

MATHROCS

Math Research Outreach
Conference 2023

3:30 - 6:30 PM EDT SEPTEMBER
3RD & 10TH, 2023

Learn how to do math
research!

Register with this [link](#)



- Research presentations given by students from the MIT PRIMES program
- Interactive Q/A with panelists
- ALL are welcome! No prerequisites required!

PRESENTATIONS

Day 1: September 3rd

Joshua Jang, Jason Mao, Skyler Mao, "*Betti Graphs of Puiseux Monoids*" (Algebra)

Anna Du, "*Utilizing Machine Learning to Identify Time-Reversed Asymmetry of DNA Loop Extrusion*" (Computational Biology)

Justin Zhang, "*On the Indecomposable Summands of Module Tensor Products over Finite 3-Groups*" (Representation Theory)

Michelle Wei, "*Solving Second-Order Cone Programs Deterministically in Matrix Multiplication Time*" (Theoretical CS)

Eli Rybnikova, "*Exploration of the Hi-C patterns through computer simulations*" (Computational Biology)

Raymond Luo, "*Cyclic Base Orderings of Matroids*" (Combinatorics)

Stephanie Wan, "*Biomarker identification for Oral Squamous Cell Carcinoma*" (Computational Biology)

Andrew Carratu, "*Creating Cryptographic Primitives Resistant to Transient Execution Attacks and Microarchitectural Side Channels*" (Computational Biology)

Hosted by Michelle Wei and Alex Zhao

Day 2: September 10th

Michael Yang, "*The Rank and Rigidity of Group-Circulant Matrices*" (Algebra)

Sarah Pan, "*Reinforcing Step by Step*" (Machine Learning)

Joseph Vulakh, "*Racks and Other Algebraic Structures*" (Algebra)

Alex Zhao, "*Small Oscillators in Viscous Fluids*" (Numerical Physics)

Aryan Bora, Lucas Tang, "*On the Spum and Sum Diameter of Paths*" (Combinatorics)

Rohan Das, Christopher Qiu, Shiqiao Zhang, "*The Distribution of the Cokernel of a Random Integral Symmetric Matrix Modulo a Prime Power*" (Algebra)

Evan Ning, Alan Song, "*Exploring Data-driven Approaches to Resource Management in Serverless Systems*" (Machine Learning for Systems)

Henrick Rabinovitz, "*Atomicity and Weaker Notions*" (Algebra)