

# KARA E. MCCORMACK

Ph.D. Candidate ◇ Duke University ◇ Durham, NC

📧 karamccor

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## SUMMARY

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PhD candidate with 4+ years experience in teaching and applied biostatistics research, seeking full-time teaching roles in statistics and data science.

## EDUCATION

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**Doctor of Philosophy, Biostatistics**, Duke University Expected May 2023  
*Certificate in College Teaching*

**Master of Arts, Mathematics**, University of Miami 2015 - 2016

**Bachelor of Science, Mathematics**, University of Miami, *summa cum laude* 2011 - 2015  
*Minors in Psychology, Film*

## TEACHING EXPERIENCE

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*Duke University* Durham, NC

### Guest Lecturer

BIOS703: Introduction to the Practice of Biostatistics Fall 2021

BIOS704: Introduction to Statistical Theory & Methods Spring 2022

### 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

MAT1033: Calculus I Summer 2017

*University of Miami* Miami, FL

### Mathematics Lab Tutor

Fall 2016

*Coach for College* Can Tho, Vietnam

### Physics Instructor + Volleyball Coach

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)

## PROFESSIONAL DEVELOPMENT

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## Preparing to Teach

August 6, 2022

Workshop preparing graduate students for roles as faculty responsible for teaching statistics and data science.

## CONFERENCE PRESENTATIONS

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*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)

*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)

*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)

*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)

*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)

*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)

## AWARDS AND FELLOWSHIPS

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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.

## SERVICE

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

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

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

## SKILLS

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**Technical Skills** R, RStudio, GitHub, SAS

**Research Areas** Spatial statistics, Bayesian modeling, data visualization, statistical pedagogy

## PUBLICATIONS

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## 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. 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. 01 October 2020. <https://doi.org/10.1158/1055-9965.EPI-19-1365>

## Under Review

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. Submitted September 2022.

## In Preparation

1. **McCormack, K.**, Hyslop, T. *A latent class spatial model for food deserts, socioeconomic stress, and breast cancer mortality*.
2. **McCormack, K.**, Hyslop, T. *Ambient pollution, socioeconomic stress, and breast cancer in US counties: a Bayesian profile regression approach*

## PROFESSIONAL AFFILIATIONS

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- Cancer Risk Detection, and Interception (CRDI) Trainee, Duke Cancer Institute, 2019 - Present
- American Statistical Association, 2017 - Present

## EXTRA-CURRICULAR ACTIVITIES

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- 200-Hour Yoga Teacher Training Certified. Durham, NC, 2021.