

LEILANI PAI

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leilani314.github.io

EDUCATION

PhD coursework in Mathematics *in-progress*
University of Nebraska-Lincoln; Lincoln, NE
Advisor: Xavier Pérez Giménez

MS in Mathematics May 2019
University of Nebraska-Lincoln; Lincoln, NE

BA in Mathematics May 2017
University of Southern California; Los Angeles, CA
Minor in Computer Science

RESEARCH INTERESTS

My current research focuses on **random graphs** and hypergraphs. I am also broadly interested in the applications of **discrete mathematics**, as well as **mathematics education**.

TEACHING EXPERIENCE

As **Instructor of Record** at UNL:

All courses are based on student-centered, active learning pedagogies.

- MATH 302 – Math Modeling Fall 2021
Math 302 is a course for future elementary and middle school teachers.
- MATH 102 – College Trigonometry Fall 2020, Spring 2021
In fall 2020, his course was delivered in a “split-synchronous” hybrid format.
- MATH 203J – Contemporary Mathematics for Journalism Spring 2020
MATH 203J is a general-education math course catered specifically to students with an interest in journalism.
The last six weeks of this course were delivered online.
- MATH 103 – College Algebra and Trigonometry Fall 2019
- MATH 203 – Contemporary Mathematics Spring 2019
- MATH 101 – College Algebra Fall 2018

As a **Teaching Assistant** at UNL:

- MATH 107(r) – Calculus II Recitation Fall 2017 – Summer 2018

Other experience:

- **Associate Convener** for MATH 102 at UNL Fall 2020, Spring 2021
Coordinated four-six sections of a trigonometry course, including managing weekly instructor meetings and writing common exams
- **Trigonometry Content Specialist** Fall 2020
Organized and led meetings to discuss math- and trigonometry-specific content with undergraduate Learning Assistants

- **MRC Counselor** at UNL
Provided guidance and homework help to undergraduates in first-year mathematics courses at UNL who visited the Math Resource Center Fall semesters 2017-2020
- **Course Producer** for CSCI 170 at USC
Held office hours, monitored an online discussion board, and assisted with exams for an introductory course in discrete mathematics for computer science students Fall 2016 – Spring 2017

OTHER EMPLOYMENT

- Research Assistant** at the Center for Math, Computer, and Science Education at UNL Summer 2021, Winter 2022
- *Reviewed qualitative data, conducted literature searches, and contributed to a manuscript related to elementary STEM teaching*

HONORS AND AWARDS

- USC Presidential (National Merit) Scholarship** Fall 2014 – Spring 2017
- USC Resident Honors Program** Fall 2013 – Spring 2017
- USC Provost Fellowship** Summer 2015
For undergraduate research: "Quantitative image processing of the Drosophila neuromuscular junction"

SERVICE AND OUTREACH

- Graduate Student Mentor** Fall 2019 – Fall 2021
Served as a peer mentor to a first-year graduate student at UNL
- Graduate Advisory Committee** Graduate Student Member Fall 2020 – Spring 2021
- UNL AMS Graduate Student Chapter** Secretary/Treasurer Fall 2019 – Spring 2020
- Great Plains Alliance** Supporting Student Spring 2020, Spring 2021
Served in a support role to graduate students speaking at other colleges and universities in the Great Plains
- Volunteer at the **Nebraska Conference for Undergraduate Women in Mathematics** Spring semesters 2018 – 2021
- Volunteer at Nebraska **Math Day** Fall semesters 2017 – 2020

TALKS AND PRESENTATIONS

- External Talks**
- *Games, graphs, and managing our expectations*
Wayne State College Math Club October 2020

Talks at UNL Seminars

- *Partial coloring for hypergraph discrepancy*
UNL Discrete Math Seminar October 2021
- *Introducción a las martingalas*
Matemáticas en español October 2021
- *Perfect matchings in random k -uniform hypergraphs*
UNL Discrete Math Seminar March 2021
- *Hipergrafos dirigidos*
Matemáticas en español March 2021
- *Random graphs for fun and profit*
UNL Discrete Math Seminar February 2020
Matemáticas en español (*Representando las redes con grafos aleatorios*) March 2020
- *Quantum computing amateur hour!*
UNL Discrete Math Seminar December 2019
- *A vertex Maker-Breaker game*
UNL Discrete Math Seminar February 2019
- *Bounds on some size-Ramsey numbers*
UNL Discrete Math Seminar September 2018
UNL Graduate Student Seminar August 2018

Posters

- *Convolutional neural networks in image processing*
Nebraska Conference for Undergraduate Women in Mathematics February 2017

CONFERENCES ATTENDED

- paraDIGMS Spring Conference**, Online April 2021
- AMS Sectional Meeting**, Online October 2020
- Nebraska Open Access Materials Online Workshop**, Online July 2020
- Graduate Research Workshop in Combinatorics**, University of Kansas;
Lawrence, KS June 2019
- AMS Sectional Meeting**, University of Michigan; Ann Arbor, MI October 2018