

EDUCATION	<b>Washington University in St. Louis</b> <i>Ph.D. Mathematics</i> Advisors: Dr. Laura Escobar and Dr. John Shareshian <i>A.M. Mathematics</i>	St. Louis, MO Expected: May 2026  May 2023
	<b>San Francisco State University</b> <i>M.A. Mathematics</i> Master's Thesis: Computing the $cd$ -Index of Products of Simplices Advisor: Dr. Federico Ardila	San Francisco, CA Transferred 2021
	<b>Pomona College</b> <i>B.A. Mathematics, Minor in Chemistry</i> Thesis: Ethnomathematics Advisors: Dr. Gizem Karaali and Dr. Adolfo Rumbos	Claremont, CA May 2016
	<b>Pomona College Draper Center for Community Partnerships</b> <i>Post-baccalaureate Fellow</i> Supported the director and assistant directors of the center in training student coordinators and maintaining Educational Outreach, Community Engagement, and Community Based Research and Learning programs.	Claremont, CA Jul. 2016–Aug. 2018
	RESEARCH INTERESTS	Algebraic and geometric combinatorics, discrete geometry, algebraic geometry, mathematics education.
PREPRINTS	1. Laura Escobar and Cesar J. Meza. <i>Complexity of the Zero Set of a Matrix Schubert Ideal</i> . Sept. 2025. DOI: <a href="https://doi.org/10.48550/arXiv.2510.00131">10.48550/arXiv.2510.00131</a> . arXiv: <a href="https://arxiv.org/abs/2510.00131">2510.00131</a>	
HONORS & AWARDS	<b>Washington University in St. Louis Center for Teaching and Learning</b> <i>Professional Development in Teaching Program</i> <i>Associate Member</i>	Apr. 2025
	<b>Washington University in St. Louis</b> <i>Brian Blank Teaching Award</i>	Apr. 25, 2024
	<b>Washington University in St. Louis Center for Teaching and Learning</b> <i>Professional Development in Teaching Program</i> <i>Community Member</i>	Sept. 2023
	<b>Achievement Rewards for College Scientists Foundation</b> <i>ARCS Scholar, \$10,000</i>	Sept. 2020
	<b>San Francisco State University</b> <i>College of Science &amp; Engineering Advisory Board Scholarship, \$2,500</i>	Sept. 2020
	<i>Department of Mathematics Milowski Scholarship, \$2,175</i>	Jun. 2020
	<i>University Scholarship, \$500</i>	Jun. 2020
	<b>National Alliance for Doctoral Studies in the Mathematical Sciences</b> <i>Math Alliance Scholar</i>	Jun. 2020

	<i>Math Alliance Scholar</i>	Jun. 2018
PRESENTATIONS	<b>AMS Fall Central Sectional Special Session</b>	St. Louis, MO
	<i>Interactions between geometry, combinatorics, and flag varieties</i>	Oct. 2025
	<a href="https://ams-slu-meeting.github.io/fall2025">ams-slu-meeting.github.io/fall2025</a>	
	<i>Complexity of the Zero Set of a Matrix Schubert Ideal</i>	
	<b>Washington University in St. Louis</b>	St. Louis, MO
	<i>Combinatorics Seminar</i>	Apr. 2025
	<i>The Transition Equation and Schubert Polynomials</i>	
	<b>Graduate Student Combinatorics Conference 2025</b>	Los Angeles, CA
	<i>Invited Talk</i>	Mar. 2025
	<i>Generic Torus Orbit Closures in Matrix Schubert Varieties</i>	
	<b>LatMath 2025</b>	Los Angeles, CA
	<i>Poster Presentation</i>	Mar. 2025
	<i>Complexity of Generic Torus Orbit Closures in Matrix Schubert Varieties</i>	
	<b>Washington University in St. Louis</b>	St. Louis, MO
	<i>Combinatorics Seminar</i>	Feb. 2025
	<i>Schubert Cells and Schubert Varieties</i>	
	<i>Topics Course: Lie Algebras and Representation Theory</i>	Dec. 2024
	<i>Schubert Varieties and Bruhat Order</i>	
	<b>Institut des Sciences Mathématiques Discovery School:</b>	
	<b>Advances in Geometric Combinatorics &amp; Representation Theory:</b>	
	<b>Flow Polytopes, Gentle Algebras, and Associated Posets</b>	Montréal, CAN
	<i>Poster Presentation</i>	May 2024
	<i>On the Complexity of Matrix Schubert Varieties</i>	
	<i>Lightning Talk</i>	May 2024
	<i>On the Complexity of Matrix Schubert Varieties</i>	
	<b>Washington University in St. Louis</b>	St. Louis, MO
	<i>Topics Course: Combinatorics of Polytopes</i>	Apr. 2024
	<i>Orbit Polytopes</i>	
	<i>Combinatorics Seminar</i>	Apr. 2024
	<i>All but One: On the Complexity of Matrix Schubert Varieties</i>	
	<i>Combinatorics Seminar</i>	Apr. 2023
	<i>Prisms and their Flag <math>f</math>-vector</i>	
	<i>Szegő Seminar</i>	Apr. 2023
	<i>Convex Polytopes and their Flag <math>f</math>-vector</i>	
	<b>Universidad Nacional Autónoma de México en Oaxaca</b>	Remote
	<i>Polytope Seminar</i>	Apr. 2023
	<i>Triangulations of Point Configurations</i>	

TEACHING & MENTORING	<b>Washington University in St. Louis</b> <i>Topics Course: Toric Varieties</i> <i>Introduction to Polytopes</i>	St. Louis, MO Mar. 2022
	<b>Encuentro Politopal Colombo-Californiano</b> <i>Invited Presentation</i> <i>On the cd-index of the product of simplices</i>	Remote Dec. 2020
	<b>Achievement Rewards for College Scientists</b> <i>Invited Research Presentation</i> <i>Polyhedral Combinatorics</i>	Remote Dec. 2020
	<b>California State University, Los Angeles</b> <i>Invited Presentation</i> <i>Best Practices for Teaching Precalculus in Synchronous Online Instruction</i>	Remote Nov. 2020
	<b>Joint Mathematics Meetings</b> <i>Invited Poster Presenter</i> <i>Graphs of Minimum Order with Dicyclic Automorphism Group</i> Cadwallader, L., Graves, S., Huston, P., and Meza, C.	Seattle, WA Jan. 2016
	<b>Washington University in St. Louis</b> <i>Assistant in Instruction</i> Math 131: Calculus I	St. Louis, MO Fall 2024
	<i>Guest lecture on related rates</i> Math 131: Calculus I	Fall 2024
	<i>Assistant in Instruction</i> Math 132: Calculus II	Spring 2024
	<i>Assistant in Instruction</i> Math 233: Calculus III	Fall 2023
	<i>Guest lecture on the Fundamental Theorem of Calculus part II</i> Math 131: Calculus I	Fall 2023
	<i>Guest lecture on the Fundamental Theorem of Calculus part I</i> Math 131: Calculus I	Fall 2023
	<i>Directed Reading Program Instructor</i> Introduction to Graph Theory	Fall 2023
	<i>Grader</i> Math 429: Linear Algebra	Spring 2023
	<i>Grader</i> Math 407: Introduction to Differential Geometry	Spring 2023
	<i>Assistant in Instruction</i> Math 131: Calculus I	Fall 2022

<b>Pomona College Academy for Youth Success (PAYS)</b> <i>Mathematics Instructor</i> Rising Sophomore Math	Claremont, CA Jun.–Jul. 2024
<i>Mathematics Instructor</i> Rising Sophomore Math	Jun.–Jul. 2023
<i>Mathematics Instructor</i> Rising Sophomore Math	Jun.–Jul. 2022
<b>San Francisco State University</b> <i>Instructor of Record</i> Math 199: Precalculus	San Francisco, CA Spring 2021
<i>Instructor of Record</i> Math 122: Mathematics for Statistical Quantitative Reasoning	Spring 2021
<i>Instructor of Record</i> Math 199: Precalculus	Fall 2020
<i>Graduate Teaching Assistant</i> Math 226: Calculus I	Fall 2020
<i>Instructor of Record</i> Math 107: Business Calculus	Spring 2020
<i>Graduate Teaching Assistant</i> Math 226: Calculus I	Spring 2020
<i>Instructor of Record</i> Math 107: Business Calculus	Fall 2019
<i>Graduate Teaching Assistant</i> Math 226: Calculus I	Fall 2019
<b>Moreno Valley College</b> <b>Department of Mathematics</b> <i>Academic Consultant</i> Advised faculty on culturally relevant pedagogy, service learning courses, and ethnomathematics curriculum to increase recruitment, retention, and success of Black and Latinx mathematics students.	Moreno Valley, CA May 2018
<b>Pomona College Scholars in Mathematics</b> <i>Inaugural Mentor</i> Fostered mathematical community among cohort of 20 underrepresented first-year students by co-leading weekly group meetings, facilitating community building activities, and conducting individual meetings.	Claremont, CA Aug. 2014–May 2016
<b>Pomona College Draper Center for Community Partnerships</b> <i>Student Coordinator</i>	Claremont, CA Aug. 2013–May 2016

Coordinated mentorship program to prepare underrepresented high school students for the college application and selection process.

**Pomona College Department of Mathematics**

Claremont, CA

*Mathematics Mentor*

Jan. 2015–May 2015

Organized weekly tutoring sessions for section of Calculus I to improve comprehension, prepare for exams, and establish a collaborative learning community.

**Pomona College Academy for Youth Success (PAYS)**

Claremont, CA

*Teaching Assistant*

June–July ‘13, ‘14, ‘16

Supported academic progress of class of 20 high-achieving underrepresented high school students by grading mathematics and critical inquiry assignments and facilitating collaborative study sessions.

*Instructor*

Jun.–Jul. 2016

Designed and taught month-long course.

*Revolutions and Interventions in Latin America.*

*Instructor*

Jun.–Jul. 2014

Designed and taught two sections of two-week-long course.

*STEAM: Bridging the Gap Between Math and Art.*

*Instructor*

Jun.–Jul. 2013

Designed and taught month-long course.

*Scientific Literacy and Finding Minority Role-Models in Math & Science.*

SERVICE

**Washington University in St. Louis**

St. Louis, MO

*Department of Mathematics Diversity Committee Member*

Fall 2023–Present

*WashU Math Club Panelist*

Nov. 19, 2025

Panel on the graduate school experience and application process.

*Sonia Kovalevsky Day Volunteer*

Apr. 12, 2025

Co-led an activity on the mathematics of Eulerian embroidery.

*Sonia Kovalevsky Day Volunteer*

Apr. 6, 2024

Co-led an activity on games mathematically equivalent to Tic-Tac-Toe.

*Math Chats Co-Founder & Co-Organizer*

Fall 2022–Spring 2024

**Encuentro Colombiano de Combinatoria (ECCO)**

Bogotá, Colombia

*Panel Chair*

Jun. 2022

**Pomona College**

Claremont, CA

*Sonia Kovalevsky Day Volunteer*

Feb. 10, 2018

Led activity on the geometry of the Möbius strip.

WORKSHOPS

**SLMath Workshop on Graphical Models in Algebraic Combinatorics**

Berkeley, CA

*Student Participant*

Jun. 23–Jul. 3, 2025

[slmath.org/workshops/1121](https://slmath.org/workshops/1121)

**IPAM Workshop on Computational Interactions between Algebra, Combinatorics, and Discrete Geometry** Los Angeles, CA

*Student Participant*

Feb. 10–14, 2025

[ipam.ucla.edu/programs/workshops/computational-interactions-between-algebra-combinatorics-and-discrete-geometry/](https://ipam.ucla.edu/programs/workshops/computational-interactions-between-algebra-combinatorics-and-discrete-geometry/)

**ISM Discovery School on Flow Polytopes, Gentle Algebras, and Associated Posets**

Montréal, CAN

*Student Participant*

May 2024

<https://ism.uqam.ca/flow/en/index.html>

**Schubert Summer School**

Urbana-Champaign, IL

*Student Participant*

Jun. 12–22, 2023

[sites.google.com/view/schubertsummerschool2023/home](https://sites.google.com/view/schubertsummerschool2023/home)

**Encuentro Colombiano de Combinatoria (ECCO)**

Bogotá, Colombia

*Student Participant*

Jun. 14–25, 2022

<https://ecco2022.combinatoria.co/home-english>

#### NEWS & MEDIA

**KCAL 9/CBS 2 News**

Aug. 2023

“Pomona College give high schoolers chance to take classes, live on campus as part of youth program”

[cbsnews.com/losangeles/video/pomona-college-give-high-schoolers-chance-to-take-classes-live-on-campus-as-part-of-youth-program](https://cbsnews.com/losangeles/video/pomona-college-give-high-schoolers-chance-to-take-classes-live-on-campus-as-part-of-youth-program)

**Spectrum 1 News**

Jul. 2023

“PAYS program prepares underserved students for college”

[spectrumnews1.com/ca/la-east/inside-the-issues/2023/07/21/pays-program-prepares-underserved-students-for-college](https://spectrumnews1.com/ca/la-east/inside-the-issues/2023/07/21/pays-program-prepares-underserved-students-for-college)

**Telemundo 52**

Jul. 2023

“Programa gratuito ayuda a los estudiantes de preparatoria a llegar a la universidad”

[telemundo52.com/fotosyvideos-2/programa-gratuito-ayuda-a-los-estudiantes-de-preparatoria-a-llegar-a-la-universidad/2451315/?amp=1](https://telemundo52.com/fotosyvideos-2/programa-gratuito-ayuda-a-los-estudiantes-de-preparatoria-a-llegar-a-la-universidad/2451315/?amp=1)

**Pomona College**

Jun. 2023

“Once-Skeptical Student Becomes Teacher in Pomona College Academy for Youth Success”

[pomona.edu/news/2023/06/08-once-skeptical-student-becomes-teacher-pomona-college-academy-youth-success](https://pomona.edu/news/2023/06/08-once-skeptical-student-becomes-teacher-pomona-college-academy-youth-success)