

DANIEL PAUL MAES

University of Michigan Department of Mathematics - Ann Arbor, MI, USA

P: (858) 900 - 8648 ◊ E: dmaes@umich.edu

EDUCATION

University of Michigan

May 2020

M.S. in Applied and Interdisciplinary Mathematics

Marjorie Lee Browne Scholar

Fall 2018 - Present

Valdovinos Lab Member

Winter 2019 - Present

Williams College

June 3, 2018

B.A. in Mathematics (with Honors) and Statistics

Honors Thesis in Mathematics

Fall 2017 - Spring 2018

Mellon Mays Undergraduate Fellow

Spring 2016 - Spring 2018

SIAM, Williams Chapter Member/Board Member

Fall 2016 - Spring 2018

AMS, Williams Chapter Member/Vice President

Fall 2016 - Spring 2018

TECHNICAL SKILLS

- R/RStudio/RMarkdown
- MATLAB, Mathematica
- Basic Python/Java
- L^AT_EX Formatting for Papers and Presentations
- Applied Math Research and Modeling
- Group and Individual Presentations

COURSES TAUGHT

- MATH 105 - Data, Functions, and Graphs (University of Michigan, Fall 2018)
- MATH 115 - Calculus I (University of Michigan, Winter 2019)

RESEARCH EXPERIENCE

Mellon Mays Undergraduate Fellowship (MMUF)

June 2016 - June 2018

Undergraduate Research Fellowship

- MMUF is a funded research fellowship, aimed to help underrepresented minorities in academia pursue their doctorate degrees and careers in the professoriate.
- Worked on a research project titled *Understanding Critical Mass at UC Berkeley: Creating Predictive Models for Affirmative Action Policies in Undergraduate Admissions in the United States*.
- Used predictive models to assess the efficacy of specific affirmative action policies.

NCSU REU: Modeling and Industrial Applied Mathematics

May 2017 - August 2017

Undergraduate REU Research

- Participated in a small group focused on financial mathematics research.
- Found optimal investment strategies for Leveraged Exchange-Traded Funds (LETFs).
- Created a poster which was displayed in an undergraduate research symposium at the end of the REU.

HONORS & AWARDS

- **Outstanding Presentation Award.** Mathematical Association of America undergraduate paper session at MathFest 2018. Denver, Colorado. August 2, 2018.
- **Williams College Morgan Prize in Mathematics.** To a senior major with accomplishment and promise in applied mathematics, statistics, or mathematics teaching. Williams College Department of Mathematics & Statistics. June 2, 2018.
- **Sigma Xi (Associate Member), The Scientific Research Honors Society.** Inducted on June 2, 2018.
- **Honors Thesis, Mathematics.** Williams College Department of Mathematics & Statistics. May 2018.
- **Deans List.** Williams College. Spring 2016, Fall 2016, Fall 2017, and Spring 2018.
- **Ford Foundation Fellowship Honorable Mention.** Honorable Mention for the Ford Foundation Predoctoral Fellowship. March 2018.
- **Outstanding Poster Award.** Mathematical Association of America undergraduate poster session at the 2018 Joint Mathematics Meeting. San Diego, California. January 13, 2018.
- **Institute for Recruitment of Teachers (IRT) Associate.** May 2017 - April 2018.
- **Mu Sigma Rho, The National Statistics Honorary Society.** Nominated by Professor Richard De Veaux, Williams College. Nomination accepted on March 24, 2017.
- **Academic Achievement List.** IFSA-Butler, Kings College London. Spring 2017.

TALKS, PRESENTATIONS, & POSTERS

- **Creating Predictive Models for Racial Affirmative Action Policies in U.S. Undergraduate Admissions.** SIAM Conference on Applications on Dynamical Systems. Snowbird, Utah. May 22, 2019.
- **Using Markov Chains to Assess Critical Mass.** MAA MathFest 2018. Denver, CO. August 2, 2018.
- **Understanding Critical Mass at UC Berkeley: Creating Predictive Models for Affirmative Action Policies in Undergraduate Admissions in the United States.** Thesis Defense, Honors Thesis in Mathematics. Williams College Dept. of Mathematics. Williamstown, MA. May 7, 2018.
- **Optimal Investment Strategies and Portfolio Analysis of Leveraged Exchange-Traded Funds (LETFs).** AMS Joint Mathematics Meeting. San Diego, CA. January 12, 2018.
- **A Financial Statistical Approach for Leveraged Exchange-Traded Funds (LETFs).** Student Colloquium, Statistics Major. Williams College Dept. of Mathematics. Williamstown, MA. September 27, 2017.
- **Optimal Investment Strategies and Portfolio Analysis of Leveraged Exchange-Traded Funds (LETFs).** North Carolina State University Undergraduate Research Symposium. Raleigh, North Carolina. August 1, 2017.
- **The Criticality of Critical Mass: Understanding Affirmative Action Policy in United States Undergraduate Admissions.** Mellon Mays Summer Colloquium. Williamstown, MA. July 20, 2016.
- **To Vaccinate or Not to Vaccinate: The infection dynamics and treatment of syphilis and gonorrhea.** Group presentation with Calvin Ludwig and Emily Sundquist. Williams College Department of Mathematics. Williamstown, MA. May 18, 2016.

PROFESSIONAL MEMBERSHIPS

- American Mathematical Society (AMS)
- American Statistical Association (ASA)
- Society for Industrial and Applied Mathematics (SIAM)
- Mu Sigma Rho, The National Statistical Honors Society
- Sigma Xi, The Scientific Research Honors Society

ARCHIVED WORK

- *Assessing Critical Mass at UC-Berkeley: Creating Predictive Models for Affirmative Action Policies in Undergraduate Admissions in the United States.* Williams College Library. Unbound: Williams Digital Collections, Student Theses. May 2018. <https://unbound.williams.edu/theses/islandora/object/studenttheses%3A1265>