

# ANDRÉS R. VINDAS MELÉNDEZ

avindasmelendez@g.hmc.edu  $\diamond$  math.hmc.edu/arvm

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## RESEARCH INTERESTS

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- Algebraic, enumerative, and geometric combinatorics.
- Scholarship of teaching and learning.
- Quantitative justice.

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## EDUCATION

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**Doctor of Philosophy in Mathematics (PhD)**, University of Kentucky August 2021  
Dissertation: *Combinatorial Invariants of Rational Polytopes*  
Advisor: Benjamin Braun

**Graduate Certificate**, University of Kentucky December 2019  
Specialization: Latin American, Caribbean, and Latinx Studies

**Master of Arts in Mathematics (MA)**, San Francisco State University August 2017  
Thesis: *Two Problems on Lattice Point Enumeration of Rational Polytopes*  
Advisors: Federico Ardila & Matthias Beck

**Bachelor of Arts in Mathematics (BA)**, University of California, Berkeley May 2015  
Minors: Philosophy & Chicana and Latinx Studies

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## APPOINTMENTS

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**Harvey Mudd College** July 2024 - Present  
Position: Tenure-track Assistant Professor

**University of California, Berkeley** August 2021 - May 2024  
Position: National Science Foundation Postdoctoral Scholar & Lecturer

**Simons Laufer Mathematical Sciences Institute (SLMath)** Fall 2023  
Program: Algorithms, Fairness, and Equity  
Position: Research Member

**Institute for Comp. & Exp. Research Mathematics (ICERM)** Summers 2022 & 2023  
Program: Data Science & Social Justice: Networks, Policy, & Education  
Position: Research Fellow

**Mathematical Sciences Research Institute (MSRI)** August 2021 - May 2022  
Position: Postdoctoral Fellow  
Mentor: Hélène Barcelo

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## FELLOWSHIPS

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- 2024-2025 Project NEXt Fellowship, Mathematical Association of America
- 2023-2025 *MGB-SIAM Early Career Fellowship*, Society for Industrial and Applied Mathematics
- 2021-2024 *Postdoctoral Research Fellowship*, National Science Foundation
- 2020-2021 *Bridge to Doctorate Fellowship*, National Science Foundation
- 2017-2020 *Graduate Research Fellowship*, National Science Foundation

Updated: 07-February-2025

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## TEACHING

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### **Assistant Professor, Harvey Mudd College**

- ◇ Math 19: Single and Multivariable Calculus Fall 2024
- ◇ Math 104: Graph Theory Spring 2025
- ◇ Math 174: Representation Theory Spring 2025

### **Lecturer, University of California, Berkeley**

- ◇ Math 130: Groups and Geometries (Undergraduate) Spring 2024
- ◇ Math 172: Combinatorics (Undergraduate) Fall 2022
- ◇ Math 249: Algebraic Combinatorics (Graduate) Spring 2023
- ◇ Math 274: Algebraic Combinatorics on Convex Polytopes (Graduate) Fall 2023

### **Instructor, DaVinci Camp Summer Institute**

- ◇ Graph Theory (UC Berkeley & Caltech) Summers 2017 & 2021
- ◇ Polyhedral Geometry (Caltech) Summer 2018
- ◇ Methods in Arithmetic & Algebra (UC Berkeley) Summers 2014 - 2016

### **Graduate Teaching Associate, San Francisco State University**

- ◇ Math 60: Entry Level Math I, *Instructor of Record* Fall 2015, Summer 2016,  
Fall 2016, Summer 2017
- ◇ Math 70: Entry Level Math II, *Instructor of Record* Spring 2017
- ◇ Math 199: Precalculus, *Instructor of Record* Spring 2016, Fall 2016,  
Spring 2017
- ◇ Math 226: Calculus I (Lab), *Teaching Assistant* for Anne Krause Fall 2015
- ◇ Math 301: Exploration and Proof, *Grader* for Federico Ardila Fall 2015

### **Mathematics Instructor, San Francisco Math Circle**

- ◇ June Jordan School for Equity, Grades: 9 - 12 Spring 2017
- ◇ Lowell High School, Grades: 6 - 9 Fall 2016
- ◇ Clarendon Elementary School, Grades: 2 & 3 Spring 2016

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## MENTORING AND ADVISING

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### **Harvey Mudd College: Undergraduate Research and/or Honor's Thesis**

- ◇ Michael Huynh, *Undergraduate Research*, 2024 - Present
- ◇ Tito Augusto Cuchilla, *Undergraduate Research*, 2024
- ◇ Kimberly Lopez, *Undergraduate Research*, 2024

### **UC Berkeley: Undergraduate Research and/or Honor's Thesis**

- ◇ Alex Bouquet, *Undergraduate Research*, 2023
- ◇ Benjamin Easley, *Undergraduate Research*, 2023
- ◇ Ishaan Patkar, *Undergraduate Research*, 2023
- ◇ Zhi Wang, *Undergraduate Research*, 2023
- ◇ David Zhang, *Undergraduate Research*, 2023
- ◇ Alex Sánchez, *Summer Undergraduate Research Fellow & Honor's Thesis*, 2023 & 2024
- ◇ Eon Lee, *Undergraduate Research*, 2023
- ◇ Siddarth Menon, *Undergraduate Research*, 2023
- ◇ Carson Mitchell, *Undergraduate Research & Honor's Thesis*, 2023
- ◇ Felicia Lim, *Honor's Thesis*, 2022
- ◇ Emily Muller-Foster, *Honor's Thesis*, 2022
- ◇ Aren Martinian, *Undergraduate Research*, 2022

## National Alliance for Doctoral Studies in the Mathematical Sciences

- ◇ Jennifer Reyes (UC Berkeley), Fall 2023
- ◇ Tisha Asuncion (UC Berkeley), Fall 2023
- ◇ Mateo Morales (UC Berkeley), Fall 2022

## SACNAS Mentor Activation for Student (MAS) Program

- ◇ Malike Conteh (Pomona College), Fall 2022

## 2020 Advancing Inquiry & Inclusion in Mathematics Undergraduate Program

- ◇ *The parking function polytope*: Alex Christensen (University of Arizona), Zakiya Jones (Pomona College), and Andrés Ramos Rodríguez (University of Puerto Rico)
- ◇ *Privileged and  $k$ -zone parking functions*: Saisha Gobooodun (Williams College), Sasha Ruth Sepulveda (University of Arizona), and Jingyi Wu (Mt. Holyoke College)
- ◇  *$k$ -Naples parking functions and bijections*: João Pedro Carvalho (Haverford College) and Nico Trepiny (Haverford College)
- ◇ *Prime and Invariant Parking Sequences*: Veronica Berger (Williams College), Ruozhen Gong (Mt. Holyoke College), and Melissa Gutiérrez González (Occidental College)
- ◇ *Posets and parking functions*: Shreya Ahirwar (Mt. Holyoke College), Parikshita Gya (Mt. Holyoke College), Nguyen “Emily” Pham (Mt. Holyoke College), and Aurora Vo (Mt. Holyoke College)
- ◇ *Counting  $k$ -Naples parking functions through permutations and the  $k$ -Naples statistic*: Zakiya Jones (Pomona College), Christo Keller (University of Massachusetts at Amherst), Andrés Ramos Rodríguez (University of Puerto Rico), and Eunice Sukarto (UC Berkeley)

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## MATHEMATICS ARTICLES AND THESES

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24. Eon Lee, **Andrés R. Vindas-Meléndez**, and Zhi Wang, *Generalized snake posets, order polytopes, and lattice-point enumeration*, submitted (arXiv:2411.18695).
23. Juan F. Pulido, José L. Ramírez, and **Andrés R. Vindas-Meléndez**, *Generating Trees and Fibonacci Polyominoes*, submitted (arXiv:2411.17812).
22. Matthias Beck, Mitsuki Hanada, Max Hlavacek, John Lentfer, **Andrés R. Vindas-Meléndez**, and Katie Waddle, *Polyhedral geometry of refined  $q, t$ -Catalan numbers*, J. Comb. (2024), accepted – to appear
21. Benjamin Eisley, Koji Matsushita, and **Andrés R. Vindas-Meléndez**, *Matching polytopes, Gorensteinness, and the integer decomposition property*, submitted (arXiv:2407.08820).
20. Esme Bajo, Matthias Beck, and **Andrés R. Vindas-Meléndez**,  *$q$ -Chromatic polynomials*, submitted (arXiv:2403.19573).
19. Margaret M. Bayer, Steffen Borgwardt, Teresa Chambers, Spencer Daugherty, Aleyah Dawkins, Danai Deligeorgaki, Hsin-Chieh Liao, Tyrrell McAllister, Angela Morrison, Garrett Nelson, and **Andrés R. Vindas-Meléndez**, *Combinatorics of generalized parking-function polytopes*, submitted (arXiv:2403.07387).
18. Alex Bouquet and **Andrés R. Vindas-Meléndez**, *Combinatorial results on barcode lattices*, Order (2024), published online.
17. Danai Deligeorgaki, Daniel McGinnis, and **Andrés R. Vindas-Meléndez**, *Ehrhart positivity of pan-handle matroids and a bound for paving matroids*, submitted (arXiv:2311.01640).
16. Esme Bajo, Benjamin Braun, Giulia Codenotti, Johannes Hofscheier, and **Andrés R. Vindas-Meléndez**, *Local  $h^*$ -polynomials for one-row Hermite normal form simplices*, Beitr. Algebra Geom. (2025), accepted – to appear

15. Eon Lee, Carson Mitchell, and **Andrés R. Vindas-Meléndez**, *Stack-sorting simplices: geometry and lattice-point enumeration*, Combinatorics, graph theory and computing, Springer Proc. Math. Stat., Springer, Cham, 2025, pp. accepted – *to appear*
14. Miklós Bóna, Stoyan Dimitrov, Gilbert Labelle, Yifei Li, Joseph Pape, **Andrés R. Vindas-Meléndez**, and Yan Zhuang, *A combinatorial proof of a tantalizing symmetry on Catalan objects*, submitted (arXiv:2212.10586).
13. Mitsuki Hanada, John Lentfer, and **Andrés R. Vindas-Meléndez**, *Generalized parking function polytopes*, Ann. Comb. **28** (2024), 575–613.
12. Aren Martinian and **Andrés R. Vindas-Meléndez**, *On the critical group of hinge graphs*, Rocky Mountain J. Math. (2023), accepted – *to appear*.
11. Derek Hanely, Jeremy L. Martin, Daniel McGinnis, Dane Miyata, George D. Nasr, **Andrés R. Vindas-Meléndez**, and Mei Yin, *Ehrhart Theory of Paving and Panhandle Matroids*, Adv. Geom. **23** (2023), no. 4, 501–526.
10. João Pedro Carvalho, Pamela E. Harris, Gordon Rojas Kirby, Nico Tripeny, and **Andrés R. Vindas-Meléndez**, *Enumerating  $k$ -Naples Parking Functions Through Catalan Objects*, Integers **24** (2024), Paper No. A44, 18.
9. Matias von Bell, Benjamin Braun, Derek Hanely, Khrystyna Serhiyenko, Julianne Vega, **Andrés R. Vindas-Meléndez**, and Martha Yip, *Triangulations, order polytopes, and generalized snake posets*, Comb. Theory **2** (2022), no. 3, Paper No. 10, 34.
8. Shreya Ahirwar, Susanna Fishel, Parikshita Gya, Pamela Harris, Nguyen Pham, **Andrés R. Vindas-Meléndez**, and Dan Khanh Vo, *Maximal Chains in Bond Lattices*, Electron. J. Combin. **29** (2022), no. 3, Paper No. 3.11.
7. Matthias Beck, Benjamin Braun, and **Andrés R. Vindas-Meléndez**, *Decompositions of Ehrhart  $h^*$ -polynomials for rational polytopes*, Discrete Comput. Geom. **68** (2022), no. 1, 50–71.
6. Laura Colmenarejo, Pamela E. Harris, Zakiya Jones, Christo Keller, Andrés Ramos Rodríguez, Eunice Sukarto, and **Andrés R. Vindas-Meléndez**, *Counting  $k$ -Naples parking functions through permutations and the  $k$ -Naples area statistic*, Enumer. Comb. Appl. **1** (2021), no. 2, Paper No. S2R11, 16.
5. Federico Ardila, Mariel Supina, and **Andrés R. Vindas-Meléndez**, *The equivariant Ehrhart theory of the permutahedron*, Proc. Amer. Math. Soc. **148** (2020), no. 12, 5091–5107.
4. **Andrés R. Vindas Meléndez**, *Combinatorial invariants of rational polytopes*, Ph.D. thesis, University of Kentucky, 2021.
3. Federico Ardila, Anna Schindler, and **Andrés R. Vindas-Meléndez**, *The equivariant volumes of the permutahedron*, Discrete Comput. Geom. **65** (2021), no. 3, 618–635.
2. Benjamin Braun and **Andrés R. Vindas-Meléndez**, *A brief survey on lattice zonotopes*, Algebraic and geometric combinatorics on lattice polytopes, World Sci. Publ., Hackensack, NJ, 2019, pp. 101–116.
1. **Andrés R. Vindas Meléndez**, *Two problems on lattice point enumeration of rational polytopes*, Master’s thesis, San Francisco State University, 2017.

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#### OEIS ENTRIES

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Online Encyclopedia of Integer Sequences entries resulting from my work:

1. A036968
2. A342270
3. A174586

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## BOOKS EDITED

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1. Pamela E. Harris, Alicia Prieto-Langarica, Vanessa Rivera Quiñones, Luis Sordo Vieira, Rosaura Uscanga, and **Andrés R. Vindas Meléndez** (eds.), *Testimonios — stories of Latinx and Hispanic mathematicians*, Classroom Resource Materials, vol. 67, American Mathematical Society, MAA Press, Providence, RI, ©2021.

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## PUBLISHED EXTENDED ABSTRACTS

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1. Matias von Bell, Benjamin Braun, Derek Hanely, Khrystyna Serhiyenko, Julianne Vega, **Andrés R. Vindas-Meléndez**, and Martha Yip, *Triangulations, order polytopes, and generalized snake posets*, *Sém. Lothar. Combin.* **86B** (2022), Art. 5, 12.
2. Matthias Beck, Benjamin Braun, and **Andrés R. Vindas-Meléndez**, *Decompositions of Ehrhart  $h^*$ -polynomials for rational polytopes*, *Sém. Lothar. Combin.* **85B** (2021), Art. 38, 12.
3. Federico Ardila, Mariel Supina, and **Andrés R. Vindas-Meléndez**, *The equivariant Ehrhart theory of the permutahedron*, *Sém. Lothar. Combin.* **84B** (2020), Art. 83, 12.
4. Federico Ardila, Anna Schindler, and **Andrés R. Vindas-Meléndez**, *The equivariant volumes of the permutahedron*, *Sém. Lothar. Combin.* **82B** (2019), Art. 16, 12.

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## WRITING ON MATHEMATICS, EDUCATION, CULTURE, AND SOCIETY

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1. Ron Buckmire, Carrie Diaz Eaton, Joseph E. Hibdon Jr., Jakini Kauba, Drew Lewis, Omayra Ortega, José L. Pabón Rachel Roca, and **Andrés R. Vindas-Meléndez**, *Quantifying and documenting gender-based inequalities in the mathematical sciences in the United States*, *Advances in Data Science*, Assoc. Women Math. Ser., Springer, Cham, ©2025, p. accepted
2. Ron Buckmire, Joseph E. Hibdon Jr., Drew Lewis, Omayra Ortega, José L. Pabón, Rachel Roca, and **Andrés R. Vindas-Meléndez**, *The mathematics of mathematics: Using mathematics and data science to analyze the mathematical sciences community and enhance social justice*, *La Matematica* (2025), published online.
3. Quindel Jones, **Andrés R. Vindas Meléndez**, Ariana Mendible, Manuchehr Aminian, Heather Zinn Brooks, Nathan Alexander, Carrie Diaz Eaton, and Phillip Chodrow, *Data science and social justice in the mathematics community*, *Notices Amer. Math. Soc.* **70** (2023), no. 9, 1479–1489
4. Ron Buckmire, Carrie Diaz Eaton, Joseph E. Hibdon, Jr., Katherine M. Kinnaird, Drew Lewis, Jessica Libertini, Omayra Ortega, Rachel Roca, and **Andrés R. Vindas Meléndez**, *On definitions of “mathematician”*, *J. Humanist. Math.* **13** (2023), no. 2, 8–38.
5. Rachel Petrik, Julianne Vega, and **Andrés Vindas-Meléndez**, *A reflection on growth mindset and meritocracy*, *Journal of Humanistic Mathematics* **12** (2022), no. 1, 408–421.
6. **Andrés R. Vindas Meléndez**, *Mathematics (combinatorics) the Colombian way: ECCO 2018*, AMS Blog: e-Mentoring Network in the Mathematical Sciences, June 2018.

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## WRITING CONTRIBUTIONS TO AMS AND MAA BLOGS

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1. *A Reflection on Giving ONLINE Talks* (with L. Colmenarejo), Graduate Student Blog - by and for math graduate students. AMS Blogs. January 6, 2021.

2. *Establishing Self-Care Practices While Pursuing a Math Grad Degree* (with A. Alonso, J. Camero, A. Castillo, A. Diaz-Lopez, P.E. Harris, V. Rivera Quiñones, L. Sordo Vieira, F. Ulysse, V. Uribe, S. Wilson, A. Winger, and M. Young), MAA Math Values Blog, August 7, 2020.
3. *Staying the path: Motivation through graduate school* (with A. Alonso, J. Camero, A. Castillo, A. Diaz-Lopez, P.E. Harris, V. Rivera Quiñones, L. Sordo Vieira, F. Ulysse, V. Uribe, S. Wilson, A. Winger, and M. Young), e-Mentoring Network in the Mathematical Sciences - connecting students and mentors. AMS Blogs. July 31, 2020.
4. *A Reflection on Giving Talks*, Graduate Student Blog - by and for math graduate students. AMS Blogs. February 29, 2020.
5. *Mathematics at 2019 SACNAS*, Graduate Student Blog - by and for math graduate students. AMS Blogs. November 12, 2019.
6. *Fellowships, Grants, and Awards: Advice from Award Recipients* (with contributors), Graduate Student Blog - by and for math graduate students. AMS Blogs. September 18, 2019.
7. *Mathematics (Combinatorics) the Colombian Way: ECCO 2018*, e-Mentoring Network in the Mathematical Sciences - connecting students and mentors. AMS Blogs. June 22, 2018.

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## TALKS AND PRESENTATIONS

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### PLENARY & COLLOQUIUM TALKS

INTERNATIONAL			
Date	Event	Institution	Location
June 2023	Coloquio de Matemática	Universidad de Costa Rica	San José, Costa Rica
June 2021	Coloquio de Matemática	Universidad de Costa Rica	San José, Costa Rica

NATIONAL			
Date	Event	Institution	Location
September 2024	CCMS Colloquium	Claremont Center for the Mathematical Sciences	Claremont, CA
February 2024	Math Monday Lecture	UC Berkeley	Berkeley, CA
April 2023	Raising Voices in Mathematics Lecture	San Francisco State University	San Francisco, CA
March 2023	GEMS of Combinatorics	American Institute of Mathematics	San José, CA
March 2023	Math Colloquium	University of Illinois at Springfield	Springfield, IL
February 2023	Math Monday Lecture	UC Berkeley	Berkeley, CA
February 2023	Math Colloquium	Sonoma State University	Ronher Park, CA
January 2023	Math Colloquium	Harvey Mudd College	Claremont, CA
December 2022	Math Colloquium	Bryn Mawr College	Bryn Mawr, PA
May 2022	Nor. Cal. Undergrad Math Conference	CSU Stanislaus	Turlock, CA
May 2022	Math/CS Colloquium	Santa Clara University	Santa Clara, CA
April 2022	Math Colloquium	San José State University	San José, CA
February 2022	Math Colloquium	University of San Francisco	San Francisco, CA
January 2022	Math Colloquium	UC Santa Cruz	Santa Cruz, CA
March 2021	Science-in-Action	College of San Mateo	San Mateo, CA
November 2020	Math Club Colloquium	San Francisco State University	San Francisco, CA
September 2020	Math Colloquium	CSU East Bay	Hayward, CA
April 2020	Talking Math W/ Your Friends Colloquium	TMWF	Virtual
March 2018	Graduate Student Colloquium	University of Kentucky	Lexington, KY
October 2017	Graduate Student Colloquium	University of Kentucky	Lexington, KY

INVITED RESEARCH TALKS

INTERNATIONAL			
Date	Event	Institution	Location
July 2024	Coloquio Latinoamericano de Álgebra	Pontificia Universidad Católica	Santiago, Chile
February 2023	Combinatorial & Algebraic Aspects on Lattice Polytopes	Kwansei Gakuin University	Hyogo, Japan
July 2022	Formal Power Series & Algebraic Combinatorics	Indian Institute of Science	Bangalore, India
May 2022	Frankfurt-Bochum Combinatorics Seminar	Ruhr-Universität Bochum	Bochum, Germany
May 2022	Seminario Sabanero de Combinatoria	Pontificia Universidad Javeriana	Bogotá, Colombia
February 2021	The Applied Algebra Seminar	York University	Toronto, Canada
February 2020	Discrete Geometry Seminar	Freie Universität Berlin	Berlin, Germany
January 2020	Discrete & Convex Geometry Seminar	Technischen Universität Berlin	Berlin, Germany
December 2019	Einstein Workshop on Polytopes & Algebraic Geometry	Freie Universität Berlin	Berlin, Germany
July 2018	Summer Workshop on Lattice Polytopes	Osaka University	Osaka, Japan

NATIONAL			
Date	Event	Institution	Location
May 2025	Session: Algebraic and Geometric Combinatorics	AMS Sectional	San Luis Obispo, CA
April 2025	Session: Recent Developments in Algebraic and Combinatorial Aspects of Polytopes	AMS Sectional	Hartford, CT
January 2025	Session: Geometric and Topological Combinatorics	JMM	Seattle, WA
April 2024	Combinatorics Seminar	UC Berkeley	Berkeley, CA
April 2024	Algebra Seminar	Georgia Tech	Atlanta, GA
March 2024	55th Southeastern International Conference on Combinatorics, Graph Theory & Computing	Florida Atlantic University	Boca Raton, FL
January 2024	Session: Topics in Combinatorics & Graph Theory	JMM	San Francisco, CA
January 2024	Session: Research Presentations by Math Alliance Scholar Doctorates	JMM	San Francisco, CA
November 2023	Algebra, Geometry, & Combinatorics Afternoon Symposium	San Francisco State University	San Francisco, CA
November 2023	Discrete CATS Seminar	University of Kentucky	Lexington, KY
October 2023	Combinatorics & Graph Theory Seminar	Michigan State University	East Lansing, Michigan
September 2023	Center for Science and Math Education Speaker Series	San Francisco State University	San Francisco, CA
April 2023	Session: Geometric & Topological Methods in Combinatorics	AMS Sectional	Cincinnati, OH
January 2023	MSRI Session: Geometric & Topological Combinatorics	JMM	Boston, MA
September 2022	Session: Algebraic, Geometric, & Topological Combinatorics	AMS Sectional	El Paso, TX
July 2022	Algebraic & Combinatorics Session	LatMath at IPAM/UCLA	Los Angeles, CA
June 2022	Summer@ICERM Colloquium	ICERM at Brown University	Providence, RI
April 2022	Session: Geometric & Topological Combinatorics	JMM	Virtual
March 2022	Algebra, Geometry, & Combinatorics Seminar	San Francisco State University	San Francisco, CA
March 2022	Discrete Mathematics Seminar	Arizona State University	Tempe, AZ

February 2022	Algebra & Discrete Math Seminar	UC Davis	Davis, CA
October 2021	Session: New Trends in Combinatorics	AMS Sectional	Virtual
September 2021	Discrete Math Seminar	Kennesaw State University	Kennesaw, GA
May 2021	Discrete Math Seminar	UMass Amherst	Amherst, MA
April 2021	Underrepresented Students in Topology & Algebra	USTARS	Virtual
April 2021	Graduate Student Combinatorics Conference	GSCC	Virtual
April 2021	Western Algebraic Geometry Symposium	WAGS	Virtual
April 2021	Math Club Seminar	University of Virginia	Charlottesville, VA
April 2021	Combinatorics Seminar	Dartmouth College	Hanover, NH
February 2021	Combinatorics & Geometry Seminar	University of Washington	Seattle, WA
January 2021	Session Presentations by Scholars in the Math Alliance	JMM	Virtual
November 2020	Algebra & Representation Theory Seminar	University of Oklahoma	Norman, OK
November 2020	Combinatorics Seminar	Washington University in St. Louis	St. Louis, MO
October 2020	SACNAS National Conference	SACNAS	Virtual
October 2020	Math SWAGGER Colloquium	Math SWAGGER	Virtual
October 2020	Discrete Mathematics Seminar	Iowa State University	Ames, IA
September 2020	Combinatorics Seminar	UC Berkeley	Berkeley, CA
September 2020	Session: Algebraic, Geometric, & Topological Combinatorics	AMS Sectional	Virtual
August 2020	Discrete CATS Seminar	University of Kentucky	Lexington, KY
November 2019	SACNAS National Conference	SACNAS	Honolulu, HI
September 2019	Session: Algebraic & Geometric Combinatorics	AMS Sectional	Madison, WI
May 2019	Hypatian Seminar	UC Santa Barbara	Santa Barbara, CA
April 2019	Class of 1960 Speaker	Williams College	Williamstown, MA
April 2019	Session: Combinatorics, Commutative Algebra & Polyhedral Geometry	AMS Sectional	Hartford, CT
April 2019	Graduate Student Combinatorics Conference	GSCC	Philadelphia, PA
February 2018	Discrete CATS Seminar	University of Kentucky	Lexington, KY
October 2017	SACNAS National Conference	SACNAS	Salt Lake City, UT
April 2017	Underrepresented Students in Topology & Algebra	USTARS	Amherst, MA

## RESEARCH POSTER PRESENTATIONS

INTERNATIONAL			
Date	Event	Institution	Location
July 2019	Formal Power Series & Algebraic Combinatorics	University of Ljubljana	Ljubljana, Slovenia
October 2018	Einstein Workshop on Geometric & Topological Combinatorics	Freie Universität Berlin	Berlin, Germany
June 2018	6th Encuentro Colombiano de Combinatoria	Universidad del Norte	Barranquilla, Colombia



NATIONAL			
Date	Event	Institution	Location
April 2021	KY-WV LSAMP 13th Annual Research Symposium	University of Kentucky	Lexington, KY
March 2018	LatMath Student Poster Session	LatMath at IPAM/UCLA	Los Angeles, CA
May 2017	College of Science & Engineering Research Showcase	San Francisco State University	San Francisco, CA
February 2014	NSF CAMP Symposium	UC Irvine	Irvine, CA
October 2013	SACNAS National Conference	SACNAS	San Antonio, TX
August 2013	MSRIP Summer Research Symposium	UC Riverside	Riverside, CA
February 2013	NSF CAMP Symposium	UC Irvine	Irvine, CA
November 2012	AISES National Research Conference	AISES	Anchorage, AK
October 2012	SACNAS National Conference	SACNAS	Seattle, WA
August 2012	Cal NERDS Summer Research Symposium	UC Berkeley	Berkeley, CA

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### RESEARCH SCHOOL AND WORKSHOP PARTICIPATION

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- *Graduate Research Workshop in Combinatorics*, University of Wyoming, July 2023
- *Educating at the Intersection of Data Science and Social Justice*, ICERM, July 2023
- *From Impact Factor to Influence Factor: Data Science and Policy for Social Justice*, ICERM, June 2023
- *Gems of Combinatorics*, AIM, March 2023
- *Interdisciplinary Network Analysis Methods for Analyzing Social Systems*, ICERM, June 2022
- *Mathematics Research Community: Trees in Many Contexts* AMS, June 2022
- *Ehrhart polynomials: inequalities and extremal constructions*, AIM, May 2022
- *Graduate Research Workshop in Combinatorics*, Online, June 2021
- *Latinx Mathematicians Research Community*, AIM, Online, June 2021
- *Einstein Workshop: Polytopes & Algebraic Geometry*, Freie Universität Berlin (Germany), December 2019
- *Summer School on Geometric and Algebraic Combinatorics*, Sorbonne Université (France), June 2019
- *Einstein Workshop: Algebraic Combinatorics*, Freie Universität Berlin (Germany), November 2018
- *Einstein Workshop: Geometric & Topological Combinatorics*, Freie Universität Berlin (Germany), October 2018
- *Summer Workshop on Lattice Polytopes & Research School*, Osaka University (Japan), July-August 2018
- *6th Encuentro Colombiano de Combinatoria - CIMPA Research School*, Universidad del Norte (Colombia), June 2018
- *Positivity Questions in Geometric Combinatorics, Summer Graduate Research School*, MSRI, July 2017
- *5th Encuentro Colombiano de Combinatoria*, Universidad de Antioquia and Universidad Nacional sede Medellín (Colombia), June 2016

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### FUNDING AND GRANTS

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- 2023-2025 *Structured Quartet Research Ensemble*, American Institute of Mathematics
  - Co-PIs: Anastasia Chavez, Galen Dorpalen-Barry, Luis Ferroni, Fu Liu, Felipe Rincón, **Andrés R. Vindas Meléndez**
- 2020-2021 *Tensor-SUMMA Grant*, Mathematical Association of America
  - Project: *Lathisms: Latinxs and Hispanics in the Mathematical Sciences*
  - PI: Pamela E. Harris, Co-PIs: Alicia Prieto-Langarica, Luis Sordo Vieira, Vanessa Rivera-Quiñones, Rosaura Uscanga, **Andrés R. Vindas Meléndez**
- 2019-2020 *Tensor-SUMMA Grant*, Mathematical Association of America
  - Project: *Lathisms: Latinxs and Hispanics in the Mathematical Sciences*
  - PI: Pamela E. Harris, Co-PIs: Alicia Prieto-Langarica, Gabriel Sosa, Vanessa Rivera-Quiñones, Rosaura Uscanga, **Andrés R. Vindas Meléndez**

- 2019-2020 *CDIP Mini-Grant*, California State University System  
– Project: Professional Development with a Combinatorial Flavor

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## AWARDS AND HONORS

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- 2024 Honoree, The Atlas of Inspiring Hispanic/Latinx Scientists, Fred Hutchinson Cancer Center
- 2022 Pride Month Honoree, Spectra: The Association for LGBT Mathematicians
- 2021 *Outstanding Research Award*, UK Department of Mathematics
- 2020 Graduate Oral Presentation Award, SACNAS
- 2020 Latinxs & Hispanics in the Mathematical Sciences Honoree, Lathisms
- 2020 SACNAS National Conference Registration Scholarship
- 2020 Travel Award, UK Graduate Student Congress
- 2020 *Endowed Doctoral Fellowship Award*, UK Association of Emeriti Faculty
- 2020 *CDIP Travel Award*, Cal State University System
- 2019-2020 *Chancellor's Doctoral Incentive Program Award*, Cal State University System
- 2019 *Professional Development Grant*, Center for Graduate and Professional Diversity Initiatives, UK
- 2018 *Professional Development Grant*, Center for Graduate and Professional Diversity Initiatives, UK
- 2017 SACNAS National Conference Travel Scholarship
- 2017-2018 *Hispanic Scholarship Fund (HSF) Scholarship*
- 2016-2017 *Sally Casanova Scholarship/California Pre-doctoral Fellowship*, Cal State University System
- 2016-2017 *Graduate Equity Fellowship*, SFSU
- 2016-2017 *Milowski Scholarship*, Department of Mathematics, SFSU
- 2016-2017 *University Scholarship*, SFSU
- 2015-2016 *Graduate Equity Fellowship*, SFSU
- 2015-2016 *Toyota/Hispanic Scholarship Fund (HSF) Scholarship*
- 2015-2016 *Frederick Walters Scholarship*, Department of Mathematics, SFSU
- 2014 Honorable Mention for Poster Presentation, NSF CAMP Symposium
- 2013-2014 *Associated Students of University of California Textbook Scholarship*
- 2012-2013 UCB Raza Recruitment and Retention Center's *La Lucha Sigue Scholarship*
- 2013 SACNAS National Conference Travel Scholarship
- 2012 SACNAS National Conference Travel Scholarship

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## PROFESSIONAL MEMBERSHIP

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- National Association of Mathematicians (NAM), *Lifetime Member* (since 2024)
- Society for Industrial and Applied Mathematics (SIAM), *National Member* (since 2023)
- Association for Women in Mathematics (AWM), *National Member* (since 2018)
- Mathematical Association of America (MAA), *National Member* (since 2017)
- American Mathematical Society (AMS), *National Member* (since 2015)
- Sigma Xi: The Scientific Research Society, *Associate Member* (since 2012)
- American Indian Science and Engineering Society (AISES), *Chapter Secretary* 2011-2012, *Chapter Vice-President* 2012-2013, *National Member* (since 2011)
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS), *UK Chapter Co-Founder* (2019), *National Member* (since 2011)

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## PROFESSIONAL ACTIVITIES, LEADERSHIP, AND SERVICE

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- AWM-MAA Etta Zuber Falconer Lecture Selection Committee, *Member* (2025-2028)
- American Association for the Advancement of Science (AAAS) Mathematics Section, *Early-Career Representative* (2025-2026)
- American Mathematical Society JMM Program Committee, *Member at Large* (2024-2025)

- National Alliance for Doctoral Studies in the Mathematical Sciences (Math Alliance), *Mentor* (2022-Present), *Alliance Scholar* (2016-2021)
- Julia Robinson Math Festival, *Advisory Committee Member* (2021-Present)
- Advancing Inquiry/Inclusion in Mathematics Undergraduate Program, *Research Faculty* (Summer 2020)
- American Mathematical Society Graduate Student Blog, *Staff Writer* (2019-2021)
- Lathisms: Latinxs & Hispanics in the Math. Sciences, *Junior Associate* (2019-2021)
- Latino Student Union at UK, *Graduate Advisor* (2019-2021)
- National Science Foundation Kentucky-West Virginia Louis Stokes Alliance for Minority Participation, *Graduate student mentor for UK alliance scholars* (2019-2021)
- Hispanic Scholarship Fund (HSF), *Scholar* (2015-2021)
- National Science Foundation Louis Stokes-California Alliance for Minority Participation (NSF CAMP), *Scholar* (2011-2015)
- Cal NERDS Program: New Experiences for Research & Diversity in Science, *Scholar* (2011-2015)
- Hispanic Engineers & Scientists (HES), *General Member* (2012-2015)
- Mathematics Undergraduate Student Association at UC Berkeley, *General Member* (2012-2015)
- Dean of Students Advisory Council at UCB, *Liason for NERDS* (2012-2013)

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## REFEREEING AND REVIEWING

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- Discrete Mathematics, Algorithms, and Applications
- The College Mathematics Journal
- Electronic Research Archive
- Transactions of the American Mathematical Society
- Journal of Integer Sequences
- Proceedings of the Association for Women in Mathematics (AWM): Advances in Data Science
- European Journal of Combinatorics
- Discrete Mathematics
- Discrete Mathematics & Theoretical Computer Science
- Experimental Mathematics
- American Mathematical Monthly
- Annals of Combinatorics
- Formal Power Series & Algebraic Combinatorics: 2023, 2024, 2025
- Banff International Research Station Proposals
- Discrete & Computational Geometry
- Forum of Mathematics, Sigma
- Journal of Combinatorics
- Regeneron Science Talent Search (Society for Science)
- Electronic Journal of Combinatorics
- International Mathematics Research Notices
- Rocky Mountain Journal of Mathematics
- Proceedings of the Encuentro Colombiano de Combinatoria (ECCO): Alg. and Geom. Combinatorics
- Journal of Combinatorial Theory, Series A
- Association for Women in Mathematics 50th Anniversary Volume
- Lecturas Matemáticas (Sociedad Colombiana de Matemáticas)
- Proceedings of the 2018 Summer Workshop on Lattice Polytopes at Osaka University
- MathSciNet - Mathematical Reviews
- zbMATH

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## CONFERENCE, SEMINAR, AND WORKSHOP ORGANIZATION

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- February 2025 - Computational Interactions between Algebra, Combinatorics, and Discrete Geometry at IPAM/UCLA; co-organizer with M. Beck, D. Erman, and S. Kara

- October 2024 - Fall Western AMS Sectional, Special Session on GEMS of Combinatorics at UC Riverside; co-organizer with A. Dawkins (CMU) and K. Waddle (U. Michigan).
- July 2024 - Workshop Celebrating Diversity Minisymposium: Quantitative Justice through Applied Data Science at SIAM Annual Meeting; organizer
- April 2024 - Practicum for Undergrad Mathematicians in Combinatorics at IPAM/UCLA; co-organizer with A. Chavez.
- Fall 2022 - Spring 2023 - Combinatorics Seminar at UC Berkeley; co-organizer with C. Ryba, M. Hanada, & J. Lentfer.
- April 2022 - Joint Math Meetings, AMS Special Session on Latinxs in Combinatorics; co-organizer with P.E. Harris (Williams College) & L. Escobar (Washington University in St. Louis)
- Fall 2021 - Spring 2022 - Combinatorics Seminar at UC Berkeley; co-organizer with S. Corteel & C. Ryba
- October 2021 - Testimonios: Stories of Latinx & Hispanic Mathematicians; co-organizer with P.E. Harris (Williams College)
- July 2021 - Enhancing Equity Initiatives: Climbing out of Traps & Tropes to make Transformative Change, Center for Minorities in the Mathematical Sciences; co-organizer with J. Vega (Kennesaw State)
- June 2021 - Queer and Trans Mathematicians in Combinatorics Conference; Program Committee
- Fall 2020 - Spring 2021 - UK Discrete CATS Seminar; co-organizer with K. Serhiyenko
- Fall 2020 - Spring 2021 - Graduate Online Combinatorics Colloquium; co-organizer with G. Dorpalen-Barry (University of Minnesota) & A. McDonough (Brown University)
- November 2019 - Latinxs Count: A Combinatorics (Math) Session, 2019 SACNAS Conference; co-chair with P.E. Harris (Williams College)
- March 2018 - Latinx in the Mathematical Sciences Conference (IPAM/UCLA); Culture-setting team
- Summer 2017 - Graduate Student Seminar at SFSU: Preparing applications for PhD programs; Seminar Lead
- Fall 2016 - Spring 2017 - Distinguished Women in Mathematics Lecture Series; co-organizer and co-founder
- Fall 2016 - Graduate Student Seminar at SFSU: Polytopes; Seminar Lead
- 2013 AISES Regional Conference at UCB

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## OUTREACH AND VOLUNTEERISM

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- Speaker at Latino Union Meeting, Head-Royce High School, *Invited Speaker* (March '24)
- STEMgigqueers Research Panel at the University of Kentucky, *Invited Panelist* (September '23)
- 2022 SACNAS - The National Diversity in STEM Conference, Poster Judge & Conversations with Scientists Session Chair for Applied Mathematics, General Mathematics, Operations Research (October '22)
- Latinxs in the Mathematical Sciences (LatMath) at IPAM/UCLA, Math Circle Lead (July '22)
- Latinxs in the Mathematical Sciences (LatMath) at IPAM/UCLA, Poster Judge (July '22)
- OURFA<sup>2</sup>M<sup>2</sup>, *Invited Speaker* (December '21)
- LGBTQ+ Math Day at the Fields Institute, *Invited Panelist* (November '21)
- Match Fellow & Visiting Mathematician, American Institute of Mathematics (Fall '21)
- Bridge to Enter Advanced Mathematics Career Day, *Invited Speaker* (July '21)
- paraDIGMS 2021 Spring Conference, *Invited Lightning Talk Speaker* (April '21)
- Bolstering the Advancement of Masters in Mathematics (BAMM!) Program, *Invited Panelist* (March '21)
- Math Faces, *Featured Guest* (May '20)
- Mentoring Moments: Graduate School Panel for Undergraduates, *Invited Panelist*, Center for Graduate & Prof. Diversity Initiatives, Univ. of Kentucky (April '20)
- Summer Schools & Workshops Panel, *Panelist*, Dept. of Math., Univ. of Kentucky (Fall '19)
- NSF Fellowships Interest Panel, *Panelist*, Univ. of Kentucky Office of Competitive Awards (Fall '18)
- Winter Academic Training (WAT) Camp, *Linear Algebra Instructor* (Winter '15)
- Lynwood Alumni College Conference (LACC), *Presenter*  
Presentation Title: *Majoring in a STEM Field* (Winter '12, '13, '14, '15)
- RAZA Recruitment & Retention Center Spring Break High School Outreach (Spring '11, '12, '13)
- Helping Youth Pursue Higher Education Early (HYPHEE), *Program Mentor*, (Fall '11, '13)

- Math Tutor, grades 9-12 at El Cerrito High School, El Cerrito, CA (September '11- May '12)

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**CITIZENSHIP**

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United States of America & Costa Rica

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**SKILLS**

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- Spanish language (Oral, Written, Translating)
- Elementary French language (Reading, Oral)
- Scientific Computing: Macaulay2, Matlab, Normaliz, Polymake, SageMath/CoCalc