Cody Carroll

Curriculum Vitae

Department of Statistics
University of California, Davis
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codycarroll.github.io

Education

2021 (expected)	**PhD in Statistics**, *University of California, Davis*. Advisor: Hans-Georg Müller
2017	**MS in Statistics**, *University of California, Davis*.
2014	**BS in Mathematics**, *University of Texas, Austin*.

Research Interests

Functional and longitudinal data analysis– time dynamics of multivariate functional data; constrained functional data analysis; imputation; analysis of random objects

Publications and Preprints

[1] *co-first authorship*
[2] *co-second authorship*

Published/In Press

2020	*Cross-component Registration for Multivariate Functional Data, with Application to Growth Curves* **C. Carroll**, H.-G. Müller, and A. Kneip, *Biometrics* 2020, `doi.org/10.1111/biom.13340`.
2020	*Time-Dynamics of COVID-19* **C. Carroll**, S. Bhattacharjee, Y. Chen, P. Dubey, J. Fan, A. Gajardo, X. Zhou, H.-G. Müller, J.-L. Wang, *Scientific Reports (in press)* 2020.
2020	*Mountaineers in an extreme environment: an update on effects of age and sex on rates of success and death on Mount Everest* R. B. Huey[1], **C. Carroll**[1], R. Salisbury, J.-L. Wang, *PLoS One* 2020, `doi.org/10.1371/journal.pone.0236919`. — received media coverage from *The Economist*, *Reuters*, & *The London Times*

Under Review

2020+	*Benchmarking Dose-Volume Histogram Prediction Accuracy Between Different Knowledge-Based Models* B. Covele, **C. Carroll**, K. Moore
2020+	*Learning Delay Dynamics for Multivariate Stochastic Processes, With Application to Predicting COVID-19 Case Trajectories in the United States,* P. Dubey, Y. Chen[2], A. Gajardo[2], S. Bhattacharjee[2], **C. Carroll**[2], H. Chen[2], Y. Zhou[2], and H.-G. Müller

2020+ *Comparison of Diagnostic Predictors of Neonatal Survivability in Non-Domestic Caprinae*
T. N. Bliss, M. J. Marinkovich, R. E. Burns, **C. Carroll**, M. M. Clancy, and L. L. Howard.

Ongoing Projects

2020+ *Modeling Positive-Valued Multivariate Functional Data with Cross-Component Transports*
C. Carroll, H.-G. Müller

Software

Maintainer *fdapace: Functional Data Analysis and Empirical Dynamics. R package.*
C. Carroll, A. Gajardo, Y. Chen, X. Dai, J. Fan, P. Z. Hadjipantelis, K. Han, et al.
`https://CRAN.R-project.org/package=fdapace`.

Presentations

Talks

2020 **Statistics Student-Led Seminar Series**, *UC Davis.*
Shift-Warping for Multivariate Functional Data

2019 **NSF RTG Statistics Workshop Series**, *UC Davis.*
Deception and Coin Flips: Statistical Intuition through Lies and Games

2018 **NSF RTG Symposium: Modern Tools for Statistics**, *UC Davis.*
An Introduction to Functional Data Analysis

2018 **Statistics Student-Led Seminar Series**, *UC Davis.*
Time Warping for Human Growth Curves

Posters

2020 **Joint AAPM/COMP Meeting**, *Benchmarking Dose-Volume Histogram Prediction Accuracy Between Different Knowledge-Based Models*, Vancouver, BC, Canada

Teaching

Instructor of Record

Summer 2019 **Brief Course in Mathematical Statistics II**.
UC Davis, Dept. of Statistics

Spring 2019 **Applied Statistics for Biological Sciences**.
UC Davis, Dept. of Statistics

Summer 2018 **Applied Statistics for Business and Economics**.
UC Davis, Dept. of Statistics/Dept. of Economics

Teaching Assistant

○ *Applied Statistics for Biological Sciences* (Su17) UCD, Statistics
○ *Applied Statistics for Business and Economics* (F19) UCD, Statistics/Economics
○ *Applied Statistical Methods Regression Analysis* (F17) UCD, Statistics
○ *Introduction to Probability Theory* (S18) UCD, Statistics

- *Survival Analysis* (F18) UCD, Statistics/Biostatistics, *Grad. Level*
- *Statistical Consulting* (W18, W19, W20) UCD, Statistics/Biostatistics, *Grad. Level*

International Teaching

2014-2015 **ESL Teacher**, *Nishinomiya Imazu Senior High School*, Nishinomiya, Japan.

Mentoring Experience

2017-2020 **NSF Research Training Group**, *Dept. of Statistics, UC Davis*, Advising Undergraduate Research.
- *Warping methods for wearable device data*, with Hainiu Xu
- *Functional regression for wearable device data*, with Phoebe Biying Li
- *Functional clustering for wearable device data*, with Weiyi Chen
- *Geographic trends for functional housing price data*, with Yunbai Zhang
- *Functional data analysis of global temperature extrema*, with Cynthia Lai

2020 **Mentor for Undergraduate Honors Thesis**.
Warping methods for wearable device data, by Hainiu Xu

Awards and Fellowships

2020 **Outstanding Graduate Teaching Award**.
Awarded to 10 graduate students university-wide, *Grad. Studies, UC Davis*

2020 **Excellence in Teaching Award**.
Awarded to one student instructor in the department on special occasion, *Dept. of Statistics, UC Davis*

2015-2020 **NSF Research Training Grant Recipient**.

2016-2019 **Summer Statistics Research Fellowship Award**.
Dept. of Statistics, UC Davis

2017-2019 **TA Recognition Award**.
Dept. of Statistics, UC Davis

2015-2018 **UC Davis Graduate Scholars Fellowship**.
Grad. Studies, UC Davis

Service and Leadership

UC Davis
- Graduate Student Representative, Dept. of Statistics

Reviewer
- Annals of Statistics
- Journal of the American Statistical Association
- Computational Statistics and Data Analysis

Advanced	R, LaTeX, git
Intermediate	SQL, Python, Julia, Travis-CI