Brook Luers
http://www.brookluers.com
luers@umich.edu

Department of Statistics
311 West Hall
1085 South University
Ann Arbor, MI 48109

EDUCATION

Ph.D., Statistics (expected 2020)
University of Michigan, Ann Arbor, MI

M.S., Statistics, May 2015
University of Wisconsin-Madison, Madison, WI
GPA: 3.78 out of 4.0

B.A., Mathematics, May 2012
Oberlin College, Oberlin, OH
GPA: 3.81 out of 4.0

PROFESSIONAL/RESEARCH EXPERIENCE

University of Michigan, Ann Arbor, MI
Graduate Research Assistant — Summer 2016–present

Longitudinal SMARTs (with Daniel Almirall, Ph.D.)
Methodology for mixed effects modeling of data from sequential, multiple assignment randomized trials (SMARTs) with longitudinal outcomes.

Variable selection with large-scale observational data (with Kerby Shedden, Ph.D.)
Extended the "knockoff" variable selection technique to improve power with correlated features. Performed case studies of knockoff variable selection with large-scale insurance claims and U.S. Census data.

Sequential decision making in mobile health (with Susan Murphy, Ph.D.)
Performed data management and statistical analysis for the results of a micro-randomized trial of HeartSteps, an mHealth intervention to increase physical activity among cardiac rehabilitation patients. Developed a time-varying standardized effect size for the micro-randomized trial design.

The University of Wisconsin-Madison, Madison, WI
Project Assistant — Spring 2015

Created realistic data sets and example research problems for a new Master's-level statistical methods and data analysis course.

Epic Systems Corporation, Verona, WI
Business Intelligence Developer — July 2012–June 2013

Developed reporting content and utilities for hospital admissions data using Intersystems Caché, SQL, and Crystal Reports. Supported Epic customers and staff using Epic reporting tools.

American Institues for Research, Washington, D.C.
Research Assistant Summer 2011

Supported staff at the National Center for Education Statistics working on the Integrated Postsecondary Education Data System (IPEDS). Developed web tutorials for the IPEDS data collection system. Fulfilled data requests in SAS using IPEDS data.

PUBLICATIONS

Luers, B., Klasnja, P., and Murphy, S.A. (2018). Standardized effect sizes for preventive mobile health interventions in micro-randomized trials. *Prevention Science*. (link)

Klasnja, P., Smith, S., Seewald, N.J., Lee, A., Hall, K., **Luers, B.**, Hekler, E.B. and Murphy, S.A. (2018). Effectiveness of contextually tailored suggestions for physical activity: A micro-randomized optimization trial of HeartSteps. *Annals of Behavioral Medicine*. (link)

PRESENTATIONS

Luers, B. Mixed effects models for sequential, multiple assignment randomized trials (SMARTs). Joint Statistical Meetings, Denver, CO. July 2019. (poster)

Luers, B. Power and tuning for the knockoff filter. Michigan Student Symposium for Interdisciplinary Statistical Science, Ann Arbor, MI. March 2019. (poster)

Luers, B., Qian, M., Nahum-Shani, I., Kasari, C., and Almirall, D. Mixed effect models to compare dynamic treatment regimens with SMART data. ENAR Spring Meeting, Philadelphia, PA. March 2019. (presentation)

Luers, B. Dimension reduction and binary discrimination for naturalistic driving studies with heterogeneity. Michigan Student Symposium for Interdisciplinary Statistical Sciences, Ann Arbor, MI. April 2018. (poster)

Luers, B. and Shedden, K. Fingerprinting individual driving behavior with vehicle kinematics data and dimension reduction regression. Michigan Institute for Data Science Annual Symposium, Ann Arbor, MI. October 2017. (poster)

NeCamp, T., Yoo, H., **Luers, B.**, Cho, A., Seewald, N., Klasnja, P., and Murphy, S.A. HeartSteps: A Case Study in Trial Design and Evaluation of Mobile Health Interventions. Michigan Institute for Data Science Annual Symposium, Ann Arbor, MI. November 2016. (poster)

TEACHING EXPERIENCE

University of Michigan, Ann Arbor, MI
Department of Statistics

Teaching Assistant
Introduction to Statistical Computing Fall 2017

Teaching Assistant
Introduction to Probability and Statistics Spring 2016

Teaching Assistant
Introduction to Statistics and Data Analysis Fall 2015

University of Wisconsin-Madison, Madison, WI
Department of Statistics

Instructor
Introduction to Statistical Methods — Fall 2014

Teaching Assistant
Introduction to Statistical Methods — Spring 2014

Teaching Assistant
Introductory Statistics for Engineers — Fall 2013

Summer Institute for Training in Biostatistics, Madison, WI
University of Wisconsin-Madison

Teaching Assistant
Introduction to Biostatistics, Biostatistics Practicum — Summer 2014

Oberlin College, Oberlin OH
Department of Mathematics

Calculus Tutor — Fall 2009–Spring 2010, Spring 2011

Statistics Grader — Spring 2012

HONORS AND AWARDS

Honorable Mention, Outstanding Graduate Student Instructor, University of Michigan (Spring 2016)

Member, Phi Beta Kappa Society (May 2012)

Junior Fellow, Joint Program in Survey Methodology (Summer 2011)

SKILLS

Statistical modeling and inference

Data analysis and visualization

Progamming languages: R, Python, Go, C++, C, SQL, Intersystems Caché

Typesetting and productivity: LaTeX, Microsoft Office, Windows and Unix-like operating systems