

# Ada Nicole Morse

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## Education

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### University of Vermont

PH.D. IN MATHEMATICS

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

B.M. IN PERFORMANCE (*summa cum laude*)

Potsdam, NY

May 2014

## Publications

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### The Interlace Polynomial

2017

ADA MORSE, IN *Graph Polynomials*, ED. DEHMER ET AL, CRC PRESS

### Design Tools for Reporter Strands and DNA Scaffold Strands

2016

ELLIS-MONAGHAN, PANGBORN, SEEMAN, BLAKELEY, DISHER, FALCIGNO, HEALY, MORSE, SINGH, WESTLAND,  
*Theoretical Computer Science*, [HTTP://DX.DOI.ORG/10.1016/J.TCS.2016.10.007](http://dx.doi.org/10.1016/j.tcs.2016.10.007)

### On weakly diameter-critical graphs

2014

O. DE LA CRUZ VITE, J. FOISY, C. GIBBONS, A. MORSE, C. NEGRON, *Graph Theory Notes of New York* (67), 1–16

## Preprints

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### DNA Origami and Unknotted A-Trails in Torus Graphs

2017

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

## Research and Teaching

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### Graduate Research Assistant

VERMONT SPACE GRANT CONSORTIUM

University of Vermont

Jan. '16 - June '16, AY '16-'17

### REU Mentor

DNA NANOSTRUCTURE SELF-ASSEMBLY REU

St. Michael's College

Summers 2015, 2016

- Responsible for problem design for and mentoring of a group of four undergraduates in 2016. A paper building on this work has been submitted.
- Mentored students on topological aspects of their research in 2015. One paper resulting from this summer has been published, another is in progress.

### Graduate Teaching Assistant

DEPARTMENT OF MATHEMATICS AND STATISTICS

University of Vermont

AY '15-'16, Fall '16

- Sole instructor for *Math 19: Calculus I* (two sections, Fall '16)
- Sole instructor for *Math 17: Finite Math with Applications* (two sections, Fall '15 and Spring '16)

## Selected Conferences/Talks

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### DNA Origami and Knots in Graphs

TALK AT THE GRADUATE STUDENT COMBINATORICS CONFERENCE

Lawrence, KS

Apr. 2017

### Graphs, Knots, and Nanostructures

INVITED TALK AT MIDDLEBURY COLLEGE

Middlebury, VT

Apr. 2017

### Dagstuhl Seminar, "Graph Polynomials: Towards a Comparative Theory."

INVITED PARTICIPANT

Saarbrücken, Germany

June 2016

- Received a J. Kenney Award from the UVM Dept. of Mathematics and Statistics to fund participation in this seminar.

### On weakly diameter- $m$ -critical graphs

POSTER AT THE JOINT MATHEMATICS MEETINGS

Baltimore, MD

Jan. 2014

### Linkless embeddings of total graphs

TALK AT MAA MATHFEST

Hartford, CT

2013

## Service

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### AM I A (All Math Is Applied) Seminar

FOUNDER & CO-ORGANIZER

University of Vermont

Aug. 2016 - May 2017

- Graduate student theoretical mathematics seminar at the University of Vermont.

### Dept. of Mathematics and Statistics Graduate Committee

GRAD STUDENT REPRESENTATIVE

University of Vermont

Aug. 2015 - May 2017

### 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

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### 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