

RESEARCH AREAS	Number theory, arithmetic geometry, representation theory; special values of L -functions, rational points on algebraic varieties, cluster algebras	
APPOINTMENTS	Institut des Hautes Études Scientifiques (IHES) <i>Postdoctoral IHES Fellow</i>	2026–
	Massachusetts Institute of Technology (MIT) <i>Instructor of Mathematics</i> <i>NSF Postdoctoral Fellow</i>	2024–2026 2023–2026
EDUCATION	Columbia University <i>Ph.D. in Mathematics</i> (Advisor: Michael Harris) <i>M.Phil. in Mathematics</i> <i>M.A. in Mathematics</i>	2023 2021 2019
	Stanford University <i>B.S. in Mathematics with Honors</i> (Advisor: Brian Conrad) <i>Minor in Computer Science</i>	2017
ACADEMIC VISITS	ANU Mathematical Sciences Institute Hausdorff Research Institute for Mathematics Kyoto University Hua Loo-Keng Center for Mathematical Sciences Université Paris-Diderot	Mar–Apr 2024 Jul–Aug 2023 May–Jul 2023 Jun–Jul 2018 Jan–Mar 2016
FELLOWSHIPS & HONORS	Peter Baddoo Community Building Award, MIT Mathematics Book Award Nominee (Finalist), James Beard Foundation Graduate Thesis Award (Gold), ICCM Mathematical Sciences Postdoctoral Research Fellowship, NSF Best Participant Talk, AMSI–MSRI Winter–Summer School Graduate Research Fellowship, NSF	2026 2024 2023 2023–2026 2022 2017–2022
SERVICE	Co-organizer, <i>MIT Number Theory Seminar</i> Organizer, <i>MIT Math + Wine</i> Co-organizer, <i>Columbia University Directed Reading Program</i> Judge, <i>Bergen SciChallenge / BCA Research Expo</i> RTG co-host, <i>Joint Columbia–CUNY–NYU Number Theory Seminar</i> Co-organizer, <i>Columbia University Student Number Theory Seminar</i> Organizer, <i>Columbia University Student Mathematics Colloquium</i> Referee, <i>Ann. Math.</i> ; <i>Ann. Sc. Norm. Super. Pisa</i> ; <i>IMRN</i> ; <i>Math. Ann.</i> ; <i>Michigan Math. J.</i> ; <i>Proc. Amer. Math. Soc.</i> ; <i>Res. Number Theory</i> ; Reviewer, <i>Mathematical Reviews</i> ; zbMATH Open	2024–2026 2023–2026 2020–2023 2018–2022 2020–2021 2020 2018

PREPRINTS	Dynamical uniform boundedness for unicritical polynomials. arXiv:2609.13431 .	
	Positive integral points on acyclic cluster varieties. arXiv:2503.08800 .	
	The Harris–Venkatesh conjecture for derived Hecke operators II: a unified Stark conjecture. arXiv:2305.08956 .	
	The Harris–Venkatesh conjecture for derived Hecke operators I: imaginary dihedral forms. arXiv:2301.00570 . 2023 ICCM Best Doctoral Thesis Award (for mathematicians of Chinese descent)	
RESEARCH ARTICLES	The Harris–Venkatesh conjecture for derived Hecke operators III: local constants. <i>Ann. Math. Blaise Pascal</i> , to appear. arXiv:2301.00612 .	
	On maximal Dynkin friezes . <i>Poly. J. Math.</i> , 4(12):1–17.	2026
	Uniform bounds on periodic points of polynomials with good reduction , with I. Rajagopal. <i>Monatsh. Math.</i> , 211(1):159–172.	2026
	Corrigendum to “Modular Gelfand pairs and multiplicity-free representations” , with P. Allen and P. Wake. <i>Int. Math. Res. Not. IMRN</i> , 2026(11):rnag112.	2026
	A benchmark of expert-level academic questions to assess AI capabilities , with L. Phan, A. Gatti, Z. Han, N. Li et al. <i>Nature</i> , 649:1139–1146.	2026
	Mod ℓ gamma factors and a converse theorem for finite general linear groups , with J. Bakeberg, M. Gerbelli-Gauthier, H. Goodson, A. Iyengar, and G. Moss. <i>Doc. Math.</i> , 31(1):27–69.	2026
	Towards the p-adic derived Hecke algebra for weight one forms . <i>RIMS Kôkyûroku</i> , 2326:e8.	2025
	Modular Gelfand pairs and multiplicity-free representations . <i>Int. Math. Res. Not. IMRN</i> , 2024(7):5490–5523.	2024
	A Galois–dynamics correspondence for unicritical polynomials . <i>Arnold Math. J.</i> , 7(3):467–481.	2021

	Section rings of $\mathbb{Q}$ -divisors on minimal rational surfaces, with A. Landesman and R. Ruhm. <i>Math. Res. Lett.</i> , 25(4):1329–1357.	2018
	Spin canonical rings of log stacky curves, with A. Landesman and R. Ruhm. <i>Ann. Inst. Fourier</i> , 66(6):2339–2383.	2016
EXPOSITORY ARTICLES	The <i>abcd</i> conjecture, uniform boundedness, and dynamical systems. <i>Publ. Math. Besançon</i> , 2024(1):119–134.	2024
	Flushing: the melting pot's melting pot, with D. Le and photography by C. Trinh. In <i>Made Here: Recipes and Reflections from NYC's Asian Communities</i> , pp 125–127. New York: Send Chinatown Love. ISBN 9798218247164.	2023
	Grupos ortogonales sobre cuerpos de característica positiva. <i>Rev. Mat. Teor. Apl.</i> , 29(2):159–176.	2022
BOOKS EDITED	<i>Made Here: Recipes and Reflections from NYC's Asian Communities</i> (co-editor and research). New York: Send Chinatown Love. 352pp. ISBN 9798218247164. 2024 James Beard Foundation Book Award Nominee	2023
ADVISING	4 undergraduate students, research projects 6 undergraduate students, <i>MIT Mathematics Major</i> 2 high school students, <i>PROMYS India Research Lab</i> 1 undergraduate student, <i>Columbia University Directed Reading Program</i>	2025–2026 2024–2026 2025 2020
TEACHING	Instructor, <i>Seminar in Number Theory: Topics in Diophantine Approximation</i> Co-instructor, <i>Topics in Algebra</i> Recitation Leader, <i>Differential Equations</i> (T. Ozuch) Instructor, <i>Seminar in Number Theory: Topics in Arithmetic Dynamics</i> Recitation Leader, <i>Calculus</i> (P. Seidel) Teaching Assistant, Barnard–Columbia Mathematics Help Room Teaching Assistant, <i>Calculus I</i> (L. Fernandez) Instructor, <i>Calculus I</i> Instructor, <i>Undergraduate Seminars: Dessins d'Enfants</i> Instructor, <i>Undergraduate Seminars: Topics in Arithmetic Dynamics</i> Instructor, <i>Calculus I</i> Teaching Assistant, <i>Number Theory and Cryptography</i> (S. Makisumi) Teaching Assistant, <i>Calculus III</i> (L. Truong)	S 2026 S 2026 S 2026 S 2025 F 2024 2017–2023 S 2023 F 2022 S 2022 F 2021 F 2020 S 2020 S 2019

	Teaching Assistant, <i>Calculus III</i> (M. Harris)	F 2018
	Counselor, Ross Mathematics Program in Asia	2017
	Grader, <i>Groups and Rings</i> (K. Soundararajan)	S 2016
INDUSTRY	Level 1 Award in Spirits, <i>Fine Vintage</i>	2023
	Level 3 Award in Wines (with Merit), <i>Wine & Spirit Education Trust</i>	2022
	Software Engineering Intern, <i>LinkedIn</i>	2016
	Software Engineering Intern, <i>Kryptnostic</i>	2015
	Quantitative Research Intern, <i>COHO Opportunity Fund</i>	2012–2013
LANGUAGES	English (native)	French (intermediate)
	Mandarin Chinese (intermediate)	Spanish (elementary)
	C++ C# C Java Python SQL Mathematica $\LaTeX$	
INVITED GENERAL LECTURES	PROMYS India Guest Lecture Indian Institute of Science	May 2025
	Mathematical Sciences Institute Public Lecture Australian National University	Apr 2024
INVITED CONFERENCE TALKS	<i>Fifty Years of Eisenstein Ideal</i> International Centre for Theoretical Sciences (ICTS–TIFR)	Jan 2027
	<i>Fourth JNT Biennial Conference in Number Theory</i> Cetraro, Italy	Jul 2026
	<i>Perfection in Iwasawa Theory</i> Centre International de Rencontres Mathématiques (CIRM)	May 2026
	<i>International Workshop on Automorphic Forms</i> SwissMAP Research Station (SRS)	Sep 2025
	<i>René 25</i> Université de la Polynésie française	Aug 2025
	<i>Automorphic Forms and the Bloch–Kato Conjecture</i> International Centre for Theoretical Sciences (ICTS–TIFR)	May 2025
	<i>Frieze Patterns in Algebra, Combinatorics and Geometry</i> Centre International de Rencontres Mathématiques (CIRM, online)	May 2025
	<i>Number Theoretic Aspects of Automorphic Forms and Representations</i> Research Institute for Mathematical Sciences (RIMS)	Jan 2025
	<i>One-Day Workshop on Representation Theory, Number Theory & Combinatorics</i> National University of Singapore	Dec 2024
	<i>Recent Progress on Hilbert’s 12th Problem</i> (keynote speaker) International Centre for Mathematical Sciences (ICMS)	Jun 2024
	<i>Connecticut Summer School in Number Theory</i> (plenary speaker) University of Connecticut	Jun 2024
	<i>Special Values of L-functions</i> Tsinghua Sanya International Mathematics Forum (TSIMF)	Jan 2024

	<i>Bayou Arithmetic Research Days</i> (plenary speaker) Louisiana State University	Nov 2023
	<i>Jinling Conference on Number Theory and Arithmetic Geometry</i> Nanjing University	Jun 2023
	<i>Arithmetic Algebraic Geometry</i> Chinese University of Hong Kong	Jun 2023
	<i>AMS Special Session on Arithmetic Dynamics</i> AMS–MAA–SIAM Joint Mathematics Meetings	Jan 2020
	<i>Study Days on Diophantine Geometry</i> Cetraro, Italy	Jul 2019
INVITED COLLOQUIA & SEMINAR TALKS	Joint Number Theory Seminar Princeton University & Institute for Advanced Study	Nov 2026
	Algebra and Number Theory Seminar University College Dublin	Nov 2026
	Dynamics Seminar University of Cambridge	Oct 2026
	Séminaire de Mathématique Institut des Hautes Études Scientifiques	Oct 2026
	Séminaire de théorie des nombres Institut de mathématiques de Jussieu–Paris Rive Gauche	Oct 2026
	Algebra Seminar Brown University	Apr 2026
	Number Theory Seminar University of Texas at Austin	Mar 2026
	Automorphic Forms and Arithmetic Seminar Columbia University	Feb 2026
	Number Theory Seminar Harvard University	Feb 2026
	Five College Number Theory Seminar Amherst College & Smith College & Mount Holyoke College & UMass Amherst & Western New England University	Dec 2025
	Mathematics Seminar Max-Planck-Institut für Mathematik Bonn	Nov 2025
	Number Theory Seminar Stanford University	Nov 2025
	Richard P. Stanley Seminar in Combinatorics Harvard University & Massachusetts Institute of Technology	Oct 2025
	Mathematics Seminar University of Hong Kong	Oct 2025
	Mathematics Seminar Morningside Center of Mathematics	Jun 2025
	Mathematics Seminar BICMR, Peking University	Jun 2025

Mathematics Lecture Series (3 talks) Institute for Advanced Study, Tsinghua University	Jun 2025
Algebraic Geometry & Number Theory Seminar Westlake University	Jun 2025
Zhuhai Mathematics Seminar Sun Yat-sen University	Jun 2025
Mathematics Seminar Indian Institute of Technology Bombay	Jun 2025
Number Theory Seminar California Institute of Technology	May 2025
Théorie des Nombres Groupe de Travail Institut de mathématiques de Jussieu–Paris Rive Gauche (online)	Apr 2025
Everytopic Seminar Brandeis University	Feb 2025
Mathematics Seminar Mahidol University International College	Jan 2025
Oberseminar Diophantische Geometrie Georg-August-Universität Göttingen (online)	Dec 2024
Algebra–Combinatorics–Geometry Seminar University of Pittsburgh	Oct 2024
Number Theory Seminar Duke University	Apr 2024
Mathematical Sciences Institute Colloquium Australian National University	Apr 2024
Mathematics Seminar Morningside Center of Mathematics	Jan 2024
Number Theory Seminar Tianyuan Mathematical Center in Southwest China	Jan 2024
Number Theory Seminar BIMSA–YMSC, Tsinghua University	Jan 2024
Séminaire de Géométrie Arithmétique et Motivative Université Sorbonne Paris Nord	Dec 2023
Algebra & Number Theory Seminar University of Arizona	Nov 2023
International Seminar on Automorphic Forms MPIM Bonn & TU Darmstadt & UCL & UZH (online)	Nov 2023
Number Theory Seminar University of California, San Diego	Nov 2023
Number Theory Seminar Boston University	Oct 2023
Algebraic Dynamics Seminar Harvard University	Sep 2023
Number Theory Seminar Harvard University	Sep 2023

Number Theory Seminar Massachusetts Institute of Technology	Sep 2023
Mathematics Seminar Tokyo Denki University	Jun 2023
Théorie des Nombres Groupe de Travail Institut de mathématiques de Jussieu–Paris Rive Gauche (online)	Jun 2023
Number Theory Seminar Kyoto University	Jun 2023
Joint Number Theory Seminar Princeton University & Institute for Advanced Study	May 2023
Number Theory Seminar Johns Hopkins University	May 2023
Arithmetic Geometry & Number Theory RTG Seminar University of California, Berkeley	Feb 2023
Number Theory Seminar University of Texas at Austin	Jan 2023
Representation Theory / Number Theory Seminar University of Utah	Mar 2022
Automorphic Forms & Arithmetic Seminar Columbia University (online)	Sep 2021
Computations in Representation Theory Seminar Columbia University	Dec 2019
Morningside Seminar on Number Theory Morningside Center of Mathematics	Jan 2018