Benjamin R. Gochanour

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EDUCATION

University of Minnesota — Minneapolis, MN
Doctor of Philosophy, Biostatistics — August 2021-

University of Oklahoma Health Sciences Center — Oklahoma City, OK
Master of Science, Biostatistics — August 2019-May 2021
Thesis: "A Nonparametric Multiply Robust Multiple Imputation Method for Causal Inference"
Graduate GPA: 4.0

University of Oklahoma — Norman, OK
Bachelor of Science, Mathematics — August 2017-May 2021
Minors in *Spanish, Medical Humanities*
Undergraduate GPA: 3.96

RESEARCH INTERESTS

Causal inference, missing data analysis, survey sampling, machine learning, and their applications.

RESEARCH EXPERIENCE

Graduate Research Assistant — August 2021-Present
University of Minnesota
School of Public Health

Built deep learning models and conducted genome wide association studies (GWAS) to attempt to pinpoint genetic predictors of Alzheimer's disease.

Graduate Research Assistant — January 2020-January 2021
University of Oklahoma Health Sciences Center
Hudson College of Public Health

Served as Team Leader for Digital Conversion and assisted with data analysis and survey editing for the Strong Heart Study (SHS), a longitudinal study of cardiovascular disease and its risk factors in American Indians.

Research Team Member — April 2020-August 2021
University of Oklahoma Health Sciences Center
Hudson College of Public Health
COVID-19 Community Research

Led data analysis efforts for student-led team investigating the impact of COVID-19 on Oklahoma City's housing insecure.

Research Assistant Fall 2018-August 2021
University of Oklahoma
Corix Plains Institute

Simulate animal migration in R using environmental data and machine learning methods, including decision trees and random forest models. Building 'abmR', an R package for agent-based models. Write manuscripts and prepare figures for presentations and publications.

Summer Intern June 2019-August 2019 &
Johns Hopkins University Applied Physics Laboratory December 2019-January 2020
Dept. of Health Data Science and Analytics

Built and evaluated deep learning and conventional machine learning models to pinpoint the causes of physiological episodes on naval training flights. Assisted with the design of a dashboard-based version of ESSENCE (Electronic Surveillance System for the Early Notification of Community Based Epidemics) targeted towards developing nations.

Research Consultant January 2019 – December 2019
University of Oklahoma
Public Health Discussions

Developed and implemented a mental health training module for undergraduates at the University of Oklahoma based off student surveys, interviews with faculty/clinical professionals, and a critical review of existing research.

PUBLICATIONS

Accepted:

B. Gochanour, J. Alcantara, P. Cimprich, J. F. Kelly, and A. Contina. 2021+. Filling the Gap: Molting Behavior of Colima Warblers and Research Opportunities for Understudied North American Songbirds. Accepted by *The Southwestern Naturalist*.

Submitted:

B. Gochanour, S. Chen, L. Beebe, and D. Haziza. 2021+. A Nonparametric Multiply Robust Multiple Imputation Method for Causal Inference. Submitted to *Computational Statistics and Data Analysis*.

B. Gochanour, S. Chen, and L. Beebe. 2021+. Bayesian Multiply Robust Estimation for Causal Inference. Submitted to *Communications in Statistics – Simulation and Computation*.

B. Gochanour, J. Fernandez-Lopez, and A Contina. 2021+. abmR: An R Package for Agent-based Model Analysis of Large-scale Movements Across Taxa. Submitted to *Methods in Ecology and Evolution.*

In Preparation:

N. Ferdows, A. Kumar, S. Chen, M. Rivera-Hernandez, A. Karmarkar, and **B. Gochanour**. 2021+. Post-acute Care Utilization Pattern During the COVID-19 Pandemic.

N. Ferdows, A. Kumar, S. Chen, M. Rivera-Hernandez, and **B. Gochanour**. 2021+. Assessment of Racial Disparities in COVID-19-related Mortality Among Individuals Living in US Rural vs Urban Counties

PRESENTATIONS

Presenting author(s) are indicated with an asterisk (*)

B. Gochanour*, S. Chen., L. Beebe. and D. Haziza. 2021. Bayesian Multiply Robust Estimation for Casual Inference. Joint Statistical Meetings (Contributed Poster Session). Virtual Conference.

B. Gochanour*. 2020. A Review of Olson et.al "Transitions from Telephone Surveys to Self-Administered and Mixed-Mode Surveys." University of Oklahoma Health Sciences Center Survey Working Group. Oklahoma City, Oklahoma.

B. Gochanour*, S. Chen., L. Beebe. and D. Haziza. 2020. A Nonparametric Multiply Robust Multiple Imputation Method for Causal Inference. Joint Statistical Meetings (Contributed Poster Session). Virtual Conference.

A. Contina*, **B. Gochanour**, J.L. Alcantara, and M.B. Wunder. 2020. Stable Isotopes in Conservation Biology: Case Studies in Migratory Birds. The North American Congress for Conservation Biology (NACCB), Denver, Colorado.

B. Gochanour*, S. Chen., L. Beebe. and D. Haziza. 2020. A Nonparametric Multiply Robust Multiple Imputation Method for Causal Inference. Scheduled for poster presentation at the 2020 Graduate Research Education and Technology (GREAT) symposium, canceled due to COVID-19 pandemic.

B. Gochanour*. 2019. Investigating Math Motivation and Math Anxiety in Undergraduate Students. University of Oklahoma, Research in Undergraduate Math Education Seminar. Norman, Oklahoma.

B. Gochanour*, L. Wiseman, A.M. Nguyen, P. Cimprich, M. Pandit, A. Contina, J.F. Kelly. 2018. The Effect of Handling Time on Boldness in Dark-eyed Juncos. First Year Research Experience Presentation Session. Norman, Oklahoma.

SKILLS

Programming and Machine Learning

Strong experience programming in R, Python, SAS, SQL, JMP, and MATLAB. Experience with supervised and unsupervised machine learning methods in Python and R, and deep learning/recurrent neural network models in Python.

Statistics and Data Analysis

Experienced with regression modeling, time series analysis/forecasting, missing data analysis, survey data analysis, causal inference, and sampling methodology. Skilled with spatial modeling and agent-based modeling/simulations. Strong data visualization skills in R, Python, and SAS.

Research

Design research studies based on a critical evaluation of existing work. Construct and present compelling manuscripts and research posters. Collaborate with researchers on statistical methodology and applied research projects.

LEADERSHIP & AWARDS

Dean's PhD Scholars Award August 2021
School of Public Health
University of Minnesota

Delta Omega Honor Society Inductee May 2021
Hudson College of Public Health Chapter
University of Oklahoma Health Sciences Center

Robert M. Bird Award May 2021
University of Oklahoma Health Sciences Center

Outstanding Student, Biostatistics and Epidemiology May 2021
Hudson College of Public Health
University of Oklahoma Health Sciences Center

Vice President June 2020-May 2021
Biostatistics and Epidemiology Student Association
Hudson College of Public Health
University of Oklahoma Health Sciences Center

Richard V. Andree Memorial Mathematics Scholarship April 2018
Mathematics Department
University of Oklahoma

National Merit Scholar March 2017
National Merit Scholarship Corporation

TEACHING

Teaching Assistant, "Biostatistical Methods I." Department of Biostatistics and Epidemiology, University of Oklahoma Health Sciences Center, Spring 2021.

Student Assistant, "R Short Course Part II (Advanced Topics)." Department of Biostatistics and Epidemiology, University of Oklahoma Health Sciences Center, April 2021.

Student Assistant, “R Short Course.” Department of Biostatistics and Epidemiology, University of Oklahoma Health Sciences Center, September 2020.

RELEVANT COURSEWORK

Applied Statistical Methods, Applied Regression Analysis, Biostatistical Methods I & II, Principles of Epidemiology I & II, Sampling Theory and Methods, Nonparametric Data Analysis, Analysis of Frequency Data, Survival Data Analysis, Theory of Probability, Mathematical Statistics I, Multivariate Data Analysis

PROFESSIONAL ASSOCIATIONS

American Statistical Association

REFERENCES

Sixia Chen, Ph.D.
Assistant Professor
Dept. of Biostatistics and Epidemiology
Hudson College of Public Health
University of Oklahoma Health Sciences Center
801 NE 13th St, Oklahoma City, OK 73104
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Laura A. Beebe, Ph.D.
Professor and Chair
Dept. of Biostatistics and Epidemiology
Hudson College of Public Health
University of Oklahoma Health Sciences Center
801 NE 13th St., Oklahoma City, OK 73104
laura-beebe@ouhsc.edu

Andrea Contina, Ph.D.
Postdoctoral Fellow
Dept. of Integrative Biology
University of Colorado Denver
Science Building 2074, Denver, CO 80217
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