

# NUMS 2024

## Northfield Undergraduate Mathematics Symposium

*Tuesday, October 1, 2024*

*3:15pm - 6:45pm*

*Olin 141*

*Carleton College*

**3:15-3:20pm**

Welcome

**3:20-3:35pm**

**Barry Han (Carleton)**

Exploring Social Bias in Downstream Applications of Text-to-Image Foundation Models

**3:40-3:55pm**

**Akash Ganguly (Carleton)**

Ideals Preserved by Changes of Coordinates in Positive Characteristic

**4:00-4:15pm**

**Mackenzie Amann and Liam Gallagher (St. Olaf)**

A New Graph Move on Higher Rank Graphs that Preserves the Morita Equivalence of  $C^*$ -Algebras

**4:20-4:35pm**

**Cynthia Leng (Carleton)**

Narrative Analysis of True Crime Podcasts With Knowledge Graph-Augmented Large Language Models

**4:40-4:55pm**

**Nzingha Joseph (Carleton)**

Infinite Free Resolutions of Numerical Semigroup Algebras

**5:00-5:15pm**

**Matthew Blake (St. Olaf)**

Alternating Harmonic Series Grouped by Fibonacci and Triangular Numbers

**5:20-5:50pm**

Dinner Break

**5:50-6:05pm**

**Elena Parkerson (Carleton)**

Stochastic Simulation and Finite State Projection Algorithms for Viral Infections

**6:10-6:25pm**

**Yang Tan and Nhi Luong (Carleton)**

Constructing Balanced Walls in Random Groups

**6:30-6:45pm**

**Murali Meyer (St. Olaf)**

Morsels of Mandelbrots