

Arya Yae

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CONTACT INFORMATION

Location:

University of Oregon
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RESEARCH INTERESTS

Gauge theory, Higgs bundles, K3 surfaces, geometric invariant theory

EDUCATION

University of Oregon

Ph.D. in Mathematics (expected graduation: June 2026)

- Dissertation title: “Degenerations of Hyperkähler Metrics”
- Advisor: Laura Fredrickson

Seattle University

B.S. in Mathematics, summa cum laude, June 2019

- Undergraduate thesis: “Set Theory and Mathematical Logic”
- Advisor: Dylan Helliwell

Bellevue College

Associates of Arts, June 2017

PAPERS AND PREPRINTS

L. Fredrickson, A. Yae. Hyperkähler Degeneration of ALG Gravitational Instantons (2025+)
(*in preparation*)

A. Huchala, A. Yae. Pole Order Reduction via Griffiths Residues on Grassmannians (2026+)
(*in preparation*)

FELLOWSHIPS AND AWARDS

NSF Research and Training Grant (RTG) Fellowship (University of Oregon)	Summer 2025
	Summer 2024
	Summer 2023
	Summer 2021
Anderson Teaching Award (University of Oregon)	2024
Anderson Research Award (University of Oregon)	2023
Civin Award (University of Oregon)	2020
Mirbagheri-Yandl Achievement Award (Seattle University)	2019
Lebon Prize for Excellence in Mathematics (Bellevue College)	2017

TEACHING

University of Oregon:

Instructor of Record:

Discrete Math I	Winter 2025, Spring 2025, Fall 2025
Calculus III: Sequences and Series	Fall 2024
Intro to Linear Algebra	Fall 2023
Several-Variable Calculus I	Summer 2022
Calculus II: Integral Calculus	Spring 2022, Winter 2022
Business Calculus II	Spring 2021
College Algebra	Winter 2020, Spring 2020, Winter 2021
Precalculus: Elementary Functions	Fall 2020

Teaching Assistant:

Business Calculus I	Spring 2024
Calculus I: Differential Calculus	Fall 2021
College Algebra	Fall 2019

Grader:

Intro to Topology II	Winter 2023
Statistical Methods I	Winter 2023
Intro to Topology I	Fall 2022
Fundamentals of Analysis I	Fall 2022

TALKS

- (*upcoming*) AMS Spring Western Sectional Meetings March 2026
- (*upcoming*) University of Massachusetts Amherst December 2025
- (*upcoming*) University of Arizona November 2025
- AMS Special Session on Gauge Theory and Low-Dimensional Topology: Hyperkähler Degeneration of ALG- D_4 Gravitational Instantons October 2025
- Oregon State University: Some Constructions of Hyperkähler 4-Manifolds October 2025
- University of Oregon: Uniformization Metrics and Kähler-Einstein Connections October 2025
- University of Oregon: Metric Degeneration from ALG to ALE Gravitational Instantons May 2025
- University of Oregon Student Teaching Seminar: Assessment Practices April 2025
- University of Oregon: What is a Moduli Space? February 2025
- University of Oregon: Metrics on Moduli Spaces via Symplectic Reduction January 2025

CONFERENCES AND WORKSHOPS ATTENDED

- FRG Fall School on Quantization and Lagrangians (Chicago, IL) September 2025
- Higgs Bundles and Harmonic Maps (Kiel, Germany) July 2025
- SLMATH Summer School: Special Geometric Structures and Analysis (Moraga, CA) June 2024
- Geometry and Physics of ALX Metrics in Gauge Theory (San Jose, CA) July 2022

SERVICE AND OUTREACH

Organizer of the UO Student Geometry/Topology Seminar	Spring, Fall 2025
Panelist for UO Math Club event	February 2025
Volunteer at Eugene Math Festival	February 2025
Led educational booth on curvature for local K-12 students	
Mentor for first-year graduate students at the UO	2021-2025
Co-Organizer of “Boot Camp” at the UO	
Led 2-week mathematics orientation for incoming graduate students	September 2023
Mentor in Directed Reading Program	2023
Worked with an undergraduate student studying axiomatic set theory	
President of the UO chapter of the American Mathematical Society (AMS)	2023
Organized events for graduate and undergraduate students	
Managed chapter budget with the chapter’s treasurer	
Diversity Chair of the UO Chapter of the AMS	2022
Student Representative of UO Graduate Affairs Committee	2021-2022
Attended committee meetings	
Organized events for incoming graduate students	
Handled office assignments and mentorship pairings	
Chair of Social and Professional Enrichment Committee at UO chapter of Association for Women in Mathematics (AWM)	2020-2022