

Justin Williams

(720) 936-7272 | williazo@ucla.edu | <https://williazo.github.io>

EDUCATION

University of California, Los Angeles (UCLA)

Expected 2020

Ph.D. – Biostatistics

Advisor: Catherine Crespi

Committee: Tom Belin, Hua Zhou, May Wang

M.S. - Biostatistics

2016

Thesis: “Bayesian Hierarchical Spatial Analysis of Autism Spectrum Disorder Services in the Los Angeles Unified School District”

Advisor: Rob Weiss

Boston College

B.A. – Mathematics

2013

RESEARCH EXPERIENCE

Graduate Student Researcher

2015 - 2019

Connie Kasari Lab

- Constructed Bayesian multi-level hierarchical model incorporating spatial random effects
- Developed 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
- Co-authored multiple papers as primary statistician

PROFESSIONAL EXPERIENCE

Product Development Biostatistics Intern

Summer 2019

Genentech-South San Francisco, CA

- 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-Fort Worth, TX

- 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

Predictive Analytics Intern-Business Intelligence Team

Summer 2016

Ingram Micro-Irvine, CA

- Illustrated regional product demand for products to inform warehouse stocking decisions
- Pulled purchasing and warehouse transaction information from servers via SQL
- Engineered product similarity scores based on feature list with mixed scale variables

TEACHING EXPERIENCE

Special Reader: Computer Management of Health Data

Sep '16 – Dec '16

UCLA, Biostatistics Department

Student Evaluation: 9/9

- Taught data management tools with SAS to 23 first-year Biostatistics graduate students

- Introduced tools for creating randomization schemes and generating reproducible data

Special Reader: Basic Biostatistics

Jan '16 – Mar '16

UCLA, Biostatistics Department

Student Evaluation: 8.89/9

- Led weekly lab sections using Stata on topics such as linear regressions, ANOVA, logistic regression, and non-parametric tests
- Designed and administered discussion sections weekly
- Graded homework and lab assignments

SOFTWARE SKILLS

R (coursework/teaching/research/preferred)
SAS (internship/coursework/teaching/work)
Julia (coursework)
GitHub (primary version control software)

SQL (work)
Stata (coursework/teaching)
Python (research)
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., Bravo HC, Tom J & Paulson JN. *microbiomeDASim*: Simulating longitudinal differential abundance for microbiome data [version 2; peer review: 2 approved]. *F1000Research* 2020, 8:1769.
- (2) Williams, J., Kim, H., & Crespi, C. (2019). "Maximum Likelihood Estimation of a Truncated Normal Distribution with Censored Data", *arXiv preprint arXiv:1911.11221*.
- (3) Dean, M., Williams, J., Kasari, C., & Orlich, O. (Pre-publish). "Adolescents with autism spectrum disorder and social skills groups at school: A randomized trial comparing intervention environment and peer composition", *School Psychology Review*.
- (4) 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)
- (5) 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)

Internal Documents

- (1) Williams, J. & Kim, H. (2018) "Analysis methods for left censored log contrast sensitivity data", Alcon Technical Document (TDOC-0055661).
- (2) Williams, J. & Kim, H. (2018) "Methods for calculating log contrast sensitivity difference with left censoring", Alcon Technical Document (TDOC-0055664).

PRESENTATIONS & CONFERENCES

2019 Joint Statistical Meetings	Denver, CO
"Maximum Likelihood Estimation of a Truncated Normal Distribution with Censored Data"	
Williams, J.*, Crespi, C. & Kim, H.	

2019 Western North American Region (WNAR) of the International Biometric Society	Portland, OR
"Maximum Likelihood Estimation of a Truncated Normal Distribution with Censored Data"	
Williams, J.*, Crespi, C. & Kim, H.	

2018 Joint Statistical Meetings	Vancouver, BC, Canada
"Propensity Score Methods for Studies with Clustered Data and Continuous Exposure"	

Williams, J.*, Crespi, C. & Wang, M

2018 Gatlinburg Conference

“Using Clustering to Define ASD Subgroups with Differential Play Outcomes”

Williams, J.*, Gulsrud, A., & Kasari, K.

San Diego, CA

AWARDS & HONORS

- **Most Outstanding Oral Presentation**

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

Received: June, 2019

- **Juneal Marie Smith Fellowship in International Nutrition**

Awarded By: *UCLA Fielding School of Public Health*

Received: June, 2019

- **Dissertation Year Fellowship**

Awarded By: *UCLA Graduate Division*

Received: December 2019 – December 2020

- **Graduate Summer Research Mentorship**

Awarded By: *UCLA Graduate Division*

Received: June 2017 – September 2017

PROFESSIONAL ASSOCIATIONS

- American Statistical Association, Southern California Chapter
- Western North American Region of the International Biometric Society