Catalina Mari Medina

Statistics PhD Student
University of California, Irvine
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Education

PhD Statisics   Sep. 2019 - Jun. 2024 [Projected]
University of California, Irvine (UCI)
Advisor: Volodymyr M Minin

MS Statistics   Sep. 2019 - Jun. 2021
University of California, Irvine

BS Mathematics (specialization in Statistics)   Aug. 2015 - May 2019
Minor in Biology
University of Nevada, Reno (UNR)

Research Interests

Bayesian statistics and epidemiological applications of statistics to better understand disease and infection.

Statistics and data science education promoting replicability, open source and open access materials.

Publications

Parker DM, **Medina C**, et al. Determinants of exposure to Aedes mosquitoes: a comprehensive geospatial analysis in peri-urban Cambodia. *Acta Tropica*. 2023.
https://doi.org/10.1016/j.actatropica.2023.106829.

Parker DM, Bruckner T, Vieira VM, **Medina C**, Minin VN, et al. Epidemiology of the early COVID-19 epidemic, Orange County, California, USA. *Emerging Infectious Diseases*. 2021 Oct.
https://doi.org/10.3201/eid2710.210103.

Fellowships

2022 Summer Teaching Apprenticeship Program Fellow. UCI Division of Teaching Excellence and Innovation.

2019 UC Irvine Graduate Dean's Recruitment Fellow. UCI Graduate Division.

Awards

2023 Donald Bren School of Information and Computer Sciences Excellence in Research Award at the UCI Latino Excellence and Achievement Awards Dinner.

2022 SACNAS National Diversity in STEM Conference Travel Award.

2020 Outstanding Graduate Teaching Assistant Award. UCI Donald Bren School of Information and Computer Sciences, Department of Statistics.

2019 Nevada Undergraduate Research Award.

2018 Runner Up for the Prize for Undergraduate Research in Quantitative Biology. NSF-Simons Center for Quantitative Biology and Department of Molecular Biosciences, Northwestern University.

2018 SACNAS National Diversity in STEM Conference Travel Award.

2018 Mathematical Biosciences Institute Capstone Conference Travel Award. Ohio State University.

Certifications

2021 Certification in Stochastic Epidemic Models with Inference from University of Washington Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID).

2021 Certification in MCMC II for Infectious Diseases from SISMID.

2021 Certification in Evolutionary Dynamics and Molecular Epidemiology of Viruses from SISMID.

Programs and Professional Membership

American Statistical Association Member

Society for the Advancement of Chinanos/Hispanics and Native Americans in Science (SACNAS) Member

2018-2019 McNair Scholar. University of Nevada, Reno

Conference Presentations

Workshops

United States Conference on Teaching Statistics (USCOTS). State College, PA   June 2023
Automate your grading workflow with gradetools: a grading assistant in RStudio.

Posters

SACNAS National Diversity in STEM Conference. San Juan, Puerto Rico   Oct. 2022
Accounting for reporting delay in real-time estimation of infectious diseases dynamics using pathogen genetic sequences.

GEOMED: Interdisciplinary conference on spatial statistics, spatial epidemiology, and geographical aspects of public health. University of California, Irvine   Oct. 2022
Determinants of exposure to Aedes mosquitoes: a comprehensive geospatial analysis in peri-urban Cambodia.

UNR College of Science Poster Competition. University of Nevada, Reno   Nov. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

Conference on Quantitative Approaches in Biology. Northwestern University, Evanston, IL Nov. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

SACNAS National Diversity in STEM Conference. San Antonio, TX   Oct. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

MBI Capstone Conference. Mathematical Biosciences Institute, Columbus, OH   Aug. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

Talks

UNR McNair Symposium. University of Nevada, Reno   Aug. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

UCLA National McNair Conference. University of California, Los Angeles   Jul. 2018
Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework.

Software Developed

    `gradetools` R package helps automate grading workflow and facilitates in creating individualized assignment feedback for students. (*co-developer*) `https://federicazoe.github.io/gradetools/`

Professional Service and Outreach

    Student representative in the UCI statistics department.   Fall 2021 - Current

    Mentor in DECADE mentoring program for UCI Statistics PhD students.   2021 - Current

    Panelist for Societal and Ethical Issues in Computational and Informational Sciences. Organized by UCI School of Information and Computer Science's Diverse Educational Community and Doctoral Experience (DECADE) team   April 2023

    Created and maintain animated maps for COVID-19 Trends by UC Irvine website to visualize Orange County COVID-19 cases, tests, and percent positivity by zip code for the public. `https://www.stat.uci.edu/covid19/index.html`   2021

    Panelist for college career discussion for 1st year class of Mathematics, Physics, and Atmospheric Science majors at UNR.   Nov 2020

    Panelist for graduate school panel for UNR students hosted by Association for Women in Mathematics (AWM).   Nov 2020

    Presented on my early graduate school experience and life at UCI for the UNR 2020 cohort of McNair Scholars.   Dec 2020.

Teaching Experience

    UCI Instructor of Record

        Basic Statistics (Stats 7)   Summer 2022

    UCI Teaching Assistant

        Introduction to Probability and Statistics I (Stats 120A)   Fall 2022

        Statistical Methods for Data Analysis I (Stats 110)   Summer 2021

        Introduction to Probability and Statistics (Stats 120A)   Summer 2020

        Introduction to Probability and Statistics for Computer Science (Stats 67)   Spring 2020

        Statistical Methods for Data Analysis II (Stats 111)   Winter 2020

        Introduction to Biological Statistics (Stats 8)   Fall 2019

    UNR Instructor of Record

        Elementary Algebra (Math 95)   Summer 2019

        Intermediate Algebra (Math 96)   Summer 2019