

CURRICULUM VITAE

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Positions

Postdoctoral research fellow Windreich Department of Artificial Intelligence and Human Health, Icahn School of Medicine at Mount Sinai, New York City, New York. July 2025-Present

Postdoctoral research fellow Genetic Medicine, Vanderbilt University Medical Center, Nashville, Tennessee. March 2023-June 2025

Postdoctoral research fellow Institute for Social Research, University of Michigan, Ann Arbor, Michigan. January 2023-March 2023

Education

Doctorate of Philosophy, Epidemiologic science, University of Michigan, Ann Arbor, Michigan. September 2018 - December 2022.

Dissertation: Salivary omics measurements as biomarkers in epidemiological analyses.

Advisors: Kelly M. Bakulski & Betsy Foxman.

University of Michigan ProQuest Distinguished Dissertation Award

Masters of Public Health, Epidemiology, University of Michigan, Ann Arbor, Michigan. September 2016 - May 2018.

Bachelors of Science, Major: Evolutionary Anthropology, Minor: Applied Statistics, University of Michigan, Ann Arbor, Michigan. September 2012 - May 2016.

Publications

*denotes equal contribution of authors

1. **Blostein, F**, Bakulski, KM, Fu, M, Wang, H, Zawistowski, M, & Ware, EB. (2025). DNA methylation age acceleration is associated with incident cognitive impairment in the health and retirement study. *J Alzheimers Dis*, 105, 966–976. <https://doi.org/10.1177/13872877251333707>
2. Vattathil, SM, **Blostein, F**, Miller-Fleming, TW, Davis, LK, Wingo, TS, & Wingo, AP. (2025). GWAS links APOE to neuropsychiatric symptoms in mild cognitive impairment and dementia. *Alzheimers Dement*, 21, e70329. <https://doi.org/10.1002/alz.70329>
3. Byrd, M, Davis, E, **Blostein, F**, Bhaumik, D, Shaffer, JR, McNeil, DW, Marazita, ML, & Foxman, B. (2024). Risk of postpartum dental caries: Survival analysis of black/african american and white women in appalachia. *Womens Health Rep (New Rochelle)*, 5, 108–119. <https://doi.org/10.1089/whr.2023.0056>
4. Higgins Tejera, C, Ware, EB, Hicken, MT, Kobayashi, LC, Wang, H, **Blostein, F**, Zawistowski, M, Mukherjee, B, & Bakulski, KM. (2024). The mediating role of systemic inflammation and moderating

- role of racialization in disparities in incident dementia. *Communications Medicine*, 4, 142. <https://doi.org/10.1038/s43856-024-00569-w>
5. Kresge*, HA, **Blostein*, F**, Goleva, S, Albiñana, C, Revez, JA, Wray, NR, Vilhjálmsón, BJ, Zhu, Z, McGrath, JJ, & Davis, LK. (2024). Phenomewide association study of health outcomes associated with the genetic correlates of 25 hydroxyvitamin d concentration and vitamin d binding protein concentration. *Twin Res Hum Genet*, 1–11. <https://doi.org/10.1017/thg.2024.19>
 6. Wang, H, Bakulski, KM, **Blostein, F**, Porath, BR, Dou, J, Tejera, CH, Ryan, LH, & Ware, EB. (2024). Are depressive symptoms associated with biological aging in a cross-sectional analysis of adults over age 50 in the united states. *Psychol Aging*. <https://doi.org/10.1037/pag0000860>
 7. Antonello, G, **Blostein, F**, Bhaumik, D, Davis, E, Gögele, M, Melotti, R, Pramstaller, P, Pattaro, C, Segata, N, Foxman, B, & Fuchsberger, C. (2023). Smoking and salivary microbiota: A cross-sectional analysis of an italian alpine population. *Scientific Reports*, 13, 18904. <https://doi.org/10.1038/s41598-023-42474-7>
 8. Bakulski, KM, **Blostein, F**, & London, SJ. (2023). Linking prenatal environmental exposures to lifetime health with epigenome-wide association studies: State-of-the-science review and future recommendations. *Environmental Health Perspectives*, 131, 126001. doi: 10.1289/EHP12956
 9. Benjamin, WJ, Wang, K, Zarins, K, Bellile, E, **Blostein, F**, Argirion, I, Taylor, JMG, D'Silva, NJ, Chinn, SB, Rifkin, S, Sartor, MA, & Rozek, LS. (2023). Oral microbiome community composition in head and neck squamous cell carcinoma. *Cancers*, 15. <https://doi.org/10.3390/cancers15092549>
 10. **Blostein, F**, Zou, T, Bhaumik, D, Salzman, E, Bakulski, KM, Shaffer, JR, Marazita, ML, & Foxman, B. (2023). Bacterial community modifies host genetics effect on early childhood caries. *Journal of Dental Research*, 102, 1098–1105. <https://doi.org/10.1177/00220345231175356>
 11. Bhaumik, D, Salzman, E, Davis, E, **Blostein, F**, Li, G, Neiswanger, K, Weyant, RJ, Crout, R, McNeil, DW, Marazita, ML, & Foxman, B. (2022). Plaque microbiome in caries-active and caries-free teeth by dentition. *JDR Clinical & Translational Research*. <https://doi.org/10.1177/23800844221121260>
 12. **Blostein, F**, Fisher, J, Dou, J, Schneper, L, Ware, EB, Notterman, DA, Mitchell, C, & Bakulski, KM. (2022). Polymethylation scores for prenatal maternal smoke exposure persist until age 15 and are detected in saliva in the fragile families and child wellbeing cohort. *Epigenetics*, 17, 2223–2240. <https://doi.org/10.1080/15592294.2022.2112815>
 13. **Blostein, F**, Bhaumik, D, Davis, E, Salzman, E, Shedden, K, Duhaime, M, Bakulski, KM, McNeil, DW, Marazita, ML, & Foxman, B. (2022). Evaluating the ecological hypothesis: Early life salivary microbiome assembly predicts dental caries in a longitudinal case-control study. *Microbiome*, 10, 240. <https://doi.org/10.1186/s40168-022-01442-5>
 14. **Blostein, F**, Foote, S, Salzman, E, McNeil, DW, Marazita, ML, Martin, ET, & Foxman, B. (2021). Associations between salivary bacteriome diversity and salivary human herpesvirus detection in early childhood: A prospective cohort study. *Journal of the Pediatric Infectious Diseases Society*. <https://doi.org/10.1093/jpids/piab044>
 15. **Blostein, F**, & Foxman, B. (2021). Insights into epidemiologic assessments of the microbiome and challenges in identifying microbiome relationships with adverse pregnancy outcomes. *Current Epidemiology Reports*, 8, 143–150. <https://doi.org/10.1007/s40471-021-00263-8>
 16. Davis, E, Martinez, G, **Blostein, F**, Marshall, T, Jones, AD, Jansen, E, McNeil, DW, Neiswanger, K, Marazita, ML, & Foxman, B. (2021). Dietary patterns and risk of a new carious lesion postpartum: A cohort study. *Journal of Dental Research*, 220345211039478. <https://doi.org/10.1177/00220345211039478>
 17. **Blostein, F**, Jansen, EC, Jones, AD, Marshall, TA, & Foxman, B. (2020). Dietary patterns associated with dental caries in adults in the united states. *Community Dentistry and Oral Epidemiology*, 48, 119–129. <https://doi.org/10.1111/cdoe.12509>
 18. **Blostein, F**, Gelaye, B, Sanchez, SE, Williams, MA, & Foxman, B. (2020). Vaginal microbiome diversity and preterm birth: Results of a nested case-control study in peru. *Annals of Epidemiology*, 41, 28–34. <https://doi.org/10.1016/j.annepidem.2019.11.004>
 19. Collingwood, A, **Blostein, F**, Seekatz, AM, Wobus, CE, Woods, RJ, Foxman, B, & Bachman, MA. (2020). Epidemiological and Microbiome Associations Between Klebsiella pneumoniae and Vancomycin-Resistant Enterococcus Colonization in Intensive Care Unit Patients. *Open Forum Infectious Diseases*, 7. <https://doi.org/10.1093/ofid/ofaa012>
 20. Manohar*, J, Hatt*, S, DeMarzo*, BB, **Blostein*, F**, Cronenwett, AEW, Wu, J, Lee, KH, & Foxman,

- B. (2020). Profiles of the bacterial community in short-term indwelling urinary catheters by duration of catheterization and subsequent urinary tract infection. *American Journal of Infection Control*, 48, 178–183. <https://doi.org/10.1016/j.ajic.2019.08.005>
21. Ramadugu*, K, **Blostein***, F, Bhaumik, D, Jiang, W, Davis, E, Salzman, E, Srinivasan, U, Marrs, CF, Neiswanger, K, McNeil, DW, Marazita, ML, & Foxman, B. (2020). Co-occurrence of yeast, streptococci, dental decay, and gingivitis in the post-partum period: results of a longitudinal study. *Journal of Oral Microbiology*, 12, 1746494. <https://doi.org/10.1080/20002297.2020.1746494>
 22. Townsend, T, **Blostein**, F, Doan, T, Madson-Olson, S, Galecki, P, & Hutton, DW. (2020). Cost-effectiveness analysis of alternative naloxone distribution strategies: First responder and lay distribution in the united states. *The International Journal on Drug Policy*, 75, 102536. <https://doi.org/10.1016/j.drugpo.2019.07.031>
 23. **Blostein**, F, Assari, S, & Caldwell, CH. (2017). Gender and ethnic differences in the association between body image dissatisfaction and binge eating disorder among blacks. *Journal of Racial and Ethnic Health Disparities*, 4, 529–538. <https://doi.org/10.1007/s40615-016-0255-7>
 24. **Blostein**, F, Levin-Sparenberg, E, Wagner, J, & Foxman, B. (2017). Recurrent vulvovaginal candidiasis. *Annals of Epidemiology*, 27, 575–582.e3. <https://doi.org/10.1016/j.annepidem.2017.08.010>

Under Review

1. Breidenbach, A, **Blostein**, F, Petty, A, Lake, AM, Aldrich, M, Gamazon, E, Tao, R, Below, J, Khankari, NK. McBias: A user-friendly R package and Rshiny application for modeling bias in observational studies. *Under review*
2. Bose, B, **Blostein**, F, Kim, J, Winters, J, Actkins, KV, Mayer, D, Congivaram, H, Niarchou, M, Edwards, DV, Davis, LK, Stranger, BE. GXwasR: A Toolkit for Investigating Sex-Differentiated Genetic Effects on Complex Traits. doi: <https://doi.org/10.1101/2025.06.10.25329327>. *Under review*
3. Singh, K*, **Blostein**, F,* , Wells, QS, Hodges, EC, Cox, NJ, Davis, L. Antidepressants are associated with decreased white blood cell counts beyond the effect of statins in individuals with co-morbid depression and coronary artery disease: A longitudinal analysis in the Vanderbilt University Medical Center and All of Us cohorts. doi: <https://doi.org/10.1101/2025.10.13.25337946>. *Under review*.
4. Blostein, F. & Hirbo, J. Prospect of improving clinical decisions informed by genetic variations in the population. *Under review*

Grant support

Pilot award. Blostein (PI). 01/01/2022-05/30/2023
 Integrated Training in Microbial Systems Mini Grant, Total annual direct cost: \$10,000
Testing the role of metabolic interactions and processes in the formation of cariogenic oral microbiomes
 Role: Principal Investigator.

NIH F31 DE029992. Blostein (PI). 09/01/2020-08/31/2023.
 NIDCR, Total annual direct cost: \$36,360
Environmental and Genetic Factors Contributing to the Development of the Early-Life Oral Microbiome and its Influence on Early Childhood Caries
 Role: Principal Investigator.

Awards & Honors

2023 Vanderbilt Genomic Medicine Training Program Postdoctoral Fellow (T32 HG008341)
2022 University of Michigan ProQuest Distinguished Dissertation Award
2022 Rackham Graduate School National Travel Award
2021 AAAS/Science Program for Excellence: 1-year Sponsored American Academy for the Advancement of Science Membership.
2019 Science Communication Fellow, University of Michigan Natural History Museum

2018-2020 Genome Science Training Program, National Human Genome Research Institute Predoctoral Fellow (T32 HG00040)

2018-2022 Integrated Training in Microbial Systems Fellowship

2018 Rackham Graduate School International Travel Award

2018 Summa Cum Laude, University of Michigan School of Public Health

2017 Epidemiology Department Travel Award

2017 Top Poster, University of Michigan, School of Public Health, Department of Epidemiology Poster Session

2016-2018 School of Public Health Dean's Scholarship

2016 Summa Cum Laude, University of Michigan

2015 Phi Beta Kappa

2014, 2015, 2016 James B. Angell Scholar, University of Michigan

2013, 2014, 2015 University Honors, University of Michigan

2012-2016 Sydney J and Irene Shipman Scholarship Awardee

Teaching

All teaching conducted at the University of Michigan, Ann Arbor, Michigan

Instructor

Machine Learning for Epidemiological Analysis in the Era of Big Data (EPID 708); 2020 & 2021. 20-30 graduate-level students/session, 1 section/year, summer session. Title: Teaching assistant.

Advanced Methods in Epidemiology (EPID 824); 2020-2021. 1-2 graduate-level students/session, 1 section/year, fall and winter semester. Title: Departmental tutor.

Programming in R for Epidemiologists Summer Session in Epidemiology; 2019. 1 graduate-level student/session, 1 section/year, summer session. Title: Departmental tutor.

Reproductive Health (NURSING 352); 2016-2017. 80-100 undergraduate-level students/semester, 1 section/year, fall and winter semester. Title: Instructional aide.

Undergraduate Research Opportunity Program (UC 280); 2014-2016. 25-35 undergraduate-level students/semester, 2 sections/year, fall and winter semester. Title: Peer advisor.

First Year Writing Seminar (RCCORE 100); 2013-2014. 25-30 undergraduate-level students/section, 1 section/year, fall semester. Title: Teaching assistant.

Guest lecturing

Molecular Epidemiology (EPID 582); 2021. 15-25 graduate-level students/session.

Epidemiologic Data Analysis Using R (EPID 674); 2020. 15-20 graduate-level students/session.

Biological Basis of Human Disease (EPID 512) 2020. 50-85 graduate-level students/session.

Presentations

Oral presentations

January 2025 Leveraging clinical laboratory values and genetic data to understand variation in health and disease. Center for Precision Medicine, Vanderbilt University Medical Center. Seminar.

July 2023 Electronic health reported-sex as a modifier of type 2 diabetes comorbidities and genetic associations. Center for Precision Medicine, Vanderbilt University Medical Center. Seminar.

July 2022 Early life assembly of the salivary microbiome is associated with maternal microbiome and future dental caries. Beneficial Microbes. Oral presentation.

March 2022 Does Mothers' Oral Microbiome Seed Children's Microbiome Increasing Caries Risk? American Association for Dental, Oral, and Craniofacial Research Annual Meeting. Lightening talk.

October 2021 Polymethylation Scores for Prenatal Maternal Smoke Exposure Persist Until Age 15 and are Detected in Saliva. International Genetics Epidemiology Society Annual Meeting. Poster/Lightening talk.

September 2020 Epidemiology: A career for the mathematically minded. University of Michigan Dearborn Undergraduate Mathematics Club.

July 2019 A tale of two clusterings: Comparison of clustering techniques in longitudinally collected salivary samples. University of Michigan Microbiome Seminar.

October 2017 Improving naloxone distribution in the opioid epidemic: a cost-effectiveness analysis of naloxone distribution comparing first responders and laypeople. 39th Annual Meeting of the Society for Medical Decision Making.

April 2016 Creating research opportunities with community-based organizations in Detroit, MI. 30th Annual Meeting for Undergraduate Research.

Posters

November 2024 Evaluating the evolutionary mismatch hypothesis in the electronic health record: A phenome and lab-wide investigation of known malaria variants in >35k individuals of primarily African ancestry in the Vanderbilt University biobank. Annual Meeting of the American Society of Human Genetics

April 2024 Sex differences in type 2 diabetes and type 2 diabetes genetic risk comorbidity burdens: A phenome and laboratory-wide study. National Human Genome Research Institute Annual Trainee Meeting.

October 2023 Sex differences in genetic architecture of clinical laboratory tests: A lab wide analysis in the electronic health record. Annual Meeting of the American Society of Human Genetics.

July 2021 Triangulating the early childhood caries salivary microbiome: a longitudinal case-control study. International Association of Dental Research Annual Meeting.

October 2020 Do dental plaque and salivary microbiomes have independent associations with early childhood caries? A case-control study. Exploring Human Host-Microbiome Interactions in Health and Disease 2020.

October 2020 Triangulation of the early childhood caries microbiome using three techniques for high-dimensional microbial data analysis. Cold Spring Harbor Laboratory Microbiome Virtual Meeting 2020.

November 2018 Herpes virus acquisition in infancy: association with the salivary microbiome? The International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Disease.

July 2018 Dietary patterns predict dental decay in the U.S.: Results from a nationally representative survey. International Association of Dental Research 2018.

July 2018 Candida albicans and caries in post-partum Appalachian women. Poster. International Association of Dental Research 2018.

March 2015 Beyond a white woman's disease: Gender and ethnic differences in binge eating disorder among blacks. 14th Annual Michigan Epidemiology Conference.

Service & Science Communication

Statistics in the Community volunteer 2021-2022 Served as a team analyst for Statistics in the Community, a community outreach program where graduate students provide free expertise on data organization, analysis

and interpretation to non-profit governmental and community organizations.

Women in Science and Engineering Student Programming Board 2021-2022 Served as a student liaison for the Women in Science and Engineering program at the University of Michigan. Designed and hosted a microbiology- and epidemiology-themed session for approximately 20 middle-school students at a summer science camp hosted by Women in Science and Engineering.

Podcast Host Developed, wrote and produced a 3 episode miniseries entitled Get the Dirt on 'Crobecast: an ITiMS podcast on microbial systems, which explored the soil crisis in the United States, and the science behind soil revitalization. Available on Apple Podcasts, Spotify & more...

Peer Editor Acts as a pre-submission peer reviewer of scientific manuscripts prepared by health researchers from low- and middle-income countries in order to develop competitive manuscripts for submission to a peer-reviewed journal. Through the Pre-publication Support Service.

Volunteer Tutor 2018-2020 Tutored elementary – high school aged children in math, science, reading and writing through 826Michigan.

Ad Hoc Reviewer

American Journal of Epidemiology

BMC Oral Health

Pediatric Infectious Disease Journal

Scientific Reports

Professional Memberships

American Society for Human Genetics

International Genetic Epidemiology Society

Data Visualization Society

Society for Epidemiologic Research

International Association for Dental Research 2018-2021
