

Kimberly A. Dill-McFarland, PhD

Postdoctoral Teaching and Learning Fellow
University of British Columbia

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OBJECTIVE: Industrial or academic career in the application, improvement, or expansion of bioinformatics and reproducible research.

Microbiology PhD with 7+ years experience in microbiome research and data science education. Expertise in next-generation sequencing including library generation, data processing, and statistical analysis. Effective communicator to both expert and novice audiences with experience teaching one-on-one and in large courses. Specific skills include:

<i>General</i>	<i>Computational</i>	<i>Statistical</i>
<ul style="list-style-type: none"> • Amplicon sequencing and metagenomics (Illumina, 454) • Reproducible research (Github, Rmd) • Multi-disciplinary collaboration • Diverse communication strategies 	<ul style="list-style-type: none"> • Unix/Linux • R/RStudio • Python • Git • mothur • QIIME • Cloud resources 	<ul style="list-style-type: none"> • Uni- and multivariate linear models • Dimensionality reduction (PCA, nMDS) • Co-variance and correlation • Sparse dataframes

EXPERIENCE

08/2017 - present **Post-doctoral teaching and learning fellow**, Microbiology & Immunology, U. of British Columbia

- Direct Experiential Data Science for Undergraduate Cross-disciplinary Education ([EDUCE](#)) including a team of 3 teaching assistants
- Design and implement data science curriculum in R/RStudio, command line tools, and cloud resources across 7 undergraduate courses
- Promote open science and reproducible research through curriculum development and dissemination on [GitHub](#)
- Secured independent funding for EDUCE (\$160K+)

07/2018 - present **Post-doctoral research fellow**, [ECOSCOPE](#)

- Coordinate [data science workshops](#) for Ecosystem Services, Commercialization Platforms, and Entrepreneurship (ECOSCOPE)
- Refine online content and act as primary webmaster

07/2016 - 06/2017 **Post-doctoral research associate**, Bacteriology/Sociology, U. of Wisconsin-Madison

- Investigated the relationship between the human gut microbiome and long-term behaviors using the Wisconsin Longitudinal Study (WLS)
- Applied multiple regression analyses with confounder and multiple comparison correction in R
- Navigated large, longitudinal survey databases using R and Git

08/2011 - 06/2016 **Graduate research assistant**, Bacteriology, U. of Wisconsin-Madison

- Thesis: Assessing the impact of diet on microbial succession, growth, and milk production in dairy cows
- Designed and implemented amplicon sequence analysis pipelines in mothur and R on both local and remote resources
- Collaborated effectively with diverse international researchers resulting in numerous publications as first, middle, or corresponding author
- Communicated research to expert and general audiences through oral, poster, and writing mediums
- Mentored high school, undergraduate, and graduate students

08/2008 - 05/2011 **Undergraduate research assistant**, Biology, U. of Puget Sound

- Thesis: Investigating maltose metabolism in *Bdellovibrio bacteriovorus*
- Utilized semi-quantitative RT-PCR to measure gene expression
- Acquired independent funding through the American Society for Microbiology (\$10K)

EDUCATION

2011-2016 **Ph.D. Microbiology**, U. of Wisconsin-Madison, Madison, WI. GPA: 4.00

2007-2011 **B.S. Molecular and cellular biology**, Minor mathematics, U. of Puget Sound, Tacoma, WA. GPA: 3.84

SELECTED PUBLICATIONS

**co-first authors For [full publication list](#)*

Dill-McFarland KA*, Tang Z*, Kemis JH, Kerby RL, Chen G, Palloni A, Sorenson T, Rey FE†, Herd Pt. 2019. Close social relationships correlate with human gut microbiota composition. *Sci Rep In press*. Preprint doi: <https://doi.org/10.1101/428938>

Dill-McFarland KA, Weimer PJ, Breaker JD, Suen G. 2018. Diet influences early microbiota development in dairy calves without long-term impacts on milk production. *Appl Environ Microbiol* Epub ahead of print. doi: [10.1128/AEM.02141-18](https://doi.org/10.1128/AEM.02141-18)

Vogt NM, Kerby RL, **Dill-McFarland KA**, Harding SJ, Merluzzi AP, Johnson SC, Carlsson CM, Asthana S, Zetterberg H, Blennow K, Bendlin BB†, Rey FE†. 2017. Gut microbiome alterations in Alzheimer's disease. *Sci Rep* 7(1): 13537. doi: [10.1038/s41598-017-13601-y](https://doi.org/10.1038/s41598-017-13601-y)

NOTABLE ACCOMPLISHMENTS

2017, 2018, 2019 Session moderator/convenor at the American Society for Microbiology (ASM) Microbe meeting

2016 Microbiome Digest's [Best Microbiome Paper](#)

2016 Sigrid Leirimo Memorial Award for peer mentorship and support

2009, 2010 American Society for Microbiology Undergraduate Fellow

[Full Curriculum vitae](#)

References available upon request