

Jackson P. Barth, PhD

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Current Position (*August 2023 – present*)

Assistant Professor, Baylor University, Department of Statistical Science

Education

2023 *Ph.D., Statistical Science*, Southern Methodist University

2016 *M.A., Economics*, University of Alabama

2016 *B.S., Commerce and Business Administration*, University of Alabama

Publications

Zhang, M., **Barth, J.**, Lim, J., & Wang, X. (2023). Bayesian estimation and testing in random-effects meta-analysis of rare binary events allowing for flexible group variability. *Statistics in Medicine*.

Katumullage, D., Yang, C., **Barth, J.**, & Cao, J. (2022). Using Neural Network Models for Wine Review Classification. *Journal of Wine Economics*, 17(1), 27-41.

Yang, C., **Barth, J.**, Katumullage, D., & Cao, J. (2022). Wine Review Descriptors as Quality Predictors: Evidence from Language Processing Techniques. *Journal of Wine Economics*, 17(1), 64-80.

Spirtos, A., Parnell, T., **Barth, J.**, Huang, W., Street, A., & Lea, J. (2022) Pre-operative non-narcotic analgesia decreases the use of postoperative narcotics. *Gynecologic Oncology Reports*, 44(2), S20.

Spirtos, A., Werner, B., **Barth, J.**, Parnell, T., Street, A., LoCoco, S., Carlson, M., Miller, D.S., & Lea, J. (2022) Pre-operative patient characteristics predict outpatient opioid use. *Gynecologic Oncology Reports*. 44(2), S8.

Barth, J., Katumullage, D., Yang, C., & Cao, J. (2021). Classification of Wines Using Principal Component Analysis. *Journal of Wine Economics*, 16(1), 56–67.

Accepted Manuscripts

The effect of County-level Socioeconomic and Health Care Inequality on COVID-19 Infection and Mortality in the Southern and Southeastern United States (2023). Accepted for publication at *Journal of Data Science*. **J. Barth**, M. Zhang, W. Williams, G. Cheng, H.K. Ng.

Submitted Works

MetaNorm: Incorporating Meta-analytic Priors into Normalization of NanoString nCounter Data (2023). Submitted for review at *Bioinformatics*. **J. Barth**, Y. Yang, G. Xiao, X. Wang.

A Meta-analysis based Hierarchical Variance Model for Powering One and Two-sample t-tests (2023). Submitted for review at *Journal of the Royal Statistical Society, Series A*. **J. Barth**, X. Wang.

Optimal Pain Regimen in Infants undergoing Craniostylosis Surgery: A Retrospective Pilot Study comparing Fentanyl vs. Remifentanyl infusions (2022). Submitted for review at *Pediatric Anesthesia*. C. Derderian, R. Ethel, S. Crawford, J. Lim, **J. Barth**, P. Szmuk.

Genotype, phenotype, and clinical outcomes in hospitalized patients with gram-negative infections: A retrospective review (2023). Submitted for review at *Open Forum Infectious Diseases*. R. Koch, **J. Barth**, D. Desai, J. Kim, X. Zhan, L. Leibovici, D. Yahav, D. Greenberg.

Manuscripts in Progress

A Meta-analysis based approach to Sample Size Determination for hypothesis testing of binary outcomes. **J. Barth**, M. Zhang, X. Wang.

Adjusting for extremity attrition and non-ignorable non-response bias in consumer product reviews. **J. Barth**.

Teaching Experience

Instructor of Record, Southern Methodist University, Statistical Science Department
STAT-2331: Introduction to Statistical Methods (Fall 2022, Spring 2023)

Instructor of Record, Baylor University, Statistical Science Department
STA 2381: Introductory Statistical Methods (Fall 2022, Spring 2023)

Research Experience

Research Assistant, University of Texas Southwestern Medical Center, Anesthesiology Department (2021-2022)

Consulting statistician for various studies and projects within the department. When applicable, I also assisted in writing methods and/or results sections of manuscripts.

Awards & Honors

2020 Gunst Award Recipient

Given to graduate students with the highest score on the statistical methods qualifying exam.

2021 American Statistical Association (ASA) Data Challenge Expo (Student Category): 3rd place

“The effect of county-level socioeconomic and health care inequality on COVID-19 infection and mortality in the Southern and Southeastern United States.” With M. Zhang, W. Williams, G. Cheng.

2021 Conference of Texas Statistician (COTS) Student Poster Competition: 1st place

“Better Together: A Bayesian-Frequentist Hybrid Method for Sample Size Determination.”

2021 SMU Three Minute Thesis (3MT) Competition: Finalist

“Better Together: A Bayesian-Frequentist Hybrid Method for Sample Size Determination.”

Presentations

2021 Conference of Texas Statistician (COTS), Student Poster

“Better Together: A Bayesian-Frequentist Hybrid Method for Sample Size Determination.”

2021 SMU Three Minute Thesis (3MT) Competition

“Better Together: A Bayesian-Frequentist Hybrid Method for Sample Size Determination.”

2022 Dissertation Prospectus (SMU)

“MetaNorm: Incorporating Meta-analytic Priors into Normalization of NanoString nCounter Data”

2022 Conference on the Advances in Data Science, Student Poster

“MetaNorm: Incorporating Meta-analytic Priors into Normalization of NanoString nCounter Data”

2023 UTSW O’Donnell School of Public Health

“MetaNorm: Incorporating Meta-analytic Priors into Normalization of NanoString nCounter Data”

2023 Baylor University

“MetaNorm: Incorporating Meta-analytic Priors into Normalization of NanoString nCounter Data”

2023 Dissertation Defense (SMU)

“Development of Bayesian Hierarchical Methods Involving Meta-Analysis

2023 Baylor University: Data Science Seminar

“Advanced Normalization Strategies for nCounter mRNA Expression in FFPE Samples: An Application of Bayesian Hierarchical Modelling”

Technical Skills

SAS – Advanced (5+ years experience)

R (including JAGS and INLA) – Advanced (5+)

SQL – Advanced (5+)

Tableau – Advanced (5+)

Python – Advanced (5+)

SPSS – Proficient (3)

C++ - Proficient (3)