

KARA E. MCCORMACK

University of North Carolina, Chapel Hill ◊ Chapel Hill, NC

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EDUCATION

Ph.D. in Biostatistics, Duke University May 2023
Certificate in College Teaching

Dissertation Title: Exposomic Modeling Approaches for Social and Environmental Determinants of Health

M.A. in Mathematics, University of Miami 2016

B.S. in Mathematics, University of Miami, *summa cum laude* 2015
Minors in Psychology, Film

PROFESSIONAL EXPERIENCE

Teaching Assistant Professor, University of North Carolina, Chapel Hill August 2023 - Present

Adjunct Faculty, Miami Dade College August 2016 - August 2017

TEACHING

University of North Carolina, Chapel Hill *Chapel Hill, NC*
Assistant Professor

BIOS663: Intermediate Linear Models Spring 2024

BIOS 645: Principles of Experimental Analysis Spring 2024

BIOS691: Field Observations in Biostatistics Fall 2023

BIOS703: Introduction to the Practice of Biostatistics Fall 2021

Duke University *Durham, NC*

Guest Lecturer

BIOS704: Introduction to Statistical Theory & Methods Spring 2022

BIOS703: Introduction to the Practice of Biostatistics Fall 2021

Teaching Assistant

Bioinformatics Short Course: Microbiome Immunology Cancer Summer 2021

Integrative Bioinformatics for Investigating and Engineering Microbiomes (IBIEM) Aug 2020 - May 2021

BIOS706: Introduction to the Practice of Biostatistics II Spring 2019

BIOS702: Introduction to Applied Biostatistics Fall 2018

STA101: Introduction to Statistics Fall 2017

Miami Dade College *Miami, FL*

Instructor of Record

MAT0057: College Algebra Fall 2016, Summer 2017

University of Miami
Mathematics Lab Tutor

Miami, FL
 Fall 2016

Coach for College
Physics Instructor, Volleyball Coach

Can Tho, Vietnam
 Summer 2014

Workshops

R for Data Manipulation. Duke University Postdoctoral Association, October 2022. (Live-coding assistant)

Introduction to RStudio and Tidyverse. Department of Population Health Sciences, August 2022. (Instructor)

Introduction to Origami. Biostatistics Student Association, University of North Carolina, Chapel Hill. November, 2024. (Instructor).

Introduction to Origami. Biostatistics Student Association, University of North Carolina, Chapel Hill. April, 2024. (Instructor).

HONORS

Professional Development Fund Award. March 2023. \$250.

Preparing to Teach Workshop Travel Award. August 2022. \$400.

Teaching on Purpose Fellowship. Duke University, Kenan Institute for Ethics. Spring 2022. \$3000.

Finalist, Florence Nightingale Award. International Biometrics Conference. Riga, Latvia. July, 2022.

Integrative Bioinformatics for Investigating and Engineering Microbiomes (IBIEM) Fellow. National Science Foundation. Aug 2020 - May 2021. \$45,000.

American Association for Cancer Research Scholar-in-Training Award. 2020. \$250.

Dean's Graduate Fellowship. 2019-2020. \$5000 per semester.

James B. Duke Fellowship. 2017-2019. \$5000 per semester.

Duke University BioCoRe Graduate Scholarship. 2017-2018. \$10,000.

National Collegiate Athletic Association Woman of the Year, Top Nine Finalist. 2016.

Atlantic Coast Conference (ACC) Postgraduate Scholarship. 2016-2017. \$5000.

BIBLIOGRAPHY

Peer Reviewed Papers

1. Troy, J.D., **McCormack, K.**, Grambow, S., Pomann, G. M., Samsa, G. *Redesign of a First-Year Theory Course Sequence in Biostatistics*. Journal of Curriculum and Teaching. Vol 11, No 8 (2022). <https://doi.org/10.5430/jct.v11n8>
2. Yan, L. L., Gong, E., Gu, W., Turner, E. L., Gallis, J. A., Zhou, Y., Li, Z., **McCormack, K.**, Xu, L., Bettger, J. P., Tang, S., Wang, Y., Oldenburg, B. *Primary care strengthening and mHealth technology for stroke management in rural China: a cluster-randomized controlled trial*. PLOS Medicine 18(4): e1003582.. 28 April, 2021. <https://doi.org/10.1371/journal.pmed.1003582>.
3. Turner, E. L., Platt, A. C., Gallis, J., A., Tetreault, K.*, Easter, C., McKenzie, J., E., Nash, S., Forbes, A., B., Hemming, K., on behalf of the **CRT Binary Outcome Reporting Group**. *Completeness of reporting and risks of overstating impact in cluster randomised trials: a systematic review*. Lancet Global Health 2021; 9: e1163–68. [https://doi.org/10.1016/S2214-109X\(21\)00200-X](https://doi.org/10.1016/S2214-109X(21)00200-X)

4. Larsen, A., Kolpacoff, V.*, **McCormack, K.**, Seewaldt, V., and Hyslop, T. *Using Latent Class Modeling to Jointly Characterize Economic Stress and Multipollutant Exposure*. *Cancer Epidemiology, Biomarkers, and Prevention*. Volume 29, Issue 10. 1940–1948. 01 October 2020. <https://doi.org/10.1158/1055-9965.EPI-19-1365>

In Preparation

1. **McCormack, K.**, Gao, J., Howard, L., Bachelder, N.*, Larsen, A., Seewaldt, V., Hyslop, T. *A latent class ecological regression model of COVID-19 disparities in cases and deaths in NYC*. *Annals of Epidemiology*.
2. **McCormack, K.**, Hyslop, T. *A latent class spatial model for food deserts, socioeconomic stress, and breast cancer mortality*.
3. **McCormack, K.**, Hyslop, T. *Ambient pollution, socioeconomic stress, and breast cancer in US counties: a Bayesian profile regression approach*

Talks and Conference Presentations

1. *Classification and spatial analyses for multiple mixtures of health exposures*. Cancer Epidemiology Seminar Series. University of North Carolina, Chapel Hill. January 11, 2023. (Virtual)
2. *Latent class spatial analysis of social determinants, food deserts, and risk of breast cancer mortality*. San Antonio Breast Cancer Symposium. San Antonio, TX. December 6-10, 2022. (Poster)
3. *Latent class spatial analysis of social determinants, environmental exposures, and risk of breast cancer mortality*. American Association of Cancer Research: The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. Philadelphia, PA. September 16-19, 2022. (Poster)
4. *Latent class models to characterize joint patterns of food deserts and socioeconomic stress*. NIH Food Insecurity, Neighborhood Food Environment, and Nutrition Health Disparities: State of the Science. September 21-23, 2021. (Poster, Virtual)
5. *Key factors in online shopping revenue: a machine-learning approach*. Duke Department of Biostatistics and Bioinformatics. Statistical Methods for Learning and Discovery. November, 2020. (Poster)
6. *A latent class Poisson model for COVID-19 cases in New York City*. The Science of Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. October 2-4, 2020. (Poster, Virtual)
7. *Latent class analysis of multi-pollutant exposure in the U.S*. Duke Cancer Institute, 8th Annual Cancer Control and Population Sciences (CCPS) Poster Fair. May 1, 2019. (Poster)

MENTORING

BIOS842: Practice in Statistical Consulting <i>Wanyun Shi: Grifols, Statistical Programmer</i>	Summer 2024
BIOS842: Practice in Statistical Consulting <i>Kristy Ma: Eli Lilly, Statistics Intern</i>	Summer 2024
BIOS842: Practice in Statistical Consulting <i>Shweta Srikanth: Independent Data Monitoring Committee</i>	Spring 2024
BIOS392: Undergraduate Internship in Biostatistics <i>Xingyan Liu</i>	Fall 2023
BIOS694H: Undergraduate Honors Research in Biostatistics <i>Khijie Duan</i>	Fall 2023 - Spring 2024

SERVICE

American Statistical Association, North Carolina Chapter. *Member*. August 2024 - Present.

American Statistical Association, Section on Statistics and Data Science Education. *Member*. August 2024 - Present.

PhD Seminar Planning Committee. Duke University, Department of Biostatistics and Bioinformatics. Fall 2022, Spring 2023.

Duke University Graduate and Professional Student Government, Department Representative. Fall 2019.

DIVERSITY, EQUITY, AND INCLUSION

Diversity, Equity, and Inclusion Committee. Duke University, Department of Biostatistics and Bioinformatics. 2022.