

Bryan Blette

Curriculum Vitae, Last Updated: 9/1/24

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Education and Training

- 2015 **B.S. in Mathematics**, *University of Florida*
Second major: Statistics Study Abroad, Florence University of the Arts, Italy, 2014
- 2018 **M.S. in Biostatistics**, *University of North Carolina at Chapel Hill*
Advisors: Drs. Leah Frerichs and Annie Green-Howard
- 2021 **Ph.D. in Biostatistics**, *University of North Carolina at Chapel Hill*
Dissertation: Causal Inference for Error-Prone Exposures; Advisor: Dr. Michael Hudgens
- 2021-2023 **Postdoctoral Fellow**, *Center for Causal Inference*, University of Pennsylvania

Academic Appointments

- 2023-Present **Assistant Professor**, *Department of Biostatistics*, Vanderbilt University Medical Center

Non-Academic Positions

- 2015 **Research Apprentice**, *National Space Biomedical Research Institute*, Johnson Space Center
Advisor: Dr. Alan Feiveson, Co-advisor: Dr. Robert Ploutz-Snyder
- 2018 **Quantitative Analyst Intern**, Google
Hosts: Drs. Amy Richardson and Yang Jiao

Professional Organizations

- 2017-present **Member**, *International Biometric Society - Eastern North American Region (ENAR)*
- 2018-present **Member**, *American Statistical Association (ASA)*
- 2023-present **Member**, *Society for Causal Inference (SCI)*

Professional Activities

Intramural Activities

- 2016 **Panelist**, *Finding an Internship Panel*, Department of Biostatistics, UNC - Chapel Hill
- 2019 **Panelist**, *Choosing a Dissertation Advisor Panel*, Department of Biostatistics, UNC - Chapel Hill
- 2021-2023 **Co-organizer**, *Center for Causal Inference, Seminar Series*, University of Pennsylvania
- 2022-2023 **Co-organizer**, *2023 University of Pennsylvania Conference on Statistical Issues in Clinical Trials*
- 2023-present **Faculty Biostatistician**, *Monday Biostatistics Consulting Clinic*, Vanderbilt University Medical Center
- 2023-present **Reviewer**, *VICTR Pilot Resource Grants*, Vanderbilt University Medical Center

- 2023–present **Non-voting Member**, *VICTR Scientific Review Committee*, Vanderbilt University Medical Center
- 2023–present **Faculty Biostatistician Representative**, *CTSA/VFRS Work-in-Progress Series*, Vanderbilt University Medical Center
- 2023–present **Member**, *VUMC Biostatistics Curriculum Review Committee*, Vanderbilt University Medical Center
- 2024 **Research Presenter**, *Biostatistics Graduate Program Prospective Student Visit Day*
- 2024 **Member**, *Biostatistics Methods Publication Award Committee*, Vanderbilt University Medical Center
- 2024–present **Member**, *VUMC Biostatistics Retreat Organizing Committee*, Vanderbilt University Medical Center
- 2024–present **Biostatistics Resource Representative**, *VUMC Faculty Orientation*, Vanderbilt University Medical Center

Extramural Activities

- 2019–present **Referee**,
Annals of the American Thoracic Society, Biometrics, BMC Pediatrics, Communications in Statistics, Epidemiologic Methods, Epidemiology, International Journal of Infectious Diseases, Journal of Causal Inference, Maternal Health, Neonatology and Perinatology, The Pediatric Infectious Disease Journal, PLOS ONE, Statistics in Medicine,
 Some reviews listed on <https://www.webofscience.com/wos/author/record/1568666>
- 2019–2022 **Committee Member**, *ENAR*, Council for Emerging and New Statisticians
- 2021–2024 **Conference Session Chair**, *ENAR Contributed Papers: Handling of Missing Data; ENAR Contributed Papers: Adaptive design/adaptive randomization in clinical trials; ENAR Contributed Papers: Clinical Trial Methods; ACIC: Weighting Methodologies in Causal Inference*
- 2023 **Reviewer**, *Selection Committee*, 2023 ASA Biometrics Section Paper Award Competition
- 2023 **Faculty Mentor**, *ENAR 2023/2024 DataFest*
- 2023–2024 **Member**, *ACTStat 2024 Planning Committee*, Organizer of a keynote on interpretable machine learning
- 2024 **Panelist**, *UNC Biostatistics Alumni Panel*
- 2024 **Scholar**, *COMPASS Early Career Researcher Training Program*
- 2024 **Member**, *ACTStat Early Career Award Committee*

Leadership

- 2018–2020 **Officer, Webmaster**, *Biostatistics Student Association*, UNC - Chapel Hill
- 2020–2022 **Steering Committee**, *Council for Emerging and New Statisticians*, ENAR
 ○ Organized council events and activities for 2-year term
- 2021–2022 **Co-chair**, *Council for Emerging and New Statisticians*, ENAR
 ○ Co-led CENS activities for the 2021–2022 term, including leading teams to run networking events and invited sessions at ENAR and JSM
- 2023–present **Co-chair**, *Aim 5 Working Group*, ARDS, Sepsis, and Pneumonia Consortium Study
- 2024–present **Co-chair**, *VUMC Biostatistics Retreat Organizing Committee*, Vanderbilt University Medical Center

Mentorship and Committees

- 2023–2024 **Nate Dowd**, *MS Committee*, Primary Advisor: Andrew Spieker

- 2023–present **Lan Shi**, *PhD Oral Committee and partial Graduate Research Assistant*, Primary Advisor: Dandan Liu
- 2023–present **Safiya Sani**, *D43 VN-BioStat Co-mentor*, Primary Mentor: Bryan Shepherd
- 2024 **Eliab Woldegebriel**, *Summer Intern*
- 2024 **Lisa Levoir**, *MS Advisor*

Teaching Activities

- Spring 2015 **Teaching Assistant**, *Intro to Statistics*, STA 2023, University of Florida
 ○ Managed the tutoring room for several hours each week, proctored exams, graded papers and exams, and taught multiple lab classes each week
- Fall 2017 **Teaching Assistant**, *Intro to Biostatistics*, BIOS 600, UNC - Chapel Hill
 Assisted professor in writing exams and quizzes, created formats for students to take quizzes online, graded exams, hosted review sessions for exams, and assisted students one-on-one throughout the semester (TAs not reviewed for this course)
- Spring 2020 **Academic Enrichment Program Tutor**, *Intro to Biostatistics / Intro to Epidemiology*, BIOS 600 / EPID 600, UNC - Chapel Hill
 Acted as the official school of public health tutor for introductory courses in biostatistics and epidemiology
- Fall 2021 **Instructor**, *Public Health Methods and Measures*, SPHG712, UNC - Chapel Hill
 ○ Adjunct faculty instructor for introductory epidemiology course for MPH students (online)
- Fall 2022 **Guest Lecturer**, *Causal Inference in Biomedical Research*, BSTA7900, University of Pennsylvania
 Guest lecture on causal inference with interference
- Spring 2022, Spring 2023 **Guest Lecturer**, *Advanced Topics in Epidemiologic Research*, EPID702, University of Pennsylvania
 Guest lecture on Bayesian thinking and analysis

Research Program

Ongoing

- 7/1/23- **Vanderbilt CTSA Award**, *National Center for the Advancement of Translational Science*, 3UL1TR002243-07S1, Biostatistician, 25% effort
- 7/1/23- **ARDS, Pneumonia, Sepsis Consortium**, *National Heart, Lung, and Blood Institute / National Institute of General Medical Sciences*, 1U01HL168478-01, Biostatistician, 20% effort
- 7/1/23- **Recruitment Innovation Center**, *National Center for the Advancement of Translational Science*, 1U24TR004432-01, Biostatistician, 5% effort
- 7/1/23- **Trial Innovation Center**, *National Center for the Advancement of Translational Science*, 1U24TR004437-01, Biostatistician, 15% effort
- 9/1/23- **Viruses In Essential Workers (VIEW) Study**, *Centers for Disease Control and Prevention*, VUMC99463(75D30122C13379), Biostatistician, 18% effort
- 4/1/24- **Respiratory Infections: Gauge of Household Transmission (RIGHT) Study**, *Centers for Disease Control and Prevention*, Biostatistician, 5% effort
- 5/1/24- **Cancer Center Support Grant**, *Vanderbilt-Ingram Cancer Center*, National Cancer Institute, Biostatistician, 10% effort

Completed

7/1/23- **Respiratory Virus Transmission Network (RVTN)**, Centers for Disease Control and
 8/31/23 Prevention, VUMC93226(75D30121C11656), Biostatistician, 23% effort
 11/1/23- **Lynch Regenerative Medicine**, VICTR Drug Repurposing Program, Biostatistician, 5%
 3/31/24 effort

Publications

Peer-reviewed (* indicates co-first author)

1. Becker-Dreps, S., **Blette, B.**, Briceño, R., Alemán, J., Hudgens, M.G., Moreno, G., Ordoñez, A., Rocha, J., Weber, D.J. and Amaya, E. (2017). Changes in the incidence of pneumonia, bacterial meningitis, and infant mortality 5 years following introduction of the 13-valent pneumococcal conjugate vaccine in a "3+ 0" schedule. *PloS One*, 12(8), p.e0183348.
2. **Blette, B.S.**, Howard, A.G. and Frerichs, L.M. (2019). High school physical activity and nutrition policy: Summarizing changes over time using latent class analysis. *American Journal of Preventive Medicine*, 57(3), pp.e69-e76.
3. Neidich, S.D., Fong, Y., Li, S.S., Geraghty, D.E., Williamson, B.D., ..., **Blette, B.**, ..., Tomaras, G. (2019). Antibody Fc effector functions and IgG3 associate with decreased HIV-1 risk. *Journal of Clinical Investigation*, 129(11), pp.4838-4849.
4. Collins, M.H., Zepeda, O., **Blette, B.**, Jadi, R., Morales, M., Pérez, R., Liou, G.J.A., Montoya-Cruz, M., Harris, E., Becker-Dreps, S. and de Silva, A.M. (2020). Serologic surveillance of maternal Zika infection in a prospective cohort in Leon, Nicaragua during the peak of the Zika epidemic. *PloS One*, 15(4), p.e0230692.
5. Gilbert, P.B., **Blette, B.S.**, Shepherd, B.E. and Hudgens, M.G. (2020). Post-randomization biomarker effect modification analysis in an HIV vaccine clinical trial. *Journal of Causal Inference*, 8(1), pp.54-69.
6. Vielot, N. A., González, F., Reyes, Y., Zepeda, O., **Blette, B.**, Paniagua, M., ..., Bucardo, F. (2021). Risk factors and clinical profile of Sapovirus-associated acute gastroenteritis in early childhood: A Nicaraguan birth cohort study. *The Pediatric Infectious Disease Journal*, 40(3), 220-226.
7. Stringer, E. M., Martinez, E., **Blette, B.**, Toval Ruiz, C. E., Boivin, M., Zepeda, O., ..., Bucardo, F. (2021). Neurodevelopmental outcomes of children following in utero exposure to Zika in Nicaragua. *Clinical Infectious Diseases*, 72(5), e146-e153.
8. Bowman, N. M., Bucardo, F., Collins, M. H., Reyes, Y., Cuadra, E. C., **Blette, B.**, ..., Becker-Dreps, S. (2021). Clinical and epidemiological features of acute Zika virus infections in León, Nicaragua. *The American Journal of Tropical Medicine and Hygiene*, 105(4), 924-930.
9. Vielot, N., Becker-Dreps, S., **Blette, B.**, Gonzalez, F., Toval-Ruiz, C., Gutierrez, L., Vilchez, S., Diez-Valcarce, M., Vinje, J., Becker-Dreps, S., Bucardo, F. (2022). First episodes of norovirus and sapovirus gastroenteritis protect against subsequent episodes in a Nicaraguan birth cohort. *Epidemiology*, 33(5), 650-653.
10. Spelke, M. B., Paul, R., **Blette, B.**, Meltzer-Brody, S., Schiller, C. E., Ncheka, J. M., Kasaro, M. P., Price, J. T., Stringer, J. S., Stringer, E.M. (2022). Interpersonal therapy vs. antidepressant medication for treatment of postpartum depression and anxiety among women with HIV in Zambia: a randomized feasibility trial. *Journal of the International AIDS Society*, 25(7), p.e25959.
11. Harhay, M.O., **Blette, B.S.**, Granholm, A., Moler, F.W., Zampieri, F.G., Goligher, E.C., Gardner, M.M., Topjian, A.A. and Yehya, N. (2022). A Bayesian interpretation of a pediatric cardiac arrest trial (THAPCA-OH). *NEJM Evidence*, p.EVIDoA2200196.

12. **Blette, B.S.***, Granholm, A.*, Li, F., Shankar-Hari, M., Lange, T., Munch, M.W., Møller, M.H., Perner, A. and Harhay, M.O. (2023). Causal Bayesian machine learning to assess treatment effect heterogeneity by dexamethasone dose for patients with COVID-19 and severe hypoxemia. *Scientific Reports*, 13(1), p.6570.
13. Schweickert WD, Jablonski J, Bayes B, Chowdhury M, Whitman C, Tian J, **Blette B**, Tran T, Halpern SD. (2023) Structured Mobilization for Critically Ill Patients: A Pragmatic Cluster-randomized Trial. *Am J Respir Crit Care Med*. 2023 Jul 1;208(1):49-58. doi: 10.1164/rccm.202209-1763OC. PMID: 36996413.
14. Kahan, B.C., Li, F., **Blette, B.**, Jairath, V., Copas, A., & Harhay, M. (2023). Informative cluster size in cluster-randomised trials: A case study from the TRIGGER trial. *Clinical Trials*, 20(6), pp.661-669.
15. **Blette, B.S.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C.E., Cheng, C., Appleby, D., Urbanowicz, R.J., Fritz, J., Mazurek, J.A., Li, F. and Kawut, S.M. (2023). Is low-risk status a surrogate outcome in pulmonary arterial hypertension? An analysis of three randomised trials. *The Lancet Respiratory Medicine*, 11(10), pp.873-882.
16. Huang, Y., Hejazi, N.S., **Blette, B.**, Carpp, L.N., Benkeser, D., Montefiori, D.C., McDermott, A.B., Fong, Y., Janes, H.E., Deng, W. and Zhou, H. (2023). Stochastic Interventional Vaccine Efficacy and Principal Surrogate Analyses of Antibody Markers as Correlates of Protection against Symptomatic COVID-19 in the COVE mRNA-1273 Trial. *Viruses*, 15(10), 2029.
17. Hart, J., Summer, A., Ogunduyile, L., Lapite, F., Hong, D., Whitman, C., **Blette, B.**, Harhay, M., Halpern, S. (2023). Accuracy of Expected Symptoms and Subsequent Quality of Life Measures Among Adults With COPD. *JAMA Netw Open*. 2023;6(11):e2344030.
18. Spelke, M.B., Okumu, E., Perry, N., **Blette, B.**, Paul, R., Schiller, C., Ncheka, J.M., Kasaro, M., Price, J., Meltzer-Brody, S., Stringer, J., Stringer, E. (2024) Acceptability of a randomized trial of anti-depressant medication or interpersonal therapy for treatment of perinatal depression in women with HIV. *AIDS and Behavior*, pp.1-14
19. **Blette, B.S.**, Halpern, S.D., Li, F., Harhay, M.O. (2024) Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *Statistical Methods in Medical Research* 33(5):909-927. doi:10.1177/09622802241242323
20. Max, R., Toval-Ruiz, C., Becker-Dreps, S., Gajewski, A., Martinez, E., Cross, K., **Blette, B.**, ..., Bucardo, F. (2024) Neurodevelopment in preschool children exposed and unexposed to Zika virus in utero in Nicaragua: a prospective cohort study. *The Lancet Global Health*, 12(7), pp.e1129-e1138.
21. Kahan, B.C., **Blette, B.S.**, Harhay, M.O., ..., Li, F. (2024) Demystifying estimands in cluster-randomised trials. *Statistical Methods in Medical Research*, 33(7), pp.1211-1232. doi:10.1177/09622802241254197

Peer-reviewed Letters or Commentaries

22. Harhay, M.O., **Blette, B.S.** and Kawut, S.M. (2024) Risk scores as a surrogate in pulmonary arterial hypertension: a different lens - Authors' reply. *The Lancet Respiratory Medicine*, 12(3), p.e11.

Under Review

23. Kasaro, M., **Blette, B.**, Paul, R., Meltzer-Brody, S., Mwanze, J., Spelke, M.B., Stringer, J., Stringer, E. Factors associated with severity of Edinburgh Postnatal Depression Screen (EPDS) and optimal cutoff of EPDS for diagnosing depression and anxiety among postpartum HIV positive women in Lusaka, Zambia (under revision, *Medical Journal of Zambia*)

24. Richardson, B.*, **Blette, B.***, Gilbert, P., Hudgens, M. Addressing confounding and continuous exposure measurement error using corrected score functions (submitted)
25. Munroe, E., Spicer, A., ..., **Blette, B.**, ..., Goligher E. Evidence-based personalised medicine in critical care: A framework for quantifying and applying individualised treatment effects in critically ill patients (submitted)
26. Mersfelder, R., Lwin, C., Malik, S., Badgett, T., Chenard, S., Rekulapelli, A., **Blette, B.**, Lawrenz, J., Borinstein, S. Chemotherapy-surgery interval effects On tumor necrosis and outcome in children and young adults with osteosarcoma (submitted)
27. Dowd, N., **Blette, B.**, Chappell, J., Halasa, N., Spieker, A. An overview of methods for receiver operating characteristic analysis, with an application to SARS-CoV-2 vaccine-induced humoral responses in solid organ transplant (submitted)

Presentations

Invited Talks and Seminars

1. **Blette, B.**, Gilbert, P., Hudgens, M. Causal joint modeling of longitudinal and survival data: An IPW approach. *Center for Causal Inference (CCI) Seminar Series*. April 2022
2. **Blette, B.** Association vs. causation in medical research. *Penn Palliative and Advanced Illness Research (PAIR) Center Seminar Series*. May 2022
3. **Blette, B.**, Gilbert, P., Hudgens, M. Causal joint modeling of longitudinal and survival data: An IPW approach. *International Biometric Society: Kenya Region Seminar Series*. November 2022
4. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Northwestern University Division of Biostatistics Seminar*. January 2023
5. **Blette, B.**, Gilbert, P., Hudgens, M. Combining Causal and Joint Modeling Methods to Address Policy-Relevant Questions using HIV Vaccine Trial Data. *RAND Statistics Group Seminar*. January 2023
6. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Vanderbilt Department of Biostatistics Seminar*. January 2023
7. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Ohio State University Division of Biomedical Informatics Seminar*. February 2023
8. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *University of Pennsylvania Division of Biostatistics Seminar*. February 2023
9. **Blette, B.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C., Cheng, C., Appleby, D., Urbanowicz, R., Fritz, J., Mazurek, J., Li, F., Kawut, S., Harhay, M. Is low-risk status a surrogate outcome in pulmonary arterial hypertension? An analysis of three randomised trials. *Pulmonary Vascular Research Institute Community Seminar*. July 2023
10. **Blette, B.**, Kahan, B., Harhay, M., Li, F. Evaluating informative cluster size in cluster-randomized trials. *CMStatistics*. December 2023
11. **Blette, B.**, Kahan, B., Halpern, S., Harhay, M., Li, F. Practical Issues in Cluster-Randomized Trials: Missing Data and Assessing Assumptions. *University of Louisville Biostatistics Seminar*. February 2024

12. **Blette, B.**, Kahan, B., Harhay, M., Li, F. Evaluating informative cluster size in cluster-randomized trials. *ENAR Spring Meeting*. March 2024
13. **Blette, B. (also Session Organizer)**, Desai, M., Elkin, P., Lindsell, C. Generative AI as a Tool for Advancing Translational Science: Opportunities and Potential Pitfalls. *ACTS Translational Science 2024*. April 2024

Contributed Talks

1. **Blette, B.**, Ploutz-Snyder, R., Feiveson, A. Data analysis challenges in the space life sciences. *Space Life Sciences Summer Institute Research Conference*. August 2015
2. **Blette, B.**, Richardson, A., Jiao, Y. Modeling considerations in data-driven attribution. *Google Internship Presentation*. September 2018
3. **Blette, B.**, Gilbert, P., Shepherd, B., Hudgens, M. Post-randomization biomarker effect modification in an HIV vaccine clinical trial. *ENAR Spring Meeting*. March 2019
4. **Blette, B.**, Gilbert, P., Hudgens, M. Structural joint modeling of longitudinal and survival Data. *UNC Student Seminar*. 2019
5. **Blette, B.** Preparing for the next Zika epidemic: Clinical, epidemiological, and statistical Challenges. *UNC Prospective Students Day*. 2020
6. **Blette, B.**, Gilbert, P., Hudgens, M. Structural joint modeling of longitudinal and survival data. *ENAR Spring Meeting*. March 2020
7. **Blette, B.**, Gilbert, P., Hudgens, M. Addressing concurrent confounding and measurement error using conditional score functions. *ENAR Spring Meeting*. March 2021
8. **Blette, B.**, Hudgens, M. Causal joint modeling of longitudinal and survival data using the parametric g-formula. *ENAR Spring Meeting*. March 2022
9. **Blette, B.**, Gilbert, P., Hudgens, M. Addressing confounding and continuous exposure measurement error using conditional score functions. *Joint Statistical Meetings*. August 2022 (Biometrics Section Paper Award presentation)
10. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *8th Annual Conference on Current Developments in Cluster Randomized Trials and Stepped Wedge Designs*. November 2022
11. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *ENAR Spring Meeting*. March 2023
12. **Blette, B.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C., Cheng, C., Appleby, D., Urbanowicz, R., Fritz, J., Mazurek, J., Li, F., Kawut, S., Harhay, M. Multivariable risk scores as potential surrogate outcomes in pulmonary arterial hypertension trials. *American Thoracic Society International Conference*. May 2023

Posters

1. **Blette, B.**, Howard, A.G., Frerichs, L. Latent class analysis for classification of latent policy environments: A case study. *Joint Statistical Meetings*. August 2019
2. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *Penn DBEI and CCEB Research Day*. April 2022
3. **Blette, B.**, Kahan, B., Harhay, M., Li, F. Assessing informative cluster size in cluster-randomized trials. *American Causal Inference Conference*. May 2023

Honors and Awards

- 2022 ASA Biometrics Section Paper Award (awarded to 5 students or recent graduates out of 121 applicants)
- 2020 ASA Biopharmaceutical Section Scholarship Award
- 2020 AcademyHealth HSRProj Research Competition - Finalist, with Natalie Smith and Katherine Miller
- 2018,2019 UNC Conference Travel Award
- 2017 National Defense Science and Engineering Graduate Fellowship - Alternate Selection (fundable score but not selected)
- 2016 UW SIS MID Travel Award
- 2015 Mohberg Scholarship (awarded to one first-year UNC Biostatistics Ph.D. student)
- 2015 Anderson Scholar (one of the top graduating students from UF Liberal Arts and Sciences)
- 2014 Elected to Phi Beta Kappa and Phi Kappa Phi
- 2012 University of Florida Presidential Scholar, National Merit Scholar