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Education and Employment

Assistant Professor of Mathematics, [Washington University in St. Louis](#), St. Louis, MO, USA, 2022/08-.

Semester Program Postdoc, [Mathematical Sciences Research Institute](#), Berkeley, CA, USA, 2023/1-2023/5.

CRM-ISM Postdoc fellow, [Centre de recherches mathématiques](#), Montreal, QC, Canada, 2021/01-2022/08, Mentors: [Chantal David](#), [Andrew Granville](#), [Matilde Lalín](#).

Course Lecturer, [McGill University](#), Montreal, QC, Canada, 2021/07-2021/12.

Research Scientist, [Simons Collaboration on Arithmetic Geometry, Number Theory, and Computation](#), [Massachusetts Institute of Technology](#), Cambridge, MA, USA, 2019/09-2021/01, Supervisors: [Bjorn Poonen](#), [Andrew V. Sutherland](#)

PhD Mathematics, [University of Wisconsin–Madison](#), Madison, WI, USA, August 2019, Advisor: [Jordan Ellenberg](#).

BA Mathematics, Nanjing University, Nanjing, Jiangsu, China, June 2013.

Publications (authors are listed in alphabetical order)

1. “On ℓ -torsion in degree ℓ superelliptic Jacobians over \mathbf{F}_q ”, with J. Love, E. Stubbley, preprint. [arXiv](#)
2. “Non-vanishing of Ceresa and Gross–Kudla–Schoen cycles associated to modular curves”, with M. Kerr, C. Qiu, T. Yang, preprint. [arXiv](#)
3. “Exceptional biases in counting primes over functions fields ”, with A. Bailleul, L. Devin, D. Keliher, *J. Lond. Math. Soc.* (2) 109 (2024), no. 3, Paper No. e12876, 32 pp. [arXiv](#)
4. “On the vanishing of twisted L -functions of elliptic curves over rational function fields ”, with A. Comeau-Lapointe, C. David, M. Lalín, *Res. Number Theory* 8 (2022), no. 4, Paper No. 76, 28 pp. [arXiv](#)

5. “The Ceresa class and tropical curves of hyperelliptic type”, with D. Corey, Forum Math. Sigma 12 (2024), Paper No. e54. [arXiv](#)
6. “On the Northcott property of zeta functions over function fields”, with X. G en ereux, M. Lal ın, Finite Fields Appl. 83 (2022), Paper No. 102080, 27 pp. [arXiv](#)
7. “Abelian varieties of prescribed order over finite fields”, with R. van Bommel, E. Costa, B. Poonen, and A. Smith, accepted for publication in Math. Ann., [arXiv](#)
8. “Data for Shimura varieties intersecting the Torelli locus”, with E. Mantovan, and R. Pries, submitted, [arXiv](#)
9. “Doubly isogenous genus-2 curves with D_4 -action”, with V. Arul, J. Booher, S. R. Groen, E. W. Howe, V. Matei, R. Pries, and C. Springer, Math. Comp.93(2023), no.345, 347–381. [arXiv](#)
10. “Vanishing of Dirichlet L-functions at the central point over function fields”, with R. Donepudi, Rocky Mountain J. Math. 51 (2021), no. 5, 1615–1628. [arXiv](#)
11. “Surface bundles and the section conjecture”, With D. Litt, N. Salter and P. Srinivasan, Math. Ann. 386 (2023), no. 1-2, 877–942. [arXiv](#)
12. “The Ceresa class: tropical, topological, and algebraic”, with D. Corey and J. Ellenberg, Journal of the Institute of Mathematics of Jussieu (2020): 1-41. [arXiv](#).
13. “Group-theoretic Johnson classes and a non-hyperelliptic curve with torsion Ceresa class”, with D. Bisogno, D. Litt, and P. Srinivasan,  Epijournal de G eom etrie Alg ebrique Volume 7. [arXiv](#).
14. “Nonvanishing of hyperelliptic zeta functions over finite fields”, with J. Ellenberg and M. Shusterman, Algebra & Number Theory 14 (2020), no. 7, 1895–1909, [arXiv](#).
15. “Newton polygon stratification of the Torelli locus in PEL-type Shimura varieties”, with E. Mantovan, R. Pries and Y. Tang, Int. Math. Res. Not. IMRN(2022), no. 9, 6464–6511.[arXiv](#).
16. “Ranks, 2-Selmer groups, and Tamagawa numbers of elliptic curves with $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/8\mathbb{Z}$ -torsion”, with S. Chan and J. Hanselman, Proceedings of the Thirteenth Algorithmic Number Theory Symposium, 173–189, Open Book Ser., 2, Math. Sci. Publ., Berkeley, CA [arXiv](#).
17. “Newton Polygons Arising for Special Families of Cyclic Covers of the Projective Line”, with E. Mantovan, R. Pries and Y. Tang, Res. Number Theory 5 (2019), no. 1, [arXiv](#).
18. “Newton polygons of cyclic covers of the projective line branched at three points”, with E. Mantovan, R. Pries and Y. Tang, Research Directions in Number Theory: Women in Numbers IV, [arXiv](#).

19. “Effective Bounds on the Dimensions of Jacobians Covering Abelian Varieties”, with J. Bruce, Proc. Amer. Math. Soc. 148 (2020), no. 2, 535-551, [arXiv](#).
20. “Vanishing of Hyperelliptic L-functions at the Central Point”, J. Number Theory 191 (2018), 85-103, [arXiv](#).

Grant and Award

- CRM-Simons Scholar, 2026
- Principal Investigator, NSF Grant DMS-2411537, Conference: Comparative Prime Number Theory Symposium, 2024
- Principal Investigator, NSF Grant DMS-2302511, The Frobenius action on curves and abelian varieties, 2023 – 2026.
- AWM-NSF Mentoring Travel Grant, 2023
- CRM-ISM postdoctoral fellowship, 2021-2022
- Elizabeth Hirschfelder Prize, UW-Madison, 2018-2019
- Postdoctoral Ambassadorship from the Women and Mathematics Program at the Institute for Advanced Study, 2017-2018

Mentorship

- Mohao Yi, PhD candidate at Washington University
- Sydney Mayer, Freiwald Scholars Program (WashU undergraduate research)
- Xavier Genereux, CRM-ISM Undergraduate Summer Scholarship program

Upcoming and Recent Presentations

1. 2025 Summer Research Institute in Algebraic Geometry, Fort Collins, Jul 2025
2. CMND Thematic Program International conference, Notre Dame, Jun 2025
3. International Research conference, Nanjing University, Jun 2025
4. Number theory seminar, Georgia Tech, Apr 2025
5. Number theory seminar, Cornell University, Mar 2025
6. Pittsburgh Number Theory Day, Nov 2024
7. Number theory seminar, Fields institute, Nov 2024
8. Number theory seminar, University of Washington, Oct 2024
9. Number theory seminar, LSU, Oct 2024

10. VaNTAGe math seminar, Sep 2024
11. Geometry seminar, Texas A&M University, Sep 2024
12. Analytic Number Theory and Arithmetic Statistics, Montreal, Aug 2024
13. Comparative Prime Number Theory Symposium, UBC, Jun 2024
14. Number theory seminar, UGA, Apr 2024
15. Number theory seminar, CUNY, Apr 2024
16. Number theory seminar, UW-Madison, Mar 2024
17. Colloquium, UW-Madison, Mar 2024
18. Algebraic and Arithmetic Geometry seminar, WashU, Feb 2024
19. Number theory seminar, Boston University, Dec 2023
20. Monodromy and Its Applications, Conference on the Occasion of Nicholas Katz' 80th Birthday, Princeton, Dec 2023
21. Number Theory and Combinatorics Seminar, University of Lethbridge, Oct 2023
22. Algebraic and Arithmetic Geometry seminar, WashU, Sep 2023
23. Conference on Modular Forms and Arithmetic Geometry, Darmstadt, Sep 2023
24. Number theory seminar, Caltech, May 2023
25. AMS Special Session on Arithmetic Statistics, Apr 2023
26. OSU Number Theory Seminar series, Apr 2023
27. Auburn Algebra Seminar, Apr 2023
28. UVA Number Theory Seminar, Feb 2023
29. Number Theory Web Seminar, Feb 2023
30. CRG: L-functions in Analytic Number Theory Weekly Seminar Series, Feb 2023
31. Connections Workshop: Diophantine Geometry, MSRI, Feb 2023
32. Simons Collaboration on Arithmetic Geometry, Number Theory & Computation Annual Meeting, Jan 2023
33. AMS Special Session on Arithmetic Geometry Informed by Computation, JMM, Jan 2023
34. AMS Special Session on Arithmetic Statistics, JMM, Jan 2023
35. AIM Special Session on Automorphic Forms and Special Cycles, JMM, Jan 2023
36. Session on Diophantine Arithmetic Geometry and Number Theory, CMS Winter meeting, Nov 2022

37. UBC Number Theory Seminar, Oct 2022
38. Around Frobenius distributions and related topics III, Oct 2022
39. A celebration of analytic number theory, a conference in honor of Andrew Granville, CRM Montreal, Sep 2022
40. Algebraic and Arithmetic Geometry seminar, WashU, Aug 2022
41. Analytic Number Theory @ UCI '22, UC Irvine, Aug 2022
42. AWM Research Symposium, University of Minnesota, Jun 2022
43. Session on Arithmetic statistics, CMS Summer meeting, Jun 2022
44. Anabelian Days Down In Georgia (ADDING), Apr 2022
45. Number theory seminar, Pennsylvania State University, Apr 2022
46. AMS Special Session on Analytic Methods in Arithmetic Statistics, Mar 2022
47. Number theory seminar, Arizona State University, Mar 2022
48. Number theory seminar, University of Utah, Mar 2022
49. Algebra and algebraic geometry seminar, MacMaster University, Mar 2022
50. “Growing up in science” seminar, Bowdoin College, Mar 2022
51. XXIII International Symposium on Mathematical Methods Applied to Science, Number Theory and Cryptography session, Universidad de Costa Rica, Feb 2022
52. Colloquium, Georgia Institute of Technology, Feb 2022
53. Colloquium, Texas A&M University, Feb 2022
54. Colloquium, University of Notre Dame, Jan 2022
55. Colloquium, Concordia University, Jan 2022
56. 3rd Kyoto-Hefei workshop on arithmetic geometry, Dec 2021
57. Colloquium, Johns Hopkins University, Nov 2021
58. Colloquium, Washington University in St. Louis, Nov 2021
59. Number theory seminar, Shandong University, Nov 2021
60. VaNTAGe math seminar, Nov 2021
61. Ottawa/Carleton Number Theory Seminar, Oct 2021
62. Maine-Québec Number Theory Conference, Oct 2021
63. PALmetto Joint Arithmetic, Modularity, and Analysis Series, Sep 2021

64. Number theory seminar, University of Wisconsin-Madison, Sep 2021
65. Quebec-Vermont Number Theory Seminar, Montreal, Sep 2021
66. Workshop on Arithmetic Statistics Problems, Jul 2021
67. Curves over finite fields: past, present, future, May 2021
68. MOBIUS analytic number theory seminar, Montreal, Mar 2021
69. Session on Arithmetic statistics, CMS Winter meeting, Dec 2020
70. Number theory seminar, University of Arizona, Sep 2020
71. Madison Moduli Weekend, Sep 2020
72. Connecticut Summer School in Number Theory, CTNT online, Jun 2020
73. Arithmetic Geometry is Online in Zoom, Everyone, Mar 2020
74. AMS Special Session on Arithmetic Galois Actions, Denver, Jan 2020
75. AMS Special Session on Rational Points on Algebraic Varieties: Theory and Computation, Denver, Jan 2020
76. Johns Hopkins Junior Number Theory Days, Dec 2019
77. joint NYU-CUNY-Columbia Number Theory Seminar, NYU, Dec 2019
78. Number theory seminar, Boston University, Nov 2019
79. Number theory seminar, University of Georgia, Oct 2019
80. Number theory seminar, Tufts University, Oct 2019
81. Number theory seminar, University of Connecticut, Oct 2019
82. Number theory seminar, MIT, Sept 2019
83. AMS Special Session on Arithmetic of Shimura Varieties, Madison, Sept 2019
84. Arithmetic of Low-Dimensional Abelian Varieties, ICERM, Jun 2019
85. 49th John H. Barrett Memorial Lectures conference, University of Tennessee, May 2019
86. Automorphic Forms and Arithmetic seminar, Columbia University, Apr 2019
87. AMS Special Session on Arithmetic Geometry and its connections, Hawaii, Mar 2019
88. Hawaii Number Theory conference, Hawaii, Mar 2019
89. AMS Special Session on Arithmetic Statistics, Baltimore, Maryland, Jan 2019
90. Quebec-Vermont Number Theory Seminar (QVNTS), Montreal, Quebec, Dec 2018
91. Algebraic Geometry and Number Theory seminar, Rice University, Nov 2018

92. Front Range Algebraic Geometry and Number Theory Seminar, Jul 2018
93. Canadian Number Theory Association Conference (CNTA XIV), Quebec, Aug 2018
94. Connecticut Summer School in Number Theory (CTNT), Jun, 2018
95. Maine-Quebec Number Theory Conference, Oct 2017

Teaching

Teaching at Washington University in St. Louis

Independent study: Rational points on Elliptic Curves, Spring 2024
Topic course: Primes of the form $x^2 + ny^2$, Spring 2024
Matrix Algebra, Fall 2022, Fall 2023.
Abstract Algebra I, Fall 2022
Calculus II, Fall 2024
Topics in Arithmetic Geometry, Spring 2025

Course Lecturer at McGill university

Linear Algebra and Geometry, Fall 2021.

Teaching assistant at UW-Madison

Algebra and Trigonometry, Fall 2018.
Calculus and Analytic Geometry I, Fall 2017.
Introduction to Discrete Mathematics, Spring 2016.
Techniques in Ordinary Differential Equations, Fall 2015.
Calculus–Functions of Several Variables, Spring 2015, 2019.
Calculus and Analytic Geometry II, Fall 2014, 2016, Spring 2017, 2018.

Service

- Program committee for Sixteenth Algorithmic Number Theory Symposium, Jul 2024
- Scientific committee for Comparative Prime Number Theory Symposium, Jun 2024
- Co-organizer for ICERM Ceresa Cycle in Arithmetic and Geometry, May 2024
- Co-organizer for conference “Western Algebraic Geometry Symposium”, Nov 2023
- Mini-course on “Elliptic curves with complex multiplication” at [Preliminary Arizona Winter School 2023: Elliptic Curves and Abelian Varieties](#)
- Panelist for “Career Development Series”, MSRI, Mar 2023

- Co-organizer for algebraic and arithmetic geometry seminar at WashU, 2022-
- Co-organizer for étale cohomology learning seminar at WashU, 2022-2023
- Co-organizer for Workshop [Arithmetic and topology over Global fields](#), Oct 2022
- Co-organizer for the MOBIUS analytic number theory seminar, Montreal, 2021-2022
- Co-organizer for CMS Winter Meeting: Arithmetic Statistics Session, Dec 2021
- Co-advisor for CRM-ISM Undergraduate Summer Scholarship program, 2021
- Panelist for [MathPath](#)(math camp in the US), July 2021
- Panelist for [Women in Mathematics during the time of COVID](#), CRM, Mar 2021
- Co-organizer for conference: [Geometry and Arithmetic of Surfaces](#), Feb 2019
- Co-organizer for conference: [Arithmetic of Algebraic Curves](#), Apr 2018
- Graduate Program Committee, UW-Madison, 2015-2018
- Math Girls Night Out, UW-Madison, Fall 2015
- Directed Reading Program, UW-Madison, Fall 2016, Spring 2017