

## Education

**University of Washington**, Seattle, Washington, USA,

Ph. D. Candidate in Mathematics, Advisor: Yu Yuan

Master of Science in Mathematics, June 2022

Research interests: partial differential equations and differential geometry

**University of Minnesota**, Minneapolis, Minnesota, USA,

Bachelor of Science in Mathematics *Summa cum Laude*, with high distinction, May 2020

Undergraduate Honors Thesis: *A Complex Valued Model of the Navier-Stokes Equations with Fractional Dissipation*, Advisor: Vladimír Šverák.

Minor in Astrophysics

## Teaching

**University of Washington**

Instructor, Linear Analysis (Math 209), Autumn 2024

TA, Introductory Real Analysis I (Math 327), Autumn 2022

TA, Complex Analysis (Math 427), Winter 2022

TA, Calculus with Analytic Geometry III (Math 126), Autumn 2021, Spring 2021

TA, Calculus with Analytic Geometry II (Math 125), Winter 2021

TA, Calculus with Analytic Geometry I (Math 124), Autumn 2020

**University of Minnesota**

Grader, Elementary Partial Differential Equations 2 (Math 5588), Spring 2020

Undergraduate Learning Assistant (ULA), Calculus and Dynamical Systems in Biology (Math 1241), Fall 2019, Fall 2018, Fall 2017

Grader, Honors Introduction to Topology (Math 5345H), Fall 2019

Grader, Honors Fundamental Structures of Algebra 2 (Math 5286H), Spring 2019

ULA, Mathematical Modeling of Biological Systems (Math 2241), Spring 2018

Grader, Graph Theory and Nonenumerative Combinatorics (Math 5707), Spring 2018

## Mentoring

**Washington Directed Reading Program**, Winter 2024, Spring 2024

Led three undergraduate students' quarter-long reading projects on curve-shortening flow.

**Washington Experimental Mathematics Lab**, Winter/Spring 2022

Served as the graduate student mentor for three undergraduate students working on the project "Mind-bending lines and planes in noneuclidean space" supervised by Dami Lee. The project focused on constructing and visualizing polyhedral surfaces in 3-dimensional hyperbolic space.

## Publications

*Grim raindrop: a translating solution to curve diffusion flow* (with Micah Warren). Submitted to Proceedings of the AMS. arxiv:2412.15934.

*A constant rank theorem for special Lagrangian equations* (with Yu Yuan). Submitted to Calculus of Variations and Partial Differential Equations. arxiv:2405.18603.

*Remarks on the complex Euler equations* (with Dallas Albritton). Commun. Pure Appl. Anal. 23 (2024), no 10, 1407-1422. arxiv:2310.03120

*Sobolev and Schatten estimates for the complex Green operator on spheres* (with Elena Kim, Tommie Reerink, Yunus E. Zeytuncu). New York J. Math. 26 (2020) 261-271. arxiv:1910.09674

*Polynomials on the Sierpinski gasket with respect to different Laplacians which are symmet-*

*ric and self-similar* (with Christian Loring, Ely Sandine, Robert S. Strichartz). *J. Fractal Geom.* 7 (2020) no. 4 387-444. arxiv:1901.08713

**Presentations** **M.E. Taylor Analysis and PDE Seminar**, University of North Carolina, April 2025  
**Differential Geometry/Partial Differential Equations Seminar**, University of Washington, April 2025  
**AMS Spring Central Sectional Meeting, University of Kansas Poster Session**, University of Kansas, March 2025  
**Graduate Student Analysis Seminar**, University of Washington, February 2024  
**Graduate Student Analysis Seminar**, University of Washington, October 2023  
**Graduate Student Analysis Seminar**, University of Washington, May 2023  
**Graduate Student Analysis Seminar**, University of Washington, February 2023  
**Graduate Student Analysis Seminar**, University of Washington, December 2022  
**Graduate Student Analysis Seminar**, University of Washington, May 2022  
**Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals**, Cornell University, June 2020 (cancelled due to Covid-19)  
**Midwest Several Complex Variables Conference**, University of Michigan-Dearborn, October 2019  
**Young Mathematicians Conference**, Ohio State University, August 2019  
**Summer Undergraduate Michigan Mathematics Research Conference**, University of Michigan-Dearborn, July 2019  
**Undergraduate Research Symposium**, University of Minnesota, April 2019  
**Undergraduate Mathematics Symposium**, University of Illinois at Chicago, November 2018  
**Undergraduate Mathematics Research Seminar**, University of Minnesota, October 2018  
**Young Mathematicians Conference**, Ohio State University, August 2018  
**SPUR/REU Undergraduate Research Forum**, Cornell University, July 2018

**Honors and Awards** **Outstanding Graduate in Mathematics**, May 2020  
**National Science Foundation Graduate Research Fellowship**, March 2020  
**ARCS Foundation Fellowship**, March 2020  
**Professor Hans Dalaker Mathematics Scholarship**, May 2019