

WAKE FOREST SCHOOL OF MEDICINE CURRICULUM VITAE

(January 10, 2022)

NAME Byron C. Jaeger, Ph.D.

CURRENT ACADEMIC TITLE Assistant Professor

ADDRESS Department of Biostatistics and Data Science
Division of Public Health Sciences
Wake Forest School of Medicine
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EDUCATION

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| 2008–2012 | Furman University Greenville, South Carolina B.S. <i>summa cum laude</i> (Mathematics) |
| 2012–2017 | Gillings School of Global Public Health Chapel Hill, North Carolina Ph.D. (Statistics) |

Research Advisor: Lloyd J. Edwards, Ph.D.
Thesis: *Extending R^2 to the generalized linear mixed model*

EMPLOYMENT

Academic Appointments

Gillings School of Global Public Health, Chapel Hill, North Carolina

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| 2012–2017 | Research Assistant, Department of Biostatistics |
| 2014–2017 | Teaching Assistant, Department of Biostatistics |
| 2016–2017 | Statistical Consultant, School of Nursing |

North Carolina Central University, Durham, North Carolina

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| 2016–2017 | Adjunct Professor, School of Business |
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University of Alabama at Birmingham, Birmingham, Alabama

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| 2017–2021 | Assistant Professor, Department of Biostatistics |
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Wake Forest School of Medicine, Wake Forest University, Winston-Salem, North Carolina

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| 2021–Present | Assistant Professor, Department of Biostatistics and Data Science, Division of Public Health Sciences |
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ADMINISTRATIVE SERVICE

Institutional Service

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| 2017–2019 | Statistical Lecturer, Kirklin Institute of Research in Surgical Outcomes, University of Alabama at Birmingham (UAB) School of Medicine. |
| 2017–2021 | Academic Advisor for Andrew Sims, UAB Biostatistics |
| 2017–2018 | Member, Masters Committee for Catherine Jones, UAB Epidemiology. “The association between physical activity and executive functioning in obese adults” |
| 2018 | Member, Masters Committee for Nora Ahmad Mohammad Balas, UAB Epidemiology. “Factors associated with breast cancer screening behaviors in a sample of Jamaican women” |
| 2018–2021 | Member, Diversity Committee, UAB |
| 2018–2020 | Member, Doctoral Committee for Anastasia Hartzes, UAB Biostatistics. “Evaluating Lumpability in Markov Models: Applying Markov Processes to Model Disability in Relapsing Multiple Sclerosis Patients” |
| 2018–2020 | Member, Doctoral Committee for Steve Ampah, UAB Biostatistics. “Marginalized Models with Heterogeneous Random Effects for Zero-inflated Longitudinal Count Data” |
| 2019–2020 | Member, Undergraduate Honors Thesis Committee for Natalie Simpkins, UAB. Science and Technology Honors Program |
| 2019–2021 | Member, Doctoral Committee for Charles F. Murchison, UAB Biostatistics. “Application of Longitudinal Machine Learning Methods in Multi-Study Alzheimer’s Disease Datasets” |
| 2019–2021 | Member, Doctoral Committee for Boyi Guo, UAB Biostatistics. “Bayesian Hierarchical Additive Models” |

EXTRAMURAL APPOINTMENTS AND SERVICE

Editorial Boards

1. Member, *Hypertension*, 2019–Present
2. Statistical Section Editor, *Hypertension*, 2022–Present

Advisory Boards

1. Eastern North American Regional Advisory Board Member, 2019–present.
2. Data and Safety Monitoring Board Member, 2021–present, Preventing Cognitive Decline by Reducing Blood Pressure Target Trial, R01 AG068486.

Journal Reviewer

1. Hypertension
2. Biometrical Journal
3. Biometrics
4. Journal of the American Society of Nephrology
5. Hypertension Research
6. Journal of Human Hypertension
7. Journal of Bone and Mineral Research
8. Circulation: Cardiovascular Quality and Outcomes
9. Mayo Clinic Proceedings

PROFESSIONAL MEMBERSHIPS AND SERVICE

Memberships

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| 2011–Present | Member, Eastern North American Region, International Biometric Society |
| 2016–Present | Member, American Statistical Association |

HONORS AND AWARDS

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| 2007 | Regional finalist, Siemens Competition in Math, Science, and Technology |
| 2008 | Wylie Scholarship in Mathematics, Furman University |
| 2012 | Graduated <i>summa cum laude</i> , Furman University |
| 2012 | Phi Beta Kappa, Furman University |
| 2012 | DeLany Medal for Excellence in Mathematics, Furman University |
| 2016 | Big Data to Knowledge Scholarship |
| 2017 | Distinguished Student Paper Award, Eastern North American Region |
| 2019 | Finalist; American Heart Association Best Artificial Intelligence and Machine Learning Paper Award |

PROFESSIONAL INTERESTS (*Last updated January 10, 2022*)

I am an Assistant Professor in the Department of Biostatistics and Data Science in the Division of Public Health Sciences at Wake Forest School of Medicine (WFSM). After receiving my PhD in Statistics at the University of Chapel Hill in North Carolina, I spent four years in the Department of Biostatistics at the University of Alabama at Birmingham School of Public Health and joined the WFSM faculty in 2021. At Birmingham, I was a Biostatistician of the Jackson Heart Study Hypertension Working Group and the American Heart Association Strategically Focused Research Network. I am currently serving as a member of the Regional Advisory Board for the Eastern North American Region of the International Biometric Society.

My current work is focused on computational optimization of the oblique random survival forest, a machine learning algorithm I previously developed. I have studied the etiology of hypertension and cardiovascular disease from the perspective of observational cohort studies that tracked health behaviors, socioeconomic factors, and diet and exercise habits throughout mid-life. TODO: Add details on work at WFSM.

GRANTS

Current Grants

1. R01HL117323 (Paul Muntner) 8/01/2017–8/30/2021
NIH-NHLBI

Incorporation of a Hypertension Working Group into the Jackson Heart Study

The objective of this grant is to identify novel risk factors for hypertension and potential approaches to improve hypertension control rates and reduce BP related complications among African Americans. We will integrate a strong mentorship component to help early stage investigators (ESIs), especially minority investigators, move towards independence.

Role: Biostatistician.

2. 15SFRN23900002 (Paul Muntner) 8/01/2017–8/30/2021
American Heart Association

University of Alabama Strategically Focused Hypertension Research Center

This study focuses on circadian blood pressure patterns. In a population science study, we will evaluate racial differences in nocturnal hypertension and non-dipping blood pressure. In a clinical science project, we will evaluate the effect of sodium intake on diurnal blood pressure and sleep apnea. In basic science studies, we will study mechanisms leading to loss of diurnal blood pressure patterns. Additionally, this grant involves the training of three post-doctoral fellows.

Role: Biostatistician.

BIBLIOGRAPHY

My MyNCBI collection is available publicly [here](#). As of January 10, 2022, my h-index was 14 with 1073 total citations. More details can be accessed from my [scholar profile](#).

Peer-Reviewed Journal Articles

1. **Jaeger BC**, Lewis TM. Enumerating graph depletions. Online Journal of Analytic Combinatorics. 2014;9.
2. Dampier C, **Jaeger BC**, Gross HE, Barry V, Edwards L, Lui Y, DeWalt DA, Reeve BB. Responsiveness of PROMIS Pediatric Measures to Hospitalizations for Sickle Pain and Subsequent Recovery. *Pediatr Blood Cancer*. 2016 Jun;63(6):1038-45. DOI: [10.1002/pbc.25931](#). Epub 2016 Feb 8. PMID: [26853841](#); PMCID: [PMC5055833](#).
3. Reeve BB, Edwards LJ, **Jaeger BC**, Hinds PS, Dampier C, Gipson DS, Selewski DT, Troost JP, Thissen D, Barry V, Gross HE, DeWalt DA. Assessing responsiveness over time of the PROMIS® pediatric symptom and function measures in cancer, nephrotic syndrome, and sickle cell disease. *Qual Life Res*. 2018 Jan;27(1):249-257. DOI: [10.1007/s11136-017-1697-z](#). Epub 2017 Sep 7. PMID: [28884421](#); PMCID: [PMC5771815](#).
4. **Jaeger BC**, Edwards LJ, Das K, Sen PK. An R^2 statistic for fixed effects in the generalized linear mixed model, *Journal of Applied Statistics*. Epub 2016 June; 44(6):1086-1105. DOI: [10.1080/02664763.2016.1193725](#).
5. Smith AB, **Jaeger BC**, Pinheiro LC, Edwards LJ, Tan HJ, Nielsen ME, Reeve BB. Impact of bladder cancer on health-related quality of life. *BJU Int*. 2018 Apr;121(4):549-557. DOI: [10.1111/bju.14047](#). Epub 2017 Nov 1. PMID: [28990272](#).
6. Webster-Clark M, **Jaeger BC**, Zhong Y, Filler G, Alvarez-Elias A, Franceschini N, Díaz-González de Ferris ME. Low agreement between modified-Schwartz and CKD-EPI eGFR in young adults: a retrospective longitudinal cohort study. *BMC Nephrol*. 2018 Aug 6;19(1):194. DOI: [10.1186/s12882-018-0995-1](#). PMID: [30081844](#); PMCID: [PMC6080537](#).
7. Baptista LC, **Jaeger BC**, Anton SD, Bavry AA, Handberg EM, Gardner AK, Harper SA, Roberts LM, Sandesara B, Carter CS, Buford TW. Multimodal Intervention to Improve Functional Status in Hypertensive Older Adults: A Pilot Randomized Controlled Trial. *J Clin Med*. 2019 Feb 6;8(2):196. DOI: [10.3390/jcm8020196](#). PMID: [30736317](#); PMCID: [PMC6406861](#).
8. Bittner V, Colantonio LD, Dai Y, Woodward M, Mefford MT, Rosenson RS, Muntner P, Monda KL, Kilgore ML, **Jaeger BC**, Levitan EB. Association of Region and Hospital and Patient Characteristics With Use of High-Intensity Statins After Myocardial Infarction Among Medicare Beneficiaries. *JAMA Cardiol*. 2019 Sep 1;4(9):865-872. DOI: [10.1001/jamacardio.2019.2481](#). PMID: [31339519](#); PMCID: [PMC6659160](#).

9. Booth JN, Anstey DE, Bello NA, **Jaeger BC**, Pugliese DN, Thomas SJ, Deng L, Shikany JM, Lloyd-Jones D, Schwartz JE, Lewis CE, Shimbo D, Muntner P. Race and sex differences in asleep blood pressure: The Coronary Artery Risk Development in Young Adults (CARDIA) study. *J Clin Hypertens (Greenwich)*. 2019 Feb;21(2):184-192. DOI: [10.1111/jch.13474](https://doi.org/10.1111/jch.13474). Epub 2019 Feb 5. PMID: [30719843](https://pubmed.ncbi.nlm.nih.gov/30719843/); PMCID: [PMC6375074](https://pubmed.ncbi.nlm.nih.gov/PMC6375074/).
10. Bowling CB, Deng L, Sakhuja S, Morey MC, **Jaeger BC**, Muntner P. Prevalence of Activity Limitations and Association with Multimorbidity Among US Adults 50 to 64 Years Old. *J Gen Intern Med*. 2019 Nov;34(11):2390-2396. DOI: [10.1007/s11606-019-05244-8](https://doi.org/10.1007/s11606-019-05244-8). Epub 2019 Aug 21. PMID: [31435766](https://pubmed.ncbi.nlm.nih.gov/31435766/); PMCID: [PMC6848639](https://pubmed.ncbi.nlm.nih.gov/PMC6848639/).
11. Harper SA, Roberts LM, Layne AS, **Jaeger BC**, Gardner AK, Sibille KT, Wu SS, Vincent KR, Fillingim RB, Manini TM, Buford TW. Blood-Flow Restriction Resistance Exercise for Older Adults with Knee Osteoarthritis: A Pilot Randomized Clinical Trial. *J Clin Med*. 2019 Feb 21;8(2):265. DOI: [10.3390/jcm8020265](https://doi.org/10.3390/jcm8020265). PMID: [30795545](https://pubmed.ncbi.nlm.nih.gov/30795545/); PMCID: [PMC6406824](https://pubmed.ncbi.nlm.nih.gov/PMC6406824/).
12. Hubbard D, Colantonio LD, Tanner RM, Carson AP, Sakhuja S, **Jaeger BC**, Carey RM, Cohen LP, Shimbo D, Butler M, Bertoni AG, Langford AT, Booth JN 3rd, Kalinowski J, Muntner P. Prediabetes and Risk for Cardiovascular Disease by Hypertension Status in Black Adults: The Jackson Heart Study. *Diabetes Care*. 2019 Dec;42(12):2322-2329. DOI: [10.2337/dc19-1074](https://doi.org/10.2337/dc19-1074). Epub 2019 Oct 7. PMID: [31591089](https://pubmed.ncbi.nlm.nih.gov/31591089/); PMCID: [PMC7011196](https://pubmed.ncbi.nlm.nih.gov/PMC7011196/).
13. **Jaeger BC**, Anstey DE, Bress AP, Booth JN 3rd, Butler M, Clark D 3rd, Howard G, Kalinowski J, Long DL, Ogedegbe G, Plante TB, Shimbo D, Sims M, Supiano MA, Whelton PK, Muntner P. Cardiovascular Disease and Mortality in Adults Aged ≥ 60 Years According to Recommendations by the American College of Cardiology/American Heart Association and American College of Physicians/American Academy of Family Physicians. *Hypertension*. 2019 Feb;73(2):327-334. DOI: [10.1161/HYPERTENSIONAHA.118.12291](https://doi.org/10.1161/HYPERTENSIONAHA.118.12291). PMID: [30595115](https://pubmed.ncbi.nlm.nih.gov/30595115/); PMCID: [PMC6392064](https://pubmed.ncbi.nlm.nih.gov/PMC6392064/).
14. **Jaeger BC**, Edwards LJ, Gurka MJ. An R^2 statistic for covariance model selection in the linear mixed model. *Journal of Applied Statistics*. 2019;46(1):164–84. DOI: [10.1080/02664763.2018.1466869](https://doi.org/10.1080/02664763.2018.1466869).
15. **Jaeger BC**, Long DL, Long DM, Sims M, Szychowski JM, Min Y-I, et al. Oblique random survival forests. *The Annals of Applied Statistics*. 2019;13(3):1847–83. DOI: [10.1214/19-AOAS1261](https://doi.org/10.1214/19-AOAS1261).
16. Pugliese DN, Booth JN 3rd, Deng L, Anstey DE, Bello NA, **Jaeger BC**, Shikany JM, Lloyd-Jones D, Lewis CE, Schwartz JE, Muntner P, Shimbo D. Sex differences in masked hypertension: the Coronary Artery Risk Development in Young Adults study. *J Hypertens*. 2019 Dec;37(12):2380-2388. DOI: [10.1097/HJH.0000000000002175](https://doi.org/10.1097/HJH.0000000000002175). PMID: [31246891](https://pubmed.ncbi.nlm.nih.gov/31246891/); PMCID: [PMC7006727](https://pubmed.ncbi.nlm.nih.gov/PMC7006727/).
17. Roberts LM, **Jaeger BC**, Baptista LC, Harper SA, Gardner AK, Jackson EA, Pekmezi D, Sandesara B, Manini TM, Anton SD, Buford TW. Wearable Technology To Reduce Sedentary Behavior And CVD Risk In Older Adults: A Pilot Randomized Clinical Trial. *Clin Interv Aging*. 2019 Oct 23;14:1817-1828. DOI: [10.2147/CIA.S222655](https://doi.org/10.2147/CIA.S222655). PMID: [31695350](https://pubmed.ncbi.nlm.nih.gov/31695350/); PMCID: [PMC6815758](https://pubmed.ncbi.nlm.nih.gov/PMC6815758/).
18. Siddiqui M, Judd EK, **Jaeger BC**, Bhatt H, Dudenbostel T, Zhang B, Edwards LJ, Oparil S, Calhoun DA. Out-of-Clinic Sympathetic Activity Is Increased in Patients With Masked Uncontrolled Hypertension. *Hypertension*. 2019 Jan;73(1):132-141. DOI: [10.1161/HYPERTENSIONAHA.118.11818](https://doi.org/10.1161/HYPERTENSIONAHA.118.11818). PMID: [30571547](https://pubmed.ncbi.nlm.nih.gov/30571547/); PMCID: [PMC6309788](https://pubmed.ncbi.nlm.nih.gov/PMC6309788/).

19. Yano Y, Tanner RM, Sakhuja S, **Jaeger BC**, Booth JN 3rd, Abdalla M, Pugliese D, Seals SR, Ogedegbe G, Jones DW, Muntner P, Shimbo D. Association of Daytime and Nighttime Blood Pressure With Cardiovascular Disease Events Among African American Individuals. *JAMA Cardiol.* 2019 Sep 1;4(9):910-917. DOI: [10.1001/jamacardio.2019.2845](https://doi.org/10.1001/jamacardio.2019.2845). Erratum in: *JAMA Cardiol.* 2019 Sep 1;4(9):953. PMID: [31411629](https://pubmed.ncbi.nlm.nih.gov/31411629/); PMCID: [PMC6694386](https://pubmed.ncbi.nlm.nih.gov/PMC6694386/).
20. Akinyelure OP, Sakhuja S, Colvin CL, Clark D 3rd, **Jaeger BC**, Hardy ST, Howard G, Cohen LP, Irvin MR, Tanner R, Carey RM, Muntner P. Cardiovascular Health and Transition From Controlled Blood Pressure to Apparent Treatment Resistant Hypertension: The Jackson Heart Study and the REGARDS Study. *Hypertension.* 2020 Dec;76(6):1953-1961. DOI: [10.1161/HYPERTENSION-AHA.120.15890](https://doi.org/10.1161/HYPERTENSION-AHA.120.15890). Epub 2020 Nov 2. PMID: [33131312](https://pubmed.ncbi.nlm.nih.gov/33131312/).