

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 (with Highest Honors in Mathematics) May 2012

PUBLICATIONS

1. "Communities in Data: A Socially-Motivated Perspective on Cohesion and Clustering" (with Kenneth Berenhaut and Ryan L. Melvin), (submitted).
2. "Characterizations and enumerations of patterns of signed shifts." (with S. Elizalde) *Discrete Applied Mathematics*, (2019).
3. "Random Walk Null Models for Time Series Data." (with D. DeFord) *Entropy*, 19 (2017), **615**.
4. "Patterns of signed shifts and negative shifts." (with S. Elizalde and K. Archer) *Sem. Lothar. Combin. proc.*, 78B (2017), Article **#49**.
5. "Patterns of negative shifts and beta-shifts." (with S. Elizalde) December 2015. arXiv:**1512.04479**.

TEACHING EXPERIENCE

Wake Forest University

Stats 111 - Introduction to Statistics	Spring 2020
Math 117 - Discrete Mathematics (introduction to proofs)	Fall, Spring 2019
Math 111 - Calculus with Analytic Geometry	Fall 2018
Math 311 - Introductory Real Analysis	Fall 2018

Dartmouth College

Instructor

Math 53 - Chaos!	Fall 2017
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)

- (★) *A New Perspective on Clustering: Partitioned Local Depth* October 2019
34th Clemson Mini-Conference on Discrete Mathematics and Algorithms, Clemson, SC.
- (★) *A New Perspective on Clustering: Partitioned Local Depth* October 2019
Math Colloquium, High Point University, NC.
- *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.