

Catalina Medina

Statistics PhD Student
University of California, Irvine
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Education

PhD Statistics University of California, Irvine (UCI) Advisor: Vladimir N. Minin	Sep. 2019 - Jun. 2024 [Projected]
MS in Statistics University of California, Irvine	Sep. 2019 - Jun. 2021
BS Mathematics (specialization in Statistics) Minor in Biology University of Nevada, Reno (UNR)	Aug. 2015 - May 2019

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

1. (In submission to *Acta Tropica*) Parker DM, **Medina C**, Bohl J, Lon C, Chea S, Lay S, et al. Determinants of exposure to Aedes mosquitoes: a comprehensive geospatial analysis in peri-urban Cambodia. *medRxiv*. 2022. <https://doi.org/10.1101/2022.09.12.22278870>.
 2. Parker DM, Bruckner T, Vieira VM, **Medina C**, Minin VN, Felgner PL, 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>.
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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

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. University of Washington, Seattle, WA
Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID).

2021 Certification in MCMC II for Infectious Diseases. (SISMID).

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

Programs and Professional Membership

American Statistical Association Member

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

2018-2019 McNair Scholar. University of Nevada, Reno

Conference Presentations and Posters

SACNAS National Diversity in STEM Conference (Oct. 2022) San Juan, Puerto Rico.

Accounting for reporting delay in real-time estimation of infectious diseases dynamics using pathogen genetic sequences. Poster presentation

GEOMED: Interdisciplinary conference on spatial statistics, spatial epidemiology, and geographical aspects of public health (Oct. 2022) University of California, Irvine, Irvine, CA.

Determinants of exposure to Aedes mosquitoes: a comprehensive geospatial analysis in peri-urban Cambodia. Poster presentation

UNR College of Science Poster Competition (Nov. 2018) University of Nevada, Reno, Reno, NV.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Poster presentation

Conference on Quantitative Approaches in Biology (Nov. 2018) Northwestern University, Evanston, IL.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Poster presentation

SACNAS National Diversity in STEM Conference (Oct. 2018) San Antonio, TX.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Poster presentation

MBI Capstone Conference (Aug. 2018) Mathematical Biosciences Institute, Columbus, OH.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Poster presentation

UNR McNair Symposium (Aug. 2018) University of Nevada, Reno, Reno, NV.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Oral presentation

UCLA National McNair Conference (Jul. 2018) University of California Los Angeles, Los Angeles, CA.

Host-pathogen dynamics: Quantifying process-level variation using a system-specific dynamical model in a non-linear mixed effects modeling framework. Oral presentation

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
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
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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
