Thomas C. Martinez

tmartinez at math.ucla.edu

Education

University of California, Los Angeles   **2022 -**
PhD, Mathematics · Advisor: Pavel Galashin   Los Angeles, CA

Harvey Mudd College   **2017 - 2021**
BS, Mathematics · High Distinction and Honors in Mathematics   Claremont, CA
Thesis: *The Slice Rank Polynomial Method* · Advisor: Mohamed Omar

Honors/Awards

Raymond Redheffer Prize   **2025**
- Awarded by the UCLA Math Department to a graduate TA "who went above and beyond during their time teaching freshman calculus".

Greever Research Prize – Honorable Mention   **2021**
- Awarded by the Harvey Mudd College Math Department to a math major who has made an original contribution to the theory of mathematics.

Dorman Student Altruism Prize – Nominee   **2021**
- Awarded by Harvey Mudd College to graduating seniors recognizing "one who has done the most for his/her fellow students." The nominations are done by student peers.

Alvin White Prize   **2020**
- Awarded by the Harvey Mudd College Math Department to students who have greatly contributed to the humanistic side of the HMC Math Department and beyond.

Publications

Affine Deodhar Diagrams and Rational Dyck Paths. In Preparation.

(with T. Jaklitsch, S. J. Miller, S. Mukherjee) *Connections of class numbers to the group structure of generalized Pythagorean triples.* Rocky Mountain Journal of Mathematics. **55**(2), 369-380. 2025.

(with T. Blum, C. Choi, A. Hoey, J. Iskander and K. Lakein). *On Class Numbers, Torsion Subgroups, and Quadratic Twists of Elliptic Curves.* Trans. Amer. Math. Soc. **375**(1), 351-368. 2022.

(with H. V. Chu, D. King, N. Luntzlara, S. J. Miller, L. Shao, C. Sun, and V. Xu). *Generalizing the Distribution of Missing Sums in Sumsets.* The Journal of Number Theory. **239**(10), 402-444. 2022.

(with S. J. Miller, C. Mizgerd, J. Murphy, and C. Sun). *Generalizing Zeckendorf's Theorem to Homogeneous Linear Recurrences, II.* Fibonacci Quarterly. **60**(5), 220-230. 2022.

(with S. J. Miller, C. Mizgerd, and C. Sun). *Generalizing Zeckendorf's Theorem to Homogeneous Linear Recurrences, I.* Fibonacci Quarterly. **60**(5), 231-254. 2022.

(with F. Beretta, J. Dimino, W. Fang, S. J. Miller, and D. Stoll) *On Benford's Law and the Coefficients of the Riemann Mapping Function for the Exterior of the Mandelbrot Set.* Fractal and Fractional. **6**(10), 534-552. 2022.

(with A. T. Benjamin and J. Lentfer). *Counting on Euler and Bernoulli Number Identities.* Fibonacci Quarterly. **58**(5), 30-33. 2020.

Book Reviews

D. King, T. C. Martinez, S. J. Miller, and C. Sun. Review of *Additive Combinatorics: A Menu of Research Problems*, by Béla Bajnok. The American Mathematical Monthly. **126**(10), 955-958. 2019.

Conferences and Talks

UCLA Combinatorics Learning Seminar   **Los Angeles, CA**
The (Strong and Weak) Bruhat Order   June 2024

UCLA Combinatorics Research Seminar   **Los Angeles, CA**
Complex Weighted Tilings and Kasteleyn's Theorem   April 2024

UCLA Combinatorics Learning Seminar   **Los Angeles, CA**
Introduction to Root Systems and Reflection Groups   April 2024

UCLA Combinatorics Research Seminar	**Los Angeles, CA**
Deograms and Dyck Paths	February 2024
UCLA Combinatorics Research Seminar	**Los Angeles, CA**
The Slice Rank Polynomial Method	May 2023
19th International Fibonacci Conference	**Virtual (via Zoom)**
Generalizing Zeckendorf's Theorem to Homogeneous Linear Recurrences	July 2020
University of Virginia REU Symposium	**Virtual (via Zoom)**
On Class Numbers, Torsion Subgroups, and Quadratic Twists of Elliptic Curves	July 2020
Young Mathematicians Conference	**Columbus, OH**
Poster: *Generalizing the Distribution of Missing Sums in Sumsets*	August 2019
UMass Amherst REU Conference	**Amherst, MA**
Generalizing the Distribution of Missing Sums in Sumsets	July 2019

TEACHING

Teaching Assistantships — **UC Los Angeles**
- Math 32A: Multivariable Differential Calculus [x3] — Fall 2023, Spring 2024, Fall 2025
- Math 61: Introduction to Discrete Structures [x7] — Fall 2022 - Fall 2023, Spring 2024, Winter 2025, Fall 2025
- Math 184: Enumerative Combinatorics — Spring 2025
- Math 180: Graph Theory — Fall 2024
- Math 115A: Linear Algebra — Winter 2024
- Math 31B: Integration and Infinite Series — Winter 2024

Tutoring — **Harvey Mudd College**
- "Academic Excellence" Peer Tutor — Fall 2019 - Spring 2021

Proof-based Calculus, Linear Algebra, Differential Equations, Multivariable Calculus, Discrete Mathematics

CONFERENCE, SEMINAR, AND COMMITTEE ORGANIZATION

- UCLA Directed Reading Program Committee — **September 2025 –**
- 21st International Fibonacci Conference (Harvey Mudd College – Claremont, CA) — **July 2024**
- UCLA Combinatorics Learning Seminar (Coxeter Groups) — **Spring 2024**
- UCLA Combinatorics Research Seminar — **Spring 2024**
- UCLA Combinatorics Research Seminar — **Winter 2024**
- 20th International Fibonacci Conference (University of Saravejo – Sarajevo, Bosnia & Herzegovina) — **July 2022**
- 19th International Fibonacci Conference (Virtual, via Zoom) — **July 2020**

LEADERSHIP / OUTREACH

UCLA Learning Assistant Program — **UC Los Angeles**
Math Learning Assistant Coordinator — September 2024 -
- Facilitated discussions on mathematical pedagogy and resolved course-specific content questions.
- Oversaw the Learning Assistant Program, promoting collaborative learning in weekly discussion sections.

UCLA Directed Reading Program — **UC Los Angeles**
Mentored undergraduates in advanced topics beyond standard undergraduate curriculum. — September 2023 -
- Arjun Mittha, Spring 2025: Combinatorial optimization
- Darsh Verma, Spring 2025: The Art of the Combinatorial Proof
- Thomas Slavonia, Spring 2024: Schubert polynomials and pipe dreams
- Thomas Slavonia, Winter 2024: Representation theory of the symmetric group
- Anika Misra, Winter 2024: Graph theory
- Akash Kote, Fall 2023: Probabilistic method in combinatorics

The Motivational Edge — **Allapattah, FL**
Volunteer Tutor — September 2021 - March 2022
- Provided weekly tutoring in mathematics, English, and science to elementary and middle school students.
- Collaborated with directors to develop personalized learning plans based on student progress and needs.

City Year Miami | **Miami Jackson Senior High School**
Team Leader and Math AmeriCorps Member | August 2021 - June 2022

- Led and managed a team of four AmeriCorps members, delivering academic tutoring, behavioral interventions, and school-wide initiatives to over 200 9th-10th grade students.
- Provided targeted support in Algebra 1 to 71 students, focusing on attendance, behavior, and academic improvement.
- Designed and implemented weekly interventions for 11 students to address critical academic and behavioral challenges.

Number Theory & Benford's Law Research Groups | **Polymath Jr. Program (Virtual)**
Assistant Director | June 2021 - August 2021

- Co-mentored 40 students alongside Professor Steven J. Miller and other researchers, guiding them through advanced research topics.
- Organized and facilitated a weekly seminar series for students to present research progress and receive feedback.
- Contributed to the production of several publications and conference presentations by program participants.

Associated Students of Harvey Mudd College | **Harvey Mudd College**
West Dorm Co-President | April 2018 - April 2019

- Represented West Dorm in Student Government, advocating for residents' interests and concerns.
- Co-led monthly dorm meetings, coordinating with fellow Co-Presidents to address community needs and enhance dorm life.

Languages

Programming/Markup:
- SageMath · Python · Java · C++

Written/Spoken:
- English (native) · Portuguese (native) · Spanish (fluent) · French (basic)

Last Updated: September 23, 2025