

Portia X. Anderson

Cornell University
120 Malott Hall
Ithaca, NY 14850
pxa2@cornell.edu

<http://pi.math.cornell.edu/~pxa2/>

Employment

2025-present **Queen's University**, Kingston, Ontario
Coleman Postdoctoral Scholar

Education

2018–2025 **Cornell University**, Ithaca, NY

Advisor: Allen Knutson

MS in Mathematics – received June 2022

PhD in Mathematics – received May 2025

2016–2017 **Smith College**, Northampton, MA

Center for Women in Mathematics Post-Baccalaureate Program

2012–2016 **Johns Hopkins University**, Baltimore, MD

BS in Biomedical Engineering, Minors in Mathematics and Robotics

Publication List

- 2024 **Generalized Splines on Graphs and Polynomial Splines on Cycles**, *Electron. J. Combin.* 31 (2024), no. 1, Paper No. 1.29, 52 pp., (joint with Julianna Tymoczko and Jacob Matherne), [arXiv:2108.02757](https://arxiv.org/abs/2108.02757)
- 2024 **Commutative Properties of Schubert Puzzles with Convex Polygonal Boundary Shapes**, [arXiv:2404.06320](https://arxiv.org/abs/2404.06320)
- 2024 **The support of Kostant's weight multiplicity formula is an order ideal in the weak Bruhat order**, (joint with Esther Banaian, Melanie J. Ferreri, Owen C. Goff, Kimberly P. Hadaway, Pamela E. Harris, Kimberly J. Harry, Nicholas Mayers, Shiyun Wang, Alexander N. Wilson), [arXiv:2412.16820](https://arxiv.org/abs/2412.16820)

Research Talks

- Feb. 2026 “Commutative Properties of Schubert Puzzles with Convex Polygonal Boundary Shapes”, *LACIM Seminar*, Montreal
- Oct. 2024 “Commutative Properties of Polygonal Schubert Puzzles”, *Combinatorics Seminar*, University of Minnesota

- Oct. 2024 **“An introduction to Schubert calculus and puzzles”**, *Student Combinatorics and Algebra Seminar*, University of Minnesota
- March 2024 **“An algebraic definition of Schubert puzzles”**, *Graduate Student Combinatorics Conference*
- Oct. 2023 **“Geometric manifestations of an equality of Littlewood-Richardson numbers seen through comparing skew tableaux-counting rules”**, *Graduate Online Combinatorics Colloquium*
- Dec. 2022 **“Edge-swapping symmetries of Knutson-Tao puzzles with hexagonal and parallelogram-shaped boundary”**, *Schubert Seminar*
- Dec. 2022 **“Schubert calculus and edge-swapping symmetries of Schubert puzzles”**, *Combinatorics seminar*, University of Minnesota
- Sept. 2022 **“Schubert Calculus with Puzzles: a dialogue between geometry and combinatorics”**, *Route 81 Conference*, Queen’s University
- Aug. 2017 **“Splines on Arbitrary Graphs with Two Distinct Degree-2 Polynomial Edge Labels”**, *The 5th Northeast Mathematics Undergraduate Research Mini-Symposium*, University of Connecticut
- July 2017 **“Splines on Graphs with Two Distinct Degree-2 Polynomial Edge Labels”**, *Summer Combo*, University of Vermont
- April 2017 **“Results on Splines”**, *Hudson River Undergraduate Mathematics Conference*, Westfield State University
- Jan. 2017 **“An Introduction to Splines”**, *Joint Mathematics Meetings*, Atlanta, GA

■■■■ Teaching

- Winter 2026 **Instructor for Linear Algebra**, *Queen’s University*
- Fall 2025 **Instructor for Differential and Integral Calculus**, *Queen’s University*
- Fall 2024 **Instructor for Calculus I**, *Cornell University*
- Fall 2021 & 2022 **Head TA for Linear Algebra for Engineers**, *Cornell University*
- Spring 2020, Spring 2021, & Fall 2023 **Recitation TA for Linear Algebra for Engineers**, *Cornell University*
- Spring 2022 & 2023 **Grader for Abstract Algebra**, *Cornell University*
- Summer 2021 & 2022 **TA for Multivariable Calculus**, *Cornell University*
- Fall 2019 **Recitation TA for Linear Algebra**, *Cornell University*

■■■■ Service, Mentorship, & Outreach

- 2024–present **Treasurer**, *The Association for Women in Mathematics, Cornell chapter*
- 2022 - 2024 **President**, *The Association for Women in Mathematics, Cornell chapter*
- 2019–2020 **ZigZag Mentoring Program Coordinator**, *The Association for Women in Mathematics, Cornell chapter*
- 2019–2020 **Mentor in the ZigZag Mentoring Program**, *The Association for Women in Mathematics, Cornell chapter*
- 2019–2020 **Volunteer in Girls' Math Circle**, Cornell University

█ Awards & Honors

- 2025-2026 **Fields Institute Postdoctoral Fellowship**
- 2019 **AWM Emerging Mathematicians Travel Grant**, *Cornell University*
- 2018 **Deans Excellence Fellowship**, *Cornell University*
Graduate School fellowship in support of diversity
- 2018-2019 **Cornell Graduate Fellowship**, *Cornell University*
- 2017 **Summer Undergraduate Research Fellowship (SURF)**, *Smith College*
- 2013 & 2014 **William Brown Baxley Scholarship**, *Johns Hopkins University*

█ Other Skills

- **Coding in Python and Sage**
- **Master level training in reiki**