

THOMAS C. MARTINEZ

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EDUCATION

- University of California, Los Angeles** **2022 -**
PhD, Mathematics Los Angeles, California
- 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

- 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

- (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. Luntzlar, 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.

Papers to Appear

- (with T. Jaklitsch, S. J. Miller, S. Mukherjee) *Connections of class numbers to the group structure of generalized Pythagorean triples*. To appear in the Rocky Mountain Journal of Mathematics.
<https://arxiv.org/abs/2112.03663>

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.

MENTORED RESEARCH

- Harvey Mudd College Senior Thesis** **Fall 2020 - Spring 2021**
Extremal Combinatorics Mentor: Mohammed Omar
- University of Virginia REU** **Summer 2020**
Algebraic Number Theory and Algebraic Geometry Mentor: Ken Ono
- Harvey Mudd College Independent Study** **Fall 2019**
Enumerative Combinatorics Mentor: Arthur T. Benjamin
- Williams College SMALL REU** **Summer 2019**
Enumerative Combinatorics and Additive Number Theory Mentor: Steven J. Miller

CONFERENCES AND TALKS

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

TEACHING

Teaching Assistantships	UC Los Angeles
• Math 32A: Multivariable Differential Calculus [x2]	Fall 2023, Spring 2024
• Math 61: Introduction to Discrete Structures [x5]	Fall 2022 - Fall 2023, Spring 2024
• Math 115A: Linear Algebra	Winter 2024
• Math 33A: Linear Algebra and Applications	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 AND SEMINAR ORGANIZATION

• 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 Sarajevo – Sarajevo, Bosnia & Herzegovina)	July 2022
• 19th International Fibonacci Conference (Virtual, via Zoom)	July 2020

LEADERSHIP / OUTREACH

UCLA Directed Reading Program <i>Mentored undergraduate students in reading advanced topics which would not normally be covered in the course of undergraduate education.</i>	UC Los Angeles September 2023 -
• Anika Misra, Winter and Spring 2024: Graph theory	
• Thomas Slavonia, Winter 2024: Representation theory of the symmetric group	
• Akash Kote, Fall 2023: Probabilistic method in combinatorics	
The Motivational Edge <i>Volunteer Tutor</i>	Allapattah, FL September 2021 - March 2022
• Tutored elementary and middle school students weekly in mathematics, English, and science	
• Provided meaningful insights of the students I worked with to directors to create personalized learning plans	

City Year Miami*Team Leader and Math AmeriCorps Member*

- Led, developed, and managed team of four 21-24-year-old AmeriCorps members serving over 200 9th-10th grade students delivering academic tutoring, behavioral interventions, and whole school initiatives
- Provided attendance, behavior, and academic support in Algebra 1 for 71 9th-10th grade students
- Created and implemented weekly targeted academic and behavioral interventions for 11 students to address critical skill gaps

Miami Jackson Senior High School

August 2021 - June 2022

Number Theory & Benford's Law Research Groups*Assistant Director*

- Mentored 40 students in conjunction with Professor Steven J. Miller, other graduate students, and post docs
- Organized a weekly seminar series for participants to share progress
- Led to various publications and conference presentations for participants

Polymath Jr. Program (Virtual)

June 2021 - August 2021

Associated Students of Harvey Mudd College*West Dorm Co-President*

- Representative of my dorm in the Student Government meetings
- Responsible for leading monthly dorm meetings, along with my Co-Presidents

Harvey Mudd College

April 2018 - April 2019

LANGUAGES**Programming/Markup:**

- \LaTeX · Java · Python · C++

Written/Spoken:

- English (native) · Portuguese (native) · Spanish (fluent) · French (basic)

Last Updated: April 8, 2024