

# Lindsay Dever

Bryn Mawr College, Bryn Mawr, PA  
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## Education

### Bryn Mawr College

*Ph.D. in Mathematics*

*M. A. in Mathematics*

Passed Preliminary Exams in Analysis, Algebra, and Topology

Courses: Elliptic Curves, Real Analysis I and II, Complex Analysis, Algebra I and II,  
Differential Topology, Algebraic Topology

Bryn Mawr, PA

Expected May 2022

May 2019

October 2018

### Smith College

*Post-Baccalaureate Program in Math*

Select courses: Dynamical Systems, Galois Theory, Geometry and Mechanics

Northampton, MA

2015-2016

### The College of New Jersey

*B.S Special Education/Mathematics*

Select courses: Bayesian Statistics, Differential Equations, Computer Science I

Ewing, NJ

2011-2015

## Papers

Lindsay Dever and Djordje Milićević, *Ambient prime geodesic theorems on hyperbolic 3-manifolds*, International Mathematics Research Notices (2021), advance online publication.

John Ruscio, Lauren Carney, Lindsay Dever, Melissa Pliskin, and Shirley B. Wang, *Using the Comparison Curve Fit Index (CCFI) in Taxometric Analyses: Averaging Curves, Standard Errors, and CCFI Profiles*, Psychological Assessment **30** (2018), no. 6, 744-754.

## Research Experience

### PhD Dissertation Project: In Progress

2019-Present

*Advisor: Djordje Milicevic*

Analyzed the distribution of geodesics on hyperbolic 3-manifolds using the spectral theory of automorphic forms.

### Master's Thesis: Non-Spherical Maass Forms in Hyperbolic 3-Manifolds

2018-2019

*Advisor: Djordje Milicevic*

Explicated a non-spherical trace formula for compact, hyperbolic 3-manifolds.

### Post-baccalaureate Research Project

2015-2016

*Advisor: Julianna Tymoczko*

Constructed a flow-up basis for generalized splines on  $n$ -cycles with edge labels  $(ax + by)^2$ .

### Undergraduate Research Project

2014-2015

*Advisor: John Ruscio*

Computed the standard error of the Comparison Curve Fit Index (CCFI) which measures whether a variable is categorical or dimensional. Tested a method of improving accuracy by adding random error to bootstrapped samples through simulations and analysis in R.

## Research Presentations

### Invited Conference Talks

- Joint Mathematics Meetings January 2022  
*Special Session on Quadratic Forms, Theta Functions, and Modularity*
- Canadian Mathematical Society Winter Meeting (virtual) December 2020  
*Special Session on Equidistribution on Arithmetic Manifolds*
- American Mathematical Society Fall Eastern Sectional Meeting (virtual) October 2020  
*Special Session on Automorphic Forms and Galois Representations*

### Invited Seminar Talks

- Philadelphia Area Number Theory Seminar, Swarthmore College December 2021
- International Seminar on Automorphic Forms (virtual) November 2021
- Dynamics and Group Geometry Early Researchers Seminar (DAGGER) at Warwick (virtual) June 2021
- Temple University Graduate Seminar October 2019
- Study Group in Number Theory, City University of New York November 2016

### Contributed Talks

- EPaDel Virtual Section Meeting November 2021
- MAA-NJ Online Section Meeting October 2021
- Women in Math in New England, Smith College (virtual) October 2021
- EPaDel Virtual Section Meeting November 2020
- Mid-Atlantic Seminar on Numbers (MASON) IV, Gettysburg College October 2020
- Series on Exploring Combinatorics And Number Theory (SECANT), Cedar Crest College November 2018
- Hudson Valley Undergraduate Conference April 2016
- Joint Mathematics Meetings January 2016
- Celebration of Student Achievement, The College of New Jersey May 2015

## Funded Workshops and Conferences

- Summer School on  $L^2$ -Torsion and Symmetric Spaces** October 2019  
*University of Göttingen*
- Automorphic Forms Workshop** March 2018, 2019  
*Tufts University, University of Pittsburgh*
- Mathematics of Modern Cryptography** May 2018  
*Women and Mathematics Program at IAS*

## Teaching Experience

### Instructor

Spring 2021

*Bryn Mawr College*

- Calculus I - Created online lectures, designed course content, and taught interactive hybrid classes as the instructor of record.

### Teaching Assistant

September 2016-December 2020

*Bryn Mawr College*

- Differential Equations - Designed computer labs to teach coding in R and assisted students during weekly problem sessions.
- Applied Mathematics - Taught weekly computer labs to develop mathematical modeling skills in MatLab. Created, supervised, and graded labs on topics including competition models, disease models with quarantine, and pharmacokinetic dosing.
- Actuarial Mathematics - Graded weekly homework assignments for 80-90 students.
- Graduate Real Analysis - Graded weekly homework assignments for about 10 students.
- Real Analysis I and II - Graded proof-based homework and led problem sessions twice weekly.

### Teaching Assistant

Summer 2015, 2016

*John Hopkins Center for Talented Youth*

Assisted with courses in Number Theory and Mathematical Modeling for gifted students ages 12-16.

### Peer Tutor

February 2013- December 2013

*The College of New Jersey*

Tutored college students in Calculus, Linear Algebra, and Statistics.

### Practicum Experience

2012-2014

*The College of New Jersey*

Observed, assisted in the classroom, and taught demo lessons for a semester in each of the following classrooms:

- Middle school science in Bordentown, NJ
- Sixth grade reading in Flemington, NJ
- Fifth grade general education in Trenton, NJ
- Fifth grade science in South Brunswick, NJ

## Pedagogy Training

### Online Teaching Institute

July 2020

*Bryn Mawr College*

Participated in a weeklong institute including workshops on building community online, trauma-informed teaching, and classroom technologies including Moodle, Zoom, and Panopto.

### Pedagogy Workshops

Fall 2020

*Bryn Mawr College*

Participated in various pedagogy workshops on topics including course design, lesson-planning, developing a teaching style, and inclusive teaching.

### Educational and Scholarly Technology Workshops

January 2021

*Bryn Mawr College*

Participated in workshops on topics including online class management, Zoom accessibility, and communicating with students in hybrid/online courses.

## Service

### Special Session Organizer

January 2022

Co-organizer for a special session called “A Showcase of Number Theory at Undergraduate Institutions” for the Joint Mathematics Meetings in Seattle.

### Graduate Research Seminar Organizer

September 2019 - present

Organized research seminars for graduate students in mathematics.

### Professional Development Seminar Organizer

September 2019 - February 2020

Organized monthly professional development seminars for the Graduate Group in Science and Math.

### Graduate Student Association Math Representative

August 2018-May 2019

Planned social events for the Graduate School of Arts and Sciences.

## Professional Experience

### Data Science Intern, QuantaVerse

June - August 2021

- Investigated methods to improve anomaly detection and summarized results in professional documentation.
- Sorted, aggregated, and analyzed time-series data from over 3.9 million transactions using Python.
- Improved the fit of a time-series model by 5.5% for seasonal datasets.

## Skills

- Proficient in Python, MatLab, and R
- Basic knowledge of Sage, Mathematica, and Java