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Education

North Carolina State University , Raleigh, NC	2014
PhD, Statistics	
Thesis: <i>Advances in Bayesian Methods for High-Dimensional Environmental Data</i>	
Advisor: Brian Reich	
North Carolina State University , Raleigh, NC	2011
Masters of Statistics	
University of Vermont , Burlington, VT	2004
Bachelor of Arts, Mathematics, <i>Cum Laude</i>	

Experience

Colorado State University , Fort Collins, CO	2016 – Present
Associate Professor, Department of Statistics	2022 – Present
Assistant Professor, Department of Statistics	2016 – 2022
Faculty Member, Partnership on Air Quality Climate and Health	2016 – Present
Harvard T. H. Chan School of Public Health , Boston, MA	2014 – 2016
Postdoctoral Research Fellow, Department of Biostatistics	
Mentors: Brent A. Coull and Francesca Dominici	
Mathematica Policy Research, Inc. , Cambridge, MA	2014 – 2016
On-Call Statistician	
U.S. Environmental Protection Agency , Chapel Hill, NC	2012 – 2014
Oak Ridge Institute for Science and Education (ORISE) Fellow	
Mentors: Ana G Rappold and Lucas Neas	
U.S. Environmental Protection Agency , RTP, NC	2010 – 2012
Student Volunteer Researcher, National Center for Computational Toxicology	
Mentor: David Reif	
North Carolina State University , Raleigh, NC	2009 – 2012
NIH Trainee in Biostatistics and Statistical Genetics	
Mathematica Policy Research, Inc. , Cambridge, MA	2005 – 2011
On-Call Senior Programmer Analyst	2009 – 2011
Senior Programmer Analyst	2008 – 2009
Research Assistant/Programmer	2005 – 2007

Awards

Early Investigator Award, ASA Section on Statistics and the Environment	2024
Best Environmental Epidemiology Paper (co-author), International Society for Environmental Epidemiology	2020
Rose Traveling Fellowship, Harvard T. H. Chan School of Public Health	2015
ORISE pre-doctoral fellowship with US EPA	2012-2014

Publications

* indicates current or former student.

† indicates part of consortium on paper.

Published in Peer-Reviewed Journals

- [1] *Demateis, D, Aldana, SI, Wright, RO, Wright, R, Baccarelli, A, Colicino, E, **Wilson, A**, Keller, KP, "Distributed Lag Interaction Model with Index Modification". *Biostatistics* (In press). arXiv: 2504.06363.
- [2] *Im, S, **Wilson, A**, Mork, D, "Treed Structured Models for Estimating Distributed Lag Effects: The R Package *dlmtree*". *The R Journal* (In press). doi: 10.32614/RJ-2025-007. arXiv: 2504.18452.
- [3] Jin, Y, Molstad, AJ, **Wilson, A**, Antonelli, J, "Smooth and shape-constrained quantile distributed lag models". *Biometrics* (In press). doi: 10.1093/biomtc/ujaf101. arXiv: 2408.08450.
- [4] Leung, M, Rowland, ST, Modest, AM, Hacker, MR, Papatheodorou, S, Wei, Y, Schwartz, J, Coull, BA, **Wilson, A**, Kioumourtzoglou, MA, Weisskopf, MG, "Inferring effects of time-varying prenatal exposures on pregnancy loss from live-birth-identified conceptions: A simulation study". *American Journal of Epidemiology* (In press). doi: 10.1093/aje/kwae475.
- [5] McGee, G, Coull, BA, **Wilson, A**, "Collapsed Kernel Machine Regression". *Statistics in Medicine* (In press). arXiv: 2409.18005.
- [6] Aldana, SI, *Demateis, D, Valvi, D, Just, AC, Gutiérrez-Avila, I, Estrada-Gutierrez, G, Téllez Rojo, MM, Wright, RO, Baccarelli, AA, Wu, H, Keller, KP, **Wilson, A**, Colicino, E, "Windows of Susceptibility to Air Pollution During and Surrounding Pregnancy in Relation to Longitudinal Maternal Measures of Adiposity and Lipid Profiles". *Environmental Research* (2025), p. 121198. doi: 10.1016/j.envres.2025.121198.
- [7] *Demateis, D, Keller, K, Rojas-Rueda, D, Kioumourtzoglou, MA, **Wilson, A**, "Penalized Distributed Lag Interaction Model: Air Pollution, Term Birth Weight, and Neighborhood Vulnerability". *Environmetrics* 35.4 (June 2024). doi: 10.1002/env.2843. arXiv: 2401.02939.
- [8] *Mork, D, Kioumourtzoglou, MA, Weisskopf, M, Coull, BA, **Wilson, A**, "Heterogeneous Distributed Lag Models to Estimate Personalized Effects of Maternal Exposures to Air Pollution". *Journal of the American Statistical Association* 119.545 (Jan. 2024), pp. 14–26. doi: 10.1080/01621459.2023.2258595. arXiv: 2109.13763.
- ★ Included in ASA Editors' Choice Collections.

- [9] *Mork, D, **Wilson, A**, “Incorporating Prior Information Into Distributed Lag Nonlinear Models With Zero-Inflated Monotone Regression Trees”. *Bayesian Analysis* (2024), pp. 1–29. doi: 10.1214/23-BA1412.
- [10] *Pugh, S, Fosdick, BK, Nehring, M, Gallichotte, EN, VandeWoude, S, **Wilson, A**, “Estimating cutoff values for diagnostic tests to achieve target specificity using extreme value theory”. *BMC Medical Research Methodology* 24.1 (Feb. 2024), p. 30. doi: 10.1186/s12874-023-02139-5.
- [11] *Pugh, S, Levin, AT, Meyerowitz-Katz, G, Soman, S, Owusu-Boaitey, N, Zwi, AB, Malani, A, **Wilson, A**, Fosdick, BK, “A hierarchical Bayesian model for estimating age-specific COVID-19 infection fatality rates in developing countries”. *Statistics in Medicine* 43.30 (Dec. 2024), pp. 5667–5680. doi: 10.1002/sim.10259. arXiv: 2308.04012.
- [12] Antonelli, J, **Wilson, A**, Coull, BA, “Multiple exposure distributed lag models with variable selection”. *Biostatistics* 25.1 (Jan. 2024), pp. 1–19. doi: 10.1093/biostatistics/kxac038. arXiv: 2107.14567.
- [13] Chiu, YHM, Coull, BA, **Wilson, A**, Hsu, HHL, Xhani, N, Schwartz, J, Colicino, E, Robert O. Wright, M, Wright, RJ, “Air pollution mixture exposure during pregnancy and postpartum psychological functioning: racial/ethnic- and fetal sex-specific associations”. *Journal of Exposure Science and Environmental Epidemiology* (2024). doi: 10.1038/s41370-024-00726-2.
- [14] Howe, CM, Coull, BA, Papatheodorou, S, Luttmann-Gibson, H, Rifas-Shiman, SL, **Wilson, A**, Kloog, I, Di, Q, Zanobetti, A, Koutrakis, P, Schwartz, JD, Oken, E, Gold, DR, “Relative humidity, temperature, and hypertensive disorders of pregnancy: Findings from the Project Viva cohort”. *Environmental Research* 257 (2024), p. 119211. doi: 10.1016/j.envres.2024.119211.
- [15] Hsu, HHL, Coull, BA, Schnaas, L, Osorio-Valencia, E, Chiu, YHM, **Wilson, A**, Just, AC, Kloog, I, Bellinger, D, Téllez-Rojo, MM, Wright, RO, “Sensitive Windows of Prenatal Air Pollution and Cognitive Functioning in Pre-School Age Mexican Children”. *Environmental Epidemiology* 8.1 (2024), e291. doi: 10.1097/EE9.0000000000000291.
- [16] Kodros, JK, Carter, E, Oke, O, **Wilson, A**, Jathar, SH, Magzamen, S, “Cumulative Exposures to Environmental and Socioeconomic Risk Factors in Milwaukee County, Wisconsin”. *GeoHealth* 8.5 (2024), e2023GH000927. doi: 10.1029/2023GH000927.
- [17] Wright, RO, Makris, KC, Natsiavas, P, Fennell, T, Rushing, BR, **Wilson, A**, Exposomics Consortium, M, “A long and winding road: culture change on data sharing in exposomics”. *Exposome* 4.1 (Apr. 2024), osae004. doi: 10.1093/exposome/osae004.
- [18] *Hoskovec, L, Koslovsky, MD, Koehler, K, Good, N, Peel, JL, Volckens, J, **Wilson, A**, “Infinite hidden Markov models for multiple multivariate time series with missing data”. *Biometrics* 79 (3 Sept. 2023), pp. 2592–2604. doi: 10.1111/biom.13715.
★ ASA Environmental Section Student Paper Competition honorable mention, 2021.
- [19] *Mork, D, **Wilson, A**, “Estimating perinatal critical windows of susceptibility to environmental mixtures via structured Bayesian regression tree pairs”. *Biometrics* 79.1 (Mar. 2023), pp. 449–461. doi: 10.1111/biom.13568. arXiv: 2102.09071.
★ Health Effects Institute Jane Warren Trainee Conference Award winner, 2021.

- [20] Burrows, K, Anderson, GB, Yan, M, **Wilson, A**, Sabath, MB, Son, JY, Kim, H, Dominici, F, Bell, ML, "Health disparities among older adults following tropical cyclone exposure in Florida". *Nature Communications* 14 (1 Apr. 2023), p. 2221. doi: 10.1038/s41467-023-37675-7.
- [21] Chiu, YHM, **Wilson, A**, Hsu, HHL, Jamal, H, Mathews, N, Kloog, I, Schwartz, J, Bellinger, DC, Xhani, N, Wright, RO, Coull, BA, Wright, RJ, "Prenatal ambient air pollutant mixture exposure and neurodevelopment in urban children in the Northeastern United States". *Environmental Research* 233 (2023), p. 116394. doi: 10.1016/j.envres.2023.116394.
- [22] Hsu, HHL, **Wilson, A**, Schwartz, J, Kloog, I, Wright, RO, Coull, BA, Wright, RJ, "Prenatal Ambient Air Pollutant Mixture Exposure and Early School-age Lung Function". *Environmental Epidemiology* 7.2 (Apr. 2023), e249. doi: 10.1097/EE9.000000000000249.
- [23] Leung, M, Rowland, ST, Coull, BA, Modest, AM, Hacker, MR, Schwartz, J, Kioumourtzoglou, MA, Weisskopf, MG, **Wilson, A**, "Bias Amplification and Variance Inflation in Distributed Lag Models Using Low-Spatial-Resolution Data". *American Journal of Epidemiology* 192.4 (Apr. 2023), pp. 644–657. doi: 10.1093/aje/kwac220.
- [24] Martenies, SE, **Wilson, A**, *Hoskovec, L, Bol, KA, Burkett, TL, Podewils, LJ, Magzamen, S, "The COVID-19-wildfire smoke paradox: Reduced risk of all-cause mortality due to wildfire smoke in Colorado during the first year of the COVID-19 pandemic". *Environmental Research* 225 (May 2023), p. 115591. doi: 10.1016/j.envres.2023.115591.
- [25] McGee, G, **Wilson, A**, Coull, BA, Webster, TF, "Incorporating biological knowledge in analyses of environmental mixtures and health". *Statistics in Medicine* 42.17 (July 2023), pp. 3016–3031. doi: 10.1002/sim.9765. arXiv: 2204.00040.
- [26] McGee, G, **Wilson, A**, Webster, TF, Coull, BA, "Bayesian multiple index models for environmental mixtures". *Biometrics* 79.1 (Mar. 2023), pp. 462–474. doi: 10.1111/biom.13569. arXiv: 2101.05352.
- [27] Saddiki, H, Zhang, X, Colicino, E, **Wilson, A**, Kloog, I, Wright, RO, Wright, RJ, Lesseur, C, "DNA methylation profiles reveal sex-specific associations between prenatal ambient air pollution and placenta cell type composition in the PRISM cohort study". *Clinical Epigenetics* 15.188 (2023).
- [28] *Hoskovec, L, Martenies, S, Burkett, TL, Magzamen, S, **Wilson, A**, "Association between air pollution and COVID-19 disease severity via Bayesian multinomial logistic regression with partially missing outcomes". *Environmetrics* 33 (7 Nov. 2022). doi: 10.1002/env.2751.
- [29] *Mork, D, **Wilson, A**, "Treed distributed lag nonlinear models". *Biostatistics* 23.3 (July 2022), pp. 754–771. doi: 10.1093/biostatistics/kxaa051.
- [30] Benka-Coker, ML, Clark, ML, Rajkumar, S, Young, BN, Bachand, AM, Brook, RD, Nelson, TL, Volckens, J, Reynolds, SJ, **Wilson, A**, L'Orange, C, Good, N, Quinn, C, Koehler, K, Africano, S, Pinel, ABO, Diaz-Sanchez, D, Neas, L, Peel, JL, "Household air pollution from wood-burning cookstoves and C-reactive protein among women in rural Honduras". *International Journal of Hygiene and Environmental Health* 241 (Apr. 2022), p. 113949. doi: 10.1016/j.ijheh.2022.113949.

- [31] Chiu, YHM, Carroll, KN, Coull, BA, Kannan, S, **Wilson, A**, Wright, RJ, "Prenatal Fine Particulate Matter, Maternal Micronutrient Antioxidant Intake, and Early Childhood Repeated Wheeze: Effect Modification by Race/Ethnicity and Sex". *Antioxidants* 11.2 (2022). doi: 10.3390/antiox11020366.
- [32] Martenies, SE, *Hoskovec, L, **Wilson, A**, Moore, BF, Starling, AP, Allshouse, WB, Adgate, JL, Dabelea, D, Magzamen, S, "Using non-parametric Bayes shrinkage to assess relationships between multiple environmental and social stressors and neonatal size and body composition in the Healthy Start cohort". *Environmental Health* 21.1 (Nov. 2022), p. 111. doi: 10.1186/s12940-022-00934-z.
- [33] Rahman, F, Coull, BA, Carroll, KN, **Wilson, A**, Just, AC, Kloog, I, Zhang, X, Wright, RJ, Chiu, YHM, "Prenatal PM2.5 exposure and infant temperament at age 6 months: Sensitive windows and sex-specific associations". *Environmental Research* 206 (2022), p. 112583. doi: 10.1016/j.envres.2021.112583.
- [34] Rowland, ST, Chillrud, LG, Boehme, AK, **Wilson, A**, Rush, J, Just, AC, Kioumourtzoglou, MA, "Can weather help explain 'why now?': The potential role of hourly temperature as a stroke trigger". *Environmental Research* 207 (1 May 2022), p. 112229. doi: 10.1016/j.envres.2021.112229.
- [35] Walker, ES, Fedak, KM, Good, N, Balmes, J, Brook, RD, Clark, ML, Cole-Hunter, T, Devlin, RB, L'Orange, C, Luckasen, G, Mehaffy, J, Shelton, R, **Wilson, A**, Volckens, J, Peel, JL, "Acute differences in blood lipids and inflammatory biomarkers following controlled exposures to cookstove air pollution in the STOVES study". *International Journal of Environmental Health Research* 32 (3 Mar. 2022), pp. 565–578. doi: 10.1080/09603123.2020.1785402.
- [36] **Wilson, A**, Hsu, HHL, Chiu, YHM, Wright, RO, Wright, RJ, Coull, BA, "Kernel machine and distributed lag models for assessing windows of susceptibility to environmental mixtures in children's health studies". *The Annals of Applied Statistics* 16.2 (June 2022). doi: 10.1214/21-AOAS1533. arXiv: 1904.12417.
- [37] *Hoskovec, L, Benka-Coker, W, Severson, R, Magzamen, S, **Wilson, A**, "Model choice for estimating the association between exposure to chemical mixtures and health outcomes: A simulation study". *PLOS ONE* 16.3 (Mar. 2021), e0249236. doi: 10.1371/journal.pone.0249236.
- ★ Health Effects Institute student/postdoc travel award winner, 2019.
- [38] Cole-Hunter, T, Dhingra, R, Fedak, KM, Good, N, L'Orange, C, Luckasen, G, Mehaffy, J, Walker, E, **Wilson, A**, Balmes, J, Brook, RD, Clark, ML, Devlin, RB, Volckens, J, Peel, JL, "Short-term differences in cardiac function following controlled exposure to cookstove air pollution: The subclinical tests on volunteers exposed to smoke (STOVES) study". *Environment International* 146 (Jan. 2021), p. 106254. doi: 10.1016/j.envint.2020.106254.
- [39] Magzamen, S, Gan, RW, Liu, J, O'Dell, K, Ford, B, Berg, K, Bol, K, **Wilson, A**, Fischer, EV, Pierce, JR, "Differential Cardiopulmonary Health Impacts of Local and Long-Range Transport of Wildfire Smoke". *GeoHealth* 5.3 (Mar. 2021). doi: 10.1029/2020GH000330.
- [40] Martenies, SE, *Hoskovec, L, **Wilson, A**, Allshouse, WB, Adgate, JL, Dabelea, D, Jathar, S, Magzamen, S, "Assessing the Impact of Wildfires on the Use of Black Carbon as an Indicator of Traffic Exposures in Environmental Epidemiology Studies". *GeoHealth* 5.6 (June 2021), pp. 424–430. doi: 10.1029/2020GH000347.

- [41] Tryner, J, Phillips, M, Quinn, C, Neymark, G, **Wilson, A**, Jathar, SH, Carter, E, Volckens, J, "Design and testing of a low-cost sensor and sampling platform for indoor air quality". *Building and Environment* (Sept. 2021), p. 108398. doi: 10.1016/j.buildenv.2021.108398.
- [42] Yan, M, **Wilson, A**, Dominici, F, Wang, Y, Al-Hamdan, M, Crosson, W, Schumacher, A, Guikema, S, Magzamen, S, Peel, JL, Peng, RD, Anderson, GB, "Tropical Cyclone Exposures and Risks of Emergency Medicare Hospital Admission for Cardiorespiratory Diseases in 175 Urban United States Counties, 1999-2010". *Epidemiology* 32.3 (May 2021), pp. 315–326. doi: 10.1097/EDE.0000000000001337.
- [43] Yuan, B, Osorio-Yáñez, C, Fang, J, Zhao, L, **Wilson, A**, Sanchez-Guerra, M, Liu, H, Li, PH, Guo, L, "Effect of Radiation, Organic Solvents and Vibration Occupational Exposure on the Thyroid Disease: Results from Project ELEFANT". *Aerosol and Air Quality Research* 21 (9 2021), p. 210085.
- [44] Benka-Coker, ML, Peel, JL, Volckens, J, Good, N, Bilsback, KR, L'Orange, C, Quinn, C, Young, BN, Rajkumar, S, **Wilson, A**, Tryner, J, Africano, S, Osorio, AB, Clark, ML, "Kitchen concentrations of fine particulate matter and particle number concentration in households using biomass cookstoves in rural Honduras". *Environmental Pollution* 258 (Mar. 2020), p. 113697. doi: 10.1016/j.envpol.2019.113697.
- [45] Benka-Coker, W, *Hoskovec, L, Severson, R, Balmes, J, **Wilson, A**, Magzamen, S, "The joint effect of ambient air pollution and agricultural pesticide exposures on lung function among children with asthma". *Environmental Research* 190.June (Nov. 2020), p. 109903. doi: 10.1016/j.envres.2020.109903.
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- [47] Fedak, KM, Good, N, Walker, ES, Balmes, J, Brook, RD, Clark, ML, Cole-Hunter, T, Devlin, R, L'Orange, C, Luckasen, G, Mehaffy, J, Shelton, R, **Wilson, A**, Volckens, J, Peel, JL, "Acute changes in lung function following controlled exposure to cookstove air pollution in the subclinical tests of volunteers exposed to smoke (STOVES) study". *Inhalation Toxicology* 32.3 (Feb. 2020), pp. 115–123. doi: 10.1080/08958378.2020.1751750.
- [48] Gan, RW, Liu, J, Ford, B, O'Dell, K, Vaidyanathan, A, **Wilson, A**, Volckens, J, Pfister, G, Fischer, EV, Pierce, JR, Magzamen, S, "The association between wildfire smoke exposure and asthma-specific medical care utilization in Oregon during the 2013 wildfire season". *Journal of Exposure Science & Environmental Epidemiology* 30.4 (July 2020), pp. 618–628. doi: 10.1038/s41370-020-0210-x.
- [49] Lee, AG, Cowell, W, Kannan, S, Ganguri, HB, Nentin, F, **Wilson, A**, Coull, BA, Wright, RO, Baccarelli, A, Bollati, V, Wright, RJ, "Prenatal particulate air pollution and newborn telomere length: Effect modification by maternal antioxidant intakes and infant sex". *Environmental Research* 187.November 2019 (Aug. 2020), p. 109707. doi: 10.1016/j.envres.2020.109707.

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- [51] Tryner, J, L'Orange, C, Mehaffy, J, Miller-Lionberg, D, Hofstetter, JC, **Wilson, A**, Volckens, J, "Laboratory evaluation of low-cost PurpleAir PM monitors and in-field correction using co-located portable filter samplers". *Atmospheric Environment* 220 (Jan. 2020), p. 117067. doi: 10.1016/j.atmosenv.2019.117067.
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★ International Society of Environmental Epidemiology, Best Environmental Epidemiology Paper (BEEP) Award, 2020.
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★ Health Effects Institute student/postdoc travel award winner, 2018.
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Book Chapters

- [1] Dominici, A, **Wilson, A**, "Dynamics of Environmental Epidemiology". *Handbook of Environmental and Ecological Statistics*. Ed. by AE Gelfand, M Fuentes, JA Hoeting, and RL Smith. Boca Raton, FL: Chapman & Hall/CRC, 2018. Chap. 24.

Non-Peer-Reviewed publications

Trenholm CA, Mabli JG, Wilson A (2009). *SCHIP Children: How Long Do They Stay and Where Do They Go?* Princeton, NJ: Robert Wood Johnson Foundation.

Gleason PM, Briefel RR, Wilson A, Dodd AH (2009). *School Meal Program Participation and Its Association with Dietary Patterns and Childhood Obesity*. Final Report submitted to U.S. Department of Agriculture Economic Research Service Food Assistance Branch. Cambridge, MA: Mathematica Policy Research.

O'Neil, S, Merrill AR, Wilson A, Lake TK (2008). *Differences in Hospitalizations for Ambulatory Care Sensitive Conditions Among Maryland Medicare Beneficiaries – 2006*. Baltimore, MD: Maryland Health Care Commission, Center for Analysis and Information Services.

O'Neil S, Merrill A, Wilson A, Lake T (2008). *Assessment of Disparities in Potentially Avoidable Hospitalizations of Maryland Medicare Patients*. Final Report submitted to the Maryland Health Care Commission. Cambridge, MA: Mathematica Policy Research, December.

Limpa-Amara S, Lake TK, Wilson A (2005). *Trends in Diabetes Mortality Among Medicare FFS Beneficiaries with Diabetes, 1992-2003*. Final report submitted to the Centers for Medicare & Medicaid Services and the Centers for Disease Control and Prevention. Cambridge, MA: Mathematica Policy Research.

R Packages on CRAN

- [1] *Mork, D, *Im, S, **Wilson, A**, *dlmTree: Bayesian Treed Distributed Lag Models*. R package version 1.1.0. 2025.
- [2] *Demateis, D, Keller, K, **Wilson, A**, *dlm: Distributed Lag Interaction Model*. R package version 0.1.0. 2024.
- [3] **Wilson, A**. *bdlm: Bayesian Distributed Lag Interaction Models*. R package version 0.4.1. 2024.

Funding

Current Funding

ECHO OIF, NIH (subaward from Duke University) (PI: Hoskovec) 6/1/2025 - 5/31/2027
Identifying Windows of Susceptibility to Wildfire Smoke Exposure: Growth Trajectories and Mitigation

Role: co-I and mentor

*This is a career development award for a early stage investigator

ECHO OIF, NIH (subaward from Duke University) (PI: Mork) 6/1/2025 - 5/31/2027
ECHO-wide Precision Environmental Health Analyses of Air Pollution Exposure and Birth Outcomes

Role: mentor (no salary support for Dr. Wilson)

*This is a career development award for a early stage investigator

R01ES036559, NIH/NIEHS (MPI: Farzan, Habre)	6/23/2025-4/30/2030
Wildfire smoke, heat and cardiovascular risk across the life course	
Role: co-I and CSU subaward PI	
R01ES036185, NIH/NIEHS (MPI: Farzan, Habre)	1/23/2025-11/30/2029
Children's Cardiovascular Health in a Changing Climate: The Impacts of Extreme Heat and Wildfire Smoke	
Role: co-I and CSU subaward PI	
R01ES035735, NIH/NIEHS (PI: Wilson)	7/6/2024-4/30/2029
Statistical Methods for Precision Environmental Health with Mixture Exposures	
Role: PI	
–, City of Greeley (PI: Wilson)	9/15/2023 - 12/31/2025
Predictive Modeling of Lead Pipes	
Role: PI	
R44ES024041, NIH/NIEHS (PI: Miller-Lionberg)	9/21/2021 - 8/31/2024
Validation of the UPAS+: A filter-based air sampler coupled with a suite of real-time sensors	
Role: co-I	
R01ES033190, NIH/NIEHS (PI: Ananth)	9/10/2021 - 6/30/2026
Ambient Air Pollution, Weather, and Placental Abruptio (APWA)	
Role: co-I and CSU subaward PI	
R01ES029943, NIH/NIEHS (MPI: Kioumourtzoglou, Weisskopf)	8/6/2020 - 5/31/2026
Air Pollution and Pregnancy Loss	
Role: co-I and CSU subaward PI	

Completed Funding

R01OH011660, NIH/NIEHS (MPI: Volckens, Carter)	8/1/2019 - 7/31/2023
A Citizen-Science Approach to Occupational Hazard Assessment	
Role: co-I	
–, CSU Graduate School (MPI: Wilson, Ivans)	12/1/2022 - 6/30/2023
Graduate School Mentoring Mini-Grant	
–, AJ Kauvar Fundation (MPI: Magzamen, Wilson)	8/1/2020 - 7/31/2022
Air Pollution and Pregnancy Loss	
Role: MPI	
R01ES028811, NIH/NIEHS (MPI: Gennings, Coull)	5/15/2018 - 4/30/2022
Methods for data integration and risk assessment for environmental mixtures	
Role: co-I and CSU subaward PI	
R839278, US EPA (MPI: Magzamen)	1/1/2018 - 1/31/2020
Southeast Wisconsin Interdisciplinary Study of Children's Health, Ecological Exposures and Social Environment	
Role: co-PI	
80NSSC20K1774, NASA (MPI: Ravishankara)	7/1/2020 - 6/30/2021
Are there connections between PM2.5 and COVID-19 outcomes?	
Role: co-I	
R01ES023688, NIH/NIEHS (MPI: Peel, Volckens)	08/15/2014 - 05/31/2019

Cookstove air pollution: Emission profiles and subclinical effects of exposure
Role: added as collaborator mid-grant

R01ES020017, NIH/NIEHS (MPI: Volckens, Peel, Stuart) 01/15/2012 - 10/31/2017

The Commuter Exposure Study: Linking Exposures, Source-Receptor Models, And Health
Role: added as collaborator mid-grant

–, HICAHS pilot grant (MPI: L'Orange) 11/1/2016 - 10/31/2017

A Novel, Low-Cost Method for Assessing Personal Aerosol Exposures in Real-Time

Role: collaborator

Presentations

Invited

Joint Statistical Meetings (JSM), Nashville, TN	2025
Biometrics Society Spring Meeting (WNAR), Whistler, British Columbia, Canada	2025
New England Statistics Symposium (NESS), New Haven, CT	2025
Joint Statistical Meetings (JSM), Portland, OR	2024
Society for Epidemiologic Research (SER), Austin, TX	2024
Biometrics Society Spring Meeting (WNAR), Fort Collins, CO	2024
Biometrics Society Spring Meeting (ENAR), Baltimore, MD	2024
National Institute of Environmental Health Sciences (NIEHS) DERT retreat on Precision Environmental Health, Research Triangle Park, NC	2024
Computational and Methodological Statistics (CMStatistics), Berlin, Germany	2023
EnviBayes Workshop on Complex Environmental Data, Fort Collins, CO	2023
Biometrics Society Spring Meeting (ENAR), Nashville, TN	2023
Eunice Kennedy Shriver National Institute of Child Health and Human Development, Biostatistics and Bioinformatics Branch (Virtual)	2023
The University of Texas at Dallas, Department of Mathematical Sciences (Virtual)	2022
Biometrics Society Spring Meeting (ENAR), Houston, TX	2022
Columbia Mailman School of Public Health, Department of Biostatistics (Virtual)	2022
Computational and Methodological Statistics (CMStatistics), London, UK (Virtual)	2021
University of Southern California, Division of Biostatistics (Virtual)	2021
International Society of Environmental Epidemiology (ISEE) (Virtual)	2021
International Chinese Statistical Association (ICSA) Intl. Conf., Hangzhou, China	2019
Harvard T. H. Chan School of Public Health, Dept. of Biostatistics, Boston, MA	2019
International Society of Environmental Epidemiology (ISEE), Ottawa, Canada	2018
Virginia Tech University, Dept. of Statistics, Blacksburg, VA	2018
International Conference on Health Policy Statistics, Charleston, SC	2018
Tianjin Medical University, Dept. of Occ. & Envr. Health, Tianjin, China	2017
Intl. Symp. on Emerging Contaminants and Envr. Nanotechnology, Tianjin, China	2017
Colorado State University, Epidemiology, Fort Collins, CO	2016
NC State University, Dept. of Statistics 75 th Anniversary Symposium, Raleigh, NC	2016
Harvard T. H. Chan School of Public Health, Dept. of Biostatistics, Boston, MA	2016
New England Statistics Symposium (NESS), New Haven, CT	2016
Colorado State University, Dept. of Statistics, Fort Collins, CO	2016
VI-MSS Workshop on Environmental Statistics, Kolkata, India, Poster	2015
Public Health Foundation of India, New Delhi, India	2015
Biometrics Society Spring Meeting (ENAR), Baltimore, MD	2014

RAND Corporation, Santa Monica, CA	2014
National Center for Atmospheric Research, Boulder, CO	2014
University of Colorado, Dept. of Mathematical and Statistical Sciences, Denver, CO	2014
Harvard School of Public Health, Dept. of Biostatistics, Boston, MA	2014
University of North Carolina, Institute for the Environment, Chapel Hill, NC	2014
Colorado State University, Dept. of Statistics, Fort Collins, CO	2013
Atmospheric Modeling Division, U.S. Environmental Protection Agency, RTP, NC	2013

Contributed

International Society of Environmental Epidemiology (ISEE) North American Chapter Meeting, Corvallis, OR, <i>Oral Poster</i>	2023
IS Global Exposome Data Challenge Event, virtual	2021
International Society of Environmental Epidemiology (ISEE), Rome, Italy, <i>Poster</i>	2016
Biometrics Society Spring Meeting (ENAR), Austin, TX	2016
Joint Statistical Meetings (JSM), Boston, MA	2014
Graduate Research Symposium, Raleigh, NC, <i>Poster</i>	2014
International Society for Environmental Epidemiology (ISEE), Basel, Switzerland, <i>Poster</i>	2013
Joint Statistical Meetings (JSM), Montreal, QC, Canada, <i>Topic contributed</i>	2013
Biometrics Society Spring Meeting (ENAR), Orlando, FL	2013
Society of Toxicology's 51th Annual Meeting (SOT), San Francisco, CA, <i>Poster</i>	2012
STATMOS Sponsored Seminar, North Carolina State University, Raleigh, NC	2011
Society of Toxicology's 50th Annual Meeting (SOT), Washington, DC, <i>Poster</i>	2011

Teaching

Colorado State University

2 STAT 192: First-Year Statistics Seminar

STAT 341: Statistical Data Analysis I	F24
STAT 341: Statistical Data Analysis II	F25
STAT 440: Bayesian Data Analysis	S26
STAT 501: Statistical Science	S17, S18, S19, S20, S21, S22, S23, S25
STAT 540: Data Analysis and Regression	F18, F19
STAA 554: Data Visualization Methods	F16, F17, F19
STAA 566: Mixed Models	S22, F22
STAA 562: Mathematical Statistics with Applications	S19
STAA 578: Machine Learning	F24, F25
	S20, S21, S22, S23

Guest Lectures

ERHS 535: R Programming for Research (Instructor: G. B. Anderson) Title: <i>Practical R on Summit High Performance Computing System</i>	F18
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Workshops and Short Courses

<i>Invited Workshop on Critical Windows and Distributed Lag Regression</i> Icahn School of Medicine at Mount Sinai, New York, NY. Full-day workshop. Joint with Brent A Coull, Chris Gennings, and Robert O Wright.	February 2019
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<i>Environmental Mixtures Workshop</i> Columbia Mailman School of Public Health, New York, NY. Two-day workshop.	July 2022, 2023, 2024, 2025
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Joint with Marianthi-Anna Kioumourtzoglou (organizer), Brent A Coull, Chris Gennings, Jeff Goldsmith.

Advising & Mentoring

Graduate Research Advising & Research Mentoring

Tristan Contant, Statistics PhD, in progress (Joint with Yawen Guan)

Wentao Guo, Statistics PhD, in progress

Chamodi Matara Arachchige, Statistics MS, Research Assistant in Summer 2023

Brody Elderson, Statistics PhD, in progress (Joint with Matt Koslovsky)

Mosammat Sonia Khatun, Statistics PhD, in progress

Danielle Demateis, Statistics PhD, 2025 (Joint with Kayleigh Keller)

- Honorable Mention: NSF Graduate Research Fellowship Program (GRFP), 2022

Seongwon Im, Statistics PhD, 2024

Sierra Pugh, Statistics PhD, 2023 (Joint with Bailey Fosdick)

- Next position: Western EcoSystems Technology, Inc. (WEST)

Lauren (Heck) Hoskovec, Statistics PhD, 2022

- Next position: Western EcoSystems Technology, Inc. (WEST)

- Winner: Health Effects Institute (HEI) Travel Award, 2019

- Winner: CSU Statistics, Elmer E. Remmenga Scholarship In Applied Statistics, 2018 and 2019

- Honorably Mention: 2021 JSM ENVR Section Student Paper Awards.

- Global Sustainability Fellow, School of Global Environmental Sustainability, CSU, 2020-2021

Daniel Mork, Statistics PhD, 2021

- Next position: Postdoctoral Fellow at Harvard Biostatistics

- Winner: James R. zumBrunnen Statistical Collaboration Award, 2020

- Winner: CSU Statistics, Boes Excellence in Teaching Award, 2019

- Winner: College of Natural Sciences Outstanding Scholar Award, 2020

- Winner: Health Effects Institute (HEI) Jane Warren Trainee Conference Award, 2021

Emily Williams, Statistics MS 2020 (joint with Zach Weller)

Undergraduate Research Mentoring

Olivia Beck, Statistics, BS 2020 (honors thesis advisor)

- Thesis title: *College safe ride programs: Bayesian analysis of ridership with safe ride home versus anywhere policies*

- Winner: Outstanding poster distinction for undergraduate posters at Joint Math Meetings, 2020

- Winner: CSU Statistic and Colorado-Wyoming Chapter of the ASA, Maurice Davies Award, 2020

- Next position: Statistics PhD student at Pennsylvania State University

Freya (Ziqian) Fu, Statistics & Psychology, BS 2017.

- Next position: Statistics MS student at Duke University.

PhD Committee Member - Colorado State University

John Henry Gray, Statistics, in progress

Chamodi Matara Arachchige, Statistics, in progress

Bowen Li, Electrical Engineering, in progress

Musfiq Nabeen, Statistics, in progress
Kevin Korsurat, Statistics, in progress
Emilio Molina Rueda, Mechanical Engineering, PhD 2025
Maddie Rainey, Statistics, PhD 2025
Tony J. Zbysinski III, Epidemiology, PhD 2025
Nathan Ryder, Statistics, PhD 2023
Ethan Walker, Epidemiology, PhD 2019
Wande Benka-Coker, Epidemiology, PhD 2019
Miranda Fix, Statistics, PhD 2018
Meilin Yan, Epidemiology, PhD 2018
Kristen Fedak, Epidemiology, PhD 2018
Megan Benka-Coker, Epidemiology, PhD 2018

PhD Committee Member - Other Institutions

Sebastian Rowland, Environmental Health Science, Columbia University, PhD 2022

MS Committee Member - Colorado State University

Hieu Nguyen, Statistics, MS 2019

Undergraduate Honors Thesis Committee Member - Colorado State University

Ashley Geraets, Mechanical Engineering, BS 2023

Career Development Award Mentoring

Sheena Martenies, Assistant Professor in Kinesiology and Community Health at the University of Illinois

Examining the joint effects of prenatal exposures to traffic-related air pollutants and social determinants of health on childhood obesity outcomes. NIH/Environmental influences on Child Health Outcomes (ECHO) Opportunities and Infrastructure Fund (OIF).

Christian L'Orange, Research Scientist in Mechanical Engineering, Colorado State University
A Novel Approach of Quantifying Real-Time Aerosol Concentrations from Gravimetric Filter Collection. CDC/NIOSH K01.

Working Group Organization

Creator and organizer of the Environmental Biostatistics Working Group at CSU. This group seeks to build collaboration and community among faculty and students working in biostatistics with application in environmental and public health.

Inclusive Excellence Activities

Trainings and qualifications

Member of Graduate Center for Inclusive Excellence (GCIM) 2024-

Completed GCIM Mentor Well Series of 8 training sessions between spring 2023 and summer 2024.

Completed Faculty Institute for Inclusive Excellence Spring 2024

Service & Professional Membership

Departmental Service, Department of Statistics, Colorado State University

AY16-17	Member, Doctoral Candidacy Examination Committee	Appointed
AY17-18	Member, Doctoral Candidacy Examination Committee	Appointed
AY17-18	Chair, Statistics Seminar Series	Appointed
AY17-18	Member, Assistant Professor (Tenure-Track) Search Committee	Appointed
AY17-18	Chair, Computing Committee	Appointed
AY18-19	Chair, Computing Committee	Appointed
AY18-19	Member, Graduate Admission Committee	Appointed
AY18-19	Member, Assistant Professor (Tenure-Track) Search Committee	Appointed
AY19-20	Chair, Computing Committee	Appointed
AY19-20	Member, Doctoral Candidacy Examination Committee	Appointed
AY19-20	Member, Assistant Professor (Tenure-Track) Search Committee	Appointed
AY20-21	Chair, Computing Committee	Appointed
AY20-21	Member, Masters of Applied Statistics (MAS) Committee	Appointed
AY20-21	Member, Communication Committee	Appointed
AY21-22	Chair, Computing Committee	Appointed
F22	Member, Graduate Program Committee	Appointed
AY22-23	Member, Associate Professor (Tenure-Track) Search Committee	Appointed
AY22-23	Chair, Graduate Admission Committee	Appointed
AY24-25	Member, Department Chair Search Committee	Appointed
AY24-25	Chair, Teaching Assistant Professor (Adjunct) Search Committee	Appointed
AY24-25	Chair, Communication Committee	Appointed
AY24-25	Member, Graduate Program Committee	Appointed
AY24-26	Member, Promotion and Tenure Advisory Committee	Elected

College and University Service, Colorado State University

Member, Faculty Council, Elected	F22-S25
Member, College of Natural Sciences Dean Search Committee, Appointed	F25-S26

Departmental Service, Department of Biostatistics, HSPH

HSPH Environmental Seminar organizer	F14-S16
HSPH NIH/Heatwave Working Group coordinator	F15-S16

Editorial Service

Editorial Review Board, <i>Environmental Health Perspectives</i>	2023-2025
Associate Editor, <i>Biometrics</i>	2022-Present
Associate Editor, <i>Journal of Agricultural, Biological, and Environmental Statistics (JABES)</i>	2020-Present
Referee/Reviewer for a lot of journals a lot of times	2013-Present

Grant Reviewer

High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) Pilot Grants: 2016, 2017, 2018	
Icahn School of Medicine at Mount Sinai NIEHS P30 Pilot Grant: 2019	
Walter A. Rosenblith New Investigator Award, Health Effects Institute: 2020, 2021 ($\times 2$)	
US EPA Science To Achieve Results (STAR) Research Program: 2022, 2024	
NIH Analytics and Statistics for Population Research Panel B (ASPB): 2025	

Conference Organization

IMS New Researchers Conference (NRC), co-organizer, Fort Collins, CO 2019

Conference Session Organization

Innovative Methods for Identifying Perinatal Critical Windows with Mixtures 2021

International Society for Environmental Epidemiology (ISEE) Symposium

Methods for multivariate response data with complex exposure-response relations 2025

JSM Topic-Contributed Session

Professional Society Service

Publications Chair, ASA Section on Statistics and the Environment 2025

Invited Panelist, National Institute of Statistical Sciences (NISS) Writing Workshop for
Junior Researchers (Grant Writing) 2025

Professional Society Membership

Member: ASA, ENAR (2012-2024), WNAR (2024-present), ISEE

Last updated: September 5, 2025