# Justin Williams

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## EDUCATION

**University of California, Los Angeles (UCLA)**
*Ph.D. – Biostatistics*      *2020*
*M.S. - Biostatistics*      *2016*

**Boston College**
*B.A. – Mathematics*      *2013*

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## 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

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## SOFTWARE SKILLS

**R** (coursework/teaching/research/work/preferred)      **SAS** (internship/coursework/teaching/work)
**Stata** (coursework/teaching)      **Python** (research)
**Julia** (coursework)      **HPC** (high performance computing on cluster)
**Git** (*GitHub*, personal; *GitLab*, work)      **AWS** (*EC2*, *S3*, *ERS*)
**SQL** (*MySQL & PostgreSQL* work experience)

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## RESEARCH INTERESTS

-Causal Inference      -Longitudinal Analysis      -Machine Learning
-Bayesian Analysis      -Spatial Modeling      -Trial Design

## PUBLICATIONS

Academic Journals

(1) Melamed, K.H, <u>Williams, J.</u>, Wang, X., Hu S., Nguyen C., Cui, J., & Deng, J.C. "Development of secondary bacterial pneumonia in adults presenting with influenza versus noninfluenza viral respiratory infection". *Therapeutic Advances in Respiratory Diseases*, **14**. doi:<u>10.117/1753466620963026</u>

(2) <u>Williams, J.R.</u>, Crespi, C.M. (2020). "Causal inference for multiple continuous exposures via the multivariate generalized propensity score", *arXiv preprint*. <u>arXiv:2008.13767</u>.

(3) <u>Williams, J.R.</u>, 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:<u>10.1186/s12874-020-01032-9</u>.

(4) Dean, M., <u>Williams, J.</u>, 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:<u>10.1080/2372966X.2020.1716636</u>

(5) <u>Williams, J.</u>, 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:<u>10.12688/f1000research.20660.2</u>.

(6) Gulsrud, A., Carr, T., <u>Williams, J.</u>, 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:<u>10.1002/aur.2160</u>

(7) Locke, J., <u>Williams, J.</u>, 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:<u>10.1111/jcpp.12636</u>

## 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