

# Jaron Arbet, Ph.D.

ASSISTANT RESEARCH PROFESSOR - BIOSTATISTICIAN

City of Hope - Beckman Research Institute - Department of Population Sciences

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## Research Interests

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- Machine learning and predictive modeling
- High-dimensional “Big Data”
- Variable selection
- Multi-omics cancer data integration
- Robust nonparametric statistics

## Work Experience

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### **Assistant Research Professor - Biostatistician**

Dec 2025 - Present

CITY OF HOPE - BECKMAN RESEARCH INSTITUTE - DEPARTMENT OF POPULATION SCIENCES, DUARTE, CA

- Studying the impact of exercise on risk of cancer diagnosis, and for improving health outcomes in cancer patients.
- Analysis of cancer molecular data: whole genome sequencing, RNA-Seq, DNA methylation, proteomics.

### **Senior Bioinformatician**

April 2022 - Nov 2025

JONSSON COMPREHENSIVE CANCER CENTER, UNIVERSITY OF CALIFORNIA LOS ANGELES, CA

- Analysis of cancer molecular data: whole genome sequencing, RNA-Seq, DNA methylation, proteomics
- Biomarker identification: among thousands of molecular features, which are most associated with cancer outcomes?
- Daily git/github use for version control and collaboration
- Supervised machine learning for predicting cancer prognosis
- Unsupervised machine learning for deriving cancer subtypes
- Supervising undergraduate and graduate students on projects
- Develop open-source R packages for sharing software with broader scientific community
- Create statistical analysis plans and power/sample size estimation for grants

### **Staff Biostatistician**

Jan 2021 - April 2022

EDWARDS LIFESCIENCES, IRVINE, CA

- Develop statistical analysis plans and data monitoring for clinical trials
- Power and sample size estimation
- Clinical study reports for federal regulatory agencies
- Perform analyses with large national database (STS/ACC TVT Registry) including propensity score matching for causal inference

### **Postdoctoral Research Associate**

Aug 2018 - Jan 2021

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS, DEPARTMENT OF BIOSTATISTICS AND INFORMATICS, AURORA, CO

- Provided statistical consulting services
- Published scientific manuscripts
- Developed grants (statistical analysis plan, power/sample size estimation)
- Supervised students and MS MPH degree biostatisticians
- Taught BIOS 6601 Intro stats course for 75 MPH students, and created annual 6-week data science machine learning short course
- Develop new statistical methodology

### **Research Assistant**

June 2014 - July 2018

UNIVERSITY OF MINNESOTA, DIVISION OF BIOSTATISTICS, MINNEAPOLIS, MN

- Developed variable selection methods for high dimensional genetic data and robust methods for estimating the genetic heritability of disease traits

### **Statistical Genetics Research Intern**

June - Aug 2013

DORDT COLLEGE, DEPARTMENT OF MATHEMATICS, SIOUX CENTER, IA

- Developed methods for aggregating different statistical tests together for greater sensitivity in detecting disease-related genes; resampling-based bias corrected tests

### **Math and Statistics Tutor**

Sept 2012 - May 2014

WINONA STATE UNIVERSITY, WINONA, MN

**University of Minnesota**

PhD BIOSTATISTICS

- GPA: 3.7

Minneapolis, MN, USA

2014-2018

**Wiona State University**

B.S. MATHEMATICS AND STATISTICS

- GPA: 4.0 | Summa Cum Laude

Winona, MN, USA

2010-2014

 **Manuscripts submitted for review**

- Arbet, J. et al. (2025). The landscape of prostate tumour methylation. *bioRxiv*. <https://doi.org/10.1101/2025.02.07.637178>
- Haas, R. et al. (2025). Diverse genomes, shared health: Insights from a health system biobank. *medRxiv*. <https://doi.org/10.1101/2025.06.11.25329386>
- Patel, Y. et al. (2025). Metapipline-DNA: A comprehensive germline & somatic genomics nextflow pipeline. *bioRxiv*. <https://doi.org/10.1101/2024.09.04.611267>

 **Peer-reviewed Publications**

- Jones, L. W., Lavery, J. A., Tsai, B. L., Moskowitz, C. S., Lee, C. P., Harrison, J., Michalski, M. G., Stoeckel, K., Graham, C., Iyengar, N. M., Bhanot, U., Linkov, I., Jain, M., Jochelson, M. S., Monetti, M., Seewaldt, V. L., Pilewskie, M. L., Pribil, P., Zhu, C., Arbet, J., Mangino, D. A., & Boutros, P. C. (2025). A co-clinical trial of exercise therapy in breast cancer prevention. *Clinical Cancer Research*, 31(16), 3377–3387. <https://doi.org/10.1158/1078-0432.ccr-24-4298>
- Tohi, Y., Sahrmann, J. M., Arbet, J., Kato, T., Lee, L. S., Peacock, M., Ginsburg, K., Pavlovich, C., Carroll, P., Bangma, C. H., Sugimoto, M., & Boutros, P. C. (2025). De-escalation of monitoring in active surveillance for prostate cancer: Results from the GAP3 consortium. *European Urology Oncology*, 8(2), 347–354. <https://doi.org/10.1016/j.euo.2024.07.006>
- Xu, X., Zhu, H., Hugh-White, R., Livingstone, J., Eng, S., Zeltser, N., Wang, Y., Pajdzik, K., Chen, S., Houlahan, K. E., Luo, W., Liu, S., Xu, X., Sheng, M., Guo, W. Y., Arbet, J., Song, Y., Wang, M., Zeng, Y., Wang, S., Zhu, G., Gao, T., Chen, W., Ci, X., Xu, W., Xu, K., Orain, M., Picard, V., Hovington, H., Bergeron, A., ... He, H. H. (2025). The landscape of N6-methyladenosine in localized primary prostate cancer. *Nature Genetics*, 57(4), 934–948. <https://doi.org/10.1038/s41588-025-02128-y>
- Weiner, A. B., Agrawal, R., Wang, N. K., Sonni, I., Li, E. V., Arbet, J., Zhang, J. J. H., Proudfoot, J. A., Hong, B. H., Davicioni, E., Kane, N., Valle, L. F., Kishan, A. U., Pra, A. D., Ghadjar, P., Sweeney, C. J., Nickols, N. G., Karnes, R. J., Shen, J., Rettig, M. B., Czernin, J., Ross, A. E., Lee Kiang Chua, M., Schaeffer, E. M., Calais, J., Boutros, P. C., & Reiter, R. E. (2024). Molecular hallmarks of prostate-specific membrane antigen in treatment-naïve prostate cancer. *European Urology*, 86(6), 579–587. <https://doi.org/10.1016/j.eururo.2024.09.005>
- Lippitt, W., Carlson, N. E., Arbet, J., Fingerlin, T. E., Maier, L. A., & Kechris, K. (2024). Limitations of clustering with PCA and correlated noise. *Journal of Statistical Computation and Simulation*, 94(10), 2291–2319. <https://doi.org/10.1080/00949655.2024.2329976>
- Ni, K., Rogowitz, E., Farahmand, A. K., Kaizer, L. K., Arbet, J., Cunningham, C. R., Thomas, E. A., & Saxon, D. R. (2024). Weight loss outcomes in a veterans affairs pharmacotherapy-based weight management clinic. *Journal of the Endocrine Society*, 8(5). <https://doi.org/10.1210/jendso/bvae042>
- Greca, A. L., Grau, L., Arbet, J., Liao, L. M., Sosa, J. A., Haugen, B. R., & Kitahara, C. M. (2023). Anthropometric, dietary, and lifestyle factors and risk of advanced thyroid cancer: The NIH-AARP diet and health cohort study. *Clinical Endocrinology*, 99(6), 586–597. <https://doi.org/10.1111/cen.14970>
- Gamallat, Y., Choudhry, M., Li, Q., Rokne, J. G., Alhajj, R., Abdelsalam, R., Ghosh, S., Arbet, J., Boutros, P. C., & Bismar, T. A. (2023). Serrate RNA effector molecule (SRRT) is associated with prostate cancer progression and is a predictor of poor prognosis in lethal prostate cancer. *Cancers*, 15(10), 2867. <https://doi.org/10.3390/cancers15102867>
- Chan, T. W., Dodson, J. P., Arbet, J., Boutros, P. C., & Xiao, X. (2022). Single-cell analysis in lung adenocarcinoma implicates RNA editing in cancer innate immunity and patient prognosis. *Cancer Research*, 83(3), 374–385. <https://doi.org/10.1158/0008-5472.can-22-1062>
- Grau, L., Arbet, J., Ostendorf, D. M., Blankenship, J. M., Panter, S. L., Catenacci, V. A., Melanson, E. L., & Creasy,

- S. A. (2022). Creating an algorithm to identify indices of sleep quantity and quality from a wearable armband in adults. *Sleep Science*, 15(03), 279–287. <https://doi.org/10.5935/1984-0063.20220052>
11. Creasy, S. A., Ostendorf, D. M., Blankenship, J. M., Grau, L., **Arbet, J.**, Bessesen, D. H., Melanson, E. L., & Catenacci, V. A. (2022). Effect of sleep on weight loss and adherence to diet and physical activity recommendations during an 18-month behavioral weight loss intervention. *International Journal of Obesity*, 46(8), 1510–1517. <https://doi.org/10.1038/s41366-022-01141-z>
12. Lin, N. W., **Arbet, J.**, Mroz, M. M., Liao, S.-Y., Restrepo, C. I., Mayer, A. S., Li, L., Barkes, B. Q., Schrock, S., Hamzeh, N., Fingerlin, T. E., Carlson, N. E., & Maier, L. A. (2022). Clinical phenotyping in sarcoidosis using cluster analysis. *Respiratory Research*, 23(1). <https://doi.org/10.1186/s12931-022-01993-z>
13. Okamoto, Y., Devoe, S., Seto, N., Minarchick, V., Wilson, T., Rothfuss, H. M., Mohning, M. P., **Arbet, J.**, Kroehl, M., Visser, A., August, J., Thomas, S. M., Charry, L. L., Fleischer, C., Feser, M. L., Frazer?Abel, A. A., Norris, J. M., Cherrington, BrianD., Janssen, W. J., Kaplan, M. J., Deane, K. D., Holers, V. M., & Demoruelle, M. K. (2021). Association of sputum neutrophil extracellular trap subsets with IgA anti-citrullinated protein antibodies in subjects at risk for rheumatoid arthritis. *Arthritis & Rheumatology*, 74(1), 38–48. <https://doi.org/10.1002/art.41948>
14. Wood, C., **Arbet, J.**, Amura, C. R., Nodine, P., Collins, M. R., Orlando, B. S., Mayer, D. C., Stein, D., & Anderson, J. (2021). Multicenter study evaluating nitrous oxide use for labor analgesia at high- and low-altitude institutions. *Anesthesia & Analgesia*, 134(2), 294–302. <https://doi.org/10.1213/ane.0000000000005712>
15. Nodine, P. M., **Arbet, J.**, Jenkins, P. A., Rosenthal, L., Carrington, S., Purcell, S. K., Lee, S., & Hoon, S. (2021). Graduate nursing student stressors during the COVID-19 pandemic. *Journal of Professional Nursing*, 37(4), 721–728. <https://doi.org/10.1016/j.joprofnurs.2021.04.008>
16. **Arbet, J.**, Zhuang, Y., Litkowski, E., Saba, L., & Kechris, K. (2021). Comparing statistical tests for differential network analysis of gene modules. *Frontiers in Genetics*, 12. <https://doi.org/10.3389/fgene.2021.630215>
17. Ostendorf, D. M., Blankenship, J. M., Grau, L., **Arbet, J.**, Mitchell, N. S., Creasy, S. A., Caldwell, A. E., Melanson, E. L., Phelan, S., Bessesen, D. H., & Catenacci, V. A. (2021). Predictors of long-term weight loss trajectories during a behavioral weight loss intervention: An exploratory analysis. *Obesity Science & Practice*, 7(5), 569–582. <https://doi.org/10.1002/osp4.530>
18. Reed, S. M., **Arbet, J.**, & Staubli, L. (2021). Clinical nurse specialists in the united states registered with a national provider identifier. *Clinical Nurse Specialist*, 35(3), 119–128. <https://doi.org/10.1097/nur.0000000000000592>
19. Rosenthal, L., Lee, S., Jenkins, P., **Arbet, J.**, Carrington, S., Hoon, S., Purcell, S. K., & Nodine, P. (2021). A survey of mental health in graduate nursing students during the COVID-19 pandemic. *Nurse Educator*, 46(4), 215–220. <https://doi.org/10.1097/nne.0000000000001013>
20. Carpenter, C. M., Frank, D. N., Williamson, K., **Arbet, J.**, Wagner, B. D., Kechris, K., & Kroehl, M. E. (2021). tidyMicro: A pipeline for microbiome data analysis and visualization using the tidyverse in r. *BMC Bioinformatics*, 22(1). <https://doi.org/10.1186/s12859-021-03967-2>
21. Ramakrishnan, V. R., **Arbet, J.**, Mace, J. C., Suresh, K., Shintani Smith, S., Soler, Z. M., & Smith, T. L. (2021). Predicting olfactory loss in chronic rhinosinusitis using machine learning. *Chemical Senses*, 46. <https://doi.org/10.1093/chemse/bjab042>
22. Thomas, E. A., Zaman, A., Cornier, M.-A., Catenacci, V. A., Tussey, E. J., Grau, L., **Arbet, J.**, Broussard, J. L., & Rynders, C. A. (2020). Later meal and sleep timing predicts higher percent body fat. *Nutrients*, 13(1), 73. <https://doi.org/10.3390/nu13010073>
23. Schmanski, A., Roberts, E., Coors, M., Wicks, S. J., **Arbet, J.**, Weber, R., Crooks, K., Barnes, K. C., & Taylor, M. R. G. (2020). Research participant understanding and engagement in an institutional, self-consent biobank model. *Journal of Genetic Counseling*, 30(1), 257–267. <https://doi.org/10.1002/jgc4.1316>
24. **Arbet, J.**, Brokamp, C., Meinzen-Derr, J., Trinkley, K. E., & Spratt, H. M. (2020). Lessons and tips for designing a machine learning study using EHR data. *Journal of Clinical and Translational Science*, 5(1). <https://doi.org/10.1017/cts.2020.513>
25. **Arbet, J.**, McGue, M., & Basu, S. (2020). A robust and unified framework for estimating heritability in twin studies using generalized estimating equations. *Statistics in Medicine*, 39(27), 3897–3913. <https://doi.org/10.1002/sim.8564>
26. Coleman-Minahan, K., Sheeder, J., **Arbet, J.**, & McLemore, M. R. (2020). Interest in medication and aspiration abortion training among colorado nurse practitioners, nurse midwives, and physician assistants. *Women's Health Issues*, 30(3), 167–175. <https://doi.org/10.1016/j.whi.2020.02.001>
27. Gance-Cleveland, B., Linton, A., **Arbet, J.**, Stiller, D., & Sylvain, G. (2020). Predictors of overweight and obesity in childhood cancer survivors. *Journal of Pediatric Oncology Nursing*, 37(3), 154–162. <https://doi.org/10.1177/1043454219897102>
28. James-Allan, L. B., **Arbet, J.**, Teal, S. B., Powell, T. L., & Jansson, T. (2019). Insulin stimulates GLUT4 trafficking to

- the syncytiotrophoblast basal plasma membrane in the human placenta. *The Journal of Clinical Endocrinology & Metabolism*, 104(9), 4225–4238. <https://doi.org/10.1210/jc.2018-02778>
29. Grinde, K. E., **Arbet, J.**, Green, A., O'Connell, M., Valcarcel, A., Westra, J., & Tintle, N. (2017). Illustrating, quantifying, and correcting for bias in post-hoc analysis of gene-based rare variant tests of association. *Frontiers in Genetics*, 8. <https://doi.org/10.3389/fgene.2017.00117>
30. **Arbet, J.**, McGue, M., Chatterjee, S., & Basu, S. (2017). Resampling-based tests for lasso in genome-wide association studies. *BMC Genetics*, 18(1). <https://doi.org/10.1186/s12863-017-0533-3>
31. Greco, B., Hainline, A., **Arbet, J.**, Grinde, K., Benitez, A., & Tintle, N. (2015). A general approach for combining diverse rare variant association tests provides improved robustness across a wider range of genetic architectures. *European Journal of Human Genetics*, 24(5), 767–773. <https://doi.org/10.1038/ejhg.2015.194>

## Awards

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### POSTDOCTORAL

#### **Staff appreciation and recognition (STAR)**

2023-2024

UCLA JONSSON COMPREHENSIVE CANCER CENTER

#### **Staff appreciation and recognition (STAR)**

2022-2023

UCLA JONSSON COMPREHENSIVE CANCER CENTER

### STUDENT AWARDS

#### **Outstanding Research Assistant Award**

2017-2018

UNIVERSITY OF MINNESOTA, DIVISION OF BIOSTATISTICS & HEALTH DATA SCIENCE

#### **Interdisciplinary Biostatistics Training Grant in Genetics and Genomics**

2015-2017

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

### COMPETITIONS

#### **Midwest Undergraduate Data Analysis Competition (MUDAC)**

2014

SCHOOL OF EDUCATION, UNIVERSITY OF MICHIGAN

- 3<sup>rd</sup> place out of 20 teams from 14 universities

#### **1st place in the “predictive-modeling class competition”**

2014

WINONA STATE UNIVERSITY DATA MINING COURSE

#### **Midwest Undergraduate Data Analysis Competition (MUDAC)**

2013

SCHOOL OF EDUCATION, UNIVERSITY OF MICHIGAN

- 2<sup>nd</sup> place out of 15 teams from 10 universities

## Presentations

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### INVITED GUEST SPEAKER

#### **The Landscape of Prostate Tumour Methylation**

PROSTATE CANCER FOUNDATION PRECISION MEDICINE WORKING GROUP, VIRTUAL MEETING

2025

- <https://www.biorxiv.org/content/10.1101/2025.02.07.637178v3>

### DEPARTMENTAL

#### **Mendelian Randomization Causal inference in Observational Studies**

STATISTICS WORKING GROUP, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

2025

- <https://jarbet.github.io/presentation-mendelian-randomization/>

#### **Batch effects: problem and solution**

BOUTROS LAB, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

2025

- [https://jarbet.github.io/presentations/2025-05-08\\_batch\\_effects\\_nowhite.pdf](https://jarbet.github.io/presentations/2025-05-08_batch_effects_nowhite.pdf)

## **p-value histograms**

BOUTROS LAB, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- <https://jarbet.github.io/presentation-pvalue-histograms/>

2025

## **Robust regression for noisy biological data**

STATISTICS WORKING GROUP, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- [https://jarbet.github.io/presentation-ordinal-regression/ordinal\\_regression.html](https://jarbet.github.io/presentation-ordinal-regression/ordinal_regression.html)

2024

## **Linear regression diagnostics**

BOUTROS LAB, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- [https://jarbet.github.io/presentation-regression-diagnostics/regression\\_diagnostics.html](https://jarbet.github.io/presentation-regression-diagnostics/regression_diagnostics.html)

2024

## **Causal inference with observational data using propensity score matching**

STATISTICS WORKING GROUP, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- [https://jarbet.github.io/presentation-causal-inference-matching/causal\\_inference\\_matching.html](https://jarbet.github.io/presentation-causal-inference-matching/causal_inference_matching.html)

2024

## **Automatic feature selection and engineering with MARS**

STATISTICS WORKING GROUP, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- <https://jarbet.github.io/presentation-mars.github.io/presentation-mars.html>

2023

## **Introduction to Bayesian statistics**

BOUTROS LAB, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- [https://jarbet.github.io/presentations/2022-08-25\\_Bayesian\\_stats.pdf](https://jarbet.github.io/presentations/2022-08-25_Bayesian_stats.pdf)

2022

## **Multomics cancer data analysis**

BOUTROS LAB, CANCER DATA SCIENCES, UNIVERSITY OF CALIFORNIA, LOS ANGELES, CA

- [https://jarbet.github.io/presentations/2021-11-21\\_multomics\\_cancer.pdf](https://jarbet.github.io/presentations/2021-11-21_multomics_cancer.pdf)

2021

## **Interpretable machine learning**

CENTER FOR INNOVATIVE DESIGN AND ANALYSIS, UNIVERSITY OF COLORADO, DENVER, CO

- [https://jarbet.github.io/presentations/2020-01-21\\_interpretable\\_machine\\_learning.pdf](https://jarbet.github.io/presentations/2020-01-21_interpretable_machine_learning.pdf)

2021

## **Differential Network Analysis of Gene Modules**

SYSTEMS GENETICS AND BIOINFORMATICS RESEARCH LAB, UNIVERSITY OF COLORADO, DENVER, CO

2021

## **Frequentist versus Bayesian Approaches to Statistics: A Debate**

DEPARTMENT OF BIOSTATISTICS AND INFORMATICS, UNIVERSITY OF COLORADO, DENVER, CO

2018

## **Robust Estimation of Genetic and Environmental Variance Components in Twin Studies**

UNIVERSITY OF MINNESOTA BIOSTATISTICS STUDENT SEMINAR SERIES, MINNEAPOLIS, MN

2017

## **A General framework for Association Tests with Multivariate Traits in Large-Scale Genomics Studies**

UNIVERSITY OF MINNESOTA STATISTICAL GENETICS JOURNAL CLUB, MINNEAPOLIS, MN

2016

## **Methods of Inference for Penalized Regression in High-Dimensional Genetic Association Studies**

SCHOOL OF PUBLIC HEALTH RESEARCH DAY, UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MN

2016

## **Penalized Regression for High-Dimensional Genetic Association Testing**

UNIVERSITY OF MINNESOTA STATISTICAL GENETICS JOURNAL CLUB, MINNEAPOLIS, MN

2016

## **CONFERENCES**

### **The Landscape of Prostate Tumour Methylation**

Poster

UCLA HEALTH JONSSON COMPREHENSIVE CANCER CENTER ANNUAL SYMPOSIUM, LOS ANGELES, CA

2025

### **Methylome-Genome Interactions Define Disease Aggression in Localized Prostate Cancer**

Poster

RECOMB/ISCB CONFERENCE ON REGULATORY AND SYSTEMS GENOMICS, LOS ANGELES, CA

2024

### **Triplet matching: propensity score matching with 3 groups**

Talk

14TH ANNUAL FDA/ADVAMED MEDICAL DEVICE STATISTICAL ISSUES CONFERENCE (VIRTUAL)

2022

- [https://jarbet.github.io/presentations/20220422\\_triplet\\_matching.pdf](https://jarbet.github.io/presentations/20220422_triplet_matching.pdf)

## **Statistical Considerations and Methods to Utilize Real World Evidence in Medical Device Evaluation**

Panel Co-organizer

14TH ANNUAL FDA/ADVAMED MEDICAL DEVICE STATISTICAL ISSUES CONFERENCE (VIRTUAL)

2022

## **Robust Estimation of Genetic and Environmental Variance Components in Twin Studies using Generalized Estimating Equations**

Poster

JOINT STATISTICAL MEETINGS (JSM), BALTIMORE, MD

2017

## **Methods of Inference for Penalized Regression in High-Dimensional Genetic Association Studies**

Poster

EASTERN NORTH AMERICAN REGION INTERNATIONAL BIOMETRIC SOCIETY (ENAR), AUSTIN, TX

2016

## **What now? Post-Hoc Approaches for Gene-based Rare-Variant Tests of Association**

Poster

AMERICAN SOCIETY OF HUMAN GENETICS CONFERENCE (ASHG), BOSTON, MA

2013

## **General Approaches for Combining Rare Variant Association Tests Provide Improved Power Across a Wide Range of Genetic Architectures**

Poster

AMERICAN SOCIETY OF HUMAN GENETICS CONFERENCE (ASHG), BOSTON, MA

2013

# **Teaching Experience**

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## SEMESTER COURSES

### **BIOS 6601 – Applied Biostatistics I**

Fall 2019

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

- **Duty:** Sole Instructor, completely redesigned all lectures, homework, quizzes, and exams
- **Description:** Applied biostatistical methods including descriptive and statistical inference; odds ratio and relative risk, probability theory, parameter estimation, tests for comparing statistics of two or more groups, correlation, linear regression, logistic regression and survival analysis.
- **Credits:** 3
- **Audience:** 75 Masters of Public Health (MPH) students

## SHORT COURSES

### **Fundamentals of Data Science Literacy**

Summer 2019, Fall 2020

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

- **Duty:** lead organizer, developed and taught 3 machine learning lectures
- **Description:** 6-week short course (2 hours/week) on data science with emphasis on how machine learning and data mining are used in biomedical research. Topics included: 1) Overview of Data Science; 2) Introduction of Machine Learning in Biomedical Research; 3) Clustering and Pattern Finding (unsupervised Machine Learning); 4) Powerful Predictive Models and Variable Selection (supervised Machine Learning); 5) Fundamentals of Data Visualization; 6) Reproducible Research and Team Science
- **Audience:** 20 medical researchers, mostly non-statisticians

### **Introduction to Statistics**

Summer 2019, 2020

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

- **Duty:** Instructor, developed and taught lectures on “Introduction to statistics”, study design, and survey design
- **Description:** Introductory statistics day-long short course for UCHealth nurses
- **Audience:** 15 UCHealth Nurses

## GUEST LECTURES

### **IPHY 5900 – Data Literacy in Biomedical Research**

Nov 2019, Oct 2020

UNIVERSITY OF COLORADO BOULDER

- **Primary Instructor:** Dr. Celine Marie Claire D. Vetter, Integrative Physiology
- **Lecture:** Machine Learning in Biomedical Research

### **BIOS 6611 – Biostatistical Methods I**

Fall 2018

UNIVERSITY OF COLORADO SCHOOL OF PUBLIC HEALTH

- **Primary Instructor:** Dr. Alex Kaizer
- **Lecture:** Linear Algebra Review

## **Mentoring and supervising**

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### UNIVERSITY OF CALIFORNIA LOS ANGELES

#### **Supervising students for data analysis projects**

- Yuxi Song
- Sattwik Banerjee
- Adriana Wiggins

### UNIVERSITY OF COLORADO, DEPARTMENT OF BIOSTATISTICS AND INFORMATICS

#### **Supervising MPH/MS Statisticians**

- Laura Grau (MPH), Nov 2018 – Jan 2021
  - I supervised Laura on several projects which led to publications.

#### **Supervising students for data analysis projects**

- Yaxu Zhuang (PhD), Jan 2019 – Aug 2020
- Rachel Weber (MS), Dec 2018 – April 2019

#### **Thesis or Dissertation Committee Member (graduating year)**

- Charlie Carpenter, Biostatistics MS thesis committee, Biostatistics (2020)
- Rachel Blumhagen, Biostatistics PhD dissertation committee (2021)

## **Professional Service**

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### GRANT AND PROTOCOL REVIEWS

- Scientific Advisory & Review Committee (SARC), Colorado Clinical and Translational Sciences Institute, University of Colorado – April 2019 to Jan 2021

### JOURNAL REVIEWER

- Biometrics
- Genetic Epidemiology
- PeerJ

### COMMITTEES/OTHER

#### **Jonsson Comprehensive Cancer Center, University of California Los Angeles**

- Chair of Statistics Working Group: April 2023 - Present

#### **Department of Biostatistics and Informatics, University of Colorado**

- Student Admissions Committee, Fall 2018 – Spring 2019
- Volunteer Judge for CIDA Hackathon (24 hour data analysis competition), Jan. 2020

#### **Biostatistics, Epidemiology, & Research Design Core of the Colorado Clinical and Translational Sciences Institute, University of Colorado**

- Education Committee, Fall 2018 – Jan 2020

# Software Skills

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## PROFICIENT



- Over **14 years** of experience with R for data analysis
- I enjoy **developing R packages** to easily share documented code with colleagues and the broader research community. Examples:
  - <https://uclahs-cds.github.io/package-PrCaMethy/>
  - <https://github.com/arbet003/discoMod>
- **Parallel programming** in R using multiple cpus

## git/github

- Version control
- Used daily
- Collaborating with others on projects
- Review colleagues' code
- Assign issues to team members

## Quarto and Rmarkdown

- Reproducible research, manuscripts and reports
- Reproducible HTML presentations. Examples: <https://jarbet.github.io/presentations>
- Websites: <https://jarbet.github.io/>
- Resume: this resume was made using Rmarkdown with the vitae R package

## Bayesian statistical programming

- Proficient with BUGS/JAGS; basic skills with STAN

## BASIC SKILLS

- Linux command line and bash scripts
  - Daily use of a high-performance computing cluster at UCLA
- Databricks
- Microsoft Office
- SAS