WIMIN 2025
Schedule of Student Talks

Morning Talks

Networks and Logic - McConnell B04

11:15 am - 11:30 am: Neural Dynamics of Word Segmentation

Speaker: Jayleen Jiang (Mount Holyoke College)

11:35 am - 11:50 am: An expansion of multicolor forcing for concurrent input propagations

Speaker: Maddy Duncan (Mount Holyoke College)

11:55 am - 12:10 pm: Classifying Panic Attack Frequency: A Comparison of Logistic Regression and Neural Networks

Speaker: Ranee James (Eastern Connecticut State University)

Applied Math I - McConnell B10

11:15 am - 11:30 am: Modeling Deformable Bacteria in Flow

Speaker: Abigail Drumm (Worcester Polytechnic Institute)

11:35 am - 11:50 am: FitzHugh-Nagumo System with Deterministic and Stochastic Disturbances

Speaker: Jayson Ruml (Mount Holyoke College)

11:55 am - 12:10 pm: Drug Resistant TB in the US

Speaker: Isabella Delmonte (Mount Holyoke College), Phoebe Huang (Mount Holyoke College), Myat Kyaw (Mount Holyoke College)

Mathematical Physics - McConnell 102

11:15 am - 11:30 am: Trajectories in Two Worlds: An Introduction to Classical & Quantum Dynamics

Speaker: Reyna Li (Williams College)

11:35 am - 11:50 am: An Optimal Control Approach to Modeling Binocular Vision

Speaker: Liza Platonov (Middlebury College)

11:55 am - 12:10 pm: Aspects of matrix Lie groups with a view toward spinors

Speaker: Angela Barrett (Northeastern University)

AI and Machine Learning - McConnell 103

11:15 am - 11:30 am: Geometry of Compositional Abstraction in Large Language Models

Speaker: Salma Ziadi (Mount Holyoke College)

11:35 am - 11:50 am: Efficient and Interpretable Modeling for High Dimensional Data

Speaker: Grace Nelson (Mount Holyoke College)

Discrete Math and Combinatorics - McConnell 104

11:15 am - 11:30 am: Patterns in Rectangulations

Speaker: Michaela Polley (Dartmouth College)

11:35 am - 11:50 am: Discrete Calculus and Its Applications

Speaker: Caylee Spivey (University of Connecticut)

11:55 am - 12:10 pm: Quads: Shapes and Daily puzzle

Speaker: Yumo Liu (Bard College)

Number Theory - McConnell 403

11:15 am - 11:30 am: Algorithms for Complementary Sequences

Speaker: Araceli Friedman-Pitt (Smith College), Meredith Williams (Smith College)

11:35 am - 11:50 am: Evidence for the Missing Prime: Numerical Semigroups and Semiring Quotients

Speaker: Jay Chen (Vassar College), Harriet Simons (Vassar College)

11:55 am - 12:10 pm: Arithmetic Sequences and Repdigits

Speaker: Runtong Zhang (Mount Holyoke College)

Analysis and Geometry - McConnell 404

11:15 am - 11:30 am: Extensions of Buffon's Needle Problem Using the n-Stick Star

Speaker: Isabel Mikheev (Williams College, Geisel School of Medicine)

11:35 am - 11:50 am: Time-Uniform Limit theorem for Markov Chains

Speaker: Xizhi Zhou (Mount Holyoke College)

11:55 am - 12:10 pm: Singular Curves and Metric Lines in 2-Jet Space

Speaker: Dani Catalá (MIT), Miriam Vollmayr-Lee (Grinnell College)

Afternoon Talks

Applied Math II - McConnell B10

2:30 pm - 2:45 pm: Trade Policy Uncertainty and Exchange Rate Volatility: Evidence from the 2025 U.S.-China Tariff Announcement

Speaker: Melissa Wang (College of the Holy Cross)

2:50 pm - 3:05 pm: V-line Tomography: Principles and Reconstructions

Speaker: Olivia Hwang (Smith College)

3:10 pm - 3:25 pm: Investigating the Role of Gap Junctions in Transitions between Bursting and Tonic Firing

Speaker: Halimatou Dieye (Middlebury College)

Statistics - McConnell 102

2:30 pm - 2:45 pm: Analysis of Player-Elimination Tournaments

Speaker: Rya Jasmin Donelo (Smith College), Emily Rosaci (Smith College)

2:50 pm - 3:05 pm: Comparing Federal and Community Level Air Quality Data in Baltimore

Speaker: Cynthia Arguijo (Smith College)

3:10 pm - 3:25 pm: Parameter Estimation for the Logistic Regression under Case-Control Studies with Measurement Error in Covariates

Speaker: Chameli Piyatilake (University of New Hampshire)

Education and Social Justice - McConnell 103

2:30 pm - 2:45 pm: Centering Belonging, Identity and Self-Efficacy in Introductory Calculus

Speaker: Alice Dai (Smith College), Gemma Qu (Smith College), Helen Zhou (Smith College)

2:50 pm - 3:05 pm: Prison Gerrymandering in Mississippi and Wisconsin: A Redistricting Comparison

Speaker: Kiara Fontes (College of the Holy Cross)

3:10 pm - 3:25 pm: Gender, Math Anxiety, and Expressive Writing: A Developmental Text-Analytics Study from K–12 to College

Speaker: Yiru Wang (Mount Holyoke College), Ruobing Zhou (Mount Holyoke College)

Graph Theory - McConnell 104

2:30 pm - 2:45 pm: Reduced Trip Permuations of Plabic Graphs

Speaker: Gemma Bertain (Smith College)

2:50 pm - 3:05 pm: Minimum Tree Covers and Forbidden Edges of Graphs

Speaker: Gráinne Beltramo-Dolan (Mount Holyoke College)

3:10 pm - 3:25 pm: Community Detection on Directed Networks through Normalized Ricci Flow

Speaker: Oluwadamilola Oguntuyo (College of the Holy Cross)

Algebra - McConnell 403

2:30 pm - 2:45 pm: Dynamical Irreducibility of Polynomials over Finite Fields

Speaker: Minh Le (Mount Holyoke College), Tram Nguyen (Mount Holyoke College)

2:50 pm - 3:05 pm: Left and Right Quotient Sets in Non-Abelian Groups

Speaker: Ava Kennon (Amherst College)

3:10 pm - 3:25 pm: Minimal Chiral Polyhedra

Speaker: Evan Angelone (Northeastern University)

Analysis on Polytopes and Signals - McConnell 404

2:30 pm - 2:45 pm: Signal Recovery Using Gowers' Norms

Speaker: Iana Vranesko (Williams College)

2:50 pm - 3:05 pm: Circle configurations from regular skeletal polyhedra

Speaker: Jieying Jin (Northeastern University)

3:10 pm - 3:25 pm: Researching Perfect Quantum State Transfer of One-Dimensional Quantum Chain

Speaker: Jasmin Enriquez (University of Hartford)