

Diversity Statement

I am a staunch supporter of equity, diversity, and inclusion in mathematics and in general. Our current academic system directly benefits some people at the expense of others. I am committed to doing what I can do end these injustices and I encourage others to do the same.

Employment

- **University of Waterloo** Waterloo, Ontario
Postdoctoral Researcher July 2025 - July 2027

Education

- **University of Toronto** Toronto, Ontario
Ph.D. in Pure Mathematics June 2025
 - Thesis: "Broken Toric Varieties and Hypertoric Hitchin Systems."
 - Advisor: Dr. Michael Groechenig.
- **University of Saskatchewan** Saskatoon, Saskatchewan
M.Sc. in Pure Mathematics August 2019
 - Thesis: "The Geometry and Topology of Twisted Quiver Varieties."
 - Advisor: Dr. Steven Rayan.
- **University of Saskatchewan** Saskatoon, Saskatchewan
B.Sc. Honours in Mathematics with a Concentration in Pure Mathematics June 2017

Research Interests

Moduli spaces, quiver representations, Higgs bundles, non-Abelian Hodge theory, toric and hypertoric varieties, applications of p-adic and motivic integration, and mirror symmetry.

Teaching

- **University of Waterloo** Waterloo, Ontario
Introduction to Mathematical Logic (PMATH 330) May 2025 - August 2025
 - Course coordinator and lecturer
- **University of Waterloo** Waterloo, Ontario
Ordinary Differential Equations for Physics and Chemistry (MATH 228) January 2026 - April 2026
 - Course coordinator and lecturer
- **University of Saskatchewan** Saskatoon, Saskatchewan
Calculus I (MATH 110) January 2025 - April 2025
 - Course coordinator and lecturer
- **University of Saskatchewan** Saskatoon, Saskatchewan
Calculus I (MATH 110) September 2024 - December 2024
 - Lecturer
- **University of Toronto** Toronto, Ontario
Multivariable Calculus with Proofs (MAT237) May 2024 - August 2024
 - Course coordinator and lecturer

Other Work Experience

- **University of Toronto** Toronto, Ontario
Lead Writing TA *September 2023 - August 2024*
 - Designed and lead training sessions and consultations for course TAs on writing-related topics, such as providing feedback to students on critical reading, writing, and planning tutorial/lab activities related to writing.
 - Developed and adapted resources on writing instruction (such as marking rubrics and assignments) for instructors, TAs, and students.
- **University of Toronto** Toronto, Ontario
Teaching Assistant *September 2019 - June 2025*
 - Ran tutorials and graded papers for
 - * Writing-Integrated Teaching (WIT) Program
 - * Math Learning Center
 - * Calculus 1(A) (MAT135)
 - * Calculus 1(B) (MAT136)
 - * Linear Algebra (MAT223)
 - * Analysis II (MAT257)
 - * Groups and Symmetries (MAT301)
 - * Introduction to Mathematical Logic (MAT309)
 - * Elementary Mathematics (MAT329)
 - * Introduction to Combinatorics (MAT344)
 - * Geometry of Curves and Surfaces (MAT363)
 - * Complex Analysis for Engineers (MAT389)
 - * Polynomial Equations and Fields (MAT401)
- **University of Saskatchewan** Saskatoon, Saskatchewan
Teaching Assistant *January 2017 - April 2019*
 - Ran tutorials and graded papers for
 - * Mathematical Analysis for Business and Economics (MATH 121)
 - * Calculus I for Engineers (MATH 123)
 - * Calculus II for Engineers (MATH 124)
 - * Calculus III for Engineers (MATH 223)
 - * Calculus IV for Engineers (MATH 224)
 - * Intermediate Calculus II (MATH 226)
 - * Linear Algebra I (MATH 266)
 - * Vector Calculus I (MATH 276)
 - * Vector Calculus II (MATH 277)
 - * Group Theory (MATH 361)
 - * Partial Differential Equations (MATH 439/839)
- **University of Saskatchewan** Saskatoon, Saskatchewan
Undergraduate Summer Researcher *May 2016 - August 2016*
 - Research involving alternative constructions of the Riemann and Lebesgue integrals.
 - Advisor: Dr. George Patrick.

Awards and Grants

- **Malcolm Slingsby Robertson Fellowship in Mathematics**
University of Toronto

- **Queen Elizabeth II Graduate Scholarship in Science and Technology** 2023
University of Toronto
- **Faculty of Arts and Science Top Doctoral Award** 2019
University of Toronto
- **Student Travel Award** 2018
University of Saskatchewan
- **Alexander Graham Bell Canada Graduate Scholarship - Master's** 2018
Natural Sciences and Engineering Research Council of Canada
- **Graduate Teaching Fellowship** 2017-2018
University of Saskatchewan
- **Greystone Scholarship** 2011
University of Saskatchewan

Publications & Preprints

- “K-equivalence and integral cohomology” 2026 (with Matthew Satriano). arXiv:2601.22085.
- “Balloon animal maps with applications to the cohomology of hypertoric Hitchin systems” 2025. Submitted. arXiv:2509.12368
- “Broken toric varieties and cell-compatible sheaves” 2025. *Geom. Dedicata*. 219, no. 3, Paper No. 40, 16 pp. arXiv:2308.10879
- “Twisted cyclic quiver varieties on curves” 2021 (with Steven Rayan). *European Journal of Mathematics* 7, 205-225, arXiv:1905.11508 .
- “Twisted argyle quivers and Higgs bundles” 2018 (with Steven Rayan). *Bull. Sci. Math.*, 146:1-32, arXiv:1803.04531.

Selected Talks

- Geometry and Topology Seminar at the University of Waterloo, February 27, 2026.
- Algebraic Geometry Seminar at the University of Toronto, February 25, 2026.
- Lightning Talk at the Special Research Institute in Algebraic Geometry in Fort Collins CO, July 21, 2025.
- Local Higgsy Seminar at the University of Saskatchewan, May 5, 2025.
- Geometry and Topology Seminar at the University of Regina, October 24, 2024.
- Geometry and Representation Theory Session at the 2024 CMS Summer Meeting, June 3, 2024.
- Integrable Systems and Quantization Session at the 2024 CMS Summer Meeting, June 2, 2024.
- International Polyhedral Products Seminar at Princeton University, November 2, 2023.
- Mathematics Graduate Student Seminar at the University of Toronto, February 16, 2022.
- Geometry and Physics Seminar at the University of Saskatchewan, January 14, 2022.
- Mathematics Graduate Seminar at the University of Toronto, January 26, 2021
- Equivariant Methods in Differential and Algebraic Geometry Session at the 2019 CMS Summer Meeting, June 9, 2019
- Geometry Seminar at Christian-Albrechts-Universität zu Kiel, February 7, 2019.
- Math and Stats Student Society at the University of Saskatchewan, October 31, 2018.

- Math and Stats Graduate Student Seminar at the University of Saskatchewan, September 20, 2018.
- Geometry and Physics of Gauge Theories at Infinity in Elk Ridge, Saskatchewan, August 5, 2018.
- Summer Seminar on Moduli Spaces and Integrable Systems at the University of Saskatchewan, July 24, 2018.
- 2018 Canadian Undergraduate Mathematics Conference at the University of Saskatchewan, July 12, 2018.

Posters

- Workshop on the Geometry and Physics of Higgs Bundles II at the University of Illinois at Chicago, November 11-12, 2017.

Service and Outreach

- Co-organizer of the Global Higgsey Seminar, 2026 - present.
- Moderator of the Mathematics Graduate Student Discord Channel at the University of Toronto, 2021 - 2025.
- Co-organizer of the 'P=W' reading group at the University of Toronto, Fall 2022.
- Mentor in the Math Mentorship Program at the University of Toronto, 2022
- Co-organizer of the Mathematics Graduate Student Seminar at the University of Toronto, 2021 - 2022
- Co-organizer of the Math and Stats Graduate Student Seminar at the University of Saskatchewan, 2018-2019.
- Co-organizer of the Pacific Institute for the Mathematical Sciences Young Researchers Conference (PIMS YRC) at the University of Saskatchewan, June 2017

Updated March 4, 2026.