Lucy Martinez

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Education

PhD in Mathematics, Rutgers University	September 2021 - Present
MS in Mathematics, Rutgers University	May 2023
BS in Mathematics, Stockton University	May 2021
Minor in Computer Science, Stockton University	May 2021

Teaching Experience

Rutgers University

1. Computer Science Grader - Graduate Linear Programming   Fall 2023
2. Academic Success Mentor   September 2022 - December 2023

   - Provided math tutoring and mentorship support through one-on-one sessions for all students.

   - Directly assisted students in developing effective study habits and academic self-efficacy through planning, facilitating workshops, and one-on-one sessions.

Stockton University

1. Head Mathematics Tutor   September 2020 - May 2021
2. Educational Opportunity Fund (EOF) Instructional Assistant   Summer 2018

   - Assisted students with academic tutoring during assigned tutoring modules.

   - Attended afternoon and evening tutoring modules for a six week program designated for low-income, underprivileged students.

3. Mathematics Tutor   April 2018 - April 2021
4. Workshop Mathematics Tutor   January 2018 - April 2021

   - Served as a math workshop tutor to linked sections of Quantitative Reasoning courses.

   - Provided one-on-one assistance and reinforced material learned in class to the students.

   - Proctored quizzes and graded them.

Mentoring Experience

1. Summer@ICERM: Computational Combinatorics   Summer 2022
   Graduate Research Assistant

Fellowships

National Science Foundation (NSF) Graduate Research Fellowship	2021 - 2026
Rutgers School of Arts and Sciences (SAS) Excellence Fellowship	2022 - 2023
Rutgers School of Graduate Studies Dean's Fellowship	2021 - 2022

Research Experience

East Tennessee State University, ETSU REU	June - August 2020

1. Research advised by Dr. Fernando Piñero.
2. Title: Minimum Rank of Regular Bipartite Graphs.

East Tennessee State University, ETSU REU	June - August 2020

1. Research advised by Dr. Anant Godbole.
2. Title: Involution Derangement Graphs.

Stockton University	March - November 2020

1. Research advised by Dr. Bradley Forrest.
2. Title: Nonisomorphic Trees and their Chromatic Symmetric Function.

Mathematical Sciences Research Institute, MSRI-UP	June - July 2019

1. Research advised by Dr. Pamela E. Harris.
2. Title: On Kostant's weight q-multiplicity formula for $\mathfrak{sl}_4(\mathbb{C})$. AAECC (2020).

Research Publications

2. *Repetitions of Pak-Stanley labels in G-Shi arrangements*, with Cara Bennett, Ava Mock, Gordon Rojas Kirby, and Robin Truax. To appear in Discrete Mathematics.
1. *On Kostant's weight q-multiplicity formula for $\mathfrak{sl}_4(\mathbb{C})$,* with Rebecca E. Garcia, Pamela E. Harris, Marissa Loving, David Melendez, Joseph Rennie, Gordon Rojas Kirby, and Daniel Tinoco. AAECC (2020).

Expository Papers

2. *A Guide to the Risk-Averse Gambler and Resolving the St. Petersburg Paradox Once and For All*, with Doron Zeilberger. Submitted.
1. *How many dice rolls would it take to reach your favorite kind of number?,* with Doron Zeilberger. To appear in Maple Transactions.

Talks and Presentations

Research Talks

8. Moravian College, Student Mathematics Conference, February 2021
   Minimum Rank of Regular Bipartite Graphs
7. Joint Math Meetings, Special Session on Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs, January 2021
   Minimum Rank of Regular Bipartite Graphs
6. Canadian Mathematical Society Winter Meeting, Algebraic Combinatorixx (Women in AC), December 2020
   Minimum Rank of Regular Bipartite Graphs
5. The Ohio State University, Young Mathematicians Conference, August 2020
   Involution Derangement Graphs
4. Clemson University, South Carolina, REU Conference, July 2020
   Involution Derangement Graphs
3. Moravian College, Student Mathematics Conference, February 2020
   Closed formulas for Kostant's Partition Function for $sl_4(\mathbb{C})$

2. Dalhousie University, Canada, Combinatorial Algebra meets Algebraic Combinatorics, January 2020
   Geometric Constructions for Lie Algebra Type A_3
1. Mathematical Sciences Research Institute, MSRI, Berkeley, CA, July 2019
   The q-Analog of Kostant's Weight Multiplicity Formula for $\mathfrak{sl}_4(\mathbb{C})$

Seminar and Colloquium Talks

7. The College of New Jersey, Mathematics and Statistics Colloquium, October 2023
   The Power of Computation
6. Stockton University, Mathematics Seminar, September 2023
   The G-Shi Arrangement: Pak-Stanley Labels and Games on Paths
5. Berkeley University, Combinatorics Seminar, March 2023
   The G-Shi Arrangement: Pak-Stanley Labels and Games on Paths
4. Stockton University, Mathematics Seminar, October 2022
   Introduction to chip-firing
3. Stockton University, Mathematics Seminar, November 2020
   Chromatic Symmetric Function of Trees
2. Stockton University, Mathematics Seminar, March 2020
   Geometric Constructions for Lie Algebra Type A_3
1. Stockton University, Mathematics Seminar, October 2019
   My Research Experience working with Combinatorics and Discrete Math

Research Poster Presentations

2. Colorado Convention Center, Joint Math Meetings (JMM), January 2020
   Weyl alternation sets for $\mathfrak{sl}_4(\mathbb{C})$
1. The Hawaii Convention Center, SACNAS Conference, November 2019
   Weyl alternation sets for $\mathfrak{sl}_4(\mathbb{C})$

Grants and Other Funding

4. FoCM Conference Travel - NSF Grant DMS #2232812 ($1,900)	June 2023
3. Mathematically Gifted and Black Grant #00000039 ($500)	June 2023
2. Stockton University REU ($1,000)	December 2019
1. Stockton Student Travel Fund ($1,250)	October 2019

Awards and Honors

AAECC Best Paper Award of 2022	2023
Awarded for publication #1: *On Kostant's weight q-multiplicity formula for $\mathfrak{sl}_4(\mathbb{C})$*	
Princeton Prospective PhD Preview (P3) Program - Honorific Mention	2020
Stockton University Foundation Scholarship	2019 - 2021
Math Alliance Scholar	2019 - 2021
Hispanic Fund Scholarship	2019 - 2021
Dean's List	2017 - 2021

Writing Contributions to the Profession

6. A model for a one-hour workshop on mentoring, with Pamela E. Harris, Zoe Markman, Ava Mock, Eric J. Pabón Cancel, Amanda Verga, and Susan Wang. MAA FOCUS, Vol. 41, No. 1, February/March 2023, p. 18-21.
5. Ten Tips to Being Productive Online for Students - and Everyone. Math Values. February 25, 2021.
4. Supporting math majors and grad students in the time of pandemic, with Pamela E. Harris, and Giovanny Marquez, e-Mentoring Network in the Mathematical Sciences-connecting students and mentors. AMS blogs. January 26, 2021.
3. Networking Basics for Math Undergrads, with Joanne Beckford, Alex Christensen, Pamela E. Harris, Eduardo Torres Davila, and Fabrice O. Ulysse, e-Mentoring Network in the Mathematical Sciences-connecting students and mentors. AMS blogs. July 21, 2020.
2. Learning During the Pandemic: What we wish our professors and mentors knew, with Mayleen Cortez, Melissa Gutierrez, Pamela E. Harris, Brooke Keene-Gomez, Amaury Minino, Alicia Prieto Langarica, Kelemua Tesfaye, and Stephanie, e-Mentoring Network in the Mathematical Sciences-connecting students and mentors. AMS blogs. May 04, 2020.
1. Bank of REU/Grad Fair Questions, with Eduardo Torres Davila, e-Mentoring Network in the Mathematical Sciences-connecting students and mentors. AMS blogs. January 24, 2019.

Professional Development

Panels

- Graduate School Workshop: Funding and Fellowships Panel, The Women+ of Color Project, October 2022
  Panelist

- Graduate School Panel, Summer@ICERM, June 2022
  Panelist

- Undergraduate Research Student Panel, Professional Development Workshop, Center for Undergraduate Research in Mathematics, June 2022
  Panelist

- YSU Beginning Undergraduates' Mathematical research Preparation (BUMP) Panel, Youngstown State University, May 2022
  Panelist

- Current Issues: What can we do to support math majors and grad students in the time of pandemic?, AMS Panel Session on Education, Joint Math Meetings, January 2021
  Panelist

- Student Panel, IMA/Math Alliance Workshop, University of Minnesota, July 2020
  Panelist

- Educational Opportunity Fund (EOF), Stockton University, July 2020
  Panelist

Service and Outreach

- *Committee Member*, Department of Mathematics Climate Committee, Rutgers University, 2023-2024.

- *Speaker*, Critical Issues in Mathematics Education, Mathematical Sciences Research Institute (MSRI), March 2023.
  Title: Mentoring Experiences Through the Lens of a Mentee.

- *Facilitator/Host*, Cafe Con Leche, Research Talk hosted by Latinxs and Hispanics in the Mathematical Sciences, March 2022.

- *Co-President and Co-founder* of the Stockton Women in Math (SWIM), AWM Chapter, September 2020 - May 2021.

- *Volunteer*, Networking/Speaker Series, Summer Math and Science Honors Academy (SMASH), July 2020.

- *Volunteer*, Homework Completion Program, Atlantic City Library, NJ, March 2020.

- *Volunteer*, Networking/Speaker Series, Summer Math and Science Honors Academy (SMASH), July 2019.

- *Proctor*, High School Math Mayhem Competition, Stockton University, April 2019.

- *Service-Learning Coordinator* of the Alliance of Educational Opportunity Fund (EOF) Students of NJ, September 2019 - May 2020.

Professional Activities

Summer Schools

Applied Math skills Improvement for Grad studies (AMIGAs) - IPAM	July 2023
Algebraic Methods in Combinatorics - UIUC	June 2023
Graph Coloring - UIUC	May 2023

Workshops Participation

Modern Math Workshop - IMSI	October 2023
Foundations of Computational Mathematics - Sorbonne Université	June 2023
Modern Math Workshop - MSRI	October 2022
Open Problems in Algebraic Combinatorics (OPAC) - UMN	May 2022
The Women of Color Project - Harvard University	October 2020
IMA/Math Alliance Workshop on Career Paths - UMN	July 2020
Modern Math Workshop - MSRI	October 2019

Programs

Latinas Achieve in STEM (LaSTEM)	February - April 2021

- This 7-week program was offered to 5 undergraduate Latinas interested in pursuing careers in STEM.
- As one of the projects, we created a website which is showcased in the Student Transition Programs at Stockton University.

Memberships

Association for Women in Mathematics (AWM)	July 2020 - July 2021
American Statistical Association (ASA)	November 2019 - November 2020
Pi Mu Epsilon (Member, 2019-2020 Secretary)	September 2019 - May 2021
Advancement of Chicanos/Hispanics and Native Americans in Science, (SACNAS)	July 2019 - Present

Skills

Technology

Proficient in LaTeX, Sage, Maple and CoCalc. Some experience with HTML, Java and Python.

Other

Fluent in English and Spanish, both written and verbal.