

Katherine Moore

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ACADEMIC APPOINTMENTS

Wake Forest University, Winston-Salem, NC
Teacher-Scholar Postdoctoral Fellow Fall 2018 - Present

EDUCATION

Dartmouth College, Hanover, NH
Ph.D. in Mathematics June 2018
Patterns in Time Series and Dynamical Systems
Advisor: Sergi Elizalde
A.M. in Mathematics

Kenyon College, Gambier, OH
B.A. in Mathematics May 2012
with Highest Honors in Mathematics

PUBLICATIONS

1. "Characterizations and Enumerations of Patterns of Signed Shifts." (with S. Elizalde) November 2017. arXiv:[1711.05213](#).
2. "Random Walk Null Models for Time Series Data." (with D. DeFord) *Entropy*, 19 (2017), [615](#).
3. "Patterns of Signed Shifts and Negative Shifts." (with S. Elizalde and K. Archer) *Sem. Lothar. Combin. proc.*, 78B (2017), Article [#49](#).
4. "Patterns of Negative Shifts and Beta-Shifts." (with S. Elizalde) December 2015. arXiv:[1512.04479](#).

TEACHING EXPERIENCE

Wake Forest University
Math 117 - Discrete Mathematics Fall, Spring 2019
Math 111 - Calculus with Analytic Geometry Fall 2018
Math 311 - Introductory Real Analysis Fall 2018

Dartmouth College

Instructor

Assumed full responsibility of the course; developed syllabi, exams and lab projects.

Math 53 - Chaos! Fall 2017
An upper-level course on discrete and continuous dynamics.
Math 20 - Probability Summer 2016
Math 2 - Differential Calculus Winter 2016

Teaching Assistant

Math 8 - Integral Calculus Fall 2013, Spring 2015
Math 12 - Honors Multivariable Calculus Fall 2012

RESEARCH PRESENTATIONS

(★ indicates invited talk)

- *Clustering via Partitioned Local Depth* May 2019
CanaDAM, Vancouver, BC.
- *Clustering via Partitioned Local Depth* February 2019
Math and Statistics Colloquium, Wake Forest University, NC.
- (★) *Clustering and Local Depth* February 2019
Math and Computer Science Coffee, Davidson College, NC.
- (★) *Permutations Realized by Iterated Maps* January 2018
Dynamical Algebraic Combinatorics AMS Special Session, San Diego, CA.
- *Permutation-based Techniques for Estimating Entropy of Time Series* September 2017
Applied and Computational Mathematics Seminar, Dartmouth College, NH.
- (★) *Permutations in Time Series and Dynamical Systems* September 2017
Combinatorics Seminar, Brandeis University, MA.
- (★) *Permutations in Time Series and Dynamical Systems* September 2017
New York Combinatorics Seminar, Brooklyn College, NY.
- *Patterns in Dynamical Systems* July 2017
Summer Combo in Vermont, Saint Michael's College, VT.
- *Patterns and Cycles in Dynamical Systems* June 2017
Permutation Patterns, Reykjavik University, Iceland.
- (★) *Patterns in Dynamical Systems* January 2017
Combinatorics Seminar, Brandeis University, MA.
- *Patterns in Negative Shifts and Beta-Shifts* July 2016
Summer Combo in Vermont, Saint Michael's College, VT.
- *Patterns in Chaos* April 2016
Graduate Student Combinatorics Conference, Clemson University, SC.
- (★) *Patterns in Chaos* September 2015
Math Colloquium, Kenyon College, OH.

Posters

- Formal Power Series and Algebraic Combinatorics (FPSAC), Queen Mary, London, UK. July 2017
- Discrete Math Days of the Northeast, Dartmouth College, NH. May 2017
- Graduate Poster Session, Dartmouth College, NH. April 2017
- Women's Intellectual Network Research Symposium, Brown, RI. March 2017

AWARDS AND HONORS

- Outstanding Graduate Student Teacher 2017
Awarded by the Dartmouth Center for Advancement of Learning.
- Dartmouth Graduate Fellowship 2015 - 2018
- Dartmouth GAANN Fellowship 2012 - 2013
- Reginald B. Allen Award for Excellence in Mathematics at Kenyon College 2012
Awarded to the student who has done the most outstanding work in mathematics.

ACTIVITIES AND OUTREACH

- **Sonia Kovalevesky Day** 2012 - 2018
Organized the annual math day (May 2016), participated on the panel and led sessions.
Unravelling the Mysteries of the Mobius Strip (October 2012), *Ramsey's Three Friends and Three Strangers* (May 2015), *Many Folds, One Cut* (May 2017).
- **Dartmouth Center for the Advancement of Learning** 2015 - 2017
Teaching Assistant Orientation for Graduate Students
Led sessions about diversity, inclusivity in the classroom, and navigating difficult situations at a two-day workshop for teaching assistants.