WIMIN 2026
Schedule of Student Talks

Morning Talks

Applied Math: Environmental - McConnell B04

Chair: Joy Caballes

11:15 am - 11:30 am: Assessing the Use of High Resolution Planet Satellite Data to Improve Harmful Algal Bloom (HAB) Forecasts in Coastal Systems

Speaker: Cynthia Arguijo (Smith College)

11:35 am - 11:50 am: Tracking Water Vapor from the 2022 Hunga Volcanic Eruption Using Satellite Data and the Schoeberl and Dessler Trajectory Model

Speaker: Clare Harned (Smith College)

11:55 am - 12:10 pm: Monte Carlo Simulations of Membrane Fouling in Microfiltration Operations

Speaker: Abigail Drumm (Worcester Polytechnic Institute)

Graph Theory - McConnell B10

Chair: Julia Steinberg

11:15 am - 11:30 am: The Cop Number of Token Graphs

Speaker: Nathaniel Chinman (Brown University), Lucy Stenger (Williams College)

11:35 am - 11:50 am: Domination Number of Token Graphs of Complete Bipartite Graphs

Speaker: Beatrice Pedroni (Williams College)

11:55 am - 12:10 pm: Every Interesting Cubic Graph Has at Least Fourteen Vertices: A New Computer-Assisted Proof

Speaker: Felicia Flores (Wesleyan University)

Algebra - McConnell 101

Chair: Eloise Glickman

11:15 am - 11:30 am: Differential Equations and Reversed Dickson Polynomial

Speaker: Upasana Aryal (Knox College)

11:35 am - 11:50 am: Dickson Self-Reciprocal Polynomials

Speaker: Sy Quoc Uy Vo (Knox College)

11:55 am - 12:10 pm: Transition Matrices for Character Bases of the Symmetric Group

Speaker: Beth Anne Castellano (Dartmouth College)

Applied Math: Biological Sciences - McConnell 102

Chair: Amina Kanamatova

11:15 am - 11:30 am: Reducing a Multi-Compartment Model of the Populations in the Spinal Dorsal Horn to Single-Compartment Spiking Neurons

Speaker: Fiona Stern (Middlebury College)

11:35 am - 11:50 am: Investigating Extensions on a Spiking Neural Network Model

Speaker: Olivia Henry (Williams College)

11:55 am - 12:10 pm: Modeling Two-Cylinder Hydrodynamics in Biological Flows: Comparing Stokes and Brinkman Regimes

Speaker: JungBin Park (Middlebury College), Weronika Wozny (Middlebury College)

Discrete Geometry - McConnell 103

Chair: Rose Bittle

11:15 am - 11:30 am: Maximizing Facets and Weighted Counting of Integer Points in Various Polytopes

Speaker: Maya Cox (Wellesley College), Katelyn Zhou (Wellesley College)

11:35 am - 11:50 am: Posets of Hyper (b, t)-ary Partitions are Distributive Lattices

Speaker: Elsa Frankel (Wellesley College)

11:55 am - 12:10 pm: k-Flat Intersections: Extensions of Radon and Helly-Type Results

Speaker: Sarah Ludwigson (Connecticut College)

Afternoon Talks

Materials Science - McConnell B04

Chair: Kiyanna Porter

2:30 pm - 2:45 pm: A Spectral Characterization of Perfect State Transfer in Non-Hermitian Tridiagonal Matrices

Speaker: Andrew Rittenberg (University of Hartford), Emily Shteynberg (New York University)

2:50 pm - 3:05 pm: Director Field and Shape Optimization in Nematic Tactoids

Speaker: Yiting Chu (Mount Holyoke College), Isabella Delmonte (Mount Holyoke College)

Number Theory - McConnell B10

Chair: Ruth Norton

2:30 pm - 2:45 pm: Conjecture of Gross – Fourier Coefficients on G_2 and Cubic Twist L-Values

Speaker: Maya Chang (Boston College)

2:50 pm - 3:05 pm: Elliptic Curve Cryptography: What and Why

Speaker: Araceli Friedman-Pitti (Smith College)

3:10 pm - 3:25 pm: Observations on the Minimal Degree of Consecutive Row Sums in the Negative Binomial Expansion Modulo p

Speaker: Halima Dieye (Middlebury College)

Music and Math Education - McConnell 101

Chair: Nikolina Gvozdenovic

2:30 pm - 2:45 pm: Calculus Research Study: Statistical Examination

Speaker: Sabrina Wang (Smith College), Yuehan Zhao (Smith College)

2:50 pm - 3:05 pm: A Statistical Analysis of Attitude: Case Study of Chinese Undergraduates in the US and Western Classical Music

Speaker: Carly Zhang (Mount Holyoke College)

3:10 pm - 3:25 pm: Modifications to the Spiral Array: Exploring a Computational Approach to Music Analysis

Speaker: Rose Bittle (Smith College)

Geometry and Topology - McConnell 102

Chair: Ariana Beeby

2:30 pm - 2:45 pm: Building New Families of Einstein Spaces via Lie Algebra

Speaker: Peilin Zhang (Wellesley College)

2:50 pm - 3:05 pm: Computing the Hilbert Measure for Non-Coregular Representations of the Special Orthogonal Group

Speaker: Belle Roberge (Skidmore College)

3:10 pm - 3:25 pm: $\mathbb{Z}$-Orbifold Euler Characteristic of Special Orthogonal Groups Acting on k Copies of Euclidean Space

Speaker: Lyra Eis (Skidmore College)

Combinatorics and Geometric Topology - McConnell 103

Chair: Husna Manalai

2:30 pm - 2:45 pm: Operations on Web Graphs: Flips, Orbits, and Rotations

Speaker: Julia Steinberg (Smith College), Katarina Peteranderl (Smith College), Wendy Zheng (Smith College)

2:50 pm - 3:05 pm: Minimal Equilateral Triangle Number of Bands with n Half-Twists

Speaker: Sonali Bellam (Smith College), Leo Jurkiewicz (Smith College)

3:10 pm - 3:25 pm: Go, Gadgets and Widgets: A Gadget Framework for Shared-Agent 2-Player Games

Speaker: Eliana Lippa (Homeschooled High School)

Algebra and Networks - McConnell 404

Chair: Maddy Spark

2:30 pm - 2:45 pm: Recovering Spatial Position from Cross-Modal Image Correspondences

Speaker: Jayleen Jiang (Mount Holyoke College)

2:50 pm - 3:05 pm: Infection Spread on Networks with Finite Contagious Time: A Probabilistic Approach

Speaker: Amina Kanamatova (Smith College)

3:10 - 3:25 pm Beyond the Odd Cycle Condition: Exploring Cohen–Macaulay Graph Edge Rings

Speaker: Navila Zaman (Connecticut College)