

# THOMAS C. MARTINEZ

tmartinez at math.ucla.edu

## EDUCATION

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<b>University of California, Los Angeles</b> PhD, Mathematics · Advisor: Pavel Galashin	<b>2022 -</b> Los Angeles, California
<b>Harvey Mudd College</b> BS, Mathematics · High Distinction and Honors in Mathematics Thesis: <i>The Slice Rank Polynomial Method</i> · Advisor: Mohamed Omar	<b>2017 - 2021</b> Claremont, CA

## HONORS/AWARDS

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<b>Greever Research Prize – Honorable Mention</b> <ul style="list-style-type: none"><li>Awarded by the Harvey Mudd College Math Department to a math major who has made an original contribution to the theory of mathematics.</li></ul>	<b>2021</b>
<b>Dorman Student Altruism Prize – Nominee</b> <ul style="list-style-type: none"><li>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.</li></ul>	<b>2021</b>
<b>Alvin White Prize</b> <ul style="list-style-type: none"><li>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.</li></ul>	<b>2020</b>

## PUBLICATIONS

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- (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.

## CONFERENCES AND TALKS

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<b>UCLA Combinatorics Learning Seminar</b> <i>The (Strong and Weak) Bruhat Order</i>	<b>Los Angeles, CA</b> June 2024
<b>UCLA Combinatorics Research Seminar</b> <i>Complex Weighted Tilings and Kasteleyn’s Theorem</i>	<b>Los Angeles, CA</b> April 2024
<b>UCLA Combinatorics Learning Seminar</b> <i>Introduction to Root Systems and Reflection Groups</i>	<b>Los Angeles, CA</b> April 2024
<b>UCLA Combinatorics Research Seminar</b> <i>Deograms and Dyck Paths</i>	<b>Los Angeles, CA</b> February 2024

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

## TEACHING

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<b>Teaching Assistantships</b>	<b>UC Los Angeles</b>
• Math 180: Graph Theory	Fall 2024
• 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 31B: Integration and Infinite Series	Winter 2024
<b>Tutoring</b>	<b>Harvey Mudd College</b>
• "Academic Excellence" Peer Tutor	Fall 2019 - Spring 2021
Proof-based Calculus, Linear Algebra, Differential Equations, Multivariable Calculus, Discrete Mathematics	

## CONFERENCE AND SEMINAR ORGANIZATION

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• 21st International Fibonacci Conference (Harvey Mudd College – Claremont, CA)	<b>July 2024</b>
• UCLA Combinatorics Learning Seminar (Coxeter Groups)	<b>Spring 2024</b>
• UCLA Combinatorics Research Seminar	<b>Spring 2024</b>
• UCLA Combinatorics Research Seminar	<b>Winter 2024</b>
• 20th International Fibonacci Conference (University of Sarajevo – Sarajevo, Bosnia & Herzegovina)	<b>July 2022</b>
• 19th International Fibonacci Conference (Virtual, via Zoom)	<b>July 2020</b>

## LEADERSHIP / OUTREACH

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<b>UCLA Learning Assistant Program</b> <i>Math Learning Assistant Coordinator</i>	<b>UC Los Angeles</b> 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.	
<b>UCLA Directed Reading Program</b> <i>Mentored undergraduates in advanced topics beyond standard undergraduate curriculum.</i>	<b>UC Los Angeles</b> September 2023 -
• 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	
<b>The Motivational Edge</b> <i>Volunteer Tutor</i>	<b>Allapattah, FL</b> 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***Team Leader and Math AmeriCorps Member*

- 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.

**Miami Jackson Senior High School**

August 2021 - June 2022

**Number Theory & Benford's Law Research Groups***Assistant Director***Polymath Jr. Program (Virtual)**

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***West Dorm Co-President***Harvey Mudd College**

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.

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**LANGUAGES****Programming/Markup:**

- $\text{\LaTeX}$  · Java · Python · C++

**Written/Spoken:**

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

Last Updated: October 1, 2024