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Education

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| 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

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| 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

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| 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**, Kioumourtoglou, 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, Kioumourtoglou, 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, Kioumourtoglou, 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/EE9.0000000000000249.
- [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, Burket, 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, Lessor, 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, Burket, 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, Kioumourtoglou, 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, Osorto, 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.
- [46] Burkhardt, J, Bayham, J, **Wilson, A**, Berman, JD, O'Dell, K, Ford, B, Fischer, EV, Pierce, JR, "The relationship between monthly air pollution and violent crime across the United States". *Journal of Environmental Economics and Policy* 9.2 (Apr. 2020), pp. 188–205. doi: 10.1080/21606544.2019.1630014.
- [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.

- [50] Martenies, SE, Schaeffer, J, Erlandson, G, Bradford, M, Poole, JA, **Wilson, A**, Weller, Z, Reynolds, S, Magzamen, S, “Associations Between Bioaerosol Exposures and Lung Function Changes Among Dairy Workers in Colorado”. *Journal of Occupational & Environmental Medicine* 26 (6 Mar. 2020), pp. 424–430. doi: 10.1097/JOM.0000000000001856.
- [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.
- [52] Walker, ES, Fedak, KM, Good, N, Balmes, J, Brook, RD, Clark, ML, Cole-Hunter, T, Dinunno, F, Devlin, RB, L’Orange, C, Luckasen, G, Mehaffy, J, Shelton, R, **Wilson, A**, Volckens, J, Peel, JL, “Acute differences in pulse wave velocity, augmentation index, and central pulse pressure following controlled exposures to cookstove air pollution in the Subclinical Tests of Volunteers Exposed to Smoke (SToVES) study”. *Environmental Research* 180 (Jan. 2020), p. 108831. doi: 10.1016/j.envres.2019.108831.
- [53] **Wilson, A**, Tryner, J, L’Orange, C, Volckens, J, “Bayesian nonparametric monotone regression”. *Environmetrics* 31.8 (Dec. 2020), pp. 1–35. doi: 10.1002/env.2642. arXiv: 2006.00326.
- [54] Yan, M, **Wilson, A**, Peel, JL, Magzamen, S, Sun, Q, Li, T, Anderson, GB, “Community-wide Mortality Rates in Beijing, China, During the July 2012 Flood Compared with Unexposed Periods”. *Epidemiology* 31.3 (May 2020), pp. 319–326. doi: 10.1097/EDE.0000000000001182.
- [55] Barrow, TM, Peng, C, **Wilson, A**, Wang, H, Liu, H, Shen, L, Tang, Nj, Sae-Lee, C, Li, Ph, Guo, L, Byun, HM, “Psychosocial stress is associated with benign breast disease in young Chinese women: results from Project ELEFANT”. *Breast Cancer Research and Treatment* 173.1 (Jan. 2019), pp. 217–224. doi: 10.1007/s10549-018-4979-4.
- [56] Berman, JD, Burkhardt, J, Bayham, J, Carter, E, **Wilson, A**, “Acute Air Pollution Exposure and the Risk of Violent Behavior in the United States”. *Epidemiology* 30.6 (Nov. 2019), pp. 799–806. doi: 10.1097/EDE.0000000000001085.
★ International Society of Environmental Epidemiology, Best Environmental Epidemiology Paper (BEEP) Award, 2020.
- [57] Bilsback, KR, Dahlke, J, Fedak, KM, Good, N, Hecobian, A, Herckes, P, L’Orange, C, Mehaffy, J, Sullivan, A, Tryner, J, Van Zyl, L, Walker, ES, Zhou, Y, Pierce, JR, **Wilson, A**, Peel, JL, Volckens, J, “A Laboratory Assessment of 120 Air Pollutant Emissions from Biomass and Fossil Fuel Cookstoves”. *Environmental Science & Technology* 53.12 (June 2019), pp. 7114–7125. doi: 10.1021/acs.est.8b07019.
- [58] Bose, S, Ross, KR, Rosa, MJ, Chiu, YHM, Just, A, Kloog, I, **Wilson, A**, Thompson, J, Svensson, K, Rojo, MMT, Schnaas, L, Osorio-Valencia, E, Oken, E, Wright, RO, Wright, RJ, “Prenatal particulate air pollution exposure and sleep disruption in preschoolers: Windows of susceptibility”. *Environment International* 124 (Mar. 2019), pp. 329–335. doi: 10.1016/j.envint.2019.01.012.
- [59] Burkhardt, J, Bayham, J, **Wilson, A**, Carter, E, Berman, JD, O’Dell, K, Ford, B, Fischer, EV, Pierce, JR, “The effect of pollution on crime: Evidence from data on particulate matter and ozone”. *Journal of Environmental Economics and Management* 98 (Nov. 2019), p. 102267. doi: 10.1016/j.jeem.2019.102267.

- [60] 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 Effects on Blood Pressure Following Controlled Exposure to Cookstove Air Pollution in the STOVES Study". *Journal of the American Heart Association* 8.14 (July 2019). doi: 10.1161/JAHA.119.012246.
- [61] Good, N, Carpenter, T, Anderson, GB, **Wilson, A**, Peel, JL, Browning, RC, Volckens, J, "Development and validation of models to predict personal ventilation rate for air pollution research". *Journal of Exposure Science & Environmental Epidemiology* 29.4 (July 2019), pp. 568–577. doi: 10.1038/s41370-018-0067-4.
- [62] Kioumourtzoglou, MA, Raz, R, **Wilson, A**, Fluss, R, Nirel, R, Broday, DM, Yuval, Hacker, MR, McElrath, TF, Grotto, I, Koutrakis, P, Weisskopf, MG, "Traffic-related Air Pollution and Pregnancy Loss". *Epidemiology* 30.1 (Jan. 2019), pp. 4–10. doi: 10.1097/EDE.0000000000000918.
- [63] Koehler, K, Good, N, **Wilson, A**, Mölter, A, Moore, BF, Carpenter, T, Peel, JL, Volckens, J, "The Fort Collins commuter study: Variability in personal exposure to air pollutants by microenvironment". *Indoor Air* 29.2 (Mar. 2019), pp. 231–241. doi: 10.1111/ina.12533.
- [64] Rosa, MJ, Hsu, HHL, Just, AC, Brennan, KJ, Bloomquist, T, Kloog, I, Pantic, I, Mercado García, A, **Wilson, A**, Coull, BA, Wright, RO, Téllez Rojo, MM, Baccarelli, AA, Wright, RJ, "Association between prenatal particulate air pollution exposure and telomere length in cord blood: Effect modification by fetal sex". *Environmental Research* 172 (May 2019), pp. 495–501. doi: 10.1016/j.envres.2019.03.003.
- [65] Sanchez-Guerra, M, Peng, C, Trevisi, L, Cardenas, A, **Wilson, A**, Osorio-Yáñez, C, Niedzwiecki, MM, Zhong, J, Svensson, K, Acevedo, MT, Solano-Gonzalez, M, Amarasiriwardena, CJ, Estrada-Gutierrez, G, Brennan, KJ, Schnaas, L, Just, AC, Laue, HE, Wright, RJ, Téllez-Rojo, MM, Wright, RO, Baccarelli, AA, "Altered cord blood mitochondrial DNA content and pregnancy lead exposure in the PROGRESS cohort". *Environment International* 125.June 2018 (Apr. 2019), pp. 437–444. doi: 10.1016/j.envint.2019.01.077.
- [66] Tryner, J, Good, N, **Wilson, A**, Clark, ML, Peel, JL, Volckens, J, "Variation in gravimetric correction factors for nephelometer-derived estimates of personal exposure to PM_{2.5}". *Environmental Pollution* 250 (July 2019), pp. 251–261. doi: 10.1016/j.envpol.2019.03.121.
- [67] Yan, M, **Wilson, A**, Bell, ML, Peng, RD, Sun, Q, Pu, W, Yin, X, Li, T, Anderson, GB, "The Shape of the Concentration-Response Association between Fine Particulate Matter Pollution and Human Mortality in Beijing, China, and Its Implications for Health Impact Assessment". *Environmental Health Perspectives* 127.6 (June 2019), p. 067007. doi: 10.1289/EHP4464.
★ Health Effects Institute student/postdoc travel award winner, 2018.
- [68] Benka-Coker, M, Clark, M, Rajkumar, S, Young, B, Bachand, A, Balmes, J, Brook, R, Nelson, T, Volckens, J, Reynolds, S, **Wilson, A**, L'Orange, C, Good, N, Quinn, C, Koehler, K, Africano, S, Osorto Pinel, A, Peel, J, "Exposure to Household Air Pollution from Biomass Cookstoves and Levels of Fractional Exhaled Nitric Oxide (FeNO) among Honduran Women". *International Journal of Environmental Research and Public Health* 15.11 (Nov. 2018), p. 2544. doi: 10.3390/ijerph15112544.

- [69] Bilsback, KR, Eilenberg, SR, Good, N, *Heck, L, Johnson, M, Kodros, JK, Lipsky, EM, L'Orange, C, Pierce, JR, Robinson, AL, Subramanian, R, Tryner, J, **Wilson, A**, Volckens, J, "The Firepower Sweep Test: A novel approach to cookstove laboratory testing". *Indoor Air* 28.6 (Nov. 2018), pp. 936–949. doi: 10.1111/ina.12497.
- [70] Bose, S, Rosa, MJ, Mathilda Chiu, YH, Leon Hsu, HH, Di, Q, Lee, A, Kloog, I, **Wilson, A**, Schwartz, J, Wright, RO, Morgan, WJ, Coull, BA, Wright, RJ, "Prenatal nitrate air pollution exposure and reduced child lung function: Timing and fetal sex effects". *Environmental Research* 167.August (Nov. 2018), pp. 591–597. doi: 10.1016/j.envres.2018.08.019.
- [71] Brunst, KJ, Sanchez-Guerra, M, Chiu, YHM, **Wilson, A**, Coull, BA, Kloog, I, Schwartz, J, Brennan, KJ, Bosquet Enlow, M, Wright, RO, Baccarelli, AA, Wright, RJ, "Prenatal particulate matter exposure and mitochondrial dysfunction at the maternal-fetal interface: Effect modification by maternal lifetime trauma and child sex". *Environment International* 112.March 2018 (Mar. 2018), pp. 49–58. doi: 10.1016/j.envint.2017.12.020.
- [72] Guo, L, Peng, C, Xu, H, **Wilson, A**, Li, Ph, Wang, H, Liu, H, Shen, L, Chen, X, Qi, X, Tang, Nj, Barrow, TM, Byun, HM, "Age at menarche and prevention of hypertension through lifestyle in young Chinese adult women: result from project ELEFANT". *BMC Women's Health* 18.1 (Dec. 2018), p. 182. doi: 10.1186/s12905-018-0677-y.
- [73] Lee, A, Leon Hsu, HH, Mathilda Chiu, YH, Bose, S, Rosa, MJ, Kloog, I, **Wilson, A**, Schwartz, J, Cohen, S, Coull, BA, Wright, RO, Wright, RJ, "Prenatal fine particulate exposure and early childhood asthma: Effect of maternal stress and fetal sex". *Journal of Allergy and Clinical Immunology* 141.5 (May 2018), pp. 1880–1886. doi: 10.1016/j.jaci.2017.07.017.
- [74] Lee, AG, Le Grand, B, Hsu, HHL, Chiu, YHM, Brennan, KJ, Bose, S, Rosa, MJ, Brunst, KJ, Kloog, I, **Wilson, A**, Schwartz, J, Morgan, W, Coull, BA, Wright, RO, Baccarelli, AA, Wright, RJ, "Prenatal fine particulate exposure associated with reduced childhood lung function and nasal epithelia GSTP1 hypermethylation: Sex-specific effects". *Respiratory Research* 19.1 (Dec. 2018), p. 76. doi: 10.1186/s12931-018-0774-3.
- [75] **Wilson, A**, Zigler, CM, Patel, CJ, Dominici, F, "Model-averaged confounder adjustment for estimating multivariate exposure effects with linear regression". *Biometrics* 74.3 (Sept. 2018), pp. 1034–1044. doi: 10.1111/biom.12860.
- [76] Wu, S, Gennings, C, Wright, RJ, **Wilson, A**, Burris, HH, Just, AC, Braun, JM, Svensson, K, Zhong, J, Brennan, KJ, Dereix, A, Cantoral, A, Schnaas, L, Téllez-Rojo, MM, Wright, RO, Baccarelli, AA, "Prenatal Stress, Methylation in Inflammation-Related Genes, and Adiposity Measures in Early Childhood: the Programming Research in Obesity, Growth Environment and Social Stress Cohort Study". *Psychosomatic Medicine* 80.1 (Jan. 2018), pp. 34–41. doi: 10.1097/PSY.0000000000000517.
- [77] Bose, S, Chiu, YHM, Hsu, HHL, Di, Q, Rosa, MJ, Lee, A, Kloog, I, **Wilson, A**, Schwartz, J, Wright, RO, Cohen, S, Coull, BA, Wright, RJ, "Prenatal Nitrate Exposure and Childhood Asthma. Influence of Maternal Prenatal Stress and Fetal Sex". *American Journal of Respiratory and Critical Care Medicine* 196.11 (Dec. 2017), pp. 1396–1403. doi: 10.1164/rccm.201702-0421OC.

- [78] Chiu, YHM, Hsu, HHL, **Wilson, A**, Coull, BA, Pendo, MP, Baccarelli, A, Kloog, I, Schwartz, J, Wright, RO, Taveras, EM, Wright, RJ, “Prenatal particulate air pollution exposure and body composition in urban preschool children: Examining sensitive windows and sex-specific associations”. *Environmental Research* 158.March (Oct. 2017), pp. 798–805. doi: 10.1016/j.envres.2017.07.026.
- [79] Colicino, E, **Wilson, A**, Frisardi, MC, Prada, D, Power, MC, Hoxha, M, Dioni, L, Spiro, A, Vokonas, PS, Weisskopf, MG, Schwartz, JD, Baccarelli, AA, “Telomere Length, Long-Term Black Carbon Exposure, and Cognitive Function in a Cohort of Older Men: The VA Normative Aging Study”. *Environmental Health Perspectives* 125.1 (Jan. 2017), pp. 76–81. doi: 10.1289/EHP241.
- [80] Liu, JC, **Wilson, A**, Mickley, LJ, Dominici, F, Ebisu, K, Wang, Y, Sulprizio, MP, Peng, RD, Yue, X, Son, JY, Anderson, GB, Bell, ML, “Wildfire-specific Fine Particulate Matter and Risk of Hospital Admissions in Urban and Rural Counties”. *Epidemiology* 28.1 (Jan. 2017), pp. 77–85. doi: 10.1097/EDE.0000000000000556.
- [81] Liu, JC, **Wilson, A**, Mickley, LJ, Ebisu, K, Sulprizio, MP, Wang, Y, Peng, RD, Yue, X, Dominici, F, Bell, ML, “Who Among the Elderly Is Most Vulnerable to Exposure to and Health Risks of Fine Particulate Matter From Wildfire Smoke?”. *American Journal of Epidemiology* 186.6 (Sept. 2017), pp. 730–735. doi: 10.1093/aje/kwx141.
- [82] Peng, C, Cayir, A, Sanchez-Guerra, M, Di, Q, **Wilson, A**, Zhong, J, Kosheleva, A, Trevisi, L, Colicino, E, Brennan, K, Dereix, AE, Dai, L, Coull, BA, Vokonas, P, Schwartz, J, Baccarelli, AA, “Associations of Annual Ambient Fine Particulate Matter Mass and Components with Mitochondrial DNA Abundance”. *Epidemiology* 28.6 (Nov. 2017), pp. 763–770. doi: 10.1097/EDE.0000000000000717.
- [83] Peng, C, Sanchez-Guerra, M, **Wilson, A**, Mehta, AJ, Zhong, J, Zanobetti, A, Brennan, K, Dereix, AE, Coull, BA, Vokonas, P, Schwartz, J, Baccarelli, AA, “Short-term effects of air temperature and mitochondrial DNA lesions within an older population”. *Environment International* 103 (June 2017), pp. 23–29. doi: 10.1016/j.envint.2017.03.017.
- [84] **Wilson, A**, Chiu, YHM, Hsu, HHL, Wright, RO, Wright, RJ, Coull, BA, “Potential for Bias When Estimating Critical Windows for Air Pollution in Children’s Health”. *American Journal of Epidemiology* 186.11 (Dec. 2017), pp. 1281–1289. doi: 10.1093/aje/kwx184.
- [85] **Wilson, A**, Chiu, YHM, Hsu, HHL, Wright, RO, Wright, RJ, Coull, BA, “Bayesian distributed lag interaction models to identify perinatal windows of vulnerability in children’s health”. *Biostatistics* 18.3 (July 2017), pp. 537–552. doi: 10.1093/biostatistics/kxx002. arXiv: 1612.05800.
- [86] **Wilson, A**, Reich, BJ, Nolte, CG, Spero, TL, Hubbell, B, Rappold, AG, “Climate change impacts on projections of excess mortality at 2030 using spatially varying ozone-temperature risk surfaces”. *Journal of Exposure Science & Environmental Epidemiology* 27.1 (Jan. 2017), pp. 118–124. doi: 10.1038/jes.2016.14.
- [87] Zhong, J, Trevisi, L, Urch, B, Lin, X, Speck, M, Coull, BA, Liss, G, Thompson, A, Wu, S, **Wilson, A**, Koutrakis, P, Silverman, F, Gold, DR, Baccarelli, AA, “B-vitamin Supplementation Mitigates Effects of Fine Particles on Cardiac Autonomic Dysfunction and Inflammation: A Pilot Human Intervention Trial”. *Scientific Reports* 7.1 (May 2017), p. 45322. doi: 10.1038/srep45322.

- [88] **Wilson, A**, Rappold, AG, Neas, LM, Reich, BJ, “Modeling the effect of temperature on ozone-related mortality”. *The Annals of Applied Statistics* 8.3 (Sept. 2014), pp. 1728–1749. doi: 10.1214/14-A0AS754. arXiv: 1412.1642.
- [89] **Wilson, A**, Reich, BJ, “Confounder selection via penalized credible regions”. *Biometrics* 70.4 (Dec. 2014), pp. 852–861. doi: 10.1111/biom.12203.
- [90] **Wilson, A**, Reif, DM, Reich, BJ, “Hierarchical dose-response modeling for high-throughput toxicity screening of environmental chemicals.” *Biometrics* 70.1 (Mar. 2014), pp. 237–46. doi: 10.1111/biom.12114.
- [91] Briefel, RR, **Wilson, A**, Cabili, C, Hedley Dodd, A, “Reducing calories and added sugars by improving children’s beverage choices.” *Journal of the Academy of Nutrition and Dietetics* 113.2 (Feb. 2013), pp. 269–275. doi: 10.1016/j.jand.2012.10.016.
- [92] Dodd, AH, Briefel, R, Cabili, C, **Wilson, A**, Crepinsek, MK, “Disparities in Consumption of Sugar-Sweetened and Other Beverages by Race/Ethnicity and Obesity Status among United States Schoolchildren”. *Journal of Nutrition Education and Behavior* 45.3 (May 2013), pp. 240–249. doi: 10.1016/j.jneb.2012.11.005.
- [93] Reif, DM, Sypa, M, Lock, EF, Wright, FA, **Wilson, A**, Cathey, T, Judson, RR, Rusyn, I, “ToxPi GUI: an interactive visualization tool for transparent integration of data from diverse sources of evidence”. *Bioinformatics* 29.3 (Feb. 2013), pp. 402–403. doi: 10.1093/bioinformatics/bts686.
- [94] O’Neil, SS, Lake, T, Merrill, A, **Wilson, A**, Mann, DA, Bartnyska, LM, “Racial Disparities in Hospitalizations for Ambulatory Care-Sensitive Conditions”. *American Journal of Preventive Medicine* 38.4 (Apr. 2010), pp. 381–388. doi: 10.1016/j.amepre.2009.12.026.
- [95] Briefel, RR, Crepinsek, MK, Cabili, C, **Wilson, A**, Gleason, PM, “School food environments and practices affect dietary behaviors of US public school children.” *Journal of the American Dietetic Association* 109.2 Suppl (Feb. 2009), S91–107. doi: 10.1016/j.jada.2008.10.059.
- [96] Briefel, RR, **Wilson, A**, Gleason, PM, “Consumption of low-nutrient, energy-dense foods and beverages at school, home, and other locations among school lunch participants and nonparticipants.” *Journal of the American Dietetic Association* 109.2 Suppl (Feb. 2009), S79–90. doi: 10.1016/j.jada.2008.10.064.
- [97] Crepinsek, MK, Gordon, AR, McKinney, PM, Condon, EM, **Wilson, A**, “Meals offered and served in US public schools: do they meet nutrient standards?” *Journal of the American Dietetic Association* 109.2 Suppl (Feb. 2009), S31–43. doi: 10.1016/j.jada.2008.10.061.
- [98] Fox, MK, Dodd, AH, **Wilson, A**, Gleason, PM, “Association between school food environment and practices and body mass index of US public school children.” *Journal of the American Dietetic Association* 109.2 Suppl (2009), S108–17. doi: 10.1016/j.jada.2008.10.065.
- [99] Fox, MK, Gordon, AR, Nogales, R, **Wilson, A**, “Availability and consumption of competitive foods in US public schools.” *Journal of the American Dietetic Association* 109.2 Suppl (Feb. 2009), S57–66. doi: 10.1016/j.jada.2008.10.063.

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**, *dlimtree: Bayesian Treed Distributed Lag Models*. R package version 1.1.0. 2025.
- [2] *Demateis, D, Keller, K, **Wilson, A**, *dlim: Distributed Lag Interaction Model*. R package version 0.1.0. 2024.
- [3] **Wilson, A**. *bdlim: 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

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|---|-------------------------|
| 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 Abrupton (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 | |
| <i>Completed Funding</i> | |
| 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 Pundation (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, <i>Poster</i> | 2015 |
| Public Health Foundation of India, New Delhi, India | 2015 |
| Biometrics Society Spring Meeting (ENAR), Baltimore, MD | 2014 |

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| 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 |
| <i>Contributed</i> | |
| 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

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

Guest Lectures

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

Workshops and Short Courses

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

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), 2022Seongwon 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, 2020-2021Daniel 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, 2021Emily 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 UniversityFreya (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

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

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| 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

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

Departmental Service, Department of Biostatistics, HSPH

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

Editorial Service

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| 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

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| 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 (×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 2025

Junior Researchers (Grant Writing)

Professional Society Membership

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

Last updated: September 5, 2025