

# David Benkeser

Assistant Professor of Biostatistics and Bioinformatics

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## Education

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|---|-------------|
| <b>Postdoctoral research fellow, University of California, Berkeley</b><br>Supervisor: Mark van der Laan  | 2016 - 2017 |
| <b>PhD. Biostatistics, University of Washington</b><br>Advisors: Peter Gilbert and Marco Carone<br>Dissertation: Data-Adaptive Estimation in Longitudinal Data Settings<br>with Applications in Vaccine Efficacy Trials | 2010 - 2015 |
| <b>MPH Biostatistics, University of Georgia</b>   | 2008 - 2010 |
| <b>B.S. Statistics, University of Georgia</b>   | 2006 - 2010 |

## Publications

41. **Benkeser D**, Mertens A, Arnold BF, Colford Jr. JM, Hubbard A, Stein A, van der Laan MJ. "A machine learning-based approach for estimating and testing associations with multivariate outcomes." arxiv: [1803.04877](https://arxiv.org/abs/1803.04877). Accepted: *International Journal of Biostatistics*.
40. **Benkeser D**, Chambaz A, "A Ride in Targeted Learning Territory," Accepted: *Journal de la Société Française de Statistique*.
39. Millett GA, Jones AT, **Benkeser D**, Baral S, Mercer L, Beyrer C, Honermann B, Lankiewicz E, Mena L, Crowley J, Sherwood J, Sullivan P (2020). "Assessing Differential Impacts of COVID-19 on Black Communities." *Annals of Epidemiology*. doi: [10.1016/j.annepidem.2020.05.003](https://doi.org/10.1016/j.annepidem.2020.05.003). PMID: [32419766](https://pubmed.ncbi.nlm.nih.gov/32419766/).
38. **Benkeser D**, Horvath K, Reback CJ, Rusow J, Hudgens M (2020). "Design and analysis considerations for a sequentially randomized HIV prevention trial." *Statistics in Biosciences*. doi: [10.1007/s12561-020-09274-3](https://doi.org/10.1007/s12561-020-09274-3).
37. **Benkeser D**, Cai W, van der Laan MJ (2020+). "A nonparametric super-efficient estimator of the average treatment effect." Accepted: *Statistical Science*.
36. **Benkeser D**, Juraska M, Gilbert P (2020+), "Assessing trends in vaccine efficacy by pathogen genetic distance," Accepted: *Journal de la Société Française de Statistique*.
35. Ju C<sup>†</sup>, **Benkeser D**<sup>†</sup>, van der Laan MJ (2019). "Robust inference on the average treatment effect using the outcome highly adaptive lasso." *Biometrics*. doi: [10.1111/biom.13121](https://doi.org/10.1111/biom.13121).
34. Kempker RR, Mikiashvili L, Zhao Y, **Benkeser D**, Barbakadze K, Bablshvili N, Avaliani Z, Peloquin CA, Blumberg HM, Kipiani M (2019). "Clinical Outcomes among Patients with Drug-resistant Tuberculosis receiving Bedaquiline or Delamanid Containing Regimens." *Clinical Infectious Diseases*. doi: [10.1093/cid/ciz1107](https://doi.org/10.1093/cid/ciz1107). PMID: [31712809](https://pubmed.ncbi.nlm.nih.gov/31712809/).
33. Gonzalez A, Deng Y, Lane A, **Benkeser D**, Cui X, Staimez L, Ford C, Khan F, Markley Webster S, Leong A, Wilson PWF, Phillips LS, Rhee MK (2019). "Impact of 'Mismatches' in HbA1c vs. Glucose on the Diagnostic Classification as Diabetes and Prediabetes." *Diabetic Medicine*. doi: [10.1111/dme.14181](https://doi.org/10.1111/dme.14181). PMID: [31721287](https://pubmed.ncbi.nlm.nih.gov/31721287/).

32. **Benkeser D**, Petersen M, van der Laan MJ (2019). “Improved small-sample estimation of non-linear cross-validated prediction metrics.” *Journal of the American Statistical Association*. doi: [10.1080/01621459.2019.1668794](https://doi.org/10.1080/01621459.2019.1668794).
31. van der Laan MJ, **Benkeser D**, Cai W. “Causal Inference based on Undersmoothing the Highly Adaptive Lasso.” *AAAI Spring Symposium 2019*. [[link](#)]
30. LeGrand S, Knudtson K, **Benkeser D**, Muessig K, McGee A, Sullivan P, Hightow-Weidman L (2019). “ATN 142: P3 (Prepared, Protected, emPowered): Testing the Efficacy of a Social Networking, Gamification App to Improve PrEP Adherence.” *Journal of Medical Internet Research Protocols*. doi: [10.2196/10448](https://doi.org/10.2196/10448). PMID: [30563818](https://pubmed.ncbi.nlm.nih.gov/30563818/).
29. Magaret CA<sup>†</sup>, **Benkeser D**<sup>†</sup>, Williamson BD<sup>†</sup>, Borate BR, Carpp L, Georgiev I, Setliff I, Dingens AS, Simon N, Carone M, Simpkins C, Montefiori D, Alter G, Juraska M, Edelfsen PT, Karuna S, Mgodini NM, Edugupanti S, Gilbert PB (2019). “Prediction of VRC01 neutralization sensitivity by HIV-1 gp160 sequence features.” *PLoS Computational Biology*. doi: [10.1371/journal.pcbi.1006952](https://doi.org/10.1371/journal.pcbi.1006952). PMID: [30933973](https://pubmed.ncbi.nlm.nih.gov/30933973/).
28. **Benkeser D**, Carone M, Gilbert P, “Estimating and testing vaccine sieve effects using machine learning.” *Journal of the American Statistical Association*, 114:527, 1038-1049. doi: [10.1080/01621459.2018.1529594](https://doi.org/10.1080/01621459.2018.1529594). PMID: [31649413](https://pubmed.ncbi.nlm.nih.gov/31649413/).
27. Juraska M, Magaret C, Shao J, Carpp L, Fiore-Gartland A, **Benkeser D**, Girerd-Chambaz Y, Langevin E, Frago C, Guy B, Jackson N, Duong Thi Hue K, Simmons C, Gilbert P (2018). “Viral Genetic Diversity and Protective Efficacy of a Tetravalent Dengue Vaccine in Two Phase 3 Trials.” *Proceedings of the National Academies of Science*. doi: [10.1073/pnas.1714250115](https://doi.org/10.1073/pnas.1714250115). PMID: [30127007](https://pubmed.ncbi.nlm.nih.gov/30127007/).
26. Kaiser P, Arnold A, **Benkeser D**, Zeki Al Hazzouri A, Hirsch C, Psaty B, Odden M (2018). “Comparing methods to address bias in observational data: Statin use and cardiovascular events in a US cohort.” *International Journal of Epidemiology*. 47(1), 246-254. doi: [10.1093/ije/dyx179](https://doi.org/10.1093/ije/dyx179). PMID: [29024975](https://pubmed.ncbi.nlm.nih.gov/29024975/).
25. van der Laan M, **Benkeser D**, Sofrygin O (2018). “Targeted minimum loss-based estimation.” *Wiley StatsRef*. John Wiley and Sons Ltd. doi: [10.1002/9781118445112.stat07908](https://doi.org/10.1002/9781118445112.stat07908).
24. **Benkeser D**, Carone M, van der Laan M, Gilbert P (2018). “Doubly robust nonparametric inference on the average treatment effect.” *Biometrika*. doi: [10.1093/biomet/asx053](https://doi.org/10.1093/biomet/asx053). PMID: [29430041](https://pubmed.ncbi.nlm.nih.gov/29430041/).
23. Koelman D, **Benkeser D**, Klein J, Mateen F (2017). “Acute disseminated encephalomyelitis: prognostic value of early MRI follow-up.” *Journal of Neurology*. doi: [10.1007/s00415-017-8563-3](https://doi.org/10.1007/s00415-017-8563-3). PMID: [28695361](https://pubmed.ncbi.nlm.nih.gov/28695361/).
22. **Benkeser D**, Gilbert P, Carone M (2017). “Improved estimation of the cumulative incidence of rare outcomes.” *Statistics in Medicine*. doi: [10.1002/sim.7337](https://doi.org/10.1002/sim.7337). PMID: [28670687](https://pubmed.ncbi.nlm.nih.gov/28670687/).
21. **Benkeser D**, Ju C, Lendle S, van der Laan M (2017). “Online cross-validation-based ensemble learning.” *Statistics in Medicine*. doi: [10.1002/sim.7320](https://doi.org/10.1002/sim.7320). PMID: [28474419](https://pubmed.ncbi.nlm.nih.gov/28474419/)
20. **Benkeser D**, van der Laan M (2016). “The Highly Adaptive Lasso estimator.” *Proceedings of the 2016 IEEE International Conference on Data Science and Advanced Analytics*. 689-696. doi: [10.1109/DSAA.2016.93](https://doi.org/10.1109/DSAA.2016.93). PMID: [29094111](https://pubmed.ncbi.nlm.nih.gov/29094111/).
19. Koelman D, **Benkeser D**, Xu Y, Neo S, Tan K, Katsuno M, Sobue G, Natsume J, Chahin S, Mar S, Venkatesan A, Chitnis T, Hoganson G, Yeshokumar A, Barreras P, Majmudar B, Carone M, and Mateen F (2016). “Acute disseminated encephalomyelitis in China, Singapore, and Japan: comparison with the U.S.A.” *European Journal of Neurology*. 24(2), 391-396. doi: [10.1111/ene.13220](https://doi.org/10.1111/ene.13220). PMID: [28009079](https://pubmed.ncbi.nlm.nih.gov/28009079/).

18. Khandelwal N, **Benkeser D**, Coe N, Engelberg R, Curtis J (2016). "Economic feasibility of staffing the Intensive Care Unit with a communication facilitator." *Annals of the American Thoracic Society*. 13(12), 2190-2196. doi: [10.1513/AnnalsATS.201606-449OC](https://doi.org/10.1513/AnnalsATS.201606-449OC). PMID: [27676259](https://pubmed.ncbi.nlm.nih.gov/27676259/).
17. Nagayoshi M, **Benkeser D**, Lutsey PL, Shahar E, Hiroyasu I, Wassel C, Folsom A, Allison M, Criqui MH, Redline S (2016). "Association of sleep apnea and sleep duration with peripheral artery disease: The Multi-Ethnic Study of Atherosclerosis (MESA)" *Atherosclerosis*. 251, 467-475. doi: [10.1016/j.atherosclerosis.2016.06.040](https://doi.org/10.1016/j.atherosclerosis.2016.06.040). PMID: [27423537](https://pubmed.ncbi.nlm.nih.gov/27423537/).
16. Onega T, Lee C, **Benkeser D**, Alford-Teaster J, Haas J, Tosteson A, Hill D, Shi X, Henderson L, Hubbard R (2016). "Travel Burden to Breast MRI and Utilization: Are Risk and Sociodemographics Related?" *Journal of the American College of Radiology*, 13(6), 611-619. doi: [10.1016/j.jacr.2016.01.022](https://doi.org/10.1016/j.jacr.2016.01.022). PMID: [27026577](https://pubmed.ncbi.nlm.nih.gov/27026577/).
15. Khandelwal N, **Benkeser D**, Engelberg R, Coe N, Curtis J (2016). "Patterns of cost for patients dying in the ICU and implications for cost savings of palliative care interventions within different reimbursement structures." *Palliative Care Medicine*. 19(11), 1171-1178. doi: [10.1089/jpm.2016.0133](https://doi.org/10.1089/jpm.2016.0133). PMID: [27813724](https://pubmed.ncbi.nlm.nih.gov/27813724/).
14. Koelman D, Chahin S, Mar S, Venkatesan A, Hoganson G, Yeshokumar A, Barreras P, Majmudar B, **Benkeser D**, Chitnis T, Carone M, Mateen F (2016). "Acute disseminated encephalomyelitis in 228 patients: a retrospective, multi-center U.S. study." *Neurology*. 86(22), 2085-93. doi: [10.1212/WNL.0000000000002723](https://doi.org/10.1212/WNL.0000000000002723). PMID: [27164698](https://pubmed.ncbi.nlm.nih.gov/27164698/).
13. Khandelwal N, **Benkeser D**, Coe N, Engelberg R, Curtis J (2016). "Potential influence of advance care planning and palliative care consultation on costs in the ICU." *Critical Care Medicine*, 44(8), 1474-81. doi: [10.1097/CCM.0000000000001675](https://doi.org/10.1097/CCM.0000000000001675). PMID: [26974546](https://pubmed.ncbi.nlm.nih.gov/26974546/).
12. Neafsey D, Juraska M, Bedford T<sup>†</sup>, **Benkeser D**<sup>†</sup>, Valim C<sup>†</sup>, Griggs A, Lievens M, et al (2015). "Genetic diversity and protective efficacy of the RTS,S/AS01 Malaria Vaccine." *New England Journal of Medicine*, 373(21), 2025-37. doi: [10.1056/NEJMoa1505819](https://doi.org/10.1056/NEJMoa1505819). PMID: [26488565](https://pubmed.ncbi.nlm.nih.gov/26488565/).
11. Castells X, Domingo L, Sala M, Hubbard R, **Benkeser D**, O'Meara E, Hofvind S, Sebuodegard S (2015). "Cross-national comparison of accuracy measures in mammography screening between USA, Norway, and Spain." *European Radiology*. doi: [10.1007/s00330-015-4074-8](https://doi.org/10.1007/s00330-015-4074-8). PMID: [26560729](https://pubmed.ncbi.nlm.nih.gov/26560729/).
10. Dixon S, Hoopes A, **Benkeser D**, Grigg A, Grow M (2015). "Characterizing key components of a medical home among rural adolescents." *Journal of Adolescent Health*, 58(2), 141-7. doi: [jj-adohealth.2015.10.249](https://doi.org/10.1016/j.jadohealth.2015.10.249). PMID: [26802989](https://pubmed.ncbi.nlm.nih.gov/26802989/).
9. Chapman T, Bodmer N, **Benkeser D**, Hingorani S, Parisi M (2014). "Transient renal enlargement in pediatric hematopoietic cell transplant recipients." *Pediatric Transplantation*, 18(3), 288-93. doi: [10.1111/petr.12225](https://doi.org/10.1111/petr.12225). PMID: [24438462](https://pubmed.ncbi.nlm.nih.gov/24438462/).
8. Kizer J, **Benkeser D**, Arnold A, Ix J, Mukamal K, Djousse L, Tracy R, Siscovick D, Psaty B, Ziemann S (2014). "Advanced glycation/glycoxidation endproduct carboxymethyl-lysine and incidence of coronary heart disease and stroke in older adults." *Atherosclerosis*, 235(1), 116-21. doi: [10.1016/j.atherosclerosis.2014.04.013](https://doi.org/10.1016/j.atherosclerosis.2014.04.013). PMID: [24825341](https://pubmed.ncbi.nlm.nih.gov/24825341/).
7. Khandelwal N, Engelberg R, **Benkeser D**, Coe N, Curtis J (2014). "End-of-life expenditure in the ICU and perceived quality of dying." *CHEST*, 146(6), 1594-1603. doi: [10.1378/chest.14-0182](https://doi.org/10.1378/chest.14-0182). PMID: [25451349](https://pubmed.ncbi.nlm.nih.gov/25451349/).
6. Khandelwal N, Engelberg R, **Benkeser D**, Treggiari M (2014). "Variation in reintubation rates in Washington hospitals." *Journal of Cardiothoracic and Vascular Anesthesia*, 29(3). doi: [10.1053/j.jvca.2014.11.009](https://doi.org/10.1053/j.jvca.2014.11.009). PMID: [25802193](https://pubmed.ncbi.nlm.nih.gov/25802193/).

5. Karas M, **Benkeser D**, Arnold A, Djousse L, Mukamal K, Ix J, Zieman S, Siscovick D, Tracy R, Mantzoros C, Gottdiener J, deFilippi C, Kizer J (2013). “Relations of plasma total and high-molecular-weight adiponectin to new-onset heart failure in adults  $\geq$  65 years of age (from the Cardiovascular Health Study).” *American Journal of Cardiology*, 113(2), 328-34. doi: [10.1016/j.amjcard.2013.09.027](https://doi.org/10.1016/j.amjcard.2013.09.027). PMID: [24169012](https://pubmed.ncbi.nlm.nih.gov/24169012/).
4. Djousse L, **Benkeser D**, Arnold A, Kizer J, Zieman S, Lemaitre R, Tracy R, Gottdiener J, Mozaffarian D, Siscovick D, Ix, J (2013). “Plasma free fatty acids and risk of heart failure: The Cardiovascular Health Study.” *Circulation: Heart Failure*, 6(5), 964-969. doi: [10.1161/circheartfailure.113.000521](https://doi.org/10.1161/circheartfailure.113.000521). PMID: [23926204](https://pubmed.ncbi.nlm.nih.gov/23926204/).
3. Kizer J, **Benkeser D**, Arnold A, Djousse L, Zieman S, Mukamal K, Tracy R, Mantzoros C, Siscovick D, Gottdiener J, Ix J (2012). “Total and high-molecular-weight adiponectin and risk of coronary heart disease and ischemic stroke in older adults.” *The Journal of Clinical Endocrinology & Metabolism*, 98(1), 255-63. doi: [10.1210/jc.2012-2103](https://doi.org/10.1210/jc.2012-2103). PMID: [23162097](https://pubmed.ncbi.nlm.nih.gov/23162097/).
2. Kizer J, **Benkeser D**, Arnold A, Mukamal K, Ix J, Zieman S, Siscovick D, Tracy R, Mantzoros C, Defilippi C, Newman A, Djousse L (2012). “Associations of total and high-molecular-weight adiponectin with all-cause and cardiovascular mortality in older persons: The Cardiovascular Health Study.” *Circulation*, 126(25), 2951-61. doi: [10.1161/circulationaha.112.135202](https://doi.org/10.1161/circulationaha.112.135202). PMID: [23159554](https://pubmed.ncbi.nlm.nih.gov/23159554/).
1. Kizer J, Arnold A, **Benkeser D**, Ix J, Djousse L, Zieman S, Barzilay J, Tracy R, Mantzoros C, Siscovick D, Mukamal K (2011). “Total and high-molecular-weight adiponectin and risk of incident diabetes in older persons.” *Diabetes Care*, 35, 415-423. doi: [10.2337/dc11-1519](https://doi.org/10.2337/dc11-1519). PMID: [22148099](https://pubmed.ncbi.nlm.nih.gov/22148099/).

† denotes equal contribution.

## Under Review

1. Hejazi N, van der Laan MJ, Gilbert P, Janes H, **Benkeser D**, “Efficient nonparametric inference on the effects of stochastic interventions under two-phase sampling, with applications to vaccine efficacy trials.” arxiv: [2003.13771](https://arxiv.org/abs/2003.13771). Revision requested: *Biometrics*.
2. **Benkeser D**<sup>†</sup>, Williamson BD<sup>†</sup>, Magaret CA, Nizam S, Gilbert PB, “Super LeArner Prediction of NAb Panels (SLAPNAP): A Containerized Tool for Predicting Combination Monoclonal Broadly Neutralizing Antibody Sensitivity.”
3. **Benkeser D**<sup>†</sup>, Díaz I<sup>†</sup>, Luedtke A<sup>†</sup>, Segal J, Scharfstein D, Rosenblum M, “Improving Precision and Power in Randomized Trials for COVID-19 Treatments Using Covariate Adjustment, for Binary, Ordinal, and Time-to-Event Outcomes.” medRxiv: [10.1101/2020.04.19.20069922](https://doi.org/10.1101/2020.04.19.20069922).
4. McLaughlin TA, Nizam A, Odhiambo FH, Ouma GS, Campbell A, Khayumbi J, Ongalo J, Gurrion Ouma S, Shah NS, Altman JD, Kaushal D, Rengarajan J, Ernst JD, Blumberg HM, Waller L, Gandhi NR, Day CL, **Benkeser D**, “*Schistosoma mansoni* Infection is Associated with a Higher Probability of Tuberculosis Disease in HIV-Infected Adults in Kisumu, Kenya.”
5. **Benkeser D**, “Nonparametric inference for interventional effects with multiple mediators.” arxiv: [2001.06027](https://arxiv.org/abs/2001.06027).
6. van der Laan MJ, **Benkeser D**, Cai W. “Efficient Estimation of Pathwise Differentiable Target Parameters with the Undersmoothed Highly Adaptive Lasso.” arxiv: [1908.05607](https://arxiv.org/abs/1908.05607).
7. Reback CJ, Rusow JA, Cain D, **Benkeser D**, Arayasirikul S, Hightow-Weidman L, Horvath KJ. Technology-based Stepped Care to Stem Transgender Adolescent Risk Transmission: Study Protocol for a Randomized Controlled Trial (TechStep).

## Book chapters

1. van der Laan M, **Benkeser D**, “Highly adaptive lasso (HAL).” (2018) *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. Springer New York. [10.1007/978-3-319-65304-4\\_6](https://doi.org/10.1007/978-3-319-65304-4_6).
2. **Benkeser D**, Carone M, Gilbert P, “Targeted estimation of cumulative vaccine sieve effects.” (2018) *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. Springer New York. [10.1007/978-3-319-65304-4\\_11](https://doi.org/10.1007/978-3-319-65304-4_11).
3. van der Laan M, **Benkeser D**, “Online super learning.” (2018) *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. Springer New York. [10.1007/978-3-319-65304-4\\_18](https://doi.org/10.1007/978-3-319-65304-4_18).

## Teaching

### Formal courses

#### Emory University

Introduction to Statistical Inference (BIOS 511)	2020
23 students; Evaluations (91.3% response): Course – 4.6/5, Instructor – 4.7/5	
Introduction to Statistical Inference (BIOS 511)	2019
22 students; Evaluations (95.5% response): Course – 4.7/5, Instructor – 4.8/5	
Artificial Intelligence and the Ethical Dimensions of Data Science (Academic Learning Community)	2019

#### University of California, Berkeley

Targeted Learning with Biomedical Big Data (PB HLTH 295)	2016
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### Short courses

Modern Methods for Observational Biomedical Data <i>International Conference on Health Policy Statistics</i> 52 participants	2020
Modern Statistical Learning Methods for Observational Biomedical Data <i>Summer Institute in Statistics for Clinical and Epidemiological Research</i> 27 participants	2019
Modern Statistical Learning Methods for Observational Biomedical Data <i>5th Annual Summer Institute for Statistics in Clinical Research</i> 29 participants	2018
Modern Statistical Learning Methods for Observational Data and Applications to Comparative Effectiveness Research <i>4th Annual Summer Institute for Statistics in Clinical Research</i> 50 participants	2017

### Teaching Assistant, University of Washington

Categorical Data Analysis (BIOS 536)	2013
Advanced Regression Methods I (BIOS 570)	2012

## Students

### PhD supervision

Ziyue Wu	2019 -
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### PhD committee

Davit Baliashvili (EPI)	2020 -
Kevin Maloney (EPI)	2019 -
Jonathan Smith (EPI)	2018 -

### Masters thesis

Current: Haoyong Yu, Zhenghao Hu, Weishan Song, Qiao Deng	2020
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Yuan Zhao – *Targeted Maximum Likelihood Estimation to Evaluate Effect of Novel Regimens on Multidrug Resistant Tuberculosis* 2019

## Software

1. **Benkeser D**, Hejazi N, “survtmle: Targeted Minimum Loss-Based Estimation for Survival Analysis in R.” Available via: [CRAN](#) and [GitHub](#). doi: [10.5281/zenodo.835868](https://doi.org/10.5281/zenodo.835868).
2. **Benkeser D**, “drtmle: Doubly-Robust Inference in R.” Available via: [CRAN](#) and [GitHub](#). doi: [10.5281/zenodo.844836](https://doi.org/10.5281/zenodo.844836).
3. **Benkeser D**, “nlpred: Estimators of Non-Linear Cross-Validated Risks Optimized for Small Samples.” Available via: [CRAN](#) and [GitHub](#).

## Honors and Awards

Emory Department of Biostatistics and Bioinformatics Teaching Award (runner-up)	2019
NIAID Travel Scholarship Workshop Big Data and Infectious Diseases	2015
WNAR Distinguished Oral Presentation	2015
NCI Cancer Epidemiology Training Grant	2013 – 2015
NHLBI Cardiovascular Epidemiology Training Grant	2010 – 2012
University of Georgia College of Public Health Excellence in Biostatistics Award	2010

## Professional Service

### Editorial

Journal of Causal Inference, Associate Editor	2016 –
International Journal of Biostatistics, Associate Editor	2016 –

### Peer Review

Biometrics, Annals of Applied Statistics, Statistical Methods in Medical Research, Statistics in Medicine, BMJ Open, PLOS One: Computational Biology, The R Journal, Journal of Palliative Medicine, Annals of Epidemiology, American Journal of Epidemiology, Biometrika, JRSS-C

### Grant review

Wellcome Trust, Postdoctoral Fellowship	2020
NIH: National Institute on Drug Abuse, Special Emphasis Panel	2020
National Science Foundation Review Panel, Division of Mathematical Statistics	2019
National Science Foundation Review Panel, Division of Mathematical Biology	2018

## Presentations

Food and Drug Administration, webinar (invited), June 2020.  
Georgia Clinical and Translational Science Alliance Research Forum, May 2020. *postponed due to COVID-19*  
St. Jude Children’s Research Hospital, Data-Driven Precision Medicine and Translational Research in the Era of Big Data (invited), May 2020.  
“Causal inference and the role of machine learning.”  
Clemson University School of Mathematical and Statistical Sciences Seminar (invited), April 2020. *postponed due to COVID-19*  
National Institute of Arthritis and Musculoskeletal and Skin Diseases Roundtable on Subset Analysis in Clinical Studies (invited), March 2020.  
“Machine learning and causal inference with applications in subgroup analysis.”  
Emory Center for AIDS Research Network Science Seminar, January 2020.  
“SLAPNAP: An automated pipeline for prediction of neutralization sensitivity by HIV sequence features.”

- Computational and Mathematical Statistics (contributed), December 2019.  
“Collaborative inference for causal effect estimation and general missing data problems.”  
Georgia Statistics Day, October 2019.  
“Collaborative inference for causal effect estimation and general missing data problems.”  
University of Georgia, Department of Statistics (invited), September 2019.  
“Collaborative inference for causal effect estimation and general missing data problems.”  
JSM (topic contributed), July 2019.  
“Targeted Machine Learning for Real World Evidence Analytics.”  
WNAR (invited), June 2019.  
“Design and analysis considerations for a sequentially randomized HIV prevention trial in transgender adolescents.”  
Institute for Computational and Experimental Research in Mathematics, Providence RI, January 2019. TRIPODS: Models and Machine Learning for Causal Inference and Decision Making in Health Research (invited).  
“Super efficient estimation of the average treatment effect.”  
Georgia Statistics Day, October 2018.  
“Nonparametric doubly-robust inference for the mean outcome under a longitudinal treatment decision rule.”  
Centre de Recherches Mathematiques, Montreal Canada, June 2018. Workshop on causal inference for complex graphical structures workshop (invited talk).  
“Inference on vaccine sieve effects using machine learning.”  
Emory Center for AIDS Research Network Science Seminar, January 2019.  
“Sieve analysis: Analyzing the role of pathogen genetics in vaccine efficacy”  
International Conference on Health Policy Statistics (invited talk), January 2018.  
“Estimation and inference for the causal effect of a treatment on a rare outcome using bounded statistical models.”  
University of Florida Winter Workshop (poster), January 2018.  
“Online super learning.”  
Georgia Statistics Day, October 2017.  
“The highly adaptive lasso and efficient estimation of causal effects.”  
WNAR (invited talked), June 2017.  
“The highly adaptive lasso estimator and efficient estimation of causal effects.”  
University of Paris, Nanterre, Department of Mathematics (invited talk), May 2017.  
“Vaccine sieve analysis.”  
University of California, San Francisco, TAPS/Methods Core Seminar (invited talk), March 2017.  
“Optimally combining outcomes to improve prediction.”  
University of California, Berkeley, Evaluation and Assessment Research Center Seminar (talk), November 2016.  
“Optimally combining outcomes to improve prediction.”  
IEEE Conference on Data Science and Advanced Analytics (special session), October 2016.  
“The highly adaptive lasso estimator.”  
University of California, Berkeley Biostatistics Department Seminar (invited talk), August 2016.  
“Targeted estimation of vaccine sieve effects in the RTS,S/AS01 preventive malaria vaccine efficacy trial.”  
WNAR/IBC (invited talked), July 2016.  
“Circumventing the curse of dimensionality in asymptotic efficient estimation.”  
WNAR/IBC (invited talked), July 2016.  
“Nonparametric doubly-robust inference for the average treatment effect.”  
University of Washington, Biostatistics Department Seminar (invited talk), January 2016.  
“Genetic diversity and protective efficacy of the RTS,S/AS01 malaria vaccine.”  
NIAID Big Data Workshop (invited talk), November 2015.  
“Applications of data-adaptive estimation in preventive vaccine efficacy trials.”  
JSM (topic contributed talk), August 2015.  
“Methods for increased power in vaccine efficacy trials”,

WNAR Student Paper Competition (talk), June 2015.

“Robust estimation of cumulative incidence in the setting of competing risks.”

### **University Service**

Emory University, Department of Biostatistics and Bioinformatics

High performance computing committee

2017 -

PhD curriculum committee

2017 -

Tenure-track faculty search committee

2018 - 2019

Department chair search committee

2019 - 2020

Emory University, Department of Epidemiology

PhD curriculum committee

2019 - 2020

Emory University, Rollins School of Public Health

Computation and Data Science Advisory Group

2019 -

Faculty Council

2019 -