

# Sean D McCabe, PhD

Assistant Professor

Department of Biostatistics and Health Data Science

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## Education

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

-PhD in Biostatistics, May 2020

- Title: "Statistical Methods for the Analysis of Multi-Omics and Multi-Study Datasets" - Advisors: Dr. Michael Love and Dr. Danyu Lin

- Kupper Dissertation Publication Award, 2021

-MS in Biostatistics, December 2017

- Master's Thesis: "Sample Size Considerations for Inferential and Formally Supportive Subgroup analyses in Stratified Sampling Designs" – Advisor: Dr. Gary Koch

- Regina C. Elandt-Johnson Best Master's Paper Award

Purdue University, West Lafayette, IN, May 2014

-Double BS degree in Mathematics and Statistics

-Minor: Computer Science

## Positions

- September 2022 – Present: Assistant Professor, Department of Biostatistics and Health Data Science, Indiana University School of Medicine
- August 2020 – August 2022: Postdoctoral Research Fellow, Department of Biostatistics, Harvard T.H. Chan School of Public Health; Training Program in Environmental Epidemiology (T32 ES007069)
- August 2019 – May 2020: Graduate Research Assistant, Biostatistics Core, Lineberger Comprehensive Cancer Center
- August 2018 – July 2019: Graduate Research Assistant, Multi-tissue and network models for next-generation EQTL studies
- August 2014 – August 2018: Training Grant Recipient, National Cancer Institute's Biostatistics for Genomics in Cancer (T32 CA106209-12)
- August 2012 – May 2014: Statistician, "Kranz Lab" Purdue University
- Summer 2011: Volunteer Statistician, Purdue Athletic Department

## Awards/Honors

- Recipient of the National Institute of Environmental Health Sciences (NIEHS) Training Grant in Environmental Epidemiology (T32 ES007069), 2021
- Kupper PhD Dissertation Publication Award (UNC), 2021
- North Carolina Chapter of the American Statistical Association  
Chair of the Scholastic Council, 2019 - 2020

Liaison to the Industry Interests Group for the Scholastic Council, 2018 - 2019

- Regina C. Elandt-Johnson Best Master's Paper Award, 2018
- Gary Koch BIOS Poster Award at the UNC BIOS 70<sup>th</sup> Anniversary Celebration, 2019
- North Carolina Chapter of the American Statistical Association (ASA) and the International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC) Young Researcher Award, 2018
- President of University of North Carolina Biostatistics Student Association, 2017 - 2018
- Recipient of the National Cancer Institute's Biostatistics for Genomics in Cancer Training Grant: T32 CA106209-12 (August 2014 - August 2018)
- Mu Sigma Rho, member
- National Society of Collegiate Scholars, member
- Summer Institute in Biostatistics (SIBS) Madison, WI, 2013

### Publications:

- Ahlschlager L, **McCabe SD**, Deal AM, Guo A, Gessner KH, Lipman R, Chisolm S, Gore JL, Smith AB. The Effect of treatment on work productivity in patients with bladder cancer. *Urologic Oncology*. 2023 Feb. In press.
- Smith AB, **McCabe SD**, Deal AM, Guo A, Gessner KH, Lipman R, Chisolm S, Ahlschlager L, Gore JL. (2022) "Quality of Life and Health State Utilities in Bladder Cancer". *Bladder Cancer*. 55-70.
- Smith AB, Samuel CA, **McCabe SD**, Deal A, Jonsson M, Mueller DE, Mahbooba ZM, Bennett AV, Chung AE, Nielsen ME, Tan HJ, Wallen E, Pruthi R, Wang A, Basch E, Reeve BB, Chen RC. (2021) "Feasibility and delivery of patient-reported outcomes in clinical practice among racially diverse bladder and prostate cancer patients" *Urologic Oncology: Seminars and Original Investigations*, 39 (1), pp 77-e1
- Zeitouni D, Catalino MP, Wise J, **McCabe SD**, Pietrosimone K, Rashid N, Khagi S. (2021) "Clinical Application of Next-Generation Sequencing in Recurrent Glioblastoma." *Onco*, 1(1), pp 38-48
- Park EM, Deal AM, Yopp JM, Chien SA, **McCabe SD**, Hirsch A, Bowers SM, Edwards T, Rosenstein DL. (2021) "Parenting through grief: A cross-sectional study of recently bereaved adults with minor children." *Palliative Medicine*, 1-10
- Nakamura ZM, Deal AM, Park EM, Quillen LJ, Chien SA, Stanton KE, **McCabe SD**, Heiling HM, Wood WA, Shea TC, Rosenstein DL. (2021) "A randomized double-blind placebo-controlled trial of intravenous thiamine for prevention of delirium following allogeneic hematopoietic stem cell transplantation." *Journal of Psychosomatic Research*, 146, 110503
- **McCabe SD**, Noble AB, Love MI. (2021) "ACTOR a latent Dirichlet model to compare expressed isoform proportions to a reference panel." *Biostatistics*. Advance online publication. <https://doi.org/10.1093/biostatistics/kxab013>

- **McCabe SD**, Lin DY, Love MI. (2020) "Consistency and overfitting of multi-omics methods on experimental data." *Briefings in Bioinformatics*. 21(4), pp 1277-1284 doi: 10.1093/bib/bbz070
- Brauchla M, Reidenbach K , Baker S, **McCabe SD**, and Kranz S. (2014) "The effects of increased dietary fiber intake on the self-reported quality of life of school-age children." *Health*, Vol 6, pp 115-122.
- Huss L, **McCabe SD**, Dobbs-Oates J, Burgess J, Behnke C, Santerre C, and Kranz S. (2013) "Development of Child-Friendly Fish Dishes to Increase Young Children's Acceptance and Consumption of Fish." *Food and Nutrition Sciences*, Vol 4 No. 10A, pp 78-87.
- Baker SL, **McCabe SD**, Swithers SE, Payne CR, and Kranz S. (2015) "Do healthy, child-friendly fruit and vegetable snacks appeal to consumers? A field study exploring adults' perceptions and purchase intentions." *Food Quality and Preference*, Vol 39, pp 202-208.

#### **In Revision:**

- **McCabe SD**, Hammershaimb AE, Cheng D, Shi A, Shyr D, Shen S, Cole LD, Cataldi JR, Allen W, Probasco R, Silbermann B, Zhang F, Marsh R, Travassos MA, Lin X (2021). Unraveling Attributes of COVID-19 Vaccine Hesitancy and Uptake in the U.S.: A Large Nationwide Study. *medRxiv*. doi: 10.1101/2021.04.05.21254918 – In Revision *Scientific Reports* (8/5)

#### **Non-Journal Articles:**

- Hass Z, **McCabe SD**, and Craig B. "Easy to Criticize, Harder to Verify: Fourth and Goal in Post-2011 NFL Overtime." *Chance*. 2014.

#### **Oral Presentations:**

- **Sean D McCabe**, Andrew Nobel, and Michael Love. "Latent Dirichlet Model to Compare Expressed Isoform Proportions to a Reference Panel." Joint Statistical Meetings; July 2019; Denver, CO.
- **Sean D McCabe**, Danyu Lin, and Michael Love. "MOVIE: Multi-Omics Visualization of Estimated Contributions." Eastern North American Region of the International Biometric Society Spring Meeting; March 2019; Philadelphia, PA.
- **Sean D McCabe**, Danyu Lin, and Michael Love. "Examination of Methods for Gene Expression Normalization in eQTL Studies." International Biometrics Conference; July 8-13; Barcelona, Spain.

#### **Poster Presentations:**

- Arthur Q Tran, Stephanie A Sullivan, **Sean D McCabe**, Naim Rashid, and Victoria L Bae-Jump. "Relationship between body mass index (BMI) and gene expression profiles of cervical cancer in The Cancer Genome Atlas (TCGA) project."
- **Sean D McCabe**, Danyu Lin, and Michael Love. "Examination of Methods for Gene Expression Normalization in eQTL Studies." Joint Statistical Meetings; 2017 Jul 29-Aug 3; Baltimore, MD.
- Hass Z, Craig B, and **McCabe SD**. "NFL Overtime Rule Change: Kick the Field Goal or Go for It?" Joint Statistical Meetings; 2014 Aug 2-7; Boston, MA.
- Selena Baker, **Sean D McCabe**, Collin Payne, Susan Swithers, and Sibylle Kranz. "Do children like fruits and vegetables more when they are in fun shapes?" Next Generation Scholars Research Fair; 2013; Purdue University
- Mary C Brauchla, Sibylle Kranz, **Sean D McCabe**, and George P McCabe. "Does removing visual reminders of food eaten affect the amount of food preschool children will eat?" Next Generation Scholars Research Fair; 2013; Purdue University.
- Lyndsey R Huss, **Sean D McCabe**, Jennifer Dobbs-Oates, John Burgess, Carl Behnke, Charles R Santerre, and Sibylle Kranz. "Development of child-friendly fish dishes to increase 2-5 year old children's acceptance and consumption of fish" Ingestive Behavior Research Center Symposium on Eating Patterns, Diet Quality, and Energy Balance; 2013; Purdue University and Next Generation Scholars Research Fair; 2013; Purdue University.
- Selena L Baker, Katherine L Reidenbach, **Sean D McCabe**, Mary C Brauchla, and Sibylle Kranz. "Effects of High-Fiber Snacks on Health-Related Quality of Life in a Sample of School-Aged Children" Experimental Biology; 2013 Apr 20-24; Boston, MA.
- Selena L Baker, Katherine L Reidenbach, **Sean D McCabe**, Mary C Brauchla, and Sibylle Kranz. "Correlations between child and parent-reported pediatric health-related quality of life in a sample of 7 to 11-year-old schoolchildren" Experimental Biology; 2013 Apr 20-24; Boston, MA.

#### **Abstracts:**

- Park E, Deal A, Chien S, Yopp J, Hirsch A, **McCabe S**, Bowers S, and Rosenstein D. "Psychosocial functioning of recently bereaved adults raising minor children." *Annual Meeting of the Academy of Consultation-Liaison Psychiatry*. November 2020
- Baker S, **McCabe S**, Swithers S, Payne C, and Kranz S. "Children's liking of child-friendly shaped fruits and vegetables: dose shape influence liking?" *FASEB Journal*, Vol 28. No. 1 Supplement 1019.22, 2014.
- Baker S, **McCabe SD**, Swithers S, Payne C, and Kranz S. "Adults' attitudes toward purchasing intentions for child-friendly shaped healthy fruit and vegetable snacks." *FASEB Journal*, Vol. 28 No. 1 Supplement 1019.23, 2014.

- Kranz S, Brauchla MC, **McCabe SD**, and McCabe GP. “Will altering visual cues of food consumption affect food intake in preschool-age children?” FASEB Journal, Vol. 28 No. 1 Supplement 808.8, 2014.
- Baker S, Reidenbach KL, **McCabe SD**, Brauchla MC, and Kranz S. “Correlations between child and parent-reported pediatric health-related quality of life in a sample of 7 to 11-year-old schoolchildren.” FASEB Journal, Vol. 27. No.1 Supplement 617.15, 2013

### Peer Reviewer

- Annals of Applied Statistics
- Journal of the American Statistical Association

### Professional Societies

- American Statistical Association, member
- Eastern North American Region of the International Biometric Society, member
- International Biometric Society, member

### Teaching Experience

- BIOS 545 (UNC) – Principles of Experimental Analysis – Teaching Assistant Spring 2017
- BIOS 660 (UNC) – Probability and Statistical Inference – Teaching Assistant Fall 2018
- BIOS Linear Algebra Bootcamp (UNC) – Instructor – Summer 2018, Summer 2019

### Activities

- STATCOM: Purdue Department of Statistics student-run organization that provides statistical for non-profit organizations (2013-2014).
- Attended the American Statistical Association’s Joint Statistical Meetings – Montreal (2013) Seattle (2015) Baltimore (2017) Denver (2019)
- Attended the International Biometric Conference – Barcelona (2018)
- Attended the Eastern North American Region of the International Biometric Society Spring Meeting – Philadelphia (2019)

### Skills

- Software: SAS, R, GitHub, MiniTab
- Languages: Java, Python, C
- Genomic Analyses: Multi-Omics, Differential Gene Expression, Differential Transcript Usage, eQTL, Differential Methylation, GWAS
- Genomic Data: RNASeq, transcript level RNASeq, Genotype, Methylation, miRNA, ATAC-Seq