Brian N. White

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Summary

Statistician who bridges methods development and applied collaboration. PhD candidate building scalable Gaussian process methods for spatial extremes while serving as a biostatistician embedded with clinical investigators across surgery, pediatrics, gerontology, and gastroenterology. Experienced in taking problems from study design through analysis to publication, and in translating statistical findings for clinical and policy audiences.

Education

Ph.D. in Statistics & Operations Research Expected 2026
University of North Carolina at Chapel Hill Chapel Hill, NC

- Dissertation: *Scalable Inference for Spatial Extremes*—developing methods to forecast coastal flood risk by integrating observational data with climate model output via scalable Gaussian processes
- Advisor: Richard Smith
- Focus: Scalable inference, extreme value theory, spatial statistics

M.A. in Mathematical Statistics 2020
Wake Forest University Winston-Salem, NC

Experience

Biostatistician III 2022 – Present
Wake Forest School of Medicine, Dept. of Biostatistics & Data Science Winston-Salem, NC

- Statistician on NIH LEAP trial (anti-obesity medication RCT); contribute to experimental design, analysis planning, and methods development
- Developed Bayesian spatiotemporal models for county-level opioid misuse surveillance across four states; created novel metrics to estimate prevalence from incomplete reporting data
- Apply causal inference methods to observational EHR data for health outcomes research (frailty, post-discharge outcomes, surgical outcomes)
- Communicate statistical findings to clinical investigators, policymakers, and non-technical audiences across multiple departments

Graduate Research Assistant 2020 – Present
University of North Carolina at Chapel Hill Chapel Hill, NC

- Developed scalable Gaussian process methods for combining observational data with climate model output
- Built spatial extreme value models for coastal flood risk assessment
- Presented research to interdisciplinary audiences including climate scientists

Graduate Teaching Assistant 2018 – Present
UNC Chapel Hill & Wake Forest University NC

- Supported courses in Machine Learning, Statistical Modeling, Biostatistics, Data Analysis, Discrete Mathematics, and Regression
- Led computing labs and seminars, held office hours, substitute lectured, graded, and proctored exams

Technical Skills

Statistical Methods: Experimental design, causal inference, Bayesian modeling, A/B testing, spatial/spatiotemporal statistics, extreme value theory, Gaussian processes, regression, survival analysis, mixed models, meta-analysis, simulation

Machine Learning: Supervised/unsupervised learning, neural networks, kernel methods, cross-validation, regularization, ensemble methods

Programming: R, Python, SQL, Stan, JAGS

Tools: Git/GitHub, LaTeX, high-performance computing clusters, Slurm, Shiny, Linux

Publications

2026

- Young, Rives, Gudzune, Jaeger, Simmons, **White**, et al. The long-term effectiveness of the anti-obesity medication phentermine (LEAP) trial: Rationale, design, and baseline characteristics. *Contemporary Clinical Trials.*
- Jeong, Edmunds, McCollum, **White**, Clayton. Lower mean nocturnal baseline impedance in erosive reflux disease, Barrett's Esophagus, and elevated body mass index compared to nonerosive reflux disease. *Diseases of the Esophagus.*

2025

- Kline, **White**, Lancaster, et al. Estimating prevalence of opioid misuse in North Carolina counties from 2016–2021: An integrated abundance model approach. *Epidemiology.*
- Lippert, Callahan, **White**, et al. Hospitalist and "SNFist" Clinician Perspectives on Frailty Assessment of Rehab Patients. *Journal of General Internal Medicine.*
- Semelka, **White**, Callahan, Pajewski. The Association of Frailty With Post-Hospital Discharge Location and Health Outcomes. *Journal of the American Geriatrics Society.*
- Heeren, Ruddiman, Simmons, **White**, et al. Application of the Lancet Commission Criteria for the Diagnosis of Obesity to a Clinical Trials Population: The LEAP Trial. *Obesity.*
- Krakovski, Madigan, Cecil, **White**, et al. Patient Factors Contributing to Wireless pH Monitoring Intolerance. *Journal of Clinical Gastroenterology.*
- Brown, **White**, Hanchate, et al. Short Term Health Outcomes of the Weaver Fertilizer Plant Fire on the Surrounding Community. *Journal of Public Health Management & Practice.*

2024

- Estadt, **White**, Ricks, et al. The impact of fentanyl on state- and county-level psychostimulant and cocaine overdose death rates by race in Ohio from 2010 to 2020: A time series and spatiotemporal analysis. *Harm Reduction Journal.*
- Khanna, Banga, Rigdon, **White**, et al. Role of continuous pulse oximetry and capnography monitoring in the prevention of postoperative respiratory failure, postoperative opioid-induced respiratory depression and adverse outcomes on hospital wards: A systematic review and meta-analysis. *Journal of Clinical Anesthesia.*
- Kipp, Vesely, Lance, **White**, et al. Age influence on total ankle arthroplasty outcomes: A systematic review. *Journal of Foot and Ankle Surgery.*
- Vesely, Kipp, Lance, **White**, et al. BMI influence on total ankle arthroplasty outcomes: A systematic review. *Foot & Ankle Surgery: Techniques, Reports & Cases.*
- Fabian, Adkins, **White**, et al. Temporal trends in BAHA softband wear time among pediatric patients. *International Journal of Pediatric Otorhinolaryngology.*

Presentations

- **White BN**, Hepler SA, Hu A, Jetson J, Xiong F, Smith AL, Delcher C, Kline D. Estimation of the prevalence of opioid misuse in Washington State counties, 2017–2023: A Bayesian spatiotemporal abundance model approach. Wake Forest School of Medicine, Public Health Staff Science Day. Winston-Salem, NC. October 2025. Poster & Ignite talk (one of two statisticians selected from ∼100 applicants).
- **White BN**, Blanton B, Luettich R, Smith RL. Combining Observational and Model Data for Spatial Extremes through a Multivariate Gaussian Latent Process. 14th International Conference on Extreme Value Analysis (EVA 2025). The University of North Carolina at Chapel Hill. June 2025. Poster.

Teaching

Statistical Modeling	Wake Forest School of Medicine	2024
Introduction to Biostatistics	Wake Forest School of Medicine	2023
Machine Learning	UNC Chapel Hill	2020, 2022, 2025
Discrete Mathematics	UNC Chapel Hill	2025
Methods of Data Analysis	UNC Chapel Hill	2021
Introduction to Data Models	UNC Chapel Hill	2021–2024
Regression & Data Science	Wake Forest University	2019–2020
Calculus I	Wake Forest University	2019–2020

Selected Projects

Composer Network Analysis
Network analysis of interpersonal relationships in classical music history. Built interactive visualizations of composer connections across eras.

Additional

Classical piano background (Shepherd School of Music, Rice University).