

# LAUREN CAPPIELLO

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## EDUCATION

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Ph.D., Applied Statistics  
B.S., Statistics, *summa cum laude*

University of California, Riverside  
University of California, Riverside

## COURSES TAUGHT

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### California State University, Sacramento

Assistant Professor

Aug 2020 - ongoing

- Stat 1 Introduction to Statistics
- Stat 115A Introduction to Probability Theory
- Stat 115B Introduction to Mathematical Statistics
- Stat 128 Statistical Computing
- Math 26A Calculus I for the Social and Life Sciences

### University of California, Riverside

Instructor of Record

Jul 2018 - Dec 2019

- Stat 100A Introduction to Statistics I
- Stat 100B Introduction to Statistics II

## MENTORING

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### Undergraduate Research Projects

Feini Pek, CSUS Mathematics Major

Fall 2021 – ongoing

- Feini ran statistical analyses for a research project conducted in Andrew Ream's lab in the CSUS Biology Department. We worked on R for statistical analyses and data visualization as well as the use of non and semi-parametric tests.

### Sacramento State U-Mentor Program

Mentor

Spring 2022

- Worked with two students on academic and career advising as well as "overall achievement of success".

### ATHENA by Women in STEM

Mentor, The Talaria Summer Institute

- Remote mentored research program for underrepresented female and genderqueer high school students.
- Mentee Shriya used Python to scrape Twitter data for a sentiment analysis on the use of face masks during the first months of the COVID-19 pandemic. July 2020
- Mentee Ganah learned about chemical engineering research and plastic decomposition by writing a short literature review. Summer 2022

## PUBLICATIONS

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Herrmann, J. Koprowska A., Winters T.J., Villanueva N., Nikityuk V., Pek F., Reis E.M., Dominguez C., Davis D.E., McPherson E., Rocco S.R., Recendez C., Difuntorum S., Faeth K., Lopez M.D., Awwad H., Ghobashy R.A., **Cappiello L.**, Neidle E.L., Quiones-Soto S., Reams A.B. *Gene amplification mutations originate prior to selective stress in Acinetobacter baylyi*. In review.

Flores, A., **Cappiello, L.** *Challenges and successes of emergency online teaching*. (Brief Communication). In revision.

**Cappiello, L.**, Zhang, Z., Shenn C., Butala N., Cui X., Yeh R. (2021). *Adjusting for population differences using machine learning methods*. J R Stat Soc Series C. doi.org/10.1111/rssc.12486

**Cappiello L.** (2020). *Adjusting for population differences using applied machine learning methods*. Doctoral dissertation, UC Riverside. (Advisors: Zhiwei Zhang and Xiping Cui)

**Cappiello L.** (2016). *A novel estimation technique for a five-parameter bivariate beta distribution*. Honors capstone project, UC Riverside. (Advisor: James Flegal)

## PRESENTATIONS

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*Applied machine learning methods in adjusting for population differences*. Invited talk. Orange County Biostatistics Symposium. (2020). Remote due to COVID-19.

*A novel estimation technique for a five-parameter bivariate beta distribution*. Poster presentation. International Biometric Society Eastern North American Region Meeting. (2016). Austin, Texas.

## STATISTICAL CONSULTING AND DATA ANALYSIS

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### Academic

Erin Green, CSUS Assistant Professor of Physical Therapy Summer 2021

- Complete data cleaning, analysis, and write up for an American Council of Academic Physical Therapy survey.

Brief consultations for CSUS faculty and students 2020 - ongoing

- Topics have included beta regression for longitudinal data; time series analysis; and propensity score matched data in structural equation modeling.

UC Riverside Graduate Quantitative Methods Center (Lead Consultant) Jul 2018 - Jun 2019

- Provided statistical and computational consultations to graduate students and postdoctoral researchers from across campus.
- Developed and taught workshops, seminars, and instructional labs: *Introduction to Statistical Inference*; *Introduction to ANOVA*; *Introduction to Programming*; *Introduction to Multilevel Modeling*; *Introduction to SAS*; *Introduction to R*; *Intermediate Topics in R*; *Overview of Causal Inference*; *Improving Research Credibility*; *Writing Articles in LaTeX*; *The UCR LaTeX Dissertation Template*; and *Experimental Design*

### UNCF Institute for Capacity Building - Excelencia - Coleridge Initiative

CSUS/CSUN Team Member (Beta Cohort), *Leveraging Big Data to Achieve Equity* Jan 2022 - Jun 2022

- Worked with data from the National Center for Science and Engineering Statistics to write research report *Factors mediating time to doctorate degree and female academic career pathways*.

CSUS Co-Principal Investigator (Gamma Cohort), *Leveraging Big Data to Achieve Equity* Aug 2022 - Jan 2023

- Expanding the work completed during the Beta Cohort into a more robust research paper.

### Industry and Government

California State Controller's Office - Division of Audits (Principal Investigator) July 2022 – July 2025

- Took over a long-term, on-call statistical consulting contract for applied statistics and to provide training on audit sampling.

## GRANTS

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### Received

#### California State University, Sacramento

*Curriculum Redesign Grant: Achieving Equitable Outcomes in Undergraduate Programs* Fall 2021

- Proposed (with Sayonita Ghosh Hajra, Jasdeep Pannu, and Topaz Wiscons) to redesign Math 10, Essentials of Algebra. This proposal was funded for the full \$39,654.12 requested.

*Curriculum Redesign Grant: Achieving Equitable Outcomes in Undergraduate Programs* Spring 2022

- Proposed (with Sayonita Ghosh Hajra, Jasdeep Pannu, and Topaz Wiscons) to redesign Stat 1, Introduction to Statistics. This proposal was funded for the full \$40,000 requested.

*Summer Online Course Design Grant*

Spring 2021

- Redesigned Stat 1, Introduction to Statistics, to be a six-week, fully online course that could be taken asynchronously. This course was offered in Summer 2021.

## Applied

### California State University, Sacramento

*Pedagogy Enhancement Award*

Fall 2021

- Proposed (with Jasdeep Pannu) to redesign Stat 103, Intermediate Statistics.

### California State University

*CREATE (Creating Responsive, Equitable, Active Teaching and Engagement Awards Program)* Spring 2022

- Proposed with Lynn Tashiro, Topaz Wiscons (PIs) along with Jasdeep Pannu, Sayonita Ghosh Hajra, Eliza Morris, and Kimberly Mulligan.

## PROFESSIONAL DEVELOPMENT

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### The Association of College and University Educators (ACUE)

- Microcredential: *Designing Student-Centered Courses*

Spring 2022

### Mathematical Association of America

Aug 2021 - Aug 2022

Fellow, *Project NExT (New Experiences in Teaching)*

### California State University, Sacramento

- *Designing Student Centered Courses: Math Group*. Professional Learning Community 2022
- *Flexible Fundamentals Workshop*. Faculty Learning Community Summer 2021
- *Designing for Student Success: Building Inclusive Practices by Interrogating Power and Privilege*. Professional Learning Community 2020 - 2021
- *Teach ON!-Line Summer Camp* Aug 2020

## OTHER PRESENTATIONS AND WORKSHOPS

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Panelist, *Balancing Teaching/Research/Service & Professional and Personal Life* May 12, 2022  
UC Riverside Career Mentoring of Underrepresented STEM Students for the Professoriate Remote

Panelist, *Alumni Speakers* Jan 10, 2022  
CSUS Summer Grant Program Remote

Discussion leader (with Dr. Analisa Flores, UC Riverside)  
*Challenges and Successes of Emergency Online Teaching: Where Do We Go From Here?* Aug 2, 2021  
Birds of a Feather Discussion at the Joint Statistical Meeting Remote

Panelist, *The Transition from Student to the Professoriate* May 13, 2021  
UC Riverside Career Mentoring of Underrepresented STEM Students for the Professoriate Remote

Panelist, *Getting Hired: CSUs and Community Colleges* May 6, 2021  
UC Riverside Teaching Careers Week Remote

Panelist, *Meeting With Alumni* Jan 15, 2021  
National Institute of Statistical Sciences Graduate Student Network Remote

## SERVICE TO UNIVERSITY

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### California State University, Sacramento

University

- General Education Course Review Subcommittee

2021 - ongoing

- Subcommittee Chair Fall 2022 - ongoing
- Alternate Math Department Representative, Faculty Senate 2022 - 2023

#### Department of Mathematics and Statistics

- Search Committee 2021 - 2022
- Core Curriculum Committee 2021 - 2022
- Social Committee 2021 - 2022
- Curriculum Committee 2020 - 2021
- Calculus Committee 2020 - 2021

Editorial Board, Cummings J. *Proofs, A Long-Form Mathematics Textbook.* 2021

#### University of California, Riverside

- President and Cofounder, Statistics Graduate Student Association 2019 - 2020
- Graduate Student Ambassador, Statistics Department 2019 - 2020
- President, Mu Sigma Rho 2018 - 2020
- Secretary, Mu Sigma Rho 2017 - 2018

### SERVICE TO COMMUNITY

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#### Mathematical Association of America

Co-Coordinator - Gold '21 Cohort, *Project NExT*

- Coordinated six Project NExT Sessions for the Joint Mathematical Meeting. Winter/Spring 2022
  - *Mastery-Based Grading*
  - *Undergraduate Research*
  - *De-Westernizing the History of Mathematics*
  - *Establishing Interdisciplinary Collaborations*
  - *Advocating for Students of Color*
  - *Project-Based Learning*
- Organized six Project NExT Sessions for MathFest in Philadelphia, PA. Summer 2022
  - *Maximizing In-Person Student Engagement After Online Learning*
  - *Drowning in Homework: Making Grading More Efficient*
  - *Navigating Student Mental Health Issues*
  - *So You Want to Build a New Course: Curriculum Development*
  - *Project NExT Made Us Do It: Successes, Failures, and What We Wished We Had Known Before*
  - *Supporting a Co-Curricular Math Community*
- Discussion leader, MAA Golden Section small group meeting at MathFest. Summer 2022

#### Sacramento Statistical Association

Secretary February 2022 - ongoing

- SSA hosted the short course, *An Introduction to Second-generation p-values and their Use in Statistical Practice* by Drs. Jeffrey Blume and Megan Murray. September 1, 2022

#### The Consortium for the Advancement of Undergraduate Statistics Education with the American Statistical Association

Judge, Undergraduate Research Project category, *Undergraduate Statistics Project Competition* Jan 2022

#### California State University

- Northern California Data Science Alliance 2021 - ongoing

#### Gage by 500 Women Scientists

Resource, *Request a Woman Scientist* 2018 - ongoing

## Reviewer

- Journal of Statistical Theory and Practice

## PROFESSIONAL ORGANIZATIONS

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American Statistical Association	2019 - ongoing
· Section on Statistics and Data Science Education	
· Section on Teaching of Statistics in the Health Sciences	
· Section on Nonparametric Statistics	
· Sacramento Statistical Association	
· Justice, Equity, Diversity, and Inclusion Outreach Group	
Mathematical Association of America	2021 - 2022

## ONLINE PUBLICATIONS AND EDUCATIONAL BLOG POSTS

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Educational RShiny Apps (available at <a href="https://lgpcappiello.github.io/teaching/shinyapps/">lgpcappiello.github.io/teaching/shinyapps/</a> ):	
· <i>Simulating the Central Limit Theorem</i>	2022
· <i>The Normal Approximation to the Binomial Distribution</i>	2022
· <i>Normal Distribution Calculator</i>	2022
Educational Blog Posts (available at <a href="https://lgpcappiello.github.io/blog/year-archive/">lgpcappiello.github.io/blog/year-archive/</a> ):	
· <i>Using LaTeX Equations in Github Pages</i>	2022
· <i>Character Stats</i> (Discusses simulation and order statistics.)	2022
· <i>Rolling with Advantage and Disadvantage</i> (Covers some basic rules of probability.)	2022
· <i>A Gentle Introduction to Probability Using Dice</i>	2021
· <i>Dungeons and Dragons Character Generator, an RShiny App</i>	2020
<i>Untitled.</i> (Accepted 2019) Union of Concerned Scientists blog.	
<i>Learning to Love Statistics.</i> (2018) University of California, Riverside Graduate Student Resource Center blog. Republished on my website <a href="https://lgpcappiello.github.io/lovestatistics/">lgpcappiello.github.io/lovestatistics/</a> .	

## MEDIA

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Interviewed for *Excited to go back: Sac State students weigh in on fall 2021 teaching modalities.* (2021) The State Hornet. [statehornet.com/2021/04/sac-state-students-fall-2021-in-person-opinions/](https://statehornet.com/2021/04/sac-state-students-fall-2021-in-person-opinions/)