

# CURRICULUM VITAE

**Freida A. Blostein**

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## Education

**Doctorate of Philosophy** Epidemiologic science, University of Michigan, Ann Arbor, Michigan. Degree expected November 2022.

Dissertation: Salivary omics measurements as biomarkers in epidemiological analysis.

Advisors: Kelly M. Bakulski & Betsy Foxman.

**Masters of Public Health** Epidemiology, University of Michigan, Ann Arbor, Michigan. 2018.

**Bachelors of Science** with highest distinction Major: Evolutionary Anthropology, Minor: Applied Statistics, University of Michigan, Ann Arbor, Michigan. 2016.

## Funding

**2022** Testing the role of metabolic interactions and processes in the formation of cariogenic oral microbiomes, Integrated Training in Microbial Systems Mini Grant. 2022 - 2023. \$10,000, PI: Blostein.

**2020** F31 DE029992 Environmental and Genetic Factors Contributing to the Development of the Early-Life Oral Microbiome and its Influence on Early Childhood Caries, National Institute of Health; National Institute for Dental and Craniofacial Research. 2020 - 2023. \$105,000, PI: Blostein.

**2018** T32 HG00040 Genome Science Training Program, National Genome Research Institute of the National Institutes for Health, 2018 - 2020, PI: Boehnke.

**2018** Fellow; Integrated Training in Microbial Systems, University of Michigan.

## Awards & Honors

**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** 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

## Publications

**Blostein, F**, Bhaumik, D, Davis, E, Salzman, E, Shedden, K, Duhaime, M, Bakulski, KM, McNeil, DW, & Marazita, ML. (2022). Evaluating the ecological hypothesis: Early life salivary microbiome assembly predicts dental caries in a longitudinal case-control study. *PREPRINT Submitted*. <https://doi.org/10.21203/rs.3.rs-848589/v2>

**Blostein, F**, Fisher, J, Dou, J, Schenper, 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. *medRxiv PREPRINT Submitted*, 2021.11.30.21267020. <https://doi.org/10.1101/2021.11.30.21267020>

**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>

**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>

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>

**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>

**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>

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>

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>

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>

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>

**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>

**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>

## 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.

## 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.

## 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.

**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 Epidemiological Research

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