

Ana Wright

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EDUCATION

University of Nebraska–Lincoln, Lincoln, Nebraska, USA

- Ph.D. in Mathematics May 2023
 - Dissertation Title: Gordian Distance and Complete Alexander Neighbors
 - Advisors: Mark Brittenham and Alex Zupan

- M.S. in Mathematics May 2019

Willamette University, Salem, Oregon, USA

- B.A. in Mathematics and Spanish with a minor in English May 2017
 - Cumulative GPA: 3.94, Mathematics Major GPA: 4.0, Spanish Major GPA: 4.0

WORK EXPERIENCE

Davidson College

- Assistant Professor Begin Jul. 2023

University of Nebraska–Lincoln

- Graduate Teaching Assistant Aug. 2017 - May 2023
- Associate Convener for Math 103 College Algebra and Trigonometry Fall 2020 - Spring 2021
 - Organized weekly instructor meetings, created a course schedule, wrote exams
 - Oversaw 11 sections in the fall and 4 sections in the spring taught by 14 instructors

- Graduate Teaching Assistant for Polymath Jr. Summer 2021 & 2022
 - Served as a graduate teaching assistant for Alex Zupan's projects for the online undergraduate research program Polymath Jr. supported by NSF grant DMS-2005518.

- Graduate Research Assistant Dec. 2020 - Jan. 2021
 - Coded and summarized interviews for a project in computer science education funded by a Computer Science for All grant from the National Science Foundation called Adapt, Implement, and Research at Nebraska (AIR@NE) DUE-1837476 with Wendy Smith and Sally Ahrens

Willamette University

- Math Tutor and Preceptor for Modeling With Calculus (MATH 140), Linear Algebra (MATH 253), and Multivariable Calculus (MATH 249) Nov. 2013 - May 2017
- Grader for the proofwriting course Foundations of Advanced Math (MATH 251W) Nov. 2016 - May 2017
- Undergraduate Researcher for the Willamette University Mathematics Research Experience for Undergraduates (REU) June 2016 - July 2016
 - Project: Mixing Times of the Generalized Rook's Walk
 - Advisor: Peter Otto

AWARDS

Ben Nolting Award 2021

Annual award for one or two graduate students in mathematics at UNL recognizing work in diversity and inclusion

Linda Bors Fellowship 2020

Annual fellowship awarded to 3 graduate students in mathematics at UNL based on excellence of scholarship

Chester F. Luther Mathematics Scholarship 2016

Annual scholarship awarded to 4-6 undergraduate students at Willamette University for excellence in mathematics

INSTRUCTOR OF RECORD	Teaching Experience	
	MATH 101 College Algebra	Fall 2018 & Fall 2021
	In Fall 2021, I taught this class as part of the federal outreach and student services program TRIO meant to identify and provide services to eligible students from disadvantaged backgrounds. The class meets 5 times per week rather than the typical 3 and has extra office hours and a smaller class size than other sections. I also taught a standard section of this course in Fall 2018.	
	MATH 103 College Algebra and Trigonometry	Fall 2019 & Fall 2020
	In Fall 2020, this class used a flexible hybrid model to accommodate for social distancing regulations due to COVID-19. I also taught a standard, in-person section of this course in Fall 2019.	
	MATH 104 Applied Calculus	Summer 2019
	MATH 106 Calculus I	Summer 2020
	This was an online class due to COVID-19.	
	MATH 107 Calculus II	Spring 2023
	MATH 203 Contemporary Mathematics	Spring 2019
TEACHING ASSISTANT EXPERIENCE	MATH 300 Mathematics Matters	Spring 2020
	This course is for pre-service elementary school teachers and the last six weeks of this course were administered online due to COVID-19.	
	MATH 314 Linear Algebra	Spring 2022
	MATH 106R Calculus I Recitation	Fall 2017 & Spring 2018
	I taught two recitation sections each semester Fall 2017 and Spring 2018.	
GRADING EXPERIENCE	MATH 107R Calculus II Recitation	Summer 2018
	MATH 104 Applied Calculus	Fall 2019 & Fall 2022
	Graded midterms and final exam	
	MATH 310 Introduction to Modern Algebra	Spring 2023
	Graded and gave feedback on student proofs on problem sets	
	MATH 856 Differential Topology	Spring 2022
UNDERGRADUATE MENTORSHIP	Graded and gave feedback on student proofs on problem sets	
	MATH 871 Topology I	Fall 2022
	Graded and gave feedback on student proofs on problem sets	
	Mentorship Experience	
	Mathematical Sciences Research Institute-Undergraduate Program (MSRI-UP)	Summer 2023
	Polymath Jr: Symmetric Union Presentations for Ribbon Links	Summer 2022
	This undergraduate research project was held online and organized by Alex Zupan. Meetings were conducted via Zoom and other communication was conducted via email and Discord. I curated student proofs for a solution guide to problem sets on the background material. I participated in weekly progress meetings with 24 undergraduate students and held weekly office hours.	

	Polymath Jr: Knotted Surface Tabulation Via Tri-plane Diagrams This undergraduate research project was held online and organized by Alex Zupan. Meetings were conducted via Zoom and other communication was conducted via email and Discord. I participated in weekly progress meetings with 22 undergraduate students. I led weekly research meetings with 7 of the undergraduate researchers. I also held weekly office hours and helped compile results from the project.	Summer 2021
	Learning Assistant Math 103 College Algebra and Trigonometry Pedagogy Leader I ran biweekly meetings with the undergraduate learning assistants in Math 103 to go over the course content and related pedagogical issues.	Fall 2020 - Spring 2021
	Directed Reading Program I met weekly with an undergraduate student as she worked through An Interactive Introduction to Knot Theory by Inga Johnson and Allison Henrich.	Spring 2020
GRADUATE MENTORSHIP	Landscapes Seminar Landscapes seminar is a weekly seminar of talks and a panel to help 11 first year grad students prepare to ask a professor to be their advisor and begin research. I organized the seminar in Spring 2021.	Spring 2021
	Topology Qualifying Exam Workshop I organized previous topology qualifying exam problems into a database, which can be sorted by topic and helped 3 graduate students prepare for the exam.	Jan. 2021
	Peer Mentorship Program I served as a peer mentor to a first year graduate student.	Aug. 2019 - May 2020
PAPERS	Publications, Presentations, and Travel	
	<i>Gordian Distance and Complete Alexander Neighbors</i> arXiv:2210.07728 [math.GT] (Preprint) (with Chris Anderson, Kenneth L. Baker, Xinghua Gao, Marc Kegel, Khanh Le, Kyle Miller, Sinem Onaran, Geoffrey Sangston, Samuel Tripp, and Adam Wood) <i>L-space knots with tunnel number >1 by experiment</i> Experimental Mathematics (2021) 1-15 (with Ben Clingenpeel, Zongzheng (Jason) Dai, Gabriel Diraviam, Kareem Jaber, Ziyun Liu, Teo Miklethun, Haritha N, Michael Perry, Moses Samuelson-Lynn, Eli Seamans, Krishnendu Kar, Nicole Xie, Ruiqi Zou, and Alex Zupan) <i>Symmetric Union Presentations of Ribbon Knots</i> (In Preparation) (with Wolfgang Allred, Manuel Aragón, Zack Dooley, Alexander Goldman, Yucong Lei, Isaiah Martinez, Nick Meyer, Devon Peters, Scott Warrander, and Alex Zupan) <i>Tri-Plane Crossing Number of Unknotted Surfaces and CH-Diagram to Tri-Plane Diagram Conversions</i> arXiv:2302.08431 [math.GT] (Preprint)	
PRESENTATIONS	“Properties of Knots from Polynomials” (Invited Speaker) <ul style="list-style-type: none"> • Jim Albaugh Mathematics Colloquium at Willamette University, online 	Apr. 2023
	“A Topological Journey Through Spaces and Knots” (Invited Speaker) <ul style="list-style-type: none"> • Math RaMP at Spelman College, online, as part of the Great Plains Alliance 	Mar. 2021
	Non-Euclidean Geometry Presentation <ul style="list-style-type: none"> • I visited an undergraduate geometry class at Nebraska Wesleyan University and gave a talk about non-euclidean geometry, introducing hyperbolic and elliptic geometry. 	Oct. 2021
	“A Journey Through Hyperbolic Space” (Invited Speaker) <ul style="list-style-type: none"> • Jim Albaugh Mathematics Colloquium at Willamette University, online 	Apr. 2020

	“Senior Thesis: Mountain Graphs in Origami Crease Patterns” <ul style="list-style-type: none"> Jim Albaugh Mathematics Colloquium at Willamette University 	Apr. 2017
	“Mixing Times for the Generalized Rook’s Walk” <ul style="list-style-type: none"> Nebraska Conference for Undergraduate Women in Math Joint Mathematics Meetings: Contributed Papers in Probability and Statistics I and Student Poster Session Jim Albaugh Mathematics Colloquium at Willamette University 	Feb. 2017 Jan. 2017 Dec. 2016
CONFERENCES AND TRAVEL	Max Planck Institute of Mathematics (2 month visit) Bonn, Germany	Sept.-Oct. 2022
	Séminaire de Mathématiques Supérieures (Mathematical Sciences Research Institute Summer School) Vancouver, Canada	Jul. 2022
	Winter Trisectors Workshop Online workshop	Dec. 2020
	Kirby Calculus and 4-manifolds UT Austin Minicourse Online minicourse	Jul. 2020
	Heegaard Splittings and Dehn Surgery UT Austin Minicourse Online minicourse	Jul. 2020
	Topology Student’s Workshop Online workshop	Jul. 2020
	Joint Mathematics Meetings Denver, Colorado	Jan. 2020
	Midwest Geometry Conference Ames, Iowa	Sep. 2019
	Perspectives on Dehn Surgery Providence, Rhode Island	Jul. 2019
	Georgia Topology Conference Athens, Georgia	May 2019
LOCAL TALKS (UNL)	Groups, Semigroups, and Topology (GST) Seminar <ul style="list-style-type: none"> “End Spaces and Compact Closures” (online) “Maps From 3-Manifolds to 4-Manifolds That Induce Isomorphism on π_1 by Hongbin Sun and Zhongzi Wang (Part 1)” (online and in person) “Knot Groups and Colorability” (online) “Alexander Polynomials and Gordian Distance” (online) “Efficient Computation of the Kauffman Bracket” “Introduction to Foliations” 	Apr. 2022 Oct. 2021 Mar. 2021 Oct. 2020 Feb. 2020 Nov. 2019
	Graduate Students Talking in Groups, Semigroups, and Topology (GST)² Seminar <ul style="list-style-type: none"> “Diagrams of Knotted Surfaces” “Alexander Polynomials and Gordian Distance” (online) “To Knot or Not to Knot” “Conveniences of Alternating Diagrams” “Algorithms Transforming Links into Closed Braid Form” 	Oct. 2021 Sept. 2020 Feb. 2020 Oct. 2019 Mar. 2019
	Matemáticas en español Seminar <ul style="list-style-type: none"> “Nudos de cinta” (Ribbon Knots) (online) “Pruebas sin palabras” (Proofs Without Words) (online) “Introducción a superficies anudadas” (Introduction to Knotted Surfaces) “Geometría elíptica” (Elliptic Geometry) “Introducción a la característica de Euler” (Introduction to the Euler Characteristic) (online) “Grafos montes en patrones de pliegues origami” (Mountain Graphs in Origami Crease Patterns) (online) “Introducción a la geometría hiperbólica” (Introduction to Hyperbolic 	Sept. 2022 Feb. 2022 Oct. 2021 Sept. 2021 Feb. 2021 Sept. 2020 Apr. 2020

	Geometry) (online)	
	• “Cruces múltiples en diagramas de nudos” (Multi-crossings in Knot Diagrams)	Oct. 2019
	• “La magia de flexágonos” (The Magic of Flexagons)	Sept. 2019
	• “Introducción a la teoría de nudos” (Introduction to Knot Theory)	Mar. 2019
	Graduate Student Seminar	
	• “Using Graphs to Think About the Jones Polynomial” (online)	Apr. 2021
	• “Hyperbolic Geometry and Topology”	Sept. 2019
	• “Heegaard Splitting Stability”	Dec. 2018
	4-Manifolds Reading Seminar	
	• “Trisections of 4-Manifolds”	Sept. 2019
	Mathematics Literature	
	• “Thin Position of Knot Diagrams and Essential Planar Surfaces in Knot Complements”	June 2018
	Involvement	
OUTREACH	Matemáticas en español	Feb. 2019 - Present
	I co-founded a Spanish math seminar with Amadeus Martin and organized it from the beginning. It is meant for undergraduate level talks for students and faculty of all Spanish skill levels to practice communicating math in Spanish.	
	Math Club	Nov. 2021
	I gave a talk and led an activity about flexagons with the undergraduate math club at UNL.	
	Great Plains Alliance	Mar. 2019
	I served in a support role for the speaker in a Great Plains Alliance Talk at Wayne State College. The Great Plains Alliance allows UNL graduate students to give talks to undergraduates interested in math at local universities and colleges. The speaker and supporting graduate student hold a Q&A after the talk about graduate school.	
	Nebraska Conference for Undergraduate Women in Math	2018 - 2022
	Each year I volunteer for NCUWM, which encourages undergraduate women to pursue math. In 2020 I was the invited graduate student representative from UNL to speak on a panel about choosing a graduate program.	
	University of Nebraska–Lincoln Math Day	2017 - 2022
	Each year I volunteer for UNL Math Day, where over a thousand high school students from across Nebraska visit UNL’s campus to participate in math competitions.	
SERVICE	Graduate Student Advisory Board	May 2020 - May 2022
	I served on this board, which plans community events and acts as a liaison between the graduate students and faculty in the department.	
	Graduate Students Talking in Groups, Semigroups, and Topology (GST)²	Fall 2021
	(GST) ² is a graduate student seminar for students in geometric group theory and topology. I organized the seminar in Fall 2021.	
	Field of Dreams	Nov. 2021
	I represented the UNL math graduate students at a virtual recruitment booth at the conference Field of Dreams. I talked to several interested undergraduate students about the program.	

Equity in Teaching Orientation Session

Aug. 2021

I ran a session during the UNL math graduate student orientation with two other graduate students about equitable teaching practices.

Math Department Recognition Ceremony and Graduation Receptions

Apr. & Sept. 2021

I helped host and organize these events online.