

CURRICULUM VITAE

Freida A. Blostein

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✉ Email: blostein@umich.edu

☎ Phone: (248) 881-0612

🐙 Github: [blostein](#)

🐦 Twitter: [freidablostein](#)

🌐 Website: [freidablostein.com](#)

Education

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

Dissertation: Salivary omics measurements as biomarkers in epidemiological analyses.

Advisors: Kelly M. Bakulski & Betsy Foxman.

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

1. 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> doi: 10.1177/23800844221121260
2. **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 [Doi: 10.1080/15592294.2022.2112815]. *Epigenetics*, 17, 2223–2240. <https://doi.org/10.1080/15592294.2022.2112815> doi: 10.1080/15592294.2022.2112815
3. **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>
4. **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>
5. **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>
6. 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>

7. **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>
8. **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>
9. 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>
10. 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>
11. 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>
12. 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>
13. **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>
14. **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>

In Review

1. **Blostein, F**, Zou, T, Bhaumik, D, Salzman, E, Bakulski, KM, Shaffer, JR, Marazita, ML, Foxman, B. (2022). Bacterial community modifies host genetics effect on early childhood caries. doi: <https://doi.org/10.1101/2023.01.11.23284235> *In review*
2. Bakulski KM, **Blostein FA**, London SJ. 2022. Linking prenatal environment to lifetime health with epigenome-wide association studies. *In review*
3. Byrd, M, Davis, E, **Blostein, F**, Bhaumik, D, Neiswanger, K, Shaffer, J, McNeil, D, Marazita, M, Foxman, B. (2022). Risk of postpartum dental caries: survival analysis of women in Appalachia. *In 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. 55-85 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

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

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.

Skills

Computer R, Python, SAS, LATEX, Bash, Microsoft Office

Language Spanish – Proficient

Service & Science Communication

Statistics in the Community volunteer Serves 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 Serves 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

International Association for Dental Research

International Society of Microbial Ecology

Data Visualization Society

Society for Epidemiologic Research
