

Curriculum Vitae

Amber J. Hackstadt

Vanderbilt University Medical Center
Department of Biostatistics
2525 West End Suite 11116

Education:

Southeast Missouri State University, Cape Girardeau, MO
B.S. in Mathematics and Mathematics Education, 2003
Summa Cum Laude

Southeast Missouri State University, Cape Girardeau, MO
Masters of Natural Science in Mathematics, 2005
Thesis: *Behrens-Fisher Problem for Bivariate Dichotomous Data*

Colorado State University, Fort Collins, CO
M.S. in Statistics, 2008
Ph.D. in Statistics, 2011
Dissertation: *Bayesian Shape-restricted Regressions Splines*

Johns Hopkins University, Baltimore, MD
Postdoctoral fellowship in the Department of Biostatistics, 2014
Environmental Biostatistics

Academic Appointments:

Assistant Professor, Department of Biostatistics, Vanderbilt University Medical Center,
2018-Present

Research Assistant Professor, Department of Biostatistics, Vanderbilt University Medical
Center, 2015-2018

Other Employment:

Instructor, Department of Mathematics, Southeast Missouri State University, Cape
Girardeau, MO, 2003-2005

Instructor, Department of Statistics, Colorado State University, Fort Collins, CO, 2006-
2009

Research Assistant, Center for Bioinformatics, Colorado State University, Fort Collins, CO, 2008

Biometric Intern, U.S. Fish and Wildlife Service, Anchorage, Alaska, Summer 2008

Online Course Coordinator, Department of Statistics, Colorado State University, Fort Collins, CO, 2009-2010

Statistical Consultant, Franklin A. Graybill Statistical Laboratory, Colorado State University, Fort Collins, CO, 2011

Biostatistician, Social & Scientific Systems, Inc. Durham, NC, 2014-2015

Professional Organizations:

American Statistical Association (ASA)

International Biometric Society - Eastern North American Region (ENAR)

Professional Activities:

Intramural

Member of Graduate Program Admissions Committee, Department of Biostatistics, Vanderbilt University, 2016-Present

Chair of Staff Professional Development and Promotions Committee, Department of Biostatistics, Vanderbilt University, Jan 2018-Present

Member of the Comprehensive Exam Committee, Department of Biostatistics, Vanderbilt University, 2018-Present

Reviewer Vanderbilt Undergraduate Summer Research Program, March 2021

Extramural

Member of Data Safety and Monitoring Board, “Preliminary Investigation of optimal Oxygen Targets (PILOT) trial,” 2018-Present

Ad hoc reviewer for National Center for Complementary and Integrative Health, National Institutes of Health, “Mechanistic Studies to Optimize Mind and Body Interventions (R61/R33 and R33)” August 2018

Ad hoc reviewer for National Center for Complementary and Integrative Health, National Institutes of Health, “Exploratory Clinical Trials of Mind and Body Interventions (R34 and U01)” November 2018

Discussant for National Center for Complementary and Integrative Health, National Institutes of Health, “Early Phase Clinical Trials of Natural Products (R33, and R61/R33)” November 2020

Discussant for National Center for Complementary and Integrative Health, National Institutes of Health, “Early Phase Clinical Trials of Natural Products (R33, and R61/R33)” July 2021, January 2022

Member of the review panel for Veteran’s Affairs, Health Care System Organization and Delivery, “HSR5 Merit” August 2021, January 2022

UseR 2022 Planning Committee

Treasurer of Mid-Tennessee Chapter of the ASA (September 2021-Present)

Reviewed for the following journals:

Atmosphere

American Journal of Epidemiology

Biostatistics

BMC Bioinformatics

BMJ Open

Communications in Statistics – Theory and Methods

EClinicalMedicine

Environmental International

Environmetrics

The Lancet Psychiatry

Transportation Research Part D: Transport and Environment

Academic Awards

B. F. and Carrie Woodburn Johnson Scholarship, 2002-2003, Southeast Missouri State University

George A. Penzel Family Scholarship, 2002-2003, Southeast Missouri State University

Russel and Elnora Michel Mathematics Scholarship, 2001-2003, Southeast Missouri State University

Cecil Elsie Gross Education Scholarship, 2001-2003, Southeast Missouri State University

Homer Roscoe and Carrie Findley Bolon Scholarship, 2001-2002, Southeast Missouri State University

Elmer Remmenga Scholarship in Applied Statistics, 2007, Colorado State University

Student Poster Competition Winner, Graybill Conference, 2011, Colorado State University

Patrick G. Arbogast Collaborative Publication Award, 2020, Vanderbilt University Medical Center

Teaching Activities:

Lab Instructor

STAT204 Statistics for Business Students, State University, Fort Collins, CO 2005-2006

Instructor

MA153 Intermediate Algebra, Three Rivers Community College, Popular Bluff, MO 2004

MA095 Intermediate Algebra, Southeast Missouri State University, Cape Girardeau, MO 2003-2005

STAT 307 Introduction to Biostatistics, Colorado State University, Fort Collins, CO 2007-2009

Online course coordinator

Created and managed website, created and graded homework and exams for

STAT460/STAT560 Multivariate Statistics, Colorado State University, Fort Collins, CO 2009-2010

STAT650 Experimental Design, Colorado State University, Fort Collins, CO 2010

Guest Lecturer

STAT 675K, Bayesian Statistics, Guest Lecturer, Colorado State University, 2010

Graduate School Courses

BIOS6341 Fundamentals of Probability, Vanderbilt University, Nashville, TN

2018 - Present

Internal Seminars, Lectures, and Workshops

Competing Risk Analyses in EHR Studies

Department of Biostatistics Weekly Seminar Series, Vanderbilt University Medical Center, January 2021

A Brief Introduction to Environmental Biostatistics

Health Services Research Work in Progress Seminar, Vanderbilt University Medical Center, January 24, 2017 and March 27, 2018

Introducing Bayesian Methods by Example

Health Services Research Work in Progress Seminar, Vanderbilt University Medical Center, November 28, 2017

An Introduction to Propensity Score Methods

CRC Research Skills Workshop, Vanderbilt University Medical Center, October 6, 2017

Research Supervision

Primary Advisor:

Xiangyu Ji (Biostatistics MS student, 2019-2021)

PhD Student Committees:

Valerie Welty (Biostatistics PhD student, 2016-Present)

Research Program:

R01 ES019560 PI: Peng 10/01/11-12/31/13
Statistical methods for complex environmental health data
Role: Trainee

HHS A2902010000161 PI: Griffin 08/01/15-11/01/2015
Comparative Effectiveness DEcIDE-2 Consortia Task Order 2
Role: Key personnel

VA Merit PI: Roumie 10/01/12 – 09/30/16
Effectiveness of Second Line Hypoglycemic Medications Among Veterans
Role: Co-Investigator

VUMC57172 Subrecipient PI: Hackstadt 11/01/15-12/31/16
Statistical Methods for Complex Environmental Health Data
Role: Subrecipient PI

2I01CX000570 PI: Roumie 10/01/16-9/30/23
Effectiveness of Hypoglycemic Medications Among Veterans with CKD
Role: Co-Investigator

P30 DK92986/5P30DK092986-11 PI: Elasy 09/19/2016-07/31/22
Vanderbilt Center for Diabetes Translation Research
Role: Biostatistician

P30DK20593/5P30DK020593-44 PI: Powers 01/12/1996 - 03/31/2022
Diabetes Research and Training Center
Role: Biostatistician

5I01CX000982-04 PI: Hung 10/01/2014 - 09/30/2019
Dysmetabolism of chronic kidney disease and vascular health (Aim 2)
Role: Biostatistician

5R18DK123373-03 PI: Martinez 09/15/2019 - 06/30/2024
Expanding Patient Engagement in Diabetes Care: Patient Portal Innovation
Role: Biostatistician

R01DK131129 PI: Martinez 10/01/2021 - 08/31/2025
Effects of a Novel, Scalable, and Sustainable Patient Portal Intervention on Diabetes-
Related Outcomes: A Pragmatic Randomized Controlled Trial
Role: Biostatistician

Publications and Presentations:

Articles in refereed journals:

Richardson TL Jr, Hackstadt AJ, Hung AM, Greevy RA, Grijalva CG, Griffin MR, Elasy TA, Roumie CL. Hospitalization for Heart Failure Among Patients With Diabetes Mellitus and Reduced Kidney Function Treated With Metformin Versus Sulfonylureas: A Retrospective Cohort Study. *Journal of American Heart Association* 2021;10(8):e019211. doi: 10.1161/JAHA.120.019211.

Martinez W, Hackstadt AJ, Hickson GB, Rosenbloom ST, Elasy TA. Evaluation of the My Diabetes Care Patient Portal Intervention: Protocol for a Pilot Randomized Controlled Trial. *JMIR Res Protocol* 2021;10(5):e25955. doi: 10.2196/25955. PMID: 34032578; PMCID: PMC8188319.

Martinez W, [Hackstadt AJ](#), Hickson GB, Knoerl T, Rosenbloom ST, Wallston KA, Elasy TA. The My Diabetes Care Patient Portal Intervention: Usability and Pre-Post Assessment. *Applied Clinical Informatics* 2021;12(3):539-550. doi: 10.1055/s-0041-1730324. PMID: 34192774; PMCID: PMC8245208.

Chu PY, [Hackstadt AJ](#), Chipman J, Griffin MR, Hung AM, Greevy RA, Grijalva CG, Elasy R, and Roumie CL. Hospitalization for Lactic Acidosis Among Patients With Reduced Kidney Function Treated With Metformin or Sulfonylureas. *Diabetes Care*. Published online April 2020.

Roumie CL, Chipman J, Young Min J, [Hackstadt AJ](#), Hung AM, MD, Greevy RA, Grijalva CG, Elasy T, and Griffin MR. Association of Treatment With Metformin vs Sulfonylurea With Major Adverse Cardiovascular Events Among Patients With Diabetes and Reduced Kidney Function. *JAMA* 2019; 322(12)1167–1177. doi:10.1001/jama.2019.13206

Min JY, Presley CA, Wharton J, Griffin MR, Greevy Jr RA, Hung AM, Chipman J, Grijalva CG, [Hackstadt AJ](#), and Roumie CL. Accuracy of a composite event definition for hypoglycemia. *Pharmacoepidemiology and Drug Safety* 2019; 28(5) 625-631.

Robbins SG, [Hackstadt AJ](#), Martin S, and Shinall Jr MC. Implications of Palliative Care Consultation Timing Among a Cohort of Hospice Decedents. *Journal of Palliative Medicine* 2019; 22(9)1129-1132. doi: 10.1089/jpm.2018.0514.

Min JY, Griffin MR, Chipman J, [Hackstadt AJ](#), Greevy RA, Grijalva CG, Hung AM, and Roumie CL. Recent metformin adherence and the risk of hypoglycaemia in the year following intensification with a sulfonylurea. *Diabetic Medicine* 2019; 36(4) 482-490.

Chakkalakal RJ, [Hackstadt AJ](#), Trochez R, Gregory R, and Elasy TA. Gestational Diabetes and Maternal Weight Management During and After Pregnancy. *Journal of Women's Health* 2019; 38(5).

Murff HJ, Roumie CL, Greevy RJ, [Hackstadt AJ](#), D'Agostino McGowan LE, Hung AM, Grijalva CG, and Griffin MR. Metformin Use and Incidence Cancer Risk: Evidence for a Selective Protective Effect against Liver Cancer. *Cancer Causes & Control: CCC* 2018; 29(9) 823-832.

Xia M, Huang R, Shi O, Boyd WA, Zhao J, Sun N, Rice JR, Dunlap PE, [Hackstadt AJ](#), Bridge MF, Smith MV, Dai S, Zheng W, Chu PH, Gerhold D, Witt KL, DeVito M, Freedman JH, Austin CP, Houck KA, Thomas RS, Paules RS, Tice RR, and Simeonov A. Comprehensive analyses and prioritization of Tox2110K chemicals affecting mitochondrial function by in-depth mechanistic studies. *Environmental Health Perspectives* 2018; 126(7).

Roumie CL, Min, JY, McGowan, LD, Presley C, Grijalva C, Hackstadt AJ, Hung A, Greevy R, Elasy T, Griffin, M. Comparative safety of sulfonyleurea and metformin monotherapy on the risk of heart failure: a cohort study. *Journal of the American Heart Association* 2017; 6(4).

Krall JR, Hackstadt AJ, Peng RD. A hierarchical modeling approach to estimate regional acute health effects of particulate matter sources. *Statistics in Medicine* 2017; 36(9) 1461–1475.

Peng RD, Butz AM, Hackstadt AJ, Williams DL, Diette, GB, Breysse PN, Matsui EC. Estimating the Health Benefit of Reducing Indoor Air Pollution in a Randomized Environmental Intervention. *Journal of Royal Statistical Society-Series A* 2015; 178(2) 425-443.

Hackstadt AJ, Matsui EC, Williams DL, Diette GB, Breysse PN, Butz AM, Peng RD. Inference for Environmental Intervention Studies using Principal Stratification. *Statistics in Medicine* 2014; 33(28) 4919-4933.

Hackstadt AJ, Peng RD. A Bayesian Multivariate Receptor Model for Estimating Source Contributions to Particulate Matter Pollution using National Databases. *Environmetrics* 2014; 25(7) 513-527.

Meyer MC, Hackstadt AJ, Hoeting JA. Bayesian Estimation and Inference for Generalised Partial Linear Models Using Shape-Restricted Splines. *Journal of Nonparametric Statistics* 2011; 23(4) 867-884.

Hackstadt AJ, Hess AM. Filtering for Increased Power for Microarray Data Analysis. *BMC Bioinformatics* 2009; 10(11).

Presentations

Invited

“Shape-Restricted Fixed and Free-knot Regression Splines.” Biostatistics and Informatics Department; University of Colorado Denver, Denver, CO, April 27, 2011.

“Estimating the health benefit of reducing indoor air pollution in a randomized environmental intervention using principal stratification.” Royal Statistical Society 2016 Conference; Manchester, England, September 8, 2016.

“Statistical methods to estimate exposures to multiple pollutants.” Western North American Region of the International Biometric Society Annual Meeting, Santa Fe, NM, June 25, 2017.

“Statistical Advances in Source Apportionment of Air Pollutants and Source-Specific Health Effects Evaluation” Joint Statistical Meetings; Virtual Conference, August 11, 2021.

“Estimating Risk in Large Public Health and Comparative effectiveness Studies” Department of Biostatistics Weekly Seminar Series, University of Louisville, Spring 2022

Contributed

“Microarray Analysis: P-values, Filtering, and Multiple Testing Adjustments.” Conference on Applied Statistics in Agriculture; Manhattan, Kansas, 2007.

“A Bayesian Approach to Mixed Models using Shape-Restricted Regression Splines.” Joint Statistical Meetings; Vancouver, British Columbia, August 3, 2010.

“Changepoint Analysis using Shape-Restricted Regression Splines in a Bayesian Framework.” Joint Statistical Meetings; Miami, FL, August 3, 2011.

“Examining the Effectiveness of a Pollution-Targeted Environmental Intervention on Improving Health.” Joint Statistical Meetings; Montréal, Canada, August 7, 2013.

“Estimating Uncertainty in Weighted Competing Risk Analyzes” Joint Statistical Meetings; Denver, Colorado, August 28, 2019.