Bowdoin College Department of Mathematics

A Vibrant Mathematical Community

Goals: Building an inclusive and supportive mathematical community consisting of faculty, staff and Students ★ Providing innovative teaching of mathematics at all levels ★ Preparing students for quantitative careers and to be informed global citizens

Math is the third largest major on campus with between 50 and 70 majors per class.

Mathematics Community Activities include:

-Weekly math lunch for faculty and students

-Lunch seminars: a student-focused seminar series with 30 minute lectures over lunch

-Informal advising sessions with students and faculty

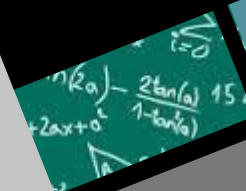-Students of Color weekly study session

-Bowdoin Women in Mathematics Group

We value a community in which students of all backgrounds are warmly received and encouraged to succeed.

Interdisciplinary Majors:

Computer Science and Mathematics
Mathematics and Economics
Mathematics and Education

Our graduating students choose graduate study in mathematics, statistics and biostatistics, and pursue careers in education, finance, consulting, coding, and more!.

For more information about the Bowdoin College Department of Mathematics, please visit https://www.bowdoin.edu/math/

Lecture Series sponsored by the mathematics department include, with selected talks:

The Dan A. Christie Lecture Series

April 11, 2019 – Peter Winkler, Dartmouth College, "What Do Puzzles Teach Us?"

February 12, 2018 – Catherine Roberts '87, College of the Holy Cross, "A River Runs Through It: Mathematical Modeling in Our World"

March 28, 2016 – Philip Maini, University of Oxford, "Mathematical Models for Pattern Formation"

Cecil and Marion T. Holmes Lecture Series

September 18, 2017 – Moon Duchin, Tufts University, "Political Geometry: Shapes and Fairness in Electoral Redistricting" with Michael Franz, Bowdoin, "A Brief Review of Gerrymandering And Its Impacts"

April 5, 2016 – Richard Tapia, Rice University, "Using Mathematics to Enhance My Personal Life"

April 30, 2015 – John Meier, Lafayette College, "Simple Machines, Thurston Paper, and Hyperbolic Geometry"

September 22, 2014 – Kenneth Ribet, University of California-Berkeley, "Fermat's Last Theorem"

April 22, 2012 – Daniel Goroff, Alfred P. Sloan Foundation, "Risky Decisions: Choice, Chance and Classroom Calculations"

Mathematics for the Common Good

September 24, 2020 – Sophie Berube, Johns Hopkins Univ., "Modeling Infectious Disease Transmission to Improve Public Health"

October 27, 2020 – Michael Ben-Zvi, Bowdoin College, "What is the best way to pick a winner?"

November 9, 2020 – Thomas Pietraho, Bowdoin College, "A Mathematical Perspective on Algorithmic Bias"

Professional development:

We run a weekly Teaching Seminar to discuss pedagogical issues and best practices for creating an inclusive classroom.

We are committed to the instruction and support of a diverse student population.
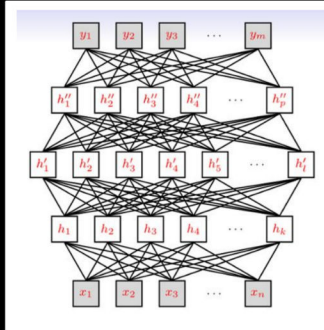
Student Research at Bowdoin College

Students conduct original research with faculty members through independent study and senior thesis projects, as well as summer research projects. Sample projects are featured below.

Parikshit Sharma '17
Neural networks and transfer learning models in image subject classification

Advised by Thomas Pietraho

John Hood '23
The Heavy-Tailed Nature of Noise in Stochastic Gradient Descent

Advised by Thomas Pietraho

Supported by: Scott and Anne Perper Internship Fund

Waverly Harden '19
Dynamics of Hollow Elliptical Cylinder Arrays

Advisor: Christopher Chong

Supported by: NSF grant DMS-1615037 and the Grua/O'Conell Fund
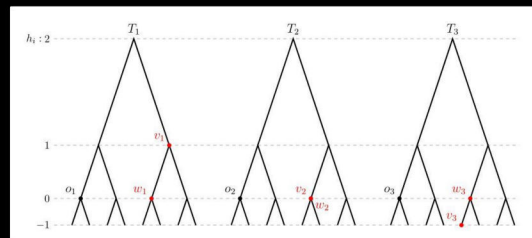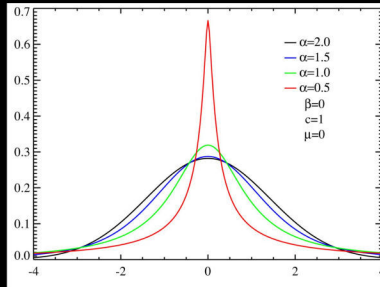
Ira Li '17
Convexity Properties of the Diestel-Leader Groups
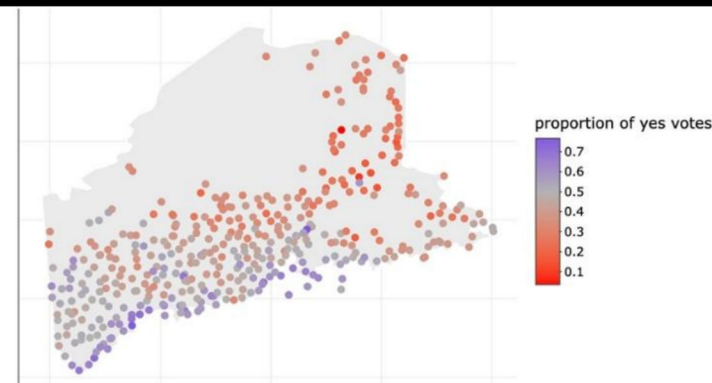
Advisor: Jennifer Taback

Supported by: NSF grant DMS-1105407

When Math Meets Politics
Advised by Jack O'Brien

Gillian King '22
Digitizing Maine's Voting History with a Statistical Analysis of Error Rate
Supported by: Kufe Family Research Fellowship

proportion of yes votes

Jack Olcott '22
A Statistical, Historical, and Political Approach to Analyzing Maine's Election Data

Supported by: Kibbe Science Fellowship

Bowdoin College
Department of Mathematics
Tenured and Tenure-Track Faculty

Jennifer Taback
Professor and Chair of Mathematics
Fields of Specialization - Geometric and Combinatorial Group Theory

Mary Lou Zeeman
R Wells Johnson Professor of Mathematics
Fields of Specialization - Geometric dynamical systems, mathematical biology, population dynamics, neuroendocrinology and hormone oscillations, climate modeling, sustainability and resilience

Jack O'Brien
Associate Professor of Mathematics
Field of Specialization - Statistics

Christopher Chong
Associate Professor of Mathematics
Fields of Specialization-PDE and mathematical physics

Thomas Pietraho
Associate Professor of Mathematics
Fields of Specialization - Representation theory, Lie groups, and related combinatorics

Adam B Levy
Professor of Mathematics
Fields of Specialization- Optimization, variational analysis, and numerical methods

Naomi Tanabe
Assistant Professor of Mathematics - on leave for the spring 2021 and fall 2021 semesters
Fields of Specialization - Number Theory, Representation Theory, Automorphic Forms, Special values of L-functions