

Justin Williams

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EDUCATION

University of California, Los Angeles (UCLA)

Ph.D. – Biostatistics

Expected 2020

M.S. - Biostatistics

2016

Boston College

B.A. – Mathematics

2013

WORK EXPERIENCE

Quantitative Analyst

August 2020 – Present

Los Angeles Dodgers

Graduate Student Researcher

2015 - 2019

Connie Kasari Lab

- Constructed Bayesian multi-level hierarchical model incorporating spatial random effects
- Established longitudinal data visualization tools available in GitHub R package, [ggplot.spaghetti](#)
- Clinical trial longitudinal analysis using mixed effects and generalized estimating equations
- Adjusted for empirical trends using zero-inflated and hurdle models with count outcomes
- Automated analysis for inter rater reliability
- Data management and data cleaning for multisite clinical trial database

Product Development Biostatistics Intern

Summer 2019

Genentech

- Designed software to simulate longitudinal differential abundance for microbiome: [microbiomeDASim](#)
 - Flexibly specify form of the trend over time including polynomial, oscillating, or hockey stick trends
 - Define desired sample size, number of repeated measures, and signal:noise ratio
 - Multiple choices for longitudinal dependence including: AR(1), compound, or independent
- Compared multiple methods for estimating differential abundance over time

Biostatistics R&D Intern

Summer 2018

Alcon

- Developed methodology for parameter estimation of censored data from truncated normal distribution
- Investigated available methods for estimation with left censoring using R and SAS
- Produced functions and macros to simulate data and calculate bias metrics
- Applied methods to estimate parameters for historical clinical trial data

SOFTWARE SKILLS

R (coursework/teaching/research/preferred)

SQL (work experience)

Stata (coursework/teaching)

SAS (internship/coursework/teaching/work)

Julia (coursework)

Python (research)

GitHub (primary version control software)

HPC (high performance computing on cluster)

RESEARCH INTERESTS

-Causal Inference

-Longitudinal Analysis

-Machine Learning

-Bayesian Analysis

-Spatial Modeling

-Trial Design

PUBLICATIONS

Academic Journals

- (1) Williams, J.R., Crespi, C.M. (2020). “Causal inference for multiple continuous exposures via the multivariate generalized propensity score”, *arXiv preprint*. [arXiv:2008.13767](#).

- (2) Williams, J.R., Kim, H., & Crespi, C.M. (2020). "Modeling observations with a detection limit using a truncated normal distribution with censoring", *BMC Med Res Methodol*, **20**:170. doi:[10.1186/s12874-020-01032-9](https://doi.org/10.1186/s12874-020-01032-9).
- (3) Dean, M., Williams, J., Kasari, C., & Orlich, O. (2020). "Adolescents with autism spectrum disorder and social skills groups at school: A randomized trial comparing intervention environment and peer composition", *School Psychology Review*, **49**(1):60-73. doi:[10.1080/2372966X.2020.1716636](https://doi.org/10.1080/2372966X.2020.1716636)
- (4) Williams, J., Bravo HC, Tom J & Paulson JN. (2020). "microbiomeDASim: Simulating longitudinal differential abundance for microbiome data [version 2; peer review: 2 approved]", *F1000Research* **8**:1769. doi:[10.12688/f1000research.20660.2](https://doi.org/10.12688/f1000research.20660.2).
- (5) Gulsrud, A., Carr, T., Williams, J., Panganiban, J., Jones, F., Kimbrough, J., Shih, W., & Kasari, C. (2019). "Developmental screening and early intervention in a childcare setting for young children at-risk for autism and other developmental delays: A feasibility trial", *Autism Research* **12**(9):1423-1433. doi:[10.1002/aur.2160](https://doi.org/10.1002/aur.2160)
- (6) Locke, J., Williams, J., Shih, W., & Kasari, C. (2017). "Characteristics of socially successful elementary school-aged children with autism", *Journal of Child Psychology and Psychiatry* **58**(1):94-102. doi:[10.1111/jcpp.12636](https://doi.org/10.1111/jcpp.12636)

AWARDS & HONORS

- **Dissertation Year Fellowship** (\$20,000)

Awarded By: *UCLA Graduate Division*

Received: December 2019 – December 2020

- **Most Outstanding Oral Presentation** (\$500)

Awarded By: *Western North American Region of the International Biometric Society*

Received: June 2019

- **Juneal Marie Smith Fellowship in International Nutrition** (\$2,500)

Awarded By: *UCLA Fielding School of Public Health*

Received: June 2019

- **Graduate Summer Research Mentorship** (\$6,000)

Awarded By: *UCLA Graduate Division*

Received: June 2017 – September 2017