

Kayla Gibson

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EDUCATION

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

EXPECTING M.S., OCTOBER 2022

PURSUING PH.D., 2022-

UNIVERSITY OF IOWA

B.S., MAY 2020

AWARDS

- Janice Pattwell Annual Mathematics Fellowship Award, Rutgers University
- President's List, University of Iowa
- Dean's List, University of Iowa
- I. Joel and Bernice Pasternak Prize, University of Iowa
- Undergraduate Research Assistantship, University of Iowa
Worked with Dr. Muthu Krishnamurthy in Algebra.
- Hawkeye Achievement Award, University of Iowa

RESEARCH

- Pomona Research in Mathematics Experience (PRiME 2022) Summer 2022
Worked as a Research Assistant with Dr. Renee Bell, and 3 undergraduates on the research project "Galois Groups of Fields Generated by Points of Curves". The students presented a poster at the Mathfest 2022 Poster Session and received an Honorable Mention.
- Program Development, Spring 2019
Worked with Dr. Isabel Darcy and two students to develop swirl courses in R Studio to demo TDA Mapper.
- Undergraduate Research, Spring 2018-Spring 2020
Worked with Dr. Miodrag Iovanov and two other undergraduate students on looking at the commutative graphs of the ring of matrices over a field, and studying the diameter of such a graph.
- Directed Reading Program, Fall 2019
Worked with a graduate student on reading Lectures on the Icosahedron, by Felix Klein. Working on explicitly writing the symmetric groups of the platonic solids. Will present findings to other undergraduates
- Pomona Research in Mathematics Experience (PRiME 2019) Summer 2019
Worked with Dr. Edray Goins, Alia Curtis, and 5 other undergraduates on expanding a database of Belyi maps. Created a video to explain the concept of monodromy:
<https://www.youtube.com/watch?v=zUfb8AfGmPQ&t=189s>
- Directed Reading Program, Spring 2019
Work with a graduate student on reading and compute exercises from the book Algebra, by Michael Artin.

TEACHING EXPERIENCE

Teaching Assistant, Rutgers University, Sep. 2020-

Recitation Instructor, Multivariable Calculus, Fall 2022

Recitation Instructor, Multivariable Calculus, Spring 2022

Workshop Instructor, Fall 2021

Counselor, ROSS Mathematics Program, Jun. 2020-Aug. 2020

T.A. and Grader for 5 students in Number Theory.

Mathematics Tutorial Lab, University of Iowa, Sept. 2017- May. 2020

Subjects: Basic Algebra, Calculus I-III, Linear Algebra, Differential Equations.

Completed Tutor Certification Program.

Jan. 2018- Dec. 2019, Student-Athlete Academic Services, University of Iowa

Subjects: Algebra, Calculus I-III, Linear Algebra, Differential Equations.

PRESENTATIONS AND POSTERS

Presentations at Conferences:

Nebraska Conference for Undergraduate Women in Mathematics, Jan, 2020, Lincoln, Nebraska.

Presented a poster: Towards a Database of Belyi Maps.

Joint Mathematics Meeting, Jan. 2020, Denver, Colorado.

Presented a poster: Towards a Database of Belyi Maps.

Directed Reading Program, Dec. 2019, University of Iowa.

Presented on symmetry in groups and describe the group representations of the 5 platonic solids.

SACNAS – The National Diversity in STEM Conference, Oct. 2019, Honolulu, Hawaii.

Attended Modern Math Workshop on Matroid Theory.

MAA Mathfest, Aug. 2019, Cincinnati, OH.

Presented: A Database of Belyi Pairs

Presentations at Seminars:

Professional Development Workshop Series Jul. 2022, PRiME, Pomona College

Ran a CV Writing Workshop

Secret Seminar Talk Jul. 2022, PRiME, Pomona College

Title: "Belyi Maps and Juggling"

Graduate Combinatorics Seminar, Mar. 2022, Rutgers University

A talk on the Diameters of Commuting Graphs of Matrix Rings

Graduate and Undergraduate Student Seminar (GAUSS), Oct. 2019, University of Iowa

Towards a Database of Belyi Maps

EXTRACURRICULAR

•Data Science Bootcamp, Fall 2021

Participating in a Data Science Bootcamp run by the Erdos Institute. I will complete a project by the end of the semester.

•Mathematics Graduate Student Association, Fall 2021-

On the committee for the Math GSA. Distribute funding to graduate student seminars and organizations.

•Directed Reading Program (DRP), Fall 2022-

Co-Organizer for the Directed Reading Program, which pairs undergraduate students with a graduate student for a semester to work on some mathematical topic.

•Association for Women in Mathematics, Fall 2021-

Co-Organizer for the Rutgers Chapter of AWM.

•Graduate Combinatorics Seminar Organizer, Fall 2022-Spring 2023

Run the Graduate Combinatorics Seminar

•Arizona Winter Semester, Jan. 2021

•William Lowell Putnam Competition, Dec. 2019

•Association for Women in Mathematics (AWM) Chapter, Sep. 2020

Founded a chapter of the Association for Women in Mathematics at the University of Iowa. I acted as President and recruited board members.

•Math Club, 2017-Present

Competed in Iowa Collegiate Math Competition, Feb. 2019

•William Lowell Putnam Competition, Dec. 2018

•Sonia Kovalevsky (SK) Day Volunteer April 2017, 2018

Participated on panel answering questions about my experience as a woman in mathematics.

PROFESSIONAL MEMBERSHIPS

•Association for Women in Mathematics, 2019

•Society for Advancement of Chicanos/Hispanics & Native Americans, 2019

•Mathematical Association of America, 2019

TECHNICAL EXPERIENCE

Experienced with: Python, Maple, Cocalc, Java, LaTeX

Familiar with: MatLab, Mathematica, R,SQL