

# Alan Goldfarb

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Department of Mathematics and Statistics  
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Languages spoken: English (Fluent), Spanish (Fluent), French (Elementary proficiency)  
Citizen of: United States, Mexico, Venezuela, France, Belgium

## Current Positions

*Ph.D. Student in Mathematics*, University of California, Berkeley  
*Graduate Research Fellow*, National Science Foundation  
*Connect Research Fellow*, University of California, Berkeley

## Previous Research Positions

2022 *Summer Geometry Institute Research Fellow*, Massachusetts Institute of Technology  
2020-2022 *Student Researcher*, University of Southern California  
2021 *Visiting Undergraduate Research Fellow*, California Institute of Technology  
2020 *Research Intern*, National Oceanic and Atmospheric Administration

## Education

2023 B.S. in Mathematics, University of Southern California  
(*Summa Cum Laude*, *Department Honors*, *Phi Beta Kappa*)

## Papers & Other Writing

2023 Goldfarb, Alan, (2023). On  $\mathbb{P}_{Berk}^1$  and Coarse-Grainings on Non-Archimedean Product Spaces. arXiv:2306.10227.  
2022 Goldfarb, Alan (2022), "Approximating the All-Pairs Geodesic Matrix," *MIT Summer Geometry Initiative Blog*. [summergeometry.org/sgi2022/approximating-the-all-pairs-geodesic-matrix/](http://summergeometry.org/sgi2022/approximating-the-all-pairs-geodesic-matrix/)  
2020 Goldfarb, Alan (2020). Snowfall Prediction Models from Natural Radiation. *Provided to the National Oceanic and Aerospace Administration and the UMD ESSIC*.

## Talks Given

2024 "Small Quantum Group Representations"  
*UC Berkeley Topics in Lie Groups*  
2023 "Introduction to Non-Archimedean Geometry for p-adic AdS/CFT,"  
*Chinese-American Academic Exchange at Qizhen College of Tsinghua University*  
2021 "The Berkovich Projective Line as a Coarse Graining of Non-Archimedean Space,"  
*Caltech SFP Seminar*

## Seminars Organized

Spring 2024 *Introduction to Geometric Representation Theory*, UC Berkeley

## Grants, Honors, & Awards

2024 Berkeley Connect Research Fellowship  
2023 NSF GRFP  
2023 UC Berkeley Chancellor's Fellowship  
2023 Zobrist Senior Award for Excellence in Mathematics  
2023 Caltech Presidential Graduate Fellowship (Declined)  
2023 USC Discovery Scholars Distinction  
2022 MIT SGI Fellowship  
2022 Zobrist Junior Award for Excellence in Mathematics  
2021 Dennis Estes Undergraduate Research Award  
2021 Caltech VURP Fellowship  
2019 USC Presidential Scholarship  
2019 USC University Scholarship  
2019 National Merit Scholar  
2018 National Hispanic Recognition Scholar

## Teaching

Summer 2024 Linear Algebra & Differential Equations, Math 54. *Graduate Student Instructor*, UC Berkeley  
Fall 2022 Fundamentals of Calculus, Math 118. *Teaching Assistant*, University of Southern California  
Spring 2022 Calculus III, Math 226. *Teaching Assistant*, University of Southern California

## Service to the profession

2024 *Mentor*, UC Berkeley Directed Reading Program  
2022-2023 *Volunteer Bilingual Math Tutor*, Math on the Border  
2022 *Co-President*, University of Southern California Undergraduate Math Club  
2021-2022 *Vice President*, University of Southern California Undergraduate Math Club  
2019-2021 *Mentorship Director*, University of Southern California Undergraduate Math Club  
2016-2018 *Volunteer Math and Science Tutor*, Kid Power D.C.

## Other work experience

2024-present *Non-Denominational Ordained Minister*, American Marriage Ministries  
2021-2022 *Math Center Assistant*, University of Southern California  
2020-2021 *Policy Debate Coach & Instructor*, Chaminade College Preparatory  
2019-2020 *Policy Debate Coach*, C.K. McClatchy High School  
2018-2019 *Assistant Manager*, Mama Lucia's, Bethesda  
2018 *Cashier*, Mama Lucia's, Bethesda