

Daniel Litt

University of Toronto, Math Department

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Current position

2022- Assistant Professor, University of Toronto

Previous positions

2019-2022 Assistant Professor, University of Georgia
2018-2019 Member, Institute for Advanced Study
2015-2018 NSF Postdoctoral Fellow, Columbia University

Area of specialization

Algebraic geometry, number theory

Education

2015 PhD in Mathematics, Stanford University
Thesis advisor: Ravi Vakil
Thesis title: Non-abelian Lefschetz hyperplane theorems
2010 BA in Mathematics, Harvard University

Grants, honors & awards

2026 Frontiers of Science Award
2025- Connaught New Researcher Award
2025- Fellow of the AMS
2025 Cathleen Synge Morawetz Prize
2024 Invited speaker, Current developments in mathematics 2024
2024-2029 Ontario early researcher award
2024-2026 Sloan research fellowship
2022-2027 NSERC Grant, “Anabelian methods in arithmetic and algebraic geometry”
2020-2023 NSF Algebra and Number Theory Grant DMS-2001196, “Anabelian methods in arithmetic and algebraic geometry” (ended 2022 due to move to Canada)

2020 Simons Collaboration Grant (declined due to conflict with NSF grant)
 2015-2018 NSF Mathematical Sciences Postdoctoral Research Fellowship, Columbia University
 2013-2015 Achievement Rewards for College Scientists (ARCS) Fellowship
 9-12/2014 Stanford-Princeton Exchange Scholar
 2014, 2016 US Junior Oberwolfach Fellow
 2010-2013 NSF Graduate Research Fellowship

Articles & talks

Preprints

2026 Lam, Joshua; Litt, Daniel, “ p -curvature and non-abelian cohomology,” arXiv preprint arXiv:2601.07933
 2025 Coccia, Simone; Litt, Daniel, “Density of integral points in the Betti moduli of quasi-projective varieties,” arXiv preprint arXiv:2507.00167
 2025 Lam, Joshua; Litt, Daniel, “Algebraicity and integrality of solutions to differential equations,” arXiv preprint arXiv:2501.13175
 2023 Lam, Joshua; Landesman, Aaron; Litt, Daniel, “Finite braid group orbits on SL_2 -character varieties,” arXiv preprint arXiv:2308.01376
 2022 Engel, Philip; Krishnamoorthy, Raju; Litt, Daniel, “The Manin-Mumford conjecture in genus 2 and rational curves on K_3 surfaces,” arXiv:2208.08729
 2016 Litt, Daniel, “Arithmetic Restrictions on Geometric Monodromy,” arXiv preprint arXiv:1607.05740.

Accepted Articles

2025 Litt, Daniel, Motives, mapping class groups, and monodromy, *Current Developments in Mathematics* 2024
 2024 Landesman, Aaron; Litt, Daniel; Sawin, Will, “Big monodromy for higher Prym representations,” arXiv preprint arXiv:2401.13906, accepted at *Geometry and Topology*
 2024 Lam, Joshua; Litt, Daniel, “Geometric local systems on the projective line minus four points,” accepted at *Compositio Mathematica*, arXiv preprint arXiv:2305.11314
 2024 Landesman, Aaron; Litt, Daniel, “Canonical representations of surface groups,” *Annals of Mathematics*, arXiv:2205.15352
 2024 Landesman, Aaron; Litt, Daniel, “Geometric local systems on very general curves and isomonodromy,” *Journal of the AMS*, arXiv:2202.00039
 2023 Landesman, Aaron; Litt, Daniel, “Prill’s problem,” accepted, *Algebraic Geometry*
 2023 Landesman, Aaron; Litt, Daniel, “Applications of the algebraic geometry of the Putman-Wieland conjecture,” accepted, *Proceedings of the London Mathematical Society*
 2023 Landesman, Aaron; Litt, Daniel, “An introduction to the algebraic geometry of the Putman-Wieland conjecture,” accepted, *European Journal of Mathematics*
 2023 Bisogno, Dean; Li, Wanlin; Litt, Daniel; Srinivasan, Padmavathi, “Group-theoretic Johnson classes and a non-hyperelliptic curve with torsion Ceresa class, arXiv preprint arXiv:2004.06146, accepted, *EPIGA*
 2023 Javanpeykar, Ariyan, and Daniel Litt. “Integral points on algebraic subvarieties of period domains: from number fields to finitely generated fields.” *manuscripta mathematica*

(2023): 1-22.

- 2022 Katz, Eric; Litt, Daniel, “ p -adic iterated integration on semistable curves,” arXiv:2202.05340, accepted at “Israel Math Journal”
- 2022 Kadets, Borys; Litt, Daniel, “Level structure, arithmetic representations, and noncommutative Siegel linearization,” arXiv preprint arXiv:2107.02213, accepted at Journal für die reine und angewandte Mathematik (Crelle’s Journal)
- 2022 Li, Wanlin; Litt, Daniel; Salter, Nick; Srinivasan, Padmavathi, “Surface bundles and the section conjecture,” arXiv preprint arXiv:2010.07331, accepted at Mathematische Annalen
- 2022 Kedlaya, Kiran; Litt, Daniel; Witaszek, Jakub, “Tamely ramified morphisms of curves and Belyi’s theorem in positive characteristic,” IMRN, arXiv preprint arXiv:2010.01130,
- 2021 Betts, Alexander; Litt, Daniel, “Semisimplicity and weight-monodromy for fundamental groups,” arXiv preprint arXiv:1912.02167, accepted at Proceedings of the Simons Symposium on p -adic Hodge Theory
- 2021 Lawrence, Brian; Litt, Daniel, “Representations of surface groups with universally finite mapping class group orbit” arXiv preprint arXiv:1907.03941, accepted at Math Research Letters.
- 2021 Litt, Daniel, “Arithmetic Representations of Fundamental Groups II: Finiteness,” Duke Math. J. 170(8): 1851-1897.
- 2019 Lesieutre, John; Litt, Daniel, “Dynamical Mordell-Lang and Automorphisms of Blow-Ups,” Algebraic Geometry. 2019 Jan 1; 6(1): 1-25.
- 2019 Litt, Daniel, “Vanishing for Frobenius Twists of Ample Vector Bundles,” Tohoku Mathematical Journal 71 (4), 549-557.
- 2018 Litt, Daniel, “Arithmetic Representations of Fundamental Groups I,” Invent. math. 214, 605-639 (2018).
- 2017 Litt, Daniel, “Non-Abelian Lefschetz Hyperplane Theorems ,” J. Algebraic Geom. 27 (2018), no. 4, 593-646.
- 2016 Litt, Daniel, “Manifolds Containing an Ample $\mathbb{P}^1$ -bundle,” manuscripta mathematica 152 (3-4), 533-537.
- 2014 Litt, Daniel, “Zeta Functions of Curves With No Rational Points,” Michigan Math. J., Volume 64, Issue 2 (2015), 383-395..
- 2013 Litt, Daniel, “Symmetric Powers Do Not Stabilize,” Proceedings of the American Mathematical Society 142 (12), 4079-4094.
- 2010 Abel, Zachary; Kominers, Scott; Litt, Daniel, “A Categorical Construction of Ultrafilters,” *Rocky Mountain J. Math.* Volume 40, Number 5, 1611-1617.

Expository work and outreach

- 2026 Epoch AI Podcast, AI math capabilities could be jagged for a long time [Link](#)
- 2026 Interview with The World PRX [Link](#)
- 2026 Interview with Science Friday [Link](#)
- 2024 Klarreich, Erica, Perplexing the Web, One Probability Puzzle at a Time, *Quanta Magazine*: [Link](#)

- 2020 Haran, Brady; Litt, Daniel, Numberphile video on Poncelet's Porism: [Link](#)
- 2020 Knudson, Kevin; Lamb, Evelyn; Litt, Daniel, episode of the "My Favorite Theorem" podcast on Dirichlet's theorem on primes in arithmetic progressions
- 2020 Alper, Jarod; Litt, Daniel; Vogt, Isabel, "A Guide to Organizing a Virtual Conference," AMS Notices
- 2019 Haran, Brady; Litt, Daniel, Numberphile video on the Dehn invariant: [Link](#)

Invited Talks

- 2026 *Connections between arithmetic and geometry*, UofT Math Union Colloquium
- 2026 *E_6 -local systems from cubic threefolds*, UofT AG seminar
- 2025 *p -curvature and non-abelian cohomology*, McGill/UQAM algebraic geometry seminar
- 2025 *p -curvature and non-abelian cohomology*, Conference on "Complex and p -adic Simpson correspondences," UMD
- 2025 *p -curvature and non-abelian cohomology*, Seminario nacional de geometría algebraica EN LÍNEA
- 2025 *p -curvature and non-abelian cohomology*, IAS Special Year Workshop
- 2025 *p -curvature and non-abelian cohomology*, UofT Number Theory Seminar
- 2025 *Local systems on algebraic varieties*, summer school on Moduli, Hodge Theory, Rational Points in Padova
- 2025 *Algebraic solutions to differential equations*, UMN Colloquium
- 2025 *p -curvature and non-abelian cohomology*, UMN Number Theory Seminar
- 2025 *p -curvature and non-abelian cohomology*, Algebraic Geometry Summer Research Institute
- 2025 *Fundamental groups of algebraic varieties*, summer school at Notre Dame University
- 2025 *On the converse to Eisenstein's last theorem*, Thurston lectures at UC Davis
- 2025 *Shell games with 2×2 matrices*, Thurston lectures at UC Davis
- 2025 *On the converse to Eisenstein's last theorem*, Harvard Number theory seminar
- 2025 *On the converse to Eisenstein's last theorem*, Western algebraic geometry symposium
- 2025 *On the converse to Eisenstein's last theorem*, Chicago number theory seminar
- 2025 *On the converse to Eisenstein's last theorem*, Berkeley RTG seminar
- 2025 *On the converse to Eisenstein's last theorem*, Western University algebra seminar
- 2025 *On the converse to Eisenstein's last theorem*, Online Kolchin seminar
- 2025 *Isomonodromy*, UofT geometric structures laboratory
- 2025 *Compact components of character varieties*, Chicago "No boundaries" seminar
- 2025 *On the converse to Eisenstein's last theorem*, UofT number theory seminar
- 2024 *On the converse to Eisenstein's last theorem*, AGNES algebraic geometry conference
- 2024 *Canonical representations of surface groups*, Manifolds, homotopy theory, and related topics
- 2024 *On the converse to Eisenstein's last theorem*, IAS/Princeton arithmetic geometry seminar
- 2024 *On the converse to Eisenstein's last theorem*, Anabelian geometry and representations of fundamental groups, Oberwolfach
- 2024 *On the converse to Eisenstein's last theorem*, Anabelian and motivic homotopy theory, Heidelberg
- 2024 *On the converse to Eisenstein's last theorem*, Conference on D-modules and local systems, CRM Montreal
- 2024 *The p -curvature conjecture for non-linear ODE*, Geometry, Arithmetic and Differential

	Equations of Periods (GADEPs), IMPA
2024	<i>The p-curvature conjecture for non-linear ODE</i> , Conference CAVARET : "Curves, Abelian Varieties and Related Topics," Barcelona
2024	<i>The p-curvature conjecture for non-linear ODE</i> , Conference in honor of Hélène Esnault, IHES
2024	<i>Local systems on algebraic varieties</i> , Summer school course, OSU
2024	<i>Motives, mapping class groups, and monodromy</i> , Current Developments in Mathematics 2024 conference at Harvard
2024	<i>Algebraic solutions to non-linear ODE</i> , Columbia function field arithmetic seminar
2024	<i>Flat bundles on generic curves</i> , conference on Vector Bundles on Algebraic Curves
2023	<i>Galois theory of local systems</i> , VanTage Seminar
2023	<i>Prill and Prym problems</i> , Washington University in St. Louis Algebraic Geometry Seminar
2023	<i>Hodge theory and some questions about 2×2 matrices</i> , Washington University in St. Louis Colloquium
2023	<i>Hodge theory and some questions about 2×2 matrices</i> , Cornell Algebraic Geometry Seminar
2023	<i>Hodge theory and some questions about 2×2 matrices</i> , Fields Symposium in honor of Caucher Birkar
2023	<i>Hodge theory and some questions about 2×2 matrices</i> , McMaster Colloquium
2023	<i>Hodge theory and some questions about 2×2 matrices</i> , Montreal CIRGET seminar
2023	<i>Canonical representations of surface groups</i> , plenary at <i>Journées Arithmétiques</i>
2023	<i>Canonical tuples of matrices</i> , colloquium, Yau Mathematical Sciences Center at Tsinghua university
2023	<i>Hodge theory of mapping class group dynamics</i> , University of Chicago Geometry Seminar
2023	<i>Canonical tuples of matrices</i> , Colloquium, Northwestern University
2023	<i>Canonical tuples of matrices</i> , Colloquium, University of Toronto
2023	<i>Canonical representations of surface groups</i> , Fields Number Theory seminar
2023	<i>Canonical representations of surface groups</i> , "Periods, Shafarevich Maps and Applications" conference, IMSA
2023	<i>Canonical representations of surface groups</i> , University of Michigan algebraic geometry seminar
2022	<i>Canonical representations of surface groups</i> , Quebec-Vermont Number Theory Seminar
2022	<i>Canonical representations of surface groups</i> , UVA Number Theory Seminar
2022	<i>Canonical representations of surface groups</i> , Harvard-MIT algebraic geometry seminar
2022	<i>Canonical representations of surface groups</i> , NT seminar, University of Toronto
2022	<i>Canonical representations of surface groups</i> , Colloquium, Queen's University
2022	<i>Canonical representations of surface groups</i> , Colloquium, UW Madison, part of "Arithmetic and topology of global fields" conference
2022	<i>Canonical representations of surface groups</i> , Web seminar on Painlevé VI and related topics, University of Kobe
2022	<i>Hodge theory of mapping class group dynamics</i> , Georgia Tech algebra seminar
2022	<i>Dynamics of mapping class groups</i> , Conference on Stability in Topology, Arithmetic, and Representation Theory 2022, Purdue University
2022	<i>Geometric local systems on very general curves and isomonodromy</i> , UGA algebraic geometry seminar
2022	<i>Representations with finite mapping class group orbit</i> , UGA topology seminar
2021	<i>Arithmetic representations and non-commutative Siegel linearization</i> , Iskovskikh seminar, Steklov

mathematical institute

2021 Colloquium, University of Georgia

2021 *Hodge theory of the Putman-Wieland conjecture*, Mittag-Leffler Institute workshop on motives and Hodge theory

2021 *Non-commutative Siegel linearization, level structures, and arithmetic representations*, Wuppertal algebra seminar

2021 *The tropical section conjecture*, UCSB arithmetic and geometry seminar

2021 *Generalized Prym representations and canonical curves*, UGA algebraic geometry seminar

2021 *Hodge, p -adic, and tropical integrals* Columbia arithmetic geometry and automorphic forms seminar

2021 *Hodge, p -adic, and tropical integrals* Purdue algebraic geometry seminar

2021 *Hodge, p -adic, and tropical integrals* Harvard number theory seminar

2021 *Hodge, p -adic, and tropical integrals* Oberwolfach workshop, on “Homotopical and geometric Galois theory”

2021 What is a... seminar, *What is...the étale fundamental group?*

2021 Tropical Geometry in Frankfurt, *The tropical section conjecture*

2021 Colloquium, University of Toronto

2020 Colloquium, UC Berkeley

2020 *Integral aspects of arithmetic local systems*, Mini workshop: Hodge Theory, Period Mapping and Local System, CRM

2020 *The arithmetic of polynomials*, Talk Math With Your Friends Seminar

2020 *The tropical section conjecture*, Leiden Algebra, Geometry, and Number Theory Seminar

2020 Colloquium, West Chester University

2020 Colloquium, UGA

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , UCSD algebraic geometry seminar

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , Western Algebraic Geometry Symposium (delayed due to COVID)

2020 *Independence of ℓ for higher Ceresa cycles*, Columbia University (delayed due to COVID)

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , UChicago number theory seminar (delayed due to COVID)

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , University of Wisconsin number theory seminar

2020 *Impossible numbers and unknowable truths*, public lecture, Furman University

2020 *Arithmetic of algebraic varieties*, Furman University, Colloquium

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , BC-MIT number theory seminar

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , Stanford

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , OSU

2020 *The section conjecture at the boundary of $\mathcal{M}_g$* , Caltech

2019 *The section conjecture at the boundary of $\mathcal{M}_g$* , Algebraic Geometry and Arithmetic Geometry Conference 2019, USTC, Hefei

2019 *Finiteness and discreteness results for representations of arithmetic fundamental groups I and II*, Wild Ramification and Irregular Singularities, IMPAN, Warsaw

2019 *Arithmetic and Representation Theory of Fundamental Groups*, Arithmetic Topology, PIMS, UBC

2019 *Arithmetic and Monodromy Representations*, Symposium on Hodge Theory, Arithmetic and Moduli, PIMS, UBC

- 2019 *Arithmetic and Representation Theory of Fundamental Groups*, Simons Symposium on p -adic Hodge Theory, Schloss Elmau
- 2019 Three-lecture minicourse on *Arithmetic and the Representation Theory of Fundamental Groups*, workshop on “Galois Representations, Integral Points, Unlikely Intersections” at Universität Mainz
- 2019 *Arithmetic Dynamics and Monodromy Representations*, UGA AGANT Seminar
- 2019 *Arithmetic Dynamics and Monodromy Representations*, Courant Algebraic Geometry Seminar
- 2019 *Arithmetic and Representation Theory of Fundamental Groups*, Rutgers Number Theory Seminar
- 2019 *Arithmetic and Representation Theory of Fundamental Groups*, IPAM Conference on “Braids, Resolvent Degree, and Hilbert’s 13th Problem”
- 2019 *Monodromy Representations and Arithmetic*, Johns Hopkins Number Theory Seminar
- 2018 *Monodromy Representations and Arithmetic*, University of Maryland Number Theory Seminar
- 2018 *The Tate Curve*, Preparatory Lecture for Peter Scholze’s Chow Lectures at MPI Leipzig
- 2018 *Monodromy Representations and Arithmetic*, Rice Algebraic Geometry Seminar
- 2018 *Monodromy Representations and Arithmetic*, Penn State Algebraic Geometry Seminar
- 2018 *Monodromy Representations and Arithmetic*, Yale Algebraic Geometry Seminar
- 2018 *Monodromy Representations and Arithmetic*, Joint NYU-Columbia-CUNY Number Theory Seminar
- 2018 *Monodromy Representations and Arithmetic*, Princeton University Algebraic Geometry Seminar
- 2018 *Monodromy Representations and Arithmetic*, Institute for Advanced Study
- 2018 *Finiteness for Monodromy Representations*, Joint International Meetings of the Chinese Mathematical Society and the American Mathematical Society, Fudan University
- 2018 *Canonical Paths on Algebraic Varieties*, Northeastern University Algebraic Geometry Seminar
- 2018 *Canonical Paths on Algebraic Varieties*, University of Michigan Algebraic Geometry seminar
- 2018 *Arithmetic Representations of Fundamental Groups*, University of Minnesota Colloquium
- 2018 *Arithmetic Representations of Fundamental Groups*, USC Colloquium
- 2018 *Arithmetic Representations of Fundamental Groups*, University of California, Irvine Colloquium
- 2017 *Arithmetic Representations of Fundamental Groups*, University of Georgia Colloquium
- 2017 *Arithmetic Representations of Fundamental Groups*, University of Arizona Algebraic Geometry Seminar
- 2017 *Arithmetic Representations of Fundamental Groups*, OSU Algebraic Geometry Seminar
- 2017 *Schlesinger and Painlevé Equations in Positive Characteristic*, Stanford Algebraic Geometry Seminar
- 2017 *Arithmetic Representations of Fundamental Groups*, UC Davis Algebraic Geometry Seminar
- 2017 *Arithmetic Representations of Fundamental Groups*, UBC Algebraic Geometry Seminar
- 2017 *Arithmetic Representations of Fundamental Groups*, NYU Algebraic Geometry Seminar
- 2017 *Schlesinger and Painlevé Equations in Positive Characteristic*, UIC Algebraic Geometry Seminar
- 2017 *Integral Aspects of Fundamental Groups*, Conference on Étale and Motivic Homotopy Theory, Universität Heidelberg
- 2017 *Integral Aspects of Fundamental Groups*, BIRS Workshop on Nilpotent Fundamental Groups
- 2017 *Arithmetic Restrictions on Geometric Monodromy*, Harvard/MIT Algebraic Geometry Seminar
- 2017 *Arithmetic Restrictions on Geometric Monodromy*, Purdue Algebraic Geometry Seminar
- 2017 *Arithmetic Restrictions on Geometric Monodromy*, Yale Algebra and Number Theory Seminar
- 2016 *Arithmetic Restrictions on Geometric Monodromy*, UIC Algebraic Geometry Seminar
- 2016 *Arithmetic Restrictions on Geometric Monodromy*, UChicago Number Theory Seminar

2016 *Arithmetic Restrictions on Geometric Monodromy*, Northwestern Number Theory Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Wisconsin Algebraic Geometry Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, AIM Workshop: Rational Curves in Positive Characteristic
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Brown University Algebraic Geometry Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Columbia Algebraic Geometry Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, UPenn Algebraic Geometry Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Stanford Number Theory Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Topological Approaches to Algebra and Arithmetic Geometry, University of Georgia
 2016 *Arithmetic Restrictions on Geometric Monodromy*, University of Georgia Number Theory Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Emory University Number Theory Seminar
 2016 *Arithmetic Restrictions on Geometric Monodromy*, Oberwolfach Workshop on Arithmetic Geometry
 2016 *Automorphisms of Blowups*, AMS Sectional Meeting, University of Utah
 2016 *Non-Abelian Lefschetz Hyperplane Theorems*, Conference on Equivariant Algebraic Geometry and Algebraic Stacks, ANU Kioloa Campus, Australia
 2016 *Automorphisms of Blowups*, ANU Canberra Algebraic Geometry Seminar
 2016 *Automorphisms of Blowups*, Princeton Algebraic Geometry Seminar
 2015 *Non-Abelian Lefschetz Hyperplane Theorems*, University of Utah Algebraic Geometry Seminar
 2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Yale Algebraic Geometry Seminar
 2015 *Hyperbolicity of Moduli Spaces and Arithmetic of Function Fields*, Columbia Number Theory Seminar
 2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Stony Brook Algebraic Geometry Seminar
 2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Courant Algebraic Geometry Seminar
 2015 *Non-Abelian Lefschetz Hyperplane Theorems*, Columbia University Algebraic Geometry Seminar
 2015 *Geometric Lefschetz Hyperplane Theorems*, Bay Area Algebraic Number Theory and Arithmetic Geometry Day
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, University of Michigan Algebraic Geometry Seminar
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Harvard Algebraic Geometry Seminar
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, UIC Algebraic Geometry Seminar
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, AMS Section Meeting, SFSU, Special Session on Algebraic Geometry
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Oberwolfach *Classical Algebraic Geometry* Workshop, 5 minute talk
 2014 *Non-Abelian Lefschetz Hyperplane Theorems*, Berkeley Student Algebraic Geometry Seminar
 2013 *Motivic Analytic Number Theory*, Graduate Workshop on Geometry of Hilbert Schemes, Simons Center for Geometry and Physics
 2013 *Zeta Functions in Geometry and Topology*, Geometry and Topology: Berkeley and Stanford Icebreaker Conference
 2013 *Motivic Analytic Number Theory*, GAeL XXI, KTH Royal Institute of Technology

2013	<i>Motivic Analytic Number Theory</i> , Columbia University Algebraic Geometry Seminar
2013	<i>Motivic Analytic Number Theory</i> , AMS Sectional Meetings, UC Boulder, Special Session on Algebraic Geometry
2012	<i>Motivic Analytic Number Theory</i> , UC Irvine Number Theory Seminar
2012	<i>Line Bundles on Plane Curves</i> , UC Berkeley Research Training Group (RTG) Workshop on Tensors and Their Geometry
2012	<i>The Cotangent Complex</i> , University of Michigan RTG Workshop on Derived Algebraic Geometry (expository)
2012	<i>Introduction to the Landscape of Generalized Euler Characteristics</i> , UC Berkeley Commutative Algebra and Algebraic Geometry Seminar
2012	<i>Introduction to the Landscape of Generalized Euler Characteristics</i> , Stanford Algebraic Geometry Seminar

Professional Service, Teaching & Seminars

Professional Service, Conferences, and Products

2026	Organizing conference on “Milestones of Autonomous Mathematics”
2025-	AMS Library committee
2024-2025	Coorganized conference on motives and mapping class groups at AIM
2024-2025	Coorganized deca-annual algebraic geometry conference at Fort Collins, CO
2025-	AMS library committee member
2023-	Advisor for first year learning communities, UofT
2023-	Colloquium committee chair, UofT
2022-2024	Postdoc committee member, UofT
2022-	Colloquium and invited speaker series committee member, UofT
2021-	JMM Program committee member
2022	Co-organized ADDING conference at University of Georgia
2020	Co-organized the online iteration of the Western Algebraic Geometry Symposium (joint with Jarod Alper and Isabel Vogt), with over 1000 registered attendees
2020	Organized AGONIZE conference
2020-2022	Founding member, moderator, for AGS discord server (part of Ravi Vakil’s AGITTOC lecture series on algebraic geometry), with over 1000 members
2020-2022	Climate committee member, UGA
2018	REU Mentor, Columbia University: <i>Supersingular hypersurfaces</i> , joint with Alex Perry
2017	Arizona Winter School on perfectoid spaces, study group leader
2017-	PhD Dissertation Committee Member (3 students)
2016-	Oral Exams Committee Member (5 students)
2016-2017	Graduate Student Admissions Committee
2017	REU mentor, Columbia University: <i>Representation Theory in Graph Theory</i> , joint with David Hansen
2016-	Undergraduate research mentor (2 students)
2016-	Columbia Undergraduate Mathematics Society Speaker
2016	REU mentor, Columbia University: <i>Properties of Random Varieties</i> , joint with Daniel

Halpern-Leistner

2013-2015	US Organizer, GAeL XXII & XXIII
2013-	Referee for Annals, Duke, Selecta, Cambridge Journal of Mathematics, Memoirs, Proceedings, Algebra and Number Theory, de Gruyter, Cambridge University Press, International Mathematics Research Notices, Journal of Pure and Applied Algebra, etc.
2012-2014	Stanford Math Circle: <i>The Music of the Spheres</i> , <i>The Fundamental Theorem of Algebra</i> , <i>Tiling Problems</i>
2012-2013	Stanford Undergraduate Research in Mathematics Mentor: <i>Zeroes of Linear Recurrences</i> , <i>Class Numbers of Imaginary Quadratic Number Fields</i>
2011-2013	Stanford SUMO Speaker Series: <i>The Music of the Spheres</i> , <i>Zeroes of Integer Linear Recurrences</i> , <i>Morse Theory</i> , <i>Stratifications</i> , and <i>Euler Characteristic</i> , <i>Tiling Problems</i>
2011-2013	Stanford SPLASH: <i>The Music of the Spheres</i> , <i>How Do We Know What We Know?</i>
2013	Stanford Undergraduate Mathematics Organization (SUMO) Math Tournament
2010	Boston Math Circle: <i>Ramsey Theory</i> ,
2009	MIT SPLASH: <i>Ramsey Theory</i>

Seminars Organized

2023-	Colloquium, UofT
2023-	Algebraic geometry seminar, UofT
2023	Learning seminar on rigid local systems at UofT
2021	Learning seminar on Catalan's conjecture at UGA
2021	Serre on Zoom seminar (SeZoom) at UGA
2020	Zannier on Zoom seminar (ZaZoom) at UGA
2020	Bring in our problem seminar, y'all (BIOPSY) at UGA
2020	Classic Reading in Arithmetic and Algebraic Geometry (CRAAG) at UGA
2019-2022	UGA AG and NT seminars (co-organizer)
2019	Applications of the Geometric Langlands Program, joint with Kiran Kedlaya
2018-2019	Mathematical Conversations, joint with Sara Venkatesh, Jeroen Zuiddam, and Helmut Hofer
2019	Bring Your Own Problem Seminar, joint with Guy Moshkovitz
2016-2018	Columbia Algebraic Geometry Seminar (joint with Michael Thaddeus (2016-2017), joint with Johan de Jong and Alex Perry (2017-2018))
2015	The Tate Conjecture (co-organized with Johan de Jong, Yiwei She, and Aanand Deopurkar);
2014	Applications of the Langlands Philosophy (Princeton, co-organized with Lucia Mocz);
2012-2013	Classics Reading in Algebraic Geometry;
2011-2013	Student/Special Algebraic Geometry Seminar;
2011-2012	Hodge Theory Learning Seminar;
2010-2011	Secret Cassels-Fröhlich Seminar

PhD students

2023-	Amal Vayalinkal
2022-	Charlie Wu

2022-	Andy Ramirez-Cote
2021-	Shuofeng (Simon) Xu
2020-2024	Santanta Afton (GA Tech, advised jointly with Jennifer Hom)
2019-2024	Aleksander Shmakov

Postdocs supervised

2024-	Simone Coccia
2020-2022	Borys Kadets

Teaching

2026	Algebraic Geometry II, UofT, Winter
2026	Representation theory, UofT, Winter
2025	Algebra II, UofT, Winter
2025	Representation theory, UofT, Winter
2024	Topics course on curves and surfaces, UofT, winter
2023	Algebra, UofT, Fall
2022	Topics course on Hodge theory, UofT, Fall semester
2022	Introduction to Proof, UofT, Fall semester
2022	Commutative algebra, UGA, Spring semester
2021	Rational points on algebraic varieties, UGA, Fall semester
2020	Étale cohomology, UGA, Fall Semester
2020	Calculus III, UGA, Fall Semeseter
2019	Calculus I, UGA, Fall Semester
2017	Topics in Algebraic Geometry: Deformation Theory, Columbia, Fall Semester
2016	Calculus III, Columbia, Fall Semester
2014	Math 51 (Linear Algebra and Multivariable Calculus) TA, Stanford, Winter Quarter
2013	Math 210C (Compact Lie Groups) Course Assistant, Stanford
2007	Course Assistant, Math 25, Harvard University

Last updated: April 15, 2026