EMILY CAIRNCROSS

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EDUCATION

University of Illinois at Chicago (UIC) — **Chicago, IL**
PhD Graduate Student, Advisor: Dhruv Mubayi — *Expected Graduation Spring 2026*

Oberlin College — **Oberlin, OH**
BA in Mathematics with Honors, 4.09 GPA — *Class of 2021*

PUBLICATIONS

E. Cairncross, J. Carlson, P. Hollander, B. Kitchen, E. Lopez, and A. Zhuang, Throttling for standard zero forcing on directed graphs, *The Australasian Journal of Combinatorics*. Vol. 84 Part 1 (2022), pp. 1-27.

E. Cairncross, S. Ford, E. Garcia, K. Jabbusch, Classifying toric surface codes of dimension 7, *Involve*. Vol. 14 (2021), No. 4, pp. 605–616.

AWARDS

Louise Hay Award: Established by Professor Louise Hay, head of the MSCS Department at UIC 1980-1989, this award honors a student's excellent work in mathematics and supports their current and future contributions to the field.

NSF GRFP Honorable Mention (2023)

PRESENTATIONS

ISU Discrete Math Seminar — *November 2023*
Talk: "The feasible region of colored graphs"

UIC Combinatorics and Probability Seminar — *March 2023*
Talk: "The feasible region of colored, ordered, and hyper- graphs"

Nebraska Conference for Undergraduate Women in Mathematics (NCUWM) — *January 2021*
Talk: "Throttling for zero forcing on directed graphs"

Joint Mathematics Meetings (JMM) — *January 2021*
Poster: "Throttling for zero forcing on directed graphs"

Northeast Math REU Conference — *July 2020*
Talk: "Throttling for zero forcing on directed graphs"

NCUWM — *February 2020*
Talk: "Classifying toric surface codes of dimension 7"

JMM — *January 2020*
Poster: "Classifying toric surface codes of dimension 7"

Young Mathematicians Conference (YMC) — *August 2019*
Talk: "Classifying toric surface codes of dimension 7"

Summer Undergraduate Michigan Mathematics Research Conference (SUMMR) — *July 2019*
Talk: "Classifying toric surface codes of dimension 7"

MEMBERSHIPS

Phi Beta Kappa, Sigma Xi, AMS, MAA, AWM