

Ada Nicole Morse

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Education

University of Vermont

Ph.D. Mathematical Sciences

Burlington, VT

expected May 2018

SUNY Potsdam

M.A. in Mathematics (*with distinction*)

B.A. in Mathematics (*summa cum laude*)

Potsdam, NY

May 2014

The Crane School of Music/SUNY Potsdam

B.M. in Performance (*summa cum laude*)

Potsdam, NY

May 2014

Publications

The Interlace Polynomial

Ada Morse, in *Graph Polynomials*, ed. Dehmer et al, CRC Press

2016

Design Tools for Reporter Strands and DNA Scaffold Strands

Ellis-Monaghan, Pangborn, Seeman, Blakeley, Disher, Falcigno, Healy, Morse, Singh, Westland, *Theoretical Computer Science*.

2016

On weakly diameter-critical graphs

O. de la Cruz Vite, J. Foisy, C. Gibbons, A. Morse, C. Negron, *Graph Theory Notes of New York* (67), 1–16

2014

Submitted Preprints

Interlacement and Activities in Delta-Matroids

Ada Morse, *European Journal of Combinatorics*, submitted. arXiv: 1710.10524

2017

DNA Origami and Unknotted A-Trails in Torus Graphs

A. Morse, W. Adkisson, J. Greene, D. Perry, B. Smith, J. Ellis-Mongahan, G. Pangborn, *Journal of Knot Theory and Its Ramifications*, submitted. arXiv: 1703.03799

2017

Funding, Grants and Awards

Graduate Teaching Assistant

Full responsibility for one course per semester

University of Vermont

AY '17-'18

Graduate Research Assistant

NASA-VSGC, "Graph-theoretical design strategies for self-assembly."

University of Vermont

AY '16-'17

REU Mentor

NSF Supplement to grant EFRI-1332411

St. Michael's College

2016

J. Kenney Travel Grant

Travel to Dagstuhl Seminar

University of Vermont

2016

Graduate Research Assistant

NASA-VSGC, “Graph-theoretical design strategies for self-assembly.”

University of Vermont

Jan. '16 - June '16

REU Mentor

NASA-VSGC through grant number NNX10AK67H

St. Michael's College

2015

Research Assistant q, t —Schröder numbers, advised by Gregory Warrington

University of Vermont

2015

Graduate Teaching Assistant

Full responsibility for two courses per year

University of Vermont

2014-2015

Teaching and Mentoring

GTA at the University of Vermont

Instructor of record with full responsibility for

- (3 semesters) MATH 17, a gen-ed quantitative reasoning course including voting theory, game theory, networks, and statistics.
- (2 sections) MATH 19: Fundamentals of Calculus 1

REU Mentor at St. Michael's College

Lead groups of 3-4 undergraduate researchers

- designed and guided the students' summer research
- taught intensive minicourses in: graph theory, group theory, and topology
- students have presented their research at local and national conferences

Tutoring

Experience includes:

- UVM Math Help Sessions Tutor: college algebra through multivariable calculus
- SUNY Potsdam TRiO: one-on-one peer mentor in calculus for low-income, first-generation, and/or disabled students
- SUNY Potsdam Math Lab Tutor: statistics, algebra, calculus

Invited Conferences and Talks

Upcoming: Interlacement and Activities in Delta-Matroids

AMS Spring Southeastern Sectional Meeting

Nashville, TN

2018

Upcoming: Interlacement and Activities in Delta-Matroids

Matroid Theory minisymposium, SIAM Discrete Math

Denver, CO

2018

DNA Origami and Knots in Graphs

Topological and Geometric Algorithms Minisymposium, CanaDAM

Toronto, ON

2017

Graphs, Knots, and Nanostructures

Middlebury College seminar series

Middlebury, VT

2017

Dagstuhl Seminar, “Graph Polynomials: Towards a Comparative Theory”

Invited Participant

Saarbrücken, Germany

2016

Contributed Talks

Upcoming: DNA Origami and Knots in Graphs

Joint Mathematics Meetings

San Diego, CA

2018

Tiered Mentoring in REUs

SIGMAA session "Undergraduate activities in mathematical and computational biology", MAA MathFest.

Chicago, IL

2017

Interlacement and Activities in Delta-Matroids

Summer Combo in Vermont

Colchester, VT

2017

DNA Origami and Knots in Graphs

Graduate Student Combinatorics Conference

Lawrence, KS

2017

On weakly diameter- m -critical graphs

poster at the Joint Mathematics Meetings

Baltimore, MD

Jan. 2014

Linkless embeddings of total graphs

MAA MathFest

Hartford, CT

2013

Service

AM I A (All Math Is Applied) Seminar

Founder & Co-organizer

University of Vermont

Aug. 2016 - May 2017

Dept. of Mathematics and Statistics Graduate Committee

Graduate student representative

University of Vermont

Aug. 2015 - present

Peer Referee

European Journal of Combinatorics, Research in the Mathematical Sciences, Chapman & Hall/CRC

Combinatorics Search Committee

Grad student representative

University of Vermont

2015 - 2016

Outreach/Volunteering

MathILY

Invited speaker, ran a workshop in which students re-created a published result.

Bryn Mawr, PA

Jul. 2017

MathCounts Middle-school Math Competition

Invited speaker

Burlington, VT

Feb. 2017

Women in STEM Panel

Burlington Kids Afterschool Program - CP Smith

Burlington, VT

May 2017

Friday Night (Youth) Group

Facilitator

Outright Vermont

2016 - present