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# Freida Blostein

## *Curriculum vitae*

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### Education

**Doctorate of Philosophy** University of Michigan, Ann Arbor, MI. 2018-Current. Epidemiologic science.

**Masters of Public Health** University of Michigan, Ann Arbor, MI. 2016-2018. Epidemiology; GPA – 4.00

**Bachelors of Science** University of Michigan, Ann Arbor, MI. 2012-2016. Major: Evolutionary Anthropology; Minor: Applied Statistics; GPA – 3.99

### Teaching

**Guest Lecturer Epidemiology 582: Molecular epidemiology; University of Michigan School of Public Health, Ann Arbor, MI, 2021** Created and presented a guest module on high-throughput techniques for measuring microbial systems to an audience of approximately 50 Masters-level epidemiology students.

**Teaching Assistant Epidemiology 708: Machine Learning for Epidemiological Analysis in the Era of Big Data;** University of Michigan School of Public Health, Summer Session in Epidemiology, Ann Arbor, MI. 2020 & 2021. Taught R programming for causal inference and machine learning to a group of approximately 20 students through live and interactive programming sessions. Provided instructional support during didactic lectures.

**Guest Lecturer Epidemiology 512: Biological Basis of Human Disease;** University of Michigan School of Public Health, Ann Arbor, MI, 2020 Created and presented a guest module on the role of microbes in gut physiology and pathophysiology to an audience of 50 Masters-level epidemiology students.

**Departmental Tutor Epidemiology 824: Advanced Methods in Epidemiology;** University of Michigan School of Public Health, Department of Epidemiology, Ann Arbor, MI. 2020-2021 Provided one-on-one tutoring on topics in causal inference, epidemiological theory and biostatistics to doctoral and masters students in the department of Epidemiology.

**Tutor Programming in R for Epidemiologists;** Summer Session in Epidemiology, University of Michigan School of Public Health, Ann Arbor, MI. 2019 Designed and taught a tailored one-week course on R coding for epidemiology to an interested student.

**Instructional Aide Nursing 352: Reproductive Health;** University of Michigan School of Nursing, Ann Arbor, MI. 2016-2017. Assisted with planning, running and grading of an undergraduate nursing course on Women's Health. Created materials and guest lectured for approximately 80 students.

**Peer Advisor; Undergraduate Research Opportunity Program,** University of Michigan, Ann Arbor, MI. 2014-2016 Taught a biweekly seminar on research methods, ethics and best practices. Mentored approximately 30 undergraduate research assistants per year in forming working relationships with faculty members across disciplines.

**Teaching Assistant Residential College Core 100: First Year Seminar;** University of Michigan, Ann Arbor, MI. 2013-2014. Provided classroom assistance in a freshman writing course of approximately 25 students. Met individually with students to workshop writing and critical literary analysis.

## Funding

**2022** “Testing the role of metabolic interactions and processes in the formation of cariogenic oral microbiomes” Integrated Training in Microbial Systems Mini Grant. \$10,000

**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. September 2020 - May 2023

**2018** Rackham Graduate School International Travel Grant

**2018** T32 HG00040 Genome Science Training Program, “National Genome Research Institute of the National Institutes for Health” September 2018 - August 2020

**2016** Dean’s Scholarship: 100% tuition for two years of graduate study, September 2016 - May 2018

**2012** Sydney J and Irene Shipman Scholarship Awardee: 100% tuition, room and board for four years of undergraduate study September 2012 - May 2016

## Awards

**2021** AAAS/Science Program for Excellence: Recipient of 1-year Sponsored American Academy for the Advancement of Science Membership

**2019** Science Communication Fellow, University of Michigan Natural History Museum

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

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

**2015** Phi Beta Kappa

## Publications

**Blostein, F. A.**, Fisher, J., Dou, J., Schenper, L., Ware, E. B., Notterman, D. A., Mitchell, C., & Bakulski, K. M. (2021). Polymethylation scores for prenatal maternal smoke exposure persist until age 15 and are detected in saliva. *medRxiv*, 2021.11.30.21267020. <https://doi.org/10.1101/2021.11.30.21267020>

**Blostein, F.**, Foote, S., Salzman, E., McNeil, D. W., Marazita, M. L., Martin, E. T., & Foxman, B. (2021). Associations between salivary bacteriome diversity and salivary human herpesvirus detection in early childhood: A prospective cohort study. *J Pediatric Infect Dis Soc*. <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. *Curr Epidemiol Rep*, 8, 143–150. <https://doi.org/10.1007/s40471-021-00263-8>

Davis, E., Martinez, G., **Blostein, F.**, Marshall, T., Jones, A. D., Jansen, E., McNeil, D. W., Neiswanger, K., Marazita, M. L., & Foxman, B. (2021). Dietary patterns and risk of a new carious lesion postpartum: A cohort study. *J Dent Res*, 220345211039478. <https://doi.org/10.1177/00220345211039478>

**Blostein, F. A.**, Jansen, E. C., Jones, A. D., Marshall, T. A., & Foxman, B. (2020). Dietary patterns associated with dental caries in adults in the united states. *Community Dent Oral Epidemiol*, 48(2), 119–129. <https://doi.org/10.1111/cdoe.12509>

**Blostein, F.**, Gelaye, B., Sanchez, S. E., Williams, M. A., & Foxman, B. (2020). Vaginal microbiome diversity and preterm birth: Results of a nested case-control study in peru. *Ann Epidemiol*, 41, 28–34. <https://doi.org/10.1016/j.annepidem.2019.11.004>

Collingwood, A., **Blostein, F.**, Seekatz, A. M., Wobus, C. E., Woods, R. J., Foxman, B., & Bachman, M. A. (2020). Epidemiological and Microbiome Associations Between *Klebsiella pneumoniae* and Vancomycin-

Resistant Enterococcus Colonization in Intensive Care Unit Patients. *Open Forum Infectious Diseases*, 7(1). <https://doi.org/10.1093/ofid/ofaa012>

Manohar, J., Hatt, S., DeMarzo, B. B., **Blostein, F.**, Cronenwett, A. E. W., Wu, J., Lee, K. H., & Foxman, B. (2020). Profiles of the bacterial community in short-term indwelling urinary catheters by duration of catheterization and subsequent urinary tract infection. *Am J Infect Control*, 48(2), 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, C. F., Neiswanger, K., McNeil, D. W., Marazita, M. L., & 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(1), 1746494. <https://doi.org/10.1080/20002297.2020.1746494>

Townsend, T., **Blostein, F.**, Doan, T., Madson-Olson, S., Galecki, P., & Hutton, D. W. (2020). Cost-effectiveness analysis of alternative naloxone distribution strategies: First responder and lay distribution in the united states. *Int J Drug Policy*, 75, 102536. <https://doi.org/10.1016/j.drugpo.2019.07.031>

**Blostein, F.**, Assari, S., & Caldwell, C. H. (2017). Gender and ethnic differences in the association between body image dissatisfaction and binge eating disorder among blacks. *J Racial Ethn Health Disparities*, 4(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. *Ann Epidemiol*, 27(9), 575–582.e3. <https://doi.org/10.1016/j.annepidem.2017.08.010>

## Presentations

### Oral presentations

October 2021 Polymethylation Scores for Prenatal Maternal Smoke Exposure Persist Until Age 15 and are Detected in Saliva. Poster/Lightening talk. Authors: Blostein, F., Fisher, J., Dou, J. Schenper, L., Notterman, D. A., Mitchell, C., Bakulski, K. M.

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

July 2019 A tale of two clusterings: Comparison of clustering techniques in longitudinally collected salivary samples. University of Michigan Microbiome Seminar. Authors: Blostein, F., Bhaumik, D., Davis, E., Salzman, E., Marazita, M.L., & Foxman, B.

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. Authors: Townsend, T., Blostein, F., Doan, T. Madson-Olson, S., Galecki, P., & Hutton, D.

April 2016 Creating research opportunities with community-based organizations in Detroit, MI. 30th Annual Meeting for Undergraduate Research. Authors: Steiner, J. & Blostein, F.

### Posters

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. Authors: Blostein, F.; Salzman, E.; McNeil, D.; Marazita, M.; Foxman, B.

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. Authors: Blostein, F.; Salzman, E.; McNeil, D.; Marazita, M.; Foxman, B.

November 2018 Herpes virus acquisition in infancy: association with the salivary microbiome? The International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Disease. Authors: Blostein, F., Foote, S., Salzman, E., Martin, E., Marazita, M.L., & Foxman, B.

July 2018 Dietary patterns predict dental decay in the U.S.: Results from a nationally representative survey. International Association of Dental Research 2018. Authors: Blostein, F., Jansen, E., Jones, A., Marazita, M.L., & Foxman, B.

July 2018 Candida albicans and caries in post-partum Appalachian women. Poster. International Association of Dental Research 2018. Authors: Ramadugu, K., Jiang, W., Blostein, F., Salzman, E., Davis, E., Rickard, A., Neiswanger, K., McNeil, D., Marazita, M.L., & Foxman, B.

March 2015 Beyond a white woman's disease: Gender and ethnic differences in binge eating disorder among blacks. 14th Annual Michigan Epidemiology Conference. Authors: Blostein, F., Assari, S., & Caldwell, C.

## Skills

**Computer** R, Python, SAS, LATEX, Linux, mothur, QIIME, 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

Scientific Reports

American Journal of Epidemiology

## Professional Memberships

International Association for Dental Research

International Society of Microbial Ecology

Data Visualization Society

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