ptolemy's equation and kin](#), *Math. Intelligencer* (2025).
 - [3] K. Waddle, [Spherical friezes](#), [arXiv:2501.03587](#), (2025).
 - [4] M. Beck, M. Hanada, M. Hlavacek, J. Lentfer, A. R. Vindas Meléndez, and K. Waddle, [Polyhedral geometry of refined \$q, t\$ -Catalan numbers](#), [arXiv:2407.21226](#), (2024) (to appear in *J. Comb.*)
 - [5] N. Niu, K. Waddle, M. Williams, and Y. Zhang, SUBgroups: Online Peer Groups for First-Year Math Graduate Students, *EMS Magazine* **3** (2024), 53–55.
 - [6] K. Waddle, Incidence graph statistics for curves in projective space, Master's thesis, 2020.
 - [7] R. Barlow, K. Hartung, and K. Waddle, Learning Spanish in Guatemala. *Kaleidoscope: Educator Voices and Perspectives* **3** (2016), 2–6.
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AWARDS AND HONORS

- Pat Shure Excellence in Teaching Award, UM Math Department, 2025
- Margaret Ayers Host Fellowship for Graduate Women, UM Rackham Graduate School, 2025
- Edwin Wilkinson Miller Award, UM Math Department, 2024
- Rackham Merit Fellowship, UM Rackham Graduate School, 2020
- Graduate Hood, SFSU College of Science and Engineering Spring, 2020
- Sally Casanova Pre-Doctoral Fellowship, California State University, 2019
- Scholar, Achievement Reward for College Scientists Foundation, 2019
- David Meredith and Friends Scholarship, SFSU Math Department, 2019
- Halmos Scholarship, SFSU Math Department, 2019
- Milowski Scholarship, SFSU Math Department, 2019

- Fellow, Knowles Teacher Initiative, 2010
 - Leonore Annenberg Teaching Fellowship, Woodrow Wilson Foundation, 2009
 - Student Marshal, University of Chicago, 2009
 - Dean's List, University of Chicago, 2005-2006, 2006-2007, 2008-2009
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CONFERENCE PRESENTATIONS AND SEMINAR TALKS

- Combinatorics Seminar, Brown University, Fall 2025 (upcoming)
- Richard P. Stanley Seminar in Combinatorics, Massachusetts Institute of Technology, Fall 2025 (upcoming)
- Student Combinatorics Seminar, University of Michigan, Winter 2021, Fall 2021, Winter 2022, Fall 2022, Fall 2023, Winter 2024, Fall 2024, Fall 2025 (upcoming)
- Algebraic Combinatorics Learning Seminar, University of Michigan, Fall 2021, Winter 2022, Fall 2022, Fall 2024, Fall 2025 (upcoming)
- Graphs on surfaces and curves over number fields seminar, Lomonosov Moscow State University, Fall 2025 (upcoming)
- Mathematics and Statistics Colloquium, Carleton College, Fall 2025
- Algebra and Discrete Mathematics Seminar, North Dakota State University, Fall 2025
- Combinatorics and Geometry Seminar with pre-talk, University of Washington, Spring 2025
- Algebra and Discrete Math Seminar, University of California Davis, Spring 2025
- Frieze Patterns in Algebra, Combinatorics, and Geometry Conference, Centre International de Rencontres Mathématiques (CIRM), Spring 2025
- Combinatorics Seminar with pre-talk in the Student Combinatorics Seminar, University of Minnesota, Spring 2025
- Center for Applied Math Colloquium Series, University of St. Thomas, Spring 2025
- Combinatorics, Algebra, and Geometry Seminar, University of Pennsylvania, Spring 2025
- Geometry Lunch Seminar, Pennsylvania State University, Spring 2025
- Algebraic and Enumerative Combinatorics Seminar with pre-talk, University of Waterloo, Winter 2025
- Graduate Online Combinatorics Colloquium, Winter 2025
- American Mathematical Society Mathematical Research Community in Algebraic Combinatorics, Joint Math Meetings, Winter 2025
- Combinatorics Seminar, Michigan State University, Fall 2024

- Northwestern University Causeway Program Seminar, Northwestern University, Fall 2024
 - AMS Fall Western Sectional Meeting, University of California Riverside, Fall 2024
 - Undergraduate Math Club, University of Michigan, Fall 2022, Fall 2023
 - Michigan Research Experience for Graduates, Ann Arbor, Summer 2021.
 - Argonne Undergraduate Research Symposium, Illinois, Fall 2008.
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WORKSHOP FACILITATION

- Alliance for Michigan Inquiry-Based Learning, *Building Community on the First Day and Beyond*; Online, Summer 2025
 - Curriculum and Instruction Course for Secondary Math Teachers, *Getting the Most out of a Test*; San Francisco State University, Spring 2020, 2021, 2022, 2023, 2024, 2025
 - Roots of Unity, *Making a Professional Website*, Online, Fall 2023
 - Learning Community for Inclusive Teaching, *Assigning Competence*, University of Michigan, Spring 2022
 - Teachers for Social Justice, *A Story of Education Reform: How SFSU Adapted Math Curriculum in Response to Government Mandates*; San Francisco, CA, Fall 2019.
 - San Francisco Unified School District Math Department Lead Meeting, *Getting the Most Out of a Test*; San Francisco, CA, Spring 2017.
 - California Math Council North Asilomar Conference, *Getting the Most Out of a Test*; Pacific Grove, CA, Fall 2016.
 - Knowles Teacher Initiative Summer Meeting, *Teaching English While Teaching Math*; Philadelphia, PA, Summer 2012.
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PROFESSIONAL DEVELOPMENT AND WORKSHOP ATTENDANCE

- Mathematical Research Community in Algebraic Combinatorics, American Mathematical Society, June 2024
- Gender Equity in the Mathematical Sciences of Combinatorics, American Institute for Mathematics, March 2023
- Roots of Unity Workshop, University of Minnesota, June 2022, August 2023
- Encuentro Colombiano de Combinatoria, Bogota, Colombia, June 2022
- Michigan Research Experience for Graduates, University of Michigan, July 2021
- MSRI Graduate Summer School, Geometric Group Theory, Oaxaca, Mexico, July 2019
- Women and Mathematics, Institute for Advanced Study, June 2019

- University of Chicago Research Experience for Undergraduates, Chicago, IL
Group Actions on Trees, Summer 2007
The Grigorchuk Group, Summer 2008
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SERVICE

- Founder and moderator, Graduate Students in Combinatorics Discord Server (700+ participants), Spring 2022 – present
- Directed Reading Program, University of Michigan
 - Mentor, Semester reading courses
 - * *Geometric group theory*, Summer 2025
 - * *Set theory*, Winter 2025
 - * *Combinatorial reciprocity theorems*, Fall 2024
 - * *Group theory*, Winter 2022
 - Organizer, Spring 2022–Fall 2023
- Graduate student mentor, Lab of Geometry at Michigan
 - *Ornamentation lattices*, Winter 2025
- Mentor, Prison Math Project
 - *Introduction to combinatorics*, Fall 2024–present
- President, Association for Women in Mathematics University of Michigan Chapter, Fall 2021 – Spring 2025
- Organizer, SUBgroups peer mentoring network (150+ participants/year), Fall 2022 – Spring 2025, participant 2020 – 2021
- Organizer, Special Session on Gender Equity in the Mathematical Sciences (GEMS) of Combinatorics, AMS Fall Western Sectional Meeting, University of California Riverside, Fall 2024
- Panelist, Work-Life Balance Panel, Women in Science and Engineering, University of Michigan, Fall 2022
- Mentor, AWM Mentor/Mentee Program, University of Michigan, Fall 2021 – Present
- Media Fellow, Talking Big Jobs Webinar Series, Tondeur Initiatives, AMS/SIAM, Fall 2019 – Spring 2020
- President and Outreach Officer, Mathematistas Club, San Francisco State University, Fall 2018 – Spring 2020
- President, Math Club, University of Chicago, Chicago, Illinois, Fall 2008 – Spring 2009