

EMPLOYMENT

Parekh Research Assistant Professor (non-tenure track)	Ann Arbor, MI
University of Michigan, Ann Arbor	2026–

EDUCATION

University of Illinois at Urbana-Champaign (UIUC)	Urbana, IL
PhD. in Mathematics (advisor: Prof. Alexander Yong)	2021–2026
University of Illinois at Urbana-Champaign (UIUC)	Urbana, IL
M.S. in Mathematics	2021–2023
Lawrence University (LU)	Appleton, WI
B.A. in Mathematics, Anthropology	2017–2021
Budapest Semesters in Mathematics (BSM)	Budapest, Hungary
	Fall 2019

PUBLICATIONS AND PREPRINTS

1. A. Price, **A. Stelzer**, and S. Sverrisdóttir, “Plane partitions and spin adapted quantum states”, arXiv:2601.06295.
2. A. Price, **A. Stelzer**, and A. Yong, “Gröbner crystal structures”, arXiv:2510.07560.
3. **A. Stelzer**, “Sums of Schubert structure constants with bounded Coxeter length”. To appear in Algebraic Combinatorics, arXiv:2506.13684.
4. **A. Stelzer** and A. Yong, “RSK as a linear operator”. To appear in Selecta Mathematica, arXiv: 2410.23009.
5. A. Price, **A. Stelzer**, and A. Yong, “Representations from matrix varieties, and filtered RSK”. To appear in Algebra and Number Theory, arXiv:2403.09938.
6. **A. Stelzer**, “Matrix Schubert varieties, binomial ideals, and reduced Gröbner bases”, Proc. Amer. Math. Soc. **153** (2025), pp. 2745–2758.
7. **A. Stelzer** and A. Yong, “Combinatorial commutative algebra rules”, arXiv: 2306.00737.
8. **A. Stelzer** and A. Yong, “Schubert determinantal ideals are Hilbertian”, J. Algebra **677** (2025), 278–293.
9. C. Bondi, C. R. Gibbons, Y. Ke, S. Martin, S. Pothagoni, and **A. Stelzer**, “A hypergraph characterization of nearly complete intersections”, in *Women in Commutative Algebra: Proceedings of the 2019 WICA Workshop*, C. Miller, J. Striuli, and E. E. Witt, Eds. Cham: Springer International Publishing, 2021, pp. 95–110, ISBN: 978-3-030-91986-3.

PRESENTATIONS

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| • Surprise polynomiality in algebraic combinatorics (poster) | FPSAC 38 (Seattle) 2026 |
| • Gröbner degeneration and equivariant homological invariants | KOALA Workshop 2026 |
| • Crystal approaches to equivariant homological invariants | BIRS Workshop on Regularity 2026 |
| • Det. varieties, K-polynomials, and equivariant Hilbert series | Special Session, AMS Spring Eastern Sectional 2026 |
| • Gröbner crystal structures | Loyola University TACO Seminar 2025 |

- Gröbner crystal structures (virtual) Schubert Seminar 2025
- Grothendieck polynomials, determinantal varieties, and equivariant Hilbert series U. Washington C&G Seminar 2025
- Grothendieck polynomials, determinantal varieties, and equivariant Hilbert series UIUC AGC Seminar 2025
- Surprise polynomiality and Schubert structure constants Special Session, AMS Fall Central Sectional 2025
- Grothendieck polynomials, determinantal varieties, and equivariant Hilbert series Fields Institute AC Seminar 2025
- RSK as a linear operator (poster) FPSAC 37 (Sapporo) 2025
- Crystal structures, standard monomials, and filtered RSK Special Session, AWM Research Symposium 2025
- Choosing representatives LU HAGS Mini-Conference 2025
- RSK as a linear operator Notre Dame AG+CA Seminar 2025
- RSK as a linear operator (poster) AlGeCom XXV 2025
- Crystals, standard monomials, and filtered RSK Special Session, AMS Spring Central Sectional 2025
- Representations from matrix varieties, and filtered RSK UCLA Combinatorics Forum 2025
- Representations from matrix varieties, and filtered RSK UCSD Combinatorics Seminar 2025
- RSK as a linear operator LACIM Seminar (UQAM) 2025
- Representations from matrix varieties, and filtered RSK (poster) AlGeCom XXIV 2025
- Introduction to Boij–Söderberg theory UIUC AG+CA Student Seminar 2024
- Representations from matrix varieties, and filtered RSK (virtual) MSU Combinatorics & Graph Theory Seminar 2024
- Representations from matrix varieties, and filtered RSK Early-Career Conference in Combinatorics 2024
- Representations from matrix varieties, and filtered RSK Special Session, AMS Spring Central Sectional 2024
- Representations from matrix varieties, and filtered RSK UMN Combinatorics Seminar 2024
- Binomial Schubert determinantal ideals Wash U Combinatorics Seminar 2023
- Combinatorial commutative algebra rules Georgia Tech Algebra Seminar 2023
- Combinatorial commutative algebra rules UIUC AWM Colloquium 2023
- Oops, all Hilbert! Hilbert functions, h -polynomials, and the Hilbertian property McMaster Algebra Seminar 2023
- Oops, all Hilbert! Hilbert functions, h -polynomials, and the Hilbertian property UIUC AGC Seminar 2023
- Binomial Schubert determinantal ideals UIUC AGC Seminar 2023
- Binomial schubert determinantal ideals (poster) AlGeCom XXIII 2023
- Fixing the cross product UIUC Undergraduate Colloquium 2021
- The semiotics of enculturation into mathematical rigor LU Harrison Symposium 2021
- Fixing the cross product LU Math Colloquium 2021
- Category theory: a brief introduction LU Math Colloquium 2020
- A hypergraph characterization of nearly complete intersections LU Math Colloquium 2020
- A hypergraph characterization of nearly complete intersections (joint) Clemson COURAGE REU conference 2020
- Gröbner bases of determinantal varieties (joint) LU Summer Research Symposium 2019

AWARDS AND HONORS

- Philippe Tondeur Dissertation Prize, UIUC 2026
- Irving Reiner Memorial Award, UIUC 2025
- Graduate Research Fellow, NSF 2023
- Ruth V. Shaff & Genevie I. Andrews Fellowship, UIUC 2023
- Susan C. Morisato IGL Graduate Student Scholarship, UIUC 2023

• Teacher Ranked Excellent by Students, UIUC	Fall 2022, Spring 2022, 2023
• Valedictorian, LU	2021
• Andrew C. Berry–James C. Stewart Prize in Math, LU	2021
• Phi Beta Kappa	2021
• Dean’s List, LU	2018–2021
• Mortar Board, LU	2020
• White Prize in Math, LU	2019
• Academic Honors, BSM	2019
• Phi Beta Kappa Freshman Award, LU	2018
• Freshman Studies Writing Prize, LU	2018
• National Merit Scholarship	2017
• Richard Warch Honor Scholarship, LU	2017
• More Light Scholarship, LU	2017

TEACHING

• Merit Teaching Assistant at UIUC <i>Calculus 2 (MATH 231)</i>	Spring 2023
• Merit Teaching Assistant at UIUC <i>Calculus 1 (MATH 221)</i>	Fall 2022
• Head Teaching Assistant at UIUC <i>Calculus 2 (MATH 231)</i>	Spring 2022
• Teaching Assistant at UIUC <i>Algebra, Precalculus (MATH 112, 115)</i>	Fall 2021

SERVICE

• Advisory Committee Member at Notices of the AMS	2024-2026
• Co-organizer , Illinois Summer Workshop in Algebraic Combinatorics (ISWAC)	2026
• Instructor/Program Coordinator at Summer Illinois Math Camp	2022, 2024
• Mentor at UIUC Merit Mentoring and Professional Network	2024-2025
• Mentor at UIUC Directed Reading Program	2025
• Undergraduate Research Mentor at Illinois Mathematics Lab	2022-2024
• Undergraduate Research Mentor at Illinois Combinatorics Lab	2023-2026
• Secretary for UIUC Graduate Chapter of the Association for Women in Mathematics	2022-2026
• Committee Member for UIUC Climate, Equity, and Inclusion Committee	2023-2025

- **Committee Member** for UIUC TA Teaching Awards Committee 2023-2024
- **Committee Member** for UIUC Teaching Awards Committee 2022-2023, 2024-2025