

MELANIE MATCHETT WOOD

MMWOOD@MATH.HARVARD.EDU

POSITIONS

Harvard University, William Caspar Graustein Professor of Mathematics	2020-present
Radcliffe Institute for Advanced Study, Radcliffe Alumnae Professor	2020-2025
University of California, Berkeley, Chancellor's Professor	2019-2021
Princeton University, Minerva Distinguished Visitor	Fall 2018
University of Wisconsin-Madison, Vilas Distinguished Achievement Professor	2017-2019
University of Wisconsin-Madison, Professor	2017
American Institute of Mathematics, Five-Year Fellow	2009-2017
University of Wisconsin-Madison, Assistant Professor	2011-2017
Stanford University, Szegő Assistant Professor	2009-2011
MSRI Research Member, Arithmetic Statistics Program	Spring 2011

EDUCATION

Princeton University, Ph.D. in Mathematics	2004-2009
University of Cambridge, Certificate of Advanced Study in Mathematics, with Distinction	2003-2004
Duke University, B.S. with Highest Honors in Mathematics	1999-2003

SELECTED HONORS

Aisenstadt Chair, Centre de Recherches Mathématiques	2026
National Academy of Sciences	2025
London Mathematical Society, Honorary Membership	2025
Presidential Early Career Award for Scientists and Engineers (PECASE)	2025
American Academy of Arts & Sciences	2024
MacArthur Fellowship	2022
awarded annually to 20 - 30 individuals in the U.S., working in any field, who have shown "extraordinary originality and dedication in their creative pursuits and a marked capacity for self-direction"	
International Congress of Mathematicians Special Invited Lecture	2022
in number theory, probability, and combinatorics	
U.S. National Science Foundation's Alan T. Waterman Award	2021
nation's highest honor for early-career scientists and engineers	
AWM-Microsoft Research Prize in Algebra and Number Theory	2018
National Science Foundation CAREER Grant DMS-1652116	2017
University of Wisconsin-Madison Vilas Early Career Investigator Award	2017
Packard Fellowship for Science and Engineering	2015
18 awarded annually to early career scientists and engineers in the U.S.	
Sloan Research Fellowship	2015
126 awarded annually to early career scientists in the U.S. and Canada	
National Science Foundation Grant DMS-1301690	2013

Fellow of the American Mathematical Society	2012
inaugural class, the first year there was a fellows program	
National Science Foundation Grant DMS-1001083	2010
American Institute of Mathematics Five-Year Fellow	2009
one or two fellowships awarded annually for top mathematics Ph.D.'s in U.S.	
Clay Mathematics Institute Liffott Fellow	2009
seven fellowships awarded that year for top mathematics Ph.D.'s in U.S.	
American Association of University Women Dissertation Fellowship	2008
the competition for these fellowships is among all disciplines	
Josephine De Kármán Dissertation Fellowship	2008
10 fellowships awarded that year to finishing Ph.D. candidates at U.S. institutions, in any discipline, with special consideration given to the humanities	
National Defense Science and Engineering Graduate Fellowship	2005
AMS-MAA-SIAM Morgan Prize	2003
one given annually for outstanding research in mathematics by an undergraduate student in the U.S. or Canada, given jointly by the three mathematics professional societies	
Leslie Walshaw Prize, Examination Prize, Research Scholarship, and Senior Scholarship (for top results of Part II Mathematics examinations), Trinity College, University of Cambridge	2004
National Science Foundation Graduate Research Fellowship	2003
Gates Cambridge Scholarship	2003
44 full-cost scholarships for U.S. students to University of Cambridge awarded that year in all disciplines	
Fulbright Award to the United Kingdom (declined to accept Gates).....	2003
Alice T. Shafer Prize	2002
one or two given annually to a U.S. undergraduate woman for excellence in mathematics	
Putnam Fellow (top five) and Elizabeth Lowell Putnam Prize (top female)	2002
9th Place and Elizabeth Lowell Putnam Prize	2001
in annual Putnam Mathematical Competition for college students in the U.S. and Canada	
International Mathematical Olympiad , 2 silver medals as member of 6-person U.S. team.....	1998, 1999
U.S.A. Mathematical Olympiad , tied for 1 st place.....	1998

PAPERS

49. “**The average size of 3-torsion in class groups of 2-extensions**,” with Robert J. Lemke Oliver and Jiuya Wang, *Forum of Mathematics, Pi*, Vol. 13 (2025).
48. “**Inductive methods for counting number fields**”, with Brandon Alberts, Robert J. Lemke Oliver and Jiuya Wang (2025), arXiv:2501.18574, to appear in *Journal für die reine und angewandte Mathematik (Crelle)*.
47. “**Local and global universality of random matrix cokernels**,” with Hoi H. Nguyen, *Mathematische Annalen*, Vol. 391 (2025), 5117–5210.
46. “**Low degree Hurwitz stacks in the Grothendieck ring**,” with Aaron Landesman and Ravi Vakil, *Compositio Mathematica*, Vol. 160, Issue 8 (2024), 1784-1849.
45. “**Finite quotients of 3-manifold groups**,” with Will Sawin, *Inventiones Mathematicae*, Vol. 237 (2024), 349-440.
44. “**A predicted distribution for Galois groups of maximal unramified extensions**,” with Yuan Liu and David Zureick-Brown, *Inventiones Mathematicae*, Vol. 237, (2024), 49–116.
43. “**Probability theory for random groups arising in number theory**”, *International Congress of Mathematicians Proceedings 2022*, Vol.6, (2023), 4476–4508.

42. **“Conjectures for distributions of class groups of extensions of number fields containing roots of unity,”** with Will Sawin (2023), arXiv:2301.0079, to appear in *Mathematische Annalen*.
41. **“The moment problem for random objects in a category,”** with Will Sawin (2022), arXiv:2210.06279.
40. **“Random integral matrices: universality of surjectivity and the cokernel,”** with Hoi H. Nguyen, *Inventiones Mathematicae*, Vol. 228 (2022), 1-76.
39. **“Moments and interpretations of the Cohen-Lenstra-Martinet heuristics,”** with Weitong Wang, *Commentarii Mathematici Helvetici* 96 (2021), no. 2, 339–387.
38. **“On a conjecture for l -torsion in class groups of number fields: from the perspective of moments,”** with Lillian B. Pierce and Caroline L. Turnage-Butterbaugh, *Mathematical Research Letters*, 28 (2021), no. 2, 575–621.
37. **“An algebraic lifting invariant of Ellenberg, Venkatesh, and Westerland,”** *Research in the Mathematical Sciences*, 8 (2021), no. 2, Paper No. 21, 13 pp.
36. **“An effective Chebotarev density theorem for families of number fields, with an application to l -torsion in class groups,”** with Lillian B. Pierce and Caroline L. Turnage-Butterbaugh, *Inventiones Mathematicae*, 219 (2020), no. 2, 701-778.
35. **“The free group on n generators modulo $n+u$ random relations as n goes to infinity,”** with Yuan Liu, *Journal für die reine und angewandte Mathematik (Crelle)*, 762 (2020), 123-166.
34. **“Nonabelian Cohen-Lenstra Moments”** (including an appendix with Philip Matchett Wood), *Duke Mathematical Journal*, 168 (2019), no. 3, 377-427.
33. **“A heuristic for boundedness of ranks of elliptic curves,”** with Jennifer Park, Bjorn Poonen, and John Voight, *Journal of the European Mathematical Society*, 21 (2019), no. 9, 2859-2903.
32. **“Random integral matrices and the Cohen Lenstra Heuristics,”** *American Journal of Mathematics* 141 (2019), no. 2, 383-398.
31. **“Coincidences of homological densities, predicted by arithmetic,”** with Benson Farb and Jesse Wolfson, *Advances in Mathematics* 352 (2019), 670-716.
30. **“Cohen-Lenstra heuristics and local conditions,”** *Research in Number Theory*, (2018) 4:41.
29. **“Cokernels of adjacency matrices of random r -regular graphs,”** with Hoi H. Nguyen, (2018), arXiv:1806.10068.
28. **“On l -torsion in class groups of number fields,”** with Jordan Ellenberg and Lillian B. Pierce, *Algebra & Number Theory* 11-8 (2017), 1739–1778.
27. **“The distribution of sandpile groups of random graphs,”** *Journal of the American Mathematical Society*, 30 (2017), pp. 915-958.
26. **“Nonabelian Cohen-Lenstra Heuristics over Function Fields,”** with Nigel Boston, *Compositio Mathematica* 153 (2017), no. 7, pp. 1372-1390.
25. **“Mass formulas for local Galois representations and quotient singularities II: dualities and resolution of singularities,”** with Takehiko Yasuda, *Algebra & Number Theory* 11-4 (2017), 817–840.
24. **“Gauss Composition for P_1 , and the universal Jacobian of the Hurwitz space of double covers,”** with Daniel Erman, *Journal of Algebra*, 470 (2017) 320-352.
23. **“Irreducibility of Random Polynomials,”** with Christian Borst, Evan Boyd, Claire Brekken, Samantha Solberg, and Philip Matchett Wood, *Experimental Mathematics* 27 (2018) no.4 pp. 498–506.
22. **“Representations of integers by systems of three quadratic forms,”** with Lillian B. Pierce and Damaris Schindler, *Proceedings of the London Mathematical Society* (3) 113 (2016), no. 3, 289-344.
21. **“Asymptotics for number fields and class groups,”** in *Directions in Number Theory*, Springer (2016) pp. 291–339.
20. **“The distribution of F_q points on cyclic l -covers of genus g ,”** with Alina Bucur, Chantal David, Brooke Feigon, Nathan Kaplan, Matilde Lal’ín, and Ekin Ozman, *International Mathematics Research Notices* (2016) no. 14, 4297-4340.

19. **“Discriminants in the Grothendieck Ring,”** with Ravi Vakil, *Duke Mathematical Journal* 164 (2015), no. 6, 1139-1185.
18. **“Semisample Bertini theorems over finite fields,”** with Daniel Erman, *Duke Mathematical Journal* 164 (2015), no. 1, 1-38.
17. **“The distribution of points on superelliptic curves over finite fields,”** with Gil Young Cheong and Azeem Zaman, *Proceedings of the American Mathematical Society*, 143 no. 4 (2015), pp. 1365-1375.
16. **“A heuristic for the distribution of point counts for random curves over a finite field,”** with Jeffrey D. Achter, Daniel Erman, Kiran S. Kedlaya, David Zureick-Brown, *Philosophical Transactions of the Royal Society A*, (2015) 373, no. 2040: 20140310.
15. **“Mass formulas for local Galois representations and quotient singularities I: A comparison of counting functions,”** with Takehiko Yasuda, *International Mathematics Research Notices* (2015) no. 23, 12590—12619.
14. **“On a Cohen-Lenstra Heuristic for Jacobians of Random Graphs”** with Julien Clancy, Nathan Kaplan, Timothy Leake, and Sam Payne, *Journal of Algebraic Combinatorics*, 42 (2015), no. 3, 701-723.
13. **“Parametrization of ideal classes in rings associated to binary forms,”** *Journal für die reine und angewandte Mathematik (Crelle)* 689 (2014), 169—199.
12. **“Counting polynomials over finite fields with given root multiplicities,”** with Ayah Almousa, *Journal of Number Theory*, 136C (2014), pp. 394–402.
11. **“The distribution of the number of points on trigonal curves over F_q ,”** *International Mathematics Research Notices* (2012) no. 23, 5444—5456.
10. **“Quartic rings associated to binary quartic forms,”** *International Mathematics Research Notices* (2012) no. 6, 1300–1320.
9. **“Gauss composition over an arbitrary base,”** *Advances in Mathematics* 226 (2011) 1756-1771.
8. **“Rings and ideals parametrized by binary n -ic forms,”** *Journal of the London Mathematical Society* (2) 83 (2011) 208–231.
7. **“Parametrizing quartic rings over an arbitrary base,”** *Algebra and Number Theory* 5-8 (2011), 1069–1094.
6. **“Mapping Incidences,”** with Van H. Vu and Philip Matchett Wood, *Journal of the London Mathematical Society*. (2) 84 (2011) 433–44.
5. **“On the probabilities of local behaviors in abelian field extensions,”** *Compositio Mathematica* 146 (2010), no. 1, 102–128.
4. **“Mass formulas for local Galois representations to wreath products and cross products,”** *Algebra and Number Theory*, Vol. 2 (2008), No. 4, 391-405.
3. **“The density of discriminants of S_3 -sextic number fields,”** with Manjul Bhargava, *Proceedings of the American Mathematical Society*, 136 (2008), 1581–1587.
2. **“Belyi-extending maps and the Galois action on dessins d’enfants,”** *Publications of the Research Institute for Mathematical Sciences* 42 (2006), no. 3, 721-737.
1. **“ P -orderings: a metric viewpoint and the non-existence of simultaneous orderings,”** *Journal of Number Theory* 99 (2003) 36-56.

MAJOR INVITED LECTURES

Mathematical Congress of the Americas (MCA) 2025	2025
Bellow Lecture Series, Northwestern	2025
Zassenhaus Lectures, The Ohio State University	2025
Leonidas Alaoglu Memorial Lecture in Mathematics, Caltech	2025
Christine Darden Lecture, MAA MathFest.....	2024
Blyth Lecture Series, University of Toronto	2024

Cantrell Lecture Series, University of Georgia	2024
Maryam Mirzakhani Lecture, AMS Joint Mathematics Meetings	2024
Duke University John J. Gergen Memorial Lectures	2023
University of Cambridge Rouse Ball Lecture	2023
International Congress of Mathematicians Special Sectional Lecture	2022
The Mathematics Consortium (India) Distinguished Lecture Series	2022
Simons Lectures at Stony Brook University	2022
Park City Math Institute Graduate Lecture Series.....	2022
Pacific Institute for the Mathematical Sciences & University of British Columbia Distinguished Colloquium	2019
Princeton University Minerva Distinguished Visitor Mini-course, 4 lectures.....	2018
University of Oregon Niven Lectures.....	2018
Stanford University Beatrice Yormark Distinguished Lecture.....	2016
John G. Kemeny Lectures, Dartmouth, three lectures	2016
Distinguished Women in Mathematics Lecturer, University of Texas at Austin	2015
Montreal CRM Summer School, four 1.5-hour lectures	2014
Arizona Winter School, five lectures	2014
Loeb Lecture, Washington University at St. Louis.....	2014
J. Sutherland Frame Lecture, MAA MathFest	2012
Joints Mathematics Meetings MAA Invited Address	2011
AMS Western Sectional Meeting Invited Address.....	2010

SELECTED INVITED RESEARCH TALKS

Oberwolfach Workshop: Arithmetic Statistics for Algebraic Objects.....	2025
Brown University Applied Mathematics Colloquium	2025
MIT Probability Seminar	2025
Oberwolfach Workshop: Machine Learning and AI for Mathematics	2025
MPS Conference on Universal Statistics in Number Theory, Simons Foundation	2025
Statistics of Class Groups and Number Fields Workshop, ETH	2025
International Women in Mathematics Day Celebration, MIT	2025
Visions in Arithmetic and Beyond, Princeton University and IAS.....	2024
Duke University Graduate Research Opportunities Workshop 2023, Plenary Speaker.....	2023
IAS Conference on 100 Years of Noetherian Rings Invited Lecture.....	2023
CIRM Arithmetic Statistics Conference Plenary Speaker.....	2023
University of Cambridge Number Theory Seminar	2023
ICMS Arithmetic, Algebra, and Algorithms Invited Lecture.....	2023
Yale University Colloquium.....	2023
JMM Boston 2023 AMS Special Session on Arithmetic Geometry Informed by Computation.....	2023
JMM Boston 2023 AMS Special Session on Arithmetic Statistics I	2023
Boston College Number Theory Seminar	2022
MIT Number Theory Seminar	2022
Algebra 2022 and Beyond, a Conference in honor of Michael Larsen.....	2022
Tufts Colloquium.....	2022
Princeton University/IAS Number Theory Seminar.....	2022
Simons Symposium on Geometry of Arithmetic Statistics.....	2022
Joint Columbia-NYU-CUNY New York Number Theory Seminar	2021
Oberwolfach Workshop: Explicit Methods in Number Theory	2021
University of Wisconsin-Madison Colloquium.....	2021
Rice University Colloquium	2021
Algebraic Questions in Random Integral Matrices Conference, The Ohio State University	2020

Southern California Number Theory Day, University of California, San Diego.....	2020
University of California, Irvine Colloquium	2020
Simons Collaboration Arithmetic Geometry, Number Theory, and Computation Annual Meeting	2020
University of California, Los Angeles Colloquium	2019
University of California, Los Angeles Number Theory Seminar	2019
University of British Columbia Number Theory Seminar	2019
Colloque des sciences mathématiques du Québec, Centre de Recherches Mathématiques	2019
McGill Probability Seminar	2019
Quebec-Vermont Number Theory Seminar	2019
Stanford University Number Theory Seminar	2019
Enumerative Arithmetic and the Cohen-Lenstra Heuristics, at Max Planck Institute in Bonn.....	2019
Harvard University Colloquium	2019
University of Michigan Colloquium.....	2019
University of Pennsylvania Algebra Seminar	2018
Joint Columbia-NYU-CUNY New York Number Theory Seminar	2018
Conference on open questions in cryptography and number theory at UC Irvine Invited Speaker.....	2018
Arithmetic Geometry, Number Theory, and Computation at MIT Invited Speaker.....	2018
Canadian Number Theory Association Plenary Speaker	2018
Algorithmic Number Theory Symposium Invited Speaker	2018
Duke Math Journal Conference.....	2018
Carnegie Mellon Colloquium.....	2018
University of California, Berkeley Colloquium	2018
Columbia University Algebraic Geometry Seminar.....	2017
Yale University Colloquium	2017
Yale University Algebraic Geometry Seminar.....	2017
University of Texas at Austin Number Theory Seminar.....	2017
University of Texas at Austin Group Theory Seminar	2017
Northwestern Colloquium	2017
MSRI Recent developments in Analytic Number Theory Workshop	2017
Invited Address, MAA Wisconsin Section Meeting	2017
University of Chicago Colloquium.....	2017
Caltech Colloquium	2016
Princeton University Colloquium.....	2016
Princeton University Number Theory Seminar.....	2016
2016 Fields Medal Symposium.....	2016
Stanford University Number Theory Seminar	2016
Stanford University Combinatorics Seminar	2016
Rubinfest: L-functions and Arithmetic, Harvard University	2016
Conference on Arithmetic Statistics and the Cohen-Lenstra Heuristics, University of Warwick.....	2016
Joint Athens-Atlanta Number Theory Seminar, Georgia Tech	2016
University of Chicago Number Theory Seminar.....	2016
Invited Lecture, AMS Algebraic Geometry Summer Institute, University of Utah	2015
Southern California Number Theory Day Invited Speaker.....	2015
Algebraic Geometry Northeastern Series Invited Speaker.....	2015
Brandeis-Harvard-MIT-Northeastern Joint Colloquium.....	2015
Rice University Colloquium	2015
Tufts University Colloquium	2015
Northeast Probability Seminar at Columbia University Invited Speaker	2014
IMA Additive and Analytic Combinatorics Workshop	2014
University of Illinois Urbana-Champaign, Bateman-Halberstam Conference	2014

Marquette University Colloquium.....	2014
AIM Workshop: Arithmetic statistics over finite fields and function fields.....	2014
University of Michigan Algebraic Geometry Seminar.....	2013
Boston College-MIT Joint Number Theory Seminar.....	2013
University of North Carolina Number Theory Seminar.....	2013
Johns Hopkins-University of Maryland Algebra & Number Theory Day.....	2013
Collaborative Explorations and Developments in Arithmetic Research Conference.....	2013
Atkin Memorial Workshop on Cohen-Lenstra Heuristics.....	2013
University of Chicago Geometry/Topology Seminar.....	2013
University of Illinois Chicago Algebraic Geometry Seminar.....	2013
University of Chicago Colloquium.....	2012
Upstate New York Number Theory Conference Invited Speaker.....	2012
Northern Illinois University Colloquium.....	2012
University of Wisconsin-Madison Colloquium.....	2012
Duke University Algebraic Geometry Seminar.....	2011
Women in Numbers 2, Banff International Research Station.....	2011
Western Algebraic Geometry Symposium.....	2011
AWM 40 years and counting Number Theory Session.....	2011
MSRI-Evans Lecture, University of California, Berkley.....	2011
MSRI-Arithmetic Statistics Workshops, two invited talks.....	2011
Bay Area Algebraic Number Theory and Arithmetic Geometry Day.....	2011
MAA Invited Speaker in The Power and Beauty of Number Theory Session, JMM.....	2016
AWM Alice T. Schafer Mini-symposium, JMM.....	2011
Stanford University Algebraic Geometry Seminar.....	2011
Cornell University Number Theory Seminar.....	2010
University of Wisconsin- Madison Number Theory Seminar.....	2010
Workshop on Elliptic Curves and Computation.....	2010
Northwestern Number Theory Seminar.....	2010
University of California, Berkeley Commutative Algebra and Algebraic Geometry Seminar.....	2009
Quebec-Vermont Number Theory Seminar at McGill.....	2009
Oberwolfach Workshop: Explicit Methods in Number Theory.....	2009
Higher Degree Forms Conference, University of Florida.....	2009
Rutgers University Colloquium.....	2009
Rutgers University Number Theory Seminar.....	2009
Stanford University Number Theory Seminar.....	2009
University of Texas at Austin Algebra, Number Theory, and Combinatorics Seminar.....	2009
Texas A&M Number Theory Seminar.....	2009
University of Wisconsin-Madison Number Theory Seminar.....	2008
University of Arizona Number Theory Seminar.....	2007
Rings of Low Rank Workshop, Lorentz Center, University of Leiden, Netherlands.....	2006
Institute for Advanced Study Women's Program.....	2006
University of California, Berkeley Number Theory Seminar.....	2005
University of Pennsylvania Galois Seminar.....	2005
American University Colloquium.....	2004

SELECTED STUDENT AND PUBLIC TALKS

Harvard Women in Mathematics and Statistics Conference (WiMS) Keynote Speaker.....	2025
University of Virginia REU Number Theory Lecture Series.....	2023
Harvard University Open Neighborhood Seminar.....	2023

University of Virginia REU Distinguished Lecture	2022
International Science and Engineering Fair Mathematics Reception	2021
U.S. Academic Decathlon Speaker at Welcome Ceremony.....	2017
Young Mathematicians Conference Plenary Speaker	2016
Association of Colleges in the Chicago Area, 2 talks to undergraduates	2013
Duke University Mathematics Union Undergraduate Talk.....	2011
Bay Area Mathematical Adventures.....	2009
Keynote Address, 37 th Biennial Convention, Kappa Mu Epsilon	2009
Princeton Sigma Xi Public Science Lecture.....	2009
USA Mathematical Olympiad Awards Ceremony Keynote Speaker	2008
Lecture at opening of MAA Carriage House Conference Center.....	2007
Colloquium and Harry S. Kieval Lecture, Humboldt State University	2007
University of Minnesota Duluth Colloquium and Public Talk.....	2006
Bay Area Mathematical Olympiad Awards Ceremony Keynote Speaker	2005
New York Metropolitan MAA Section Meeting Invited Major Session Speaker	2005
American University Public Talk	2004

SERVICE

Institute of Computer-Aided Reasoning in Mathematics, Strategic Advisory Board	2025-present
American Institute of Mathematics, Scientific Research Board.....	2021-present
Essential Number Theory, Editorial Board	2021-present
Journal of the American Mathematical Society, Associate Editor.....	2020-present
Number Theory Foundation Board of Directors	2020-present
Algebra and Number Theory Editorial Board.....	2019-present
Springer Graduate Texts in Mathematics Advisory Board.....	2019-present
Regeneron Science Talent Search (formerly Westinghouse, Intel) Judging Panel national research competition for high schoolers.....	2015-present
The Legacy of John Tate, and Beyond Conference, Scientific Committee.....	2025
Duke Mathematical Journal, Editor.....	2021-2025
AIM Workshop on Nilpotent Counting Problems Arithmetic Statistics, Organizer.....	2024
International Mathematics Research Notices Editorial Board.....	2020-2023
AWM-Microsoft Research Prize Selection Committee	2018-2023
Brown University Mathematics Department Visiting Committee	2022
American Mathematical Society Council	2019-2022
AMS Committee on the Profession	2019-2022
Research in Number Theory Editorial Board.....	2019-2022
KTH Royal Institute of Technology External Committee.....	2021
Simons Foundation Reviewer	2021
Organizer, AMS Committee on the Profession Panel on developing a culture that promotes a full range of career paths	2020-2021
AMS Mathematical Surveys and Monographs Editorial Committee.....	2020-2021
Panel member for the National Science Foundation review panel...2010-2011, 2013-2014, 2015-2016, 2017-2018, 2018- 2019, 2020-2021	
Reviewer for Banff International Research Station	2015-2016, 2020-2021
Research in the Mathematical Sciences Special Issue on Arithmetic Topology, Editor	2019-2021
Cole Prize Selection Committee.....	2019-2020
Reviewer for European Research Council	2019-2020
Reviewer for Natural Sciences and Engineering Research Council (Canada)	2019-2020
Organizer, Workshop on Arithmetic Topology at PIMS	2018-2019

Editorial Board, Journal de Théorie des Nombres de Bordeaux.....2015-2019
AMS Representative on the Frank and Brennie Morgan Prize Committee.....2016-2019
Member, MAA Subcommittee on the United States Math Olympiad.....2016-2017
Reviewer for NSA Mathematical Sciences Grant Program2012-2016
Developed research problem for and co-organized research group for Women in Numbers 2.....2011
Mathcounts Board of Directors2007-2009
Noetherian Ring Co-Chair, Princeton University.....2006-2009
Institute for Advanced Study Women in Science Seminar co-organizer2007

GRADUATE STUDENTS

Jiuya Wang, currently Assistant Professor at the University of Georgia Ph.D., 2018
Megan Maguire, currently at Epic Systems..... Ph.D., 2018
Weitong Wang, currently Lecturer, College of Mathematical Sciences of Harbin Engineering University..... Ph.D., 2022
Anya Michaelsen, currently at Gap Masters, 2022
Kristina Nelson..... Ph.D., 2023
Michael Kural..... Ph.D., 2025
Elia Gorokhovskiyin progress at Harvard University
August Liu.....in progress at Harvard University
Jack Miller.....in progress at Harvard University
Sunny Zhangin progress at Harvard University

POSTDOCTORAL MENTEES

Joseph Gunther, currently a Postdoc at Université Paris-Sud (Paris 11/Orsay) 2017
Mark Shusterman, currently Senior Researcher at Weismann Institute of Science2018-2019, 2020-2023
Aaron Landesman, currently a Benjamin Peirce Fellow, Harvard Mathematics Department 2021-present
Ashvin Swaminathan, currently a Benjamin Peirce Fellow, Harvard Mathematics Department.....2022-present
Sameera Vemulapalli, currently a Benjamin Peirce Fellow, Harvard Mathematics Department.....2024-present
Niven Achenjang, currently a Benjamin Peirce Fellow, Harvard Mathematics Department 2025-present

MENTORING UNDERGRADUATE RESEARCH

Mentored 40+ undergraduates in mathematics research.....2004-present