

Connor R. Shrader

<https://www.math.utah.edu/~shrader>

Last Updated: January 12, 2025

Education

Ph.D. in Mathematics May 2028 (expected)

University of Utah

- Advisor: [Frederick Adler](#).
- Committee: James Gagnon, Sean Lawley, Anna Little, Ellen Leffler.

M.S. in Applied Mathematics May 2026 (expected)

University of Utah

B.S. in Mathematics May 2023

University of Central Florida (UCF)

- Cumulative GPA: 4.0.
- Computational track & minor in computer science.
- Undergraduate Thesis: [Predation and Harvesting in Spatial Population Models](#).
- Undergraduate Advisor: [Andrew Nevai](#).

Honors and Awards

- NSF Graduate Research Fellowship April 2025
Three years of tuition and stipend support.
- [Utah Genetics Training Program](#) Trainee (T32-GM141848) June 2024
Two years of tuition and stipend support.
- UCF Hernandez Mathematics Award for Undergraduate Achievement April 2023
Awarded to one graduating math undergraduate based on GPA and faculty vote.
- Honors Undergraduate Thesis Scholarship, UCF College of Sciences October 2022
\$1,000 to support an undergraduate thesis project.
- UCF Provost Scholarship August 2019
Merit-based undergraduate scholarship that provides \$30,000 over four years.
- Florida Bright Futures Academic Scholars Award August 2019
Merit-based scholarship that covers 100% of undergraduate in-state tuition.

Travel awards:

- UofU Early Career Professional Development Program January 2025
\$500 to attend Joint Mathematics Meetings 2025.
- UCF Student Organization Travel Grant March 2023
\$2,000 to send eight UCF students to the AMS Southeastern Sectional Meeting.
- American Mathematical Society Undergraduate Student Travel Grant January 2023
\$1,080 to attend Joint Mathematics Meetings 2023.

Publications

Note: † denotes equal contribution.

Peer-reviewed journal articles:

1. Gabriel Ackall[†] and **Connor Shrader**[†] (January 2023). “A Comparative Study of Penalized Regression and Machine Learning Algorithms in High Dimensional Scenarios.” *SIAM Undergraduate Research Online*, Volume 16, DOI [10.1137/22S1538302](https://doi.org/10.1137/22S1538302).

Peer-reviewed conference articles:

1. Corinne Orton, **Connor R. Shrader**, and Anna Little (December 2025). “Balancing Local and Global Structure Preservation in Dimensionality Reduction.” *To appear in: 12th Annual Conf. on Computational Science & Computational Intelligence (CSCI'25)*.

Presentations

Graduate projects:

UofU Developmental Biology Interest Group Retreat (Salt Lake City, UT) September 2025
Poster presentation: “Mathematical Modeling Reveals Heterogeneity in Spermatogonial Stem Cell Dynamics.”

NITMB Mathbio Convergence (Chicago, IL) August 2025
Oral presentation: “Modeling Drift and Selection in Spermatogonial Stem Cell Dynamics.”

Society for Mathematical Biology Annual Meeting (Edmonton, AB, Canada) July 2025
Invited oral presentation: “Modeling Drift and Selection in Spermatogonial Stem Cell Dynamics.”

Joint Mathematics Meetings (Seattle, WA) January 2025
Invited oral presentation: “Population Dynamics of Spermatogonial Stem Cells.”

University of Utah Mathematical Biology Seminar (Salt Lake City, UT) August 2024
Invited oral presentation: “Modeling Spermatogenesis in the Zebrafish Testis.”

Undergraduate projects:

Joint Mathematics Meetings (San Francisco, CA) January 2024
Invited oral presentation: “Predation and Harvesting in Spatial Population Models.”

Society for Mathematical Biology Annual Meeting (Columbus, OH) July 2023
Poster presentation: “Predation and Harvesting in Spatial Population Models.”

UCF Student Scholar Symposium (Orlando, FL) March 2023
Poster presentation: “Predation and Harvesting in Spatial Population Models.”
Judge’s Choice Award

Joint Mathematics Meetings (Boston, MA) January 2023
Poster presentation: “Analysis and Physical Interpretation of Data-Driven Manifold Coordinates.”

Gulf Coast Undergraduate Research Symposium (Houston, TX) October 2022
Oral presentation: “Analysis and Physical Interpretation of Data-Driven Manifold Coordinates.”
Outstanding Presentation Award

New Connections in Mathematics Symposium (Durham, NC) September 2022
Oral presentation: “Analysis and Physical Interpretation of Data-Driven Manifold Coordinates.”

Council of Undergraduate Research REU Symposium (virtual) October 2021
Oral presentation: “An Analysis of Penalized Regression in High-dimensional Scenarios.”

Clemson MATH REU Conference (virtual) July 2021
Oral presentation: “An Analysis of Penalized Regression in High-dimensional Scenarios.”

Teaching

Graduate Teaching Assistantship (UofU)

- MATH 2250 (Differential Equations for Engineers) Fall 2023

Undergraduate Learning Assistant

January 2020 – April 2023

Supervisor: Alina Stefanov, UCF

- Tutored students in Intermediate Algebra through Pre-calculus.
- Trained new employees and proctored exams.

Undergraduate Research

Honors Undergraduate Thesis in Mathematical Biology

(January 2022 – April 2023)

Advisor: Andrew Nevai, University of Central Florida

- Studied ecological reaction-diffusion models of populations under different forms of predation and harvesting.
- Resulted in a poster, oral defense, and undergraduate thesis.

Brown University Research Experience for Undergraduates in Data Science

Mentor: Björn Sandstede, Brown University

(June 2022 – July 2022)

- Studied manifold learning algorithms when applied to simulated data from biological models.
- Resulted in a written report, poster, and oral presentations at two conferences.

North Carolina A&T and Elon University Joint Research Experience for Undergraduates in Mathematical Biology

(May 2021 – July 2021)

Mentor: Seongtae Kim, North Carolina A&T State University

- Performed a large computational study on the performance of penalized regression models.
- Resulted in a publication, a poster, and three oral presentations.

Service

Chair, UofU Graduate Recruitment

August 2025 – April 2026

- Planning the recruitment weekend for prospective graduate students in March 2026.

Committee Member, UofU Graduate Recruitment August 2024 – April 2025
– Planned the recruitment weekend for prospective graduate students in March 2025.

Committee Member, UofU Retention, Promotion, and Tenure August 2024 – April 2026
– Reviewed the teaching profile of math department faculty who are up for tenure.

Teaching Assistant, UCF Summer Mathematics Institute June 2023
– Assisted in a week-long summer camp at UCF for local high school students.
– Led multiple workshops and activities for students, including a college student panel and tutorials in Matlab, LaTeX, and OEIS.

President, UCF Collegiate Mathematical Society September 2022 – April 2023
– Re-registered a student organization that went inactive in 2020 because of COVID.
– Planned and led biweekly meetings and officer meetings.
– Hosted presentations by students and faculty, disbursed research and career opportunities, recruited competition participants, and planned social and outreach activities.

Competitions

- Successful Participant, [COMAP Interdisciplinary Competition in Modeling](#) February 2022
- Top 500 Participant, William Lowell Putnam Mathematical Competition December 2022