

LIZZIE BUCHANAN

Dartmouth College Dept. of Mathematics
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EDUCATION

Dartmouth College Department of Mathematics, Hanover, NH
Ph.D. in Mathematics (Advisor: Vladimir Chernov) (expected) June 2023
M.A. Mathematics Nov. 2020

Smith College, Northampton, MA Sept. 2017 - June 2018
Center for Women in Mathematics Postbaccalaureate Program
(Research Advisors: Patricia Cahn, Ileana Streinu)

Hamilton College, Clinton, NY June 2015
B.A in Mathematics
B.A in Theatre

PREPRINTS

A new condition on the Jones polynomial of a fibered positive link, 2204.03846 (preprint, submitted).

AWARDS

Kenneth P. Bogart Teaching Award June 2022
Dartmouth College, awarded annually to a fifth-year or rising fourth-year graduate student for dedication to and excellence in advancing the educational mission of the department.

TEACHING

Instructor of Record

Dartmouth College

Math 22: Linear Algebra with Applications	Spring 2023
Math 8: Calculus of Functions of One and Several Variables	Winter 2022
Math 3: Calculus	Winter 2021

Teaching Assistant

Dartmouth College

Math 8: Calculus of Functions in One and Several Variables	Winter 2020
Math 22: Linear Algebra with Applications	Fall 2019
Math 13: Calculus of Vector-valued Functions	Spring 2019
Math 11: Accelerated Multivariable Calculus	Fall 2018

Smith College

Tutorial sessions for Calculus, Differential Equations, and Linear Algebra	2017 - 2018
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TALKS

(* indicates invited speaker)

- *AMS Spring Southeastern Sectional Meeting, Georgia Institute of Technology March 2023
- Tech Topology Conference, Georgia Institute of Technology Dec. 2022
(lightning talk)
- *Australian Geometric Topology Webinar, online Nov. 2022
Diagrams of Fibered Positive Links, and their consequences
- BUGCAT (Binghamton University Graduate Conference in Algebra and Topology) Nov. 2022
Diagrams of Fibered Positive Links, and their consequences
- *Nearly Carbon Neutral Geometric Topology Conference, online Sept. 2022
The Jones Polynomial of a Fibered Positive Link
- WIMIN (Women in Mathematics in New England), Smith College Sept. 2022
Pivoting to Positive Links
- Grad. Student Conference in Algebra, Geometry, and Topology, Temple University May 2022
The Jones polynomial of a fibered positive link
- Knots in Washington 49.75, George Washington University April 2022
The Jones polynomial of a fibered positive link
- Dartmouth College Topology Seminar March 2022
Towards an Infinite Family of Almost-alternating knots
- Dartmouth College Graduate Student Seminar Oct. 2021
- Smith College Colloquium May 2018
Linking Numbers in Dihedral Covers
- Hudson River Undergraduate Mathematics Conference, St. Lawrence University April 2018
Linking Numbers in Dihedral Covers
- Joint Math Meetings, San Diego Jan. 2018
Rigidity and the Pebble Game algorithm in 3D.
- Smith College Colloquium Nov. & Dec. 2017
Rigidity and the Pebble Game algorithm in 3D.

CONFERENCES AND WORKSHOPS ATTENDED

- Winter school in singularities and low dimensional topology, Rényi Institute Jan. 2022
- Joint Math Meetings, Boston, MA Jan. 2022
- AMS Fall Eastern Sectional, University of Massachusetts - Amherst Oct. 2022
- Workshop in Geometric Topology, online June 2022
- BUGCAT (Binghamton University Graduate Conference in Algebra and Topology) Nov. 2021
- paraDIGMS (Diversity in Graduate Mathematical Sciences) Fall session Oct. 2021
- Mini-Workshop “Knots + More” Aug. 2021
- paraDIGMS (Diversity in Graduate Mathematical Sciences) Spring session April 2021
- Roots of Topology workshop, University of Chicago June 2018
- Hudson River Undergraduate Mathematics Conference, St. Lawrence University April 2018

OUTREACH AND SERVICE

Directed Reading Program , Dartmouth College Mentor to an undergraduate student in knot theory	Winter 2023
WIMIN Conference , Smith College Panelist, Graduate school panel	Sept. 2022
Graduate Program Committee Liaison , Dartmouth College Graduate student-elected liaison between math graduate students and math faculty members	2020-2022
Math Department Climate Survey Committee , Dartmouth College Graduate student representative for math department in Dartmouth sciences division discussion of survey results on departmental work environment	2021-2022
Exploring Mathematics Camp , Dartmouth College Instructor: Planned, organized, and conducted two week-long camps for high school students on elementary number theory and coding, and graph theory	Summer 2020
Biographies of Contemporary Women in Math , Dartmouth College Essay contest selection committee member	Winters 2019 & 2020
Sonia Kovalevsky Day , Dartmouth College Day-of logistics coordinator for outreach day of math mini-lessons and games for middle school girls in NH and VT	Spring 2019
WIMIN Conference , Smith College Panelist, Applying to Graduate School panel	Sept. 2018

PROFESSIONAL DEVELOPMENT

Certificate in Mathematical Pedagogy , Dartmouth College	Nov. 2022
<i>CIMER Mentoring Series for Grad Students and Postdocs</i> , Dartmouth College Workshop on becoming an effective mentor to undergraduates	Spring 2022
<i>Anti-Racist Pedagogy Reading Group</i> , Dartmouth College	Summer 2021
<i>Software Carpentry - Python</i> workshop, Dartmouth College	Summer 2021
<i>Mathematics Department Teaching Seminar</i> , Dartmouth College	Spring 2020

GRANTS

NSF-funded teaching and research assistant, Smith College Post-Baccalaureate Program for Women in Mathematics	2017-18
The Shubert Foundation \$50,000 arts grant obtained for Perseverance Theatre, Juneau, AK	2016
Levitt Center \$4,000 sociology and theater research grant, Hamilton College	2013

SELECTED THEATRE

Actor – *SIKOS (Smith Improv Komedie Org. of Smith)*, Smith College 2018-2019

Assistant Director – *In the Next Room, or the vibrator play* by Sarah Ruhl Spring 2016
 Director: Carolyn Howarth, Perseverance Theatre, Juneau, AK

Co-director – *A Pain in the Crevasse: Short Plays on Climate Change* Dec. 2015
 Mendenhall Glacier, Juneau, AK

Perseverance Theatre's contribution to 2015 Climate Change Theatre Action, worldwide series of readings and performances of short climate change plays presented biennially to coincide with the United Nations COP meetings

Director – *Disgrace* by John O'Keefe, Hamilton College Spring 2015

Training – LDA (London Dramatic Academy) Spring 2014
 London, UK. Advanced training in acting, movement, voice, theatre history, theatre criticism