

MELISSA A. FURLONG, PHD

Curriculum Vitae

Community, Environment and Policy
Mel and Enid Zuckerman College of Public Health
University of Arizona
PO Box 245210
Tucson, AZ 85724
mfurlong@email.arizona.edu

EDUCATION

- 2012- 2016 Doctor of Philosophy (Epidemiology)
University of North Carolina at Chapel Hill, Chapel Hill, NC
Advisor: Stephanie Engel, PhD
- 2008- 2010 Master of Public Policy
Duke University, Durham, NC
- 2003- 2007 Bachelor of Science (Psychology with a Concentration in Neuroscience)
Duke University, Durham, NC

ACADEMIC POSITIONS

- Sep 2020- Assistant Professor of Environmental Health Sciences
Department of Community, Environment, and Policy
Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ
- 2016-2020 Postdoctoral Fellow, Environmental Health Sciences
Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ
Advisor: Paloma Beamer, PhD
External Co-Advisor: Beate Ritz, MD, PhD, University of California at Los Angeles

EMPLOYMENT

- 2013-2016 National Institute of Environmental Health Sciences Ruth L. Kirschstein Training Grant
Trainee
- 2013-2016 Special Volunteer, National Institute of Environmental Health Sciences (NIEHS)
- 2011-2012 Research Assistant, University of North Carolina Sensory Experiences Project
- 2010-2011 Associate in Research, Duke University Program on Global Health and Technology Access
- 2007-2008 Paralegal, Legal Aid of NC, Farmworker's Unit and Battered Immigrant Project
- 2006-2007 Research Assistant, Duke University Department of Neurobiology

HONORS AND AWARDS

- 2020** Finalist, University of Arizona Outstanding Postdoctoral Scholar Award
- 2019** University of Arizona College of Pharmacy PostDoc Data Blitz, Second Place
- 2018-2023** NIEHS Pathway to Independence Award (K99/R00)
- 2012-2013** University of North Carolina Graduate School: Merit Fellowship

2007	Duke University: Howard Hughes Seminar and Award for Undergraduate Research
2006	Duke University: Dean's Summer Undergraduate Research Fellowship
2005	National Science Foundation: Research Experience for Undergraduates at CMU

PUBLICATIONS

PUBLISHED

*indicates student mentee

1. Paul KC, Kusters C, **Furlong M**, Zhang K, Yu Y, Folle AD, Del Rosario I, Keener A, Bronstein J, Sinsheimer JS, Horvath S, Ritz B. Immune System Disruptions implicated in whole blood epigenome-wide association study of depression among Parkinson's disease patients. *Brain, Behavior, & Immunity-Health*. 2022 Oct 3, 100530
2. *Parra KL, Alexander GE, Raichlen DA, Klimentidis YC, **Furlong MA**. Exposure to air pollution and risk of incident dementia in the UK Biobank. *Environmental Research*, 209, June 2022
3. Goodrich JM, Jung AM, **Furlong MA**, Beitel S, Littau S, Gulotta J, Wallentine D, Burgess JL. Repeat measures of DNA methylation in an inception cohort of firefighters. *Occupational and Environmental Medicine*, March 24 2022 79(10) 2022;0:1–8. doi:10.1136/oemed-2021-108153
4. Raichlen D, **Furlong M**, Klimentidis Y, Sayre K, Parra K, Bharadwaj P, Wilcox R, Alexander G. Association of Physical Activity with Incidence of Dementia is Attenuated by Air Pollution. *Medicine & Science in Sports & Exercise*, Feb 08 2022 54(7):1131-1138
5. Chen GK, Yan Q, Paul KC, Kusters CD, Folle AD, **Furlong MA**, Keener A, Bronstein J, Horvath S, Ritz B. Stochastic epigenetic mutations influence Parkinson's Disease Risk, Progression, and Mortality. *Journal of Parkinson's Disease*. February 15 2022 12(2) pp545-556
6. **Furlong MA**, Alexander G, Klimentidis Y, Raichlen D. Association of Air Pollution and Physical Activity With Brain Volumes. *Neurology*. Jan 25 2022 98(4)
7. Yan Q, Paul K, Walker D, **Furlong M**, Del Rosario I, Yu Y, Zhang K, Cockburn M, Jones D, Ritz B. High-resolution metabolomic assessment of pesticide exposure in Central Valley, California. *Chemical Research in Toxicology*. 2021, 34, 5, 1337-1347
8. Goodrich JM, **Furlong MA**, Caban-Martinez AJ, Jung AM, Batai K, Jenkins T, Beitel S, Littau S, Gulotta J, Wallentine D, Hughes J, Popp C, Calkins MM, Burgess JL. Differential DNA Methylation by Hispanic Ethnicity among Firefighters in the United States. *Epigenetics Insights*. Vol 14, March 2021 <https://doi.org/10.1177/25168657211006159>
9. Vega-Millan C, Devora-Figueroa AD, Burgess J, Beamer P, **Furlong M**, Lantz RC, Meza-Figueroa D, O'Rourke MK, Garcia-Rico L, Meza-Escalante E, de J. Balderas-Cortes, Meza-Montenegro M. Inflammation biomarkers associated with arsenic exposure in drinking water and respiratory outcomes in indigenous children in three Yaqui villages from Sonora, México. *Environmental Science and Pollution Research*, 28, 34355-34366 (2021)
10. **Furlong MA**, Paul K, Yan Q, Cockburn M, Bronstein J, Ritz B. Ambient pyrethroid pesticide exposure in California's Central Valley and Depression In Adult Life. *Environmental Epidemiology* Dec 2020 Vol 4 (6) p e123 doi: 10.1097/EE9.000000000000123
11. **Furlong MA**, Paul KC, Yan Qi, Chuang YH, Cockburn MG, Bronstein JM, Horvath S, Ritz B. An Epigenome-Wide Association Study of Ambient Pyrethroid Pesticide Exposures in California's Central Valley. *International Journal of Hygiene and Environmental Health*. Volume 229, August 2020, 113569.
12. **Furlong MA**, Klimentidis YC. Associations of Air Pollution With Obesity and Body Fat Percentage, and Modification By Polygenic Risk Score for BMI in the UK Biobank. *Environmental Research*. 185(2020)

109364. June 2020.
13. Garcia-Rico L, Meza-Figueroa D, Beamer P, Burgess J, O'Rourke M, Lantz C, **Furlong M**, Martinez-Cinco M, Mondaca-Fernandez I, Balderas-Cortes J, Meza-Montenegro M. Serum Matrix Metalloproteinase-9 in Children Exposed to Arsenic from Playground Dust at Elementary Schools in Hermosillo, Sonora, Mexico. *Environmental Geochemistry and Health*. 42, 499-511 (2020).
 14. López-Gálvez N, Wagoner R, Ornelas-Van Horne Y, **Furlong M**, Avila E, Quirós-Alcalá L, Beamer P. Systematic Literature Review of the Take-Home Route of Pesticide Exposure via Biomonitoring and Environmental Monitoring. *International Journal of Environmental Research and Public Health*, 16(12), 2177, 2019
 15. **Furlong M**, Deming-Halverson S, Sandler DP. Chronic antibiotic use during adulthood and weight change in the Sister Study. *PLoS ONE* 14(5): e0216959. 2019.
<https://doi.org/10.1371/journal.pone.0216959>
 16. Beamer P, **Furlong M**, Lothrop N, Guerra S, Billheimer D, Stern D, Zhai J, Halonen M, Wright A, Martinez F. CC16 Levels Into Adult Life Are Associated With Nitrogen Dioxide Exposure at Birth. *American Journal of Respiratory and Critical Care Medicine (AJRCCM)*. 2019 Feb 21. doi: 10.1164/rccm.201808-1488OC
 17. López-Gálvez N, Wagoner R, Ornelas-Van Horne Y, **Furlong M**, Avila E, Quirós-Alcalá L, Beamer P. Systematic Review of Take-Home Route of Pesticide Exposure. *Reference Module in Earth Systems and Environmental Sciences*, 27 Feb 2018
 18. **Furlong M**, Herring A, Daniels J, Engel L, Goldman B, Wolff M, Engel S. Early Life Characteristics and Neurodevelopmental Phenotypes in the Mount Sinai Children's Environmental Health Center. *Child Psychiatry and Human Development*, 2017 Nov 24. doi: 10.1007/s10578-017-0773-5. [Epub ahead of print]
 19. **Furlong M**, Engel S, Barr D, Wolff M. Prenatal Pyrethroid Exposures and Associations with Behavior and Executive Functioning in Childhood. *Neurotoxicology*, September 2017 vol 62 pp 231-238
<https://doi.org/10.1016/j.neuro.2017.08.005>
 20. **Furlong M**, Engel S, Buckley J, Daniels J, Engel L, Goldman B, Barr D, Wolff M, Herring A. Prenatal Exposure to Organophosphorus Pesticides and Childhood Neurodevelopmental Phenotypes. *Environmental Research*, October 2017 vol 158 pp 737-747.
<https://doi.org/10.1016/j.envres.2017.07.023>
 21. Ausderau K, Sideris J, Little L, **Furlong M**, Bulluck J, Baranek G. Sensory Subtypes and Associated Outcomes in Children with Autism Spectrum Disorders. *Autism Research*, 2016.
doi:10.1002/aur.1626
 22. **Furlong M**, Tanner C, Goldman S, Bhudhikanok G, Blair A, Chade A, Korell M, Hoppin J, Kasten M, Langston J, Marras C, Meng C, Richards M, Ross G, Umbach D, Sandler D, Kamel F. Using Personal Protective Equipment Modifies the Association Between Pesticides and Parkinson's Disease. *Environment International*, 2015 vol 75 pp 144-150.
 23. **Furlong M**, Engel S, Barr D, Wolff M. Prenatal Exposure to Organophosphate Pesticides and Reciprocal Social Behavior in Childhood. *Environment International*, 2014 vol 70 pp 125-131.
 24. Ausderau K, **Furlong M**, Sideris J, Bulluck J, Little L, Watson L, Boyd B, Belger A, Dickie V, Baranek, G. Sensory Subtypes in Children With Autism Spectrum Disorder: Latent Profile Transition Analysis Using a National Survey of Sensory Features. *Journal of Child Psychology and Psychiatry*, 2014 vol 55 (8) pp 935-944.
 25. Ausderau K, Sideris J, **Furlong M**, Bulluck J, Baranek G. National Survey of Sensory Features of Children With ASD: Factor Structure of the Sensory Experience Questionnaire (3.0). *Journal of Autism and Developmental Disorders*, 2014 44(4) pp 915-925.
 26. Watson K, Ghodasra J, **Furlong M**, Platt, M. Visual Preferences for Sex and Status in Female Rhesus Macaques. *Animal Cognition*, 2012 Vol 15(3) pp 401-407.

27. So A, **Furlong M**, Heddini A. Globalization and Antibiotic Resistance. *British Medical Journal*, September 2010. Vol 341 pp 615-616.

RESEARCH FUNDING

ACTIVE

09/01/2020-08/31/2023 NIH (NIEHS) **R00ES028743 (PI: Furlong)** \$746,964
Prenatal Exposure to Pesticide Mixtures and Childhood ADHD. The overall goals of this proposal are to build an atmospheric dispersion model of pesticide applications in the state of Arizona, identify ADHD cases in Medicaid claims data using a validated algorithm, and estimate the associations between prenatal exposure to mixtures of pesticides and childhood ADHD using Bayesian Kernel Machine Regression.

Role: Principal Investigator (62% effort)

09/2022-09/2025 Federal Emergency Management Agency (FEMA) \$1,500,000
 (PI: Burgess)

Women Fire Fighters Study: Evaluation of Exposures and Toxicity To evaluate exposures associated with adverse reproductive outcomes and increased bladder cancer in women firefighters, and plan effective interventions to mitigate these conditions.

Role: Co-Investigator (10% Effort)

09/01/2020-08/31/2023 NIH (NIEHS) P30ES006694-25 (PI: Cherrington) \$7,676,000

Southwest Environmental Health Sciences Center The mission of SWEHSC is to understand the mechanisms behind the modulation of human disease risk by environmental factors. The Cellular Imaging Facility Core provides members of the Southwest Environmental Health Sciences Center (SWEHSC) with cutting-edge and routine capabilities for the visualization, quantitation, and interpretation of structural and in situ molecular alterations in tissues and cells following exposure to toxicants with the goal of advancing current knowledge in environmental health research.

Role: Co-Director of Research Focus Group 1 (3% effort)

07/01/2021-03/30/2023 **P30 Pilot (Southwest Environmental Health Sciences Center)**

(PI: Furlong) \$50,000

An Outcome-Wide Environmental Epidemiology Approach To Synthesize Big Data. The goal of this project is to use targeted and untargeted metabolomic approaches to identify a wide variety of chronic health effects of pesticide exposures during pregnancy

Role: Principal Investigator

PENDING

09/01/2023-08/30/2028 NIH **R01ES034728 (PI: Furlong)** \$3,740,866

High Throughput Phenome-Wide Applications for Epidemiology of Pesticides and Children's Health.

The overall goals of this proposal are to perform a phenome-wide association study of pre-conception and prenatal exposures to pesticides with childhood health in Arizona.

Role: Principal Investigator (30% Effort)

01/01/2023-12/31/2025 Arizona Board of Regents (ABOR) PI: Burgess \$4,000,000
Interventions to Reduce Firefighter Cancer and Cardiovascular Risks. This proposal seeks to evaluate whether plasmapheresis is an effective intervention to reduce PFAS levels in firefighters, and to evaluate the impact of plasmapheresis and other interventions on biomarkers of longevity (epigenetic age, metabolic age, cardiovascular risk factors).
 Role: Co Investigator (20% Effort)

04/2023-03/2028 NIH (NIEHS) P30ES006694-26 (PI: Cherrington) \$7,675,000
Southwest Environmental Health Sciences Center The mission of the SWEHSC is to facilitate the application of the NIEHS Strategic Plan in the unique environment of the desert southwest, to the unique populations who live there. The SWEHSC has been a driving force behind the advancement of environmental research related to arid environments through the organization of three main research themes: 1) Environmental Exposures in Underserved Southwest Populations, 2) Environmental Lung Disease, and 3) Adaptive Responses to Environmental Stresses
 Role: Co-Director of Research Focus Group 1 (3% effort)

12/2022 – 11/2027 NIH **R01ES034730** (MPI: Burgess / Goodrich) \$3,792,325
 Title: Identification of toxic effects of PFAS exposure: A multi-omic study of firefighters
 Major Goals: These data will be used to: 1) evaluate the associations between baseline PFAS and repeat measures of epigenetic age and locus-specific DNA methylation; 2) identify functional omics biomarkers of toxicity at baseline (miRNA) and follow-up (miRNA, proteins) that are associated with repeat measures of PFAS concentrations; and 3) develop an omics signature of PFAS exposure and toxicity by integrating data across omics platforms. We hypothesize that higher serum concentrations of PFAS will be associated with accelerated epigenetic aging and DNA methylation, miRNA, and protein differences in genes/proteins implicated in the aging process, carcinogenesis, and immunotoxicity. The omics signatures of toxicity identified in this study can be used to inform risk assessment and development of intervention strategies to protect against PFAS toxicity.
 Role: Co-Investigator (10% Effort)

COMPLETED

01/01/2019-12/31/2022 **CDC NU53DD00162-03-01** (PI: Pettygrove) \$3,000,000
 Arizona Developmental Disabilities Surveillance Program (ADDSP). The overall goals of this contract are to estimate the rate of autism and developmental disabilities in Arizona.
 Role: Co-I (5% effort)

02/01/2021-01/31/2022 **P30 Pilot (UArizona Cancer Center)** \$50,000
(PI: Furlong)
 Metabolomic Approaches to Assess Cancer Signatures in Firefighters. The goal of this project is to use targeted and untargeted metabolomic approaches to identify the firefighter-related exposome post-fire, as well as the endogenous metabolomic response to fires.
 Role: Principal Investigator

09/01/2020-08/31/2020 NIH (NIEHS) **K99ES028743** (PI: Furlong) \$175,000
 Prenatal Exposure to Pesticide Mixtures and Childhood ADHD. The overall goals of this proposal are to

build an atmospheric dispersion model of pesticide applications in the state of Arizona, identify ADHD cases in Medicaid claims data using a validated algorithm, and estimate the associations between prenatal exposure to mixtures of pesticides and childhood ADHD using Bayesian Kernel Machine Regression.

Role: Principal Investigator

10/01/2016-08/31/2017 CDC-NIOSH WCAHS Pilot **2U54OH007550** (MPI: Furlong & Beamer) \$26,000
Arizona's Pesticide Use Registry and Vital Statistics Birth Certificates. The overall goal of this project is to explore associations between living near pesticide applications during pregnancy and birth outcomes in Arizona, and possible modification by farmworker occupational status.

Role: Co-Principal Investigator

06/01/2019-05/30/2020 NIH (NIEHS) **P30 pilot** (PI: Sheppard) \$40,000
Validating Dendrochemistry (tree rings) as a Technique for Temporal Analysis of Environmental Contaminants in Public Health Research. The overall goal of this pilot is to evaluate whether the concentrations of heavy metals and metalloids in tree rings are accurate representations of ambient metal/metalloid concentrations, as measured by EPA air monitor networks.

Role: Co-PI, Post-doc

OTHER FUNDING

2018 Dean's Annual Fund: Conference Travel Funding

2014 Parkinson's Disease Foundation: Student Travel Grant

2013 University of North Carolina Department of Epidemiology: Student Travel Grant

POSTERS AND PRESENTATIONS

ORAL PRESENTATIONS

Furlong M, Arellano A. "Drift from Agricultural Pesticide Applications During Pre-conception and Pregnancy and Associations with Extremely Preterm Birth in Arizona." American Meteorological Society, January 2023

Furlong M. "Integrating Big Data for Pesticide Epidemiology." Health and Environmental Change: Pushing Research Boundaries Through Arizona-France Cooperation. November 2022

Burgess J & **Furlong M** (joint co-presenters) "Evaluation of Firefighter Exposures and Cancer Risks." University of Arizona Cancer Center Annual Retreat, October 2022

Furlong M & Burgess J (joint co-presenters) "The Firefighter Cancer Cohort Study (FFCCS): MicroRNA studies". Southwester Environmental Health Science Center (SWEHSC NIEHS P30) Research Discussions. October 2022.

Furlong M. "Interactions of Physical Activity and Air Pollution on Brain Structure". GoodForm Informant Working Group. June 2022

Furlong M. "Big Data Approaches to Evaluate Pesticide Toxicities in Humans." UArizona Health Sciences One Health Symposia. May 2022.

Furlong M, Juarez C. "Science Café: Health Effects of Pesticides on Populations". SWEHSC Community

Updated November 2022

Engagement Presentations. March 2022

Furlong M. “Rethinking Health Outcomes Exploration in Pesticide Epidemiology: Roles for -OMICs and Statewide Exposure and Health Databases”. NIEHS Early Stage Investigator Webinar, March 2022

Furlong M, Burgess J. “Use of urine metabolomics to evaluate firefighter exposures and implications for toxicity and carcinogenicity”. University of Arizona Cancer Center Grand Rounds, March 2022.

Furlong M. “Linking Pesticide Use Records and Birth Certificates in Arizona.” Symposia at International Society of Environmental Epidemiology, Virtual, September 2021.

Furlong M. “Pesticides and Neurological Outcomes.” University of California at Los Angeles Seminar Epidemiology, April 2021.

Furlong M. “Early Life Pyrethroid Pesticide Exposures and Childhood Neurodevelopment.” University of California at Los Angeles Epidemiology Graduate Seminar. February 2020.

Furlong M, Raichlen D, Klimentidis Y, Alexander G. “Interactions Between Physical Activity and Air Pollution on Brain Structure in the UK Biobank.” University of Arizona Pharmacology Data Blitz, May 2019.

Furlong M, Braun JM, Froehlich T, Lanphear B, Richardson J, Yolton K. “Pyrethroid Metabolites During Pregnancy and Longitudinal Child Behavior in the Cincinnati HOME Study.” Joint Meeting for the International Society for Exposure Science and the International Society of Environmental Epidemiology, Ottawa CA, August 2018.

Beamer P, **Furlong M, Guerra S, Lothrop N, O’Rourke MK, Stern D, Zhai J, Billheimer D, Halonen M, Wright A, Martinez FD.** “CC16 levels into adult life are associated with nitrogen dioxide exposure at birth.” Joint Meeting for the International Society for Exposure Science and the International Society of Environmental Epidemiology, Ottawa CA, August 2018.

Furlong M, Beamer P. “Improving Spatial Resolution of Pesticide Applications in Arizona’s Pesticide Use Reporting System.” International Society for Exposure Science, Durham North Carolina, October 2017.

Lothrop N, Bell M, Brown H, **Furlong M, Guerra S, O’Rourke MK, Beamer P.** Modeling Air Pollution Concentrations with Land Use Regression in Tucson, AZ. International Society for Exposure Science, Durham NC 2017.

Furlong M, Sandler D, Halverson-Deming S. “Antibiotics and Weight Gain in the Sister Study.” International Society for Environmental Epidemiology, Seattle, Washington, August 2014

Furlong M. “Pesticides, Parkinson’s Disease, and Personal Protective Equipment.” Presentation at National Institutes of Environmental Health Sciences, July 2013

Furlong M. “Clean stoves, Firewood User Groups, and Firewood Collection.” Presentation for RTI’s International Development Group. March 2010.

POSTER PRESENTATIONS

Updated November 2022

Furlong M, Paul KC, Parra K, Beamer P, Ritz B. Pesticides During Pre-Conception and Pregnancy, and Associations with Extremely Preterm Birth: A Pesticide-Wide Association Study. International Society of Environmental Epidemiology, Athens, Greece. September 2022.

Furlong MA, Paul KC, Yan Qi, Chuang YH, Cockburn MG, Bronstein JM, Horvath S, Ritz B. “An Epigenome-Wide Association Study of Ambient Pyrethroid Pesticide Exposures in California’s Central Valley”. International Society of Environmental Epidemiology, Washington, DC (Moved to Virtual), August 2020.

Furlong M, Harber P, Morgan W, Wright A, Stern D, Guerra S, Martinez F. “Early Life Respiratory Status And Adult Occupational Exposures: Prospective Evidence For Healthy Worker Bias.” International Society of Environmental Epidemiology, Utrecht Netherlands, August 2019.

Furlong M, Alexander GE, Klimentidis Y, Raichlen D. “Physical Activity May Modify the Association Between Air Pollution and Brain Structure in the UK Biobank.” Joint Meeting for the International Society for Exposure Science and the International Society of Environmental Epidemiology, Ottawa CA, August 2018.

Teeters B, Beamer P, **Furlong M**. “Pesticide Exposure Rates by Residential and Agricultural Housing Status in 2012 in Yuma County.” Undergraduate Research Opportunities Consortium Forum, August 2017

Barboza J, Beamer P, **Furlong M**. “Pesticide Exposure Rates in Pinal County from 2012-2016. Undergraduate Research Opportunities Consortium Forum, August 2017.

Furlong M, Engel S, Barr D, Wolf M. “Prenatal Pyrethroid Exposure and Childhood Behavior and Executive Functioning.” Society for Epidemiological Research, Seattle Washington, June 2017.

Furlong M, Beamer P. “Prenatal exposure to pyrethroid and organophosphorus pesticides and birth outcomes in Arizona.” Society for Epidemiological Research, Seattle Washington, June 2017.

Furlong M, Engel S, Buckley J, Daniels J, Engel L, Goldman B, Wolff M, Herring A. “Prenatal Exposure to Organophosphorus Pesticides and Childhood Neurodevelopmental Phenotypes.” Society for Epidemiological Research, Miami Florida, June 2016.

Furlong M, Tanner C, Goldman S, Bhudhikanok G, Blair A, Chade A, Korell M, Hoppin J, Kasten M, Langston J, Marras C, Meng C, Richards, M., Ross, G., Umbach, D., Sandler, D., Kamel, F. “Protective Glove Use and Hygiene Habits Modify the Associations of Specific Pesticides with Parkinson’s Disease.” International Society for Environmental Epidemiology, Seattle Washington, August 2014.

Furlong M., Engel S., Barr D., Wolff, M. “Organophosphate pesticides and social responsiveness in childhood.” Poster presented at Society for Epidemiological Research, June 2013, Boston MA.

GUEST LECTURES AND TEACHING

Primary Instructor, University of Arizona EHS 220 Deadly Hype: Finding Truth in the age of (Mis)Information, Spring 2023

Primary Instructor, University of Arizona EHS 696, Environmental and Occupational Health Seminar, Fall 2020, Spring 2021

Updated November 2022

Guest Lecture, University of Arizona CPH 375, Introduction to Environmental and Occupational Health, Spring 2019, Spring 2021, Spring 2022
 Co-Instructor, University of Arizona CPH 426/526, Topics in Environmental Justice, Fall 2018
 Guest Lecture, University of Arizona CPH 609, Evaluating Public Health Literature, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2022
 Guest Lecture, University of Arizona Student Seminar for Epidemiology (Spring 2017)
 Guest Lecture, University of Arizona Student Seminar for Community, Environment and Policy (Fall 2016, Spring 2018)
 Teaching Assistant, UNC Principles of Epidemiology for Public Health, Victor Schoenbach (Summer 2015)
 Teaching Assistant, UNC Introduction to Logic and Probability, Charles Poole (Fall 2014)
 Teaching Assistant, Duke University Intermediate Microeconomics, Subhrendu Pattanayak (Spring 2010)
 Teaching Assistant, Duke University Globalization and Governance, Bruce Jentleson (Fall 2009, Fall 2010)
 Teaching Assistant, Duke University Microeconomics and Public Policy, Elizabeth Ananat (Spring 2009)

SERVICE

Peer Reviewer - Journals

American Journal of Epidemiology
JAMA Pediatrics
Environmental Health Perspectives
International Journal of Obesity
Environment International
Environmental Research
Child Development
NeuroToxicology
Neurotoxicity Research
Journal of Occupational and Environmental Hygiene
Journal of Paediatric and Perinatal Epidemiology
Environmental Health
Environmental Pollution
International Journal of Hygiene and Environmental Health
International Journal of Environmental and Occupational Health
Archives of Environmental and Occupational Health
Environmental Monitoring and Assessment

Peer Reviewer - Grants

- Reviewer, Swiss National Science Foundation, December 2021
- NIH Study Section, Neurological, Aging, Musculoskeletal Epidemiology Panel, July 2021 (Ad hoc reviewer)
- Reviewer, Fondation Recherche Medicale, June 2021
- NIEHS Grant Review, Special Emphasis Panel, June 2021

CITIZENSHIP

2022- Mel and Enid Zuckerman College of Public Health Faculty Assembly Chair
2022 - Co-Director, Southwest Environmental Health Sciences Center (P30) Research Focus Group 1: Environmental Exposures in Underserved Southwest Populations
2021-22 Committee Member, Annual NIEHS P30 ESI Session Planning Committee, New York, New York, Virtual)

- 2020** Committee Member, University of Arizona MEZCOPH Search Committee, Assistant/Associate Professor of Environmental Health Sciences
- 2019** Committee Member, University of Arizona MEZCOPH Search Committee, Full Professor of Maternal and Child Health
- 2019 -** Co-sponsor, Mel and Enid Zuckerman College of Public Health Environmental Epidemiology Journal Club,
- 2018** Committee Member, Mel and Enid Zuckerman College of Public Health Poster Forum
- 2017** Committee Member, University of Arizona MEZCOPH Search Committee, Assistant Professor of Biostatistics, University of Arizona COPH
- 2017-** Poster Judge, Mel and Enid Zuckerman College of Public Health Research Poster Forum,
- 2015-2016** Coordinator, Environmental Epidemiology Seminar, University of North Carolina, Chapel Hill.

MENTORSHIP

- 2021- present** **University of Arizona Environmental Health Sciences PhD**
Mentee: Tuo Liu (PhD in Environmental Health Sciences)
- 2021 - Present** **University of Arizona Environmental Health Sciences PhD**
Mentee: Rietta Wagoner (PhD in Environmental Health Sciences)
- 2020** **University of Arizona Environmental Health Sciences MS**
Mentee: Celia Ritter (MPH in Environmental Health Sciences)
- 2019- present** **University of Arizona Epidemiology PhD Dissertation Committee**
Mentee: Kim Parra (PhD in Epidemiology)
- 2018** **University of Arizona Undergraduate Internship**
Mentee: Jay Pacheco-Chino (Undergraduate)
- 2017** **University of Arizona Undergraduate Research Opportunities Consortium** Mentored Research Mentee: Breanna Teeters (Undergraduate)
- 2017** **University of Arizona FRONTERA Summer Internship** Research Project
Mentee: Josue Barboza (Undergraduate)
- 2017** **University of Arizona, Fall Independent Study**
Mentee: Tun Nef (Undergraduate)

PROFESSIONAL SOCIETIES

Society for Epidemiological Research
International Society for Environmental Epidemiology
International Society for Exposure Science

MEDIA

University of Arizona Health Sciences Expert Insights Series: What Is Pesticide Poisoning? June 2021

Additude mag: Does Prenatal Exposure to Pesticides Increase a Child's Risk for ADHD?

A team of researchers from the University of Arizona will aim to answer this question by conducting one of the first studies investigating whether a link exists between prenatal exposure to two types of widely used pesticides and ADHD diagnoses in children. <https://www.additudemag.com/does-pesticide-exposure-increase-adhd-risk/> May 1, 2019

TV Interview: Tucson KGUN9 on your side UA Researchers Study Link Between Prenatal Exposure to Pesticides and ADHD. <https://www.kgun9.com/news/local-news/ua-researchers-study-link-between-prenatal-exposure-to-pesticides-and-adhd> April 30 2019

Article: Eurekalert UA to study link between prenatal exposure to pesticides and childhood ADHD https://www.eurekalert.org/pub_releases/2019-04/uoah-uts042919.php

Article: Inside Tucson Business.com Tech Talk: The speed of sound, pesticides, CEOs and more https://www.insidetucsonbusiness.com/news/tech-talk-the-speed-of-sound-pesticides-ceos-and-more/article_11679cfa-7d8c-11e9-aca8-fb544efaaeb5.html

Article: Arizona: Study Link between Prenatal Exposure to Pesticides and Childhood ADHD <https://www.aspph.org/arizona-assistant-professor-to-study-link-between-prenatal-exposure-to-pesticides-and-childhood-adhd/>

Article: Arizona: Antibiotics and Weight Change in Women <https://www.aspph.org/arizona-antibiotics-and-weight-change-in-women/>

United Press international (UPI) Smog May Reduce exercise's benefits for the brain https://www.upi.com/Science_News/2021/12/10/smog-may-cancel-out-exercise-benefits/3231639084313/

Science Daily Does Air Pollution Reduce the Benefits of Physical Activity on the brain? <https://www.sciencedaily.com/releases/2021/12/211208161118.htm>

Azfamily.com https://www.azfamily.com/news/health/new-uarizona-study-shows-air-pollution-associated-with-dementia-risk/article_84687b70-5890-11ec-8475-23293bee1e8c.html?block_id=997197

<https://www.tekcrispy.com/2021/12/14/ejercicio-contaminacion-del-aire/>

Smog Could Reduce Exercise's Benefit to Your Brain <https://www.usnews.com/news/health-news/articles/2021-12-09/smog-could-reduce-exercises-benefit-to-your-brain>

<https://www.freepressjournal.in/health/study-finds-air-pollution-might-reduce-benefits-of-physical-activity-on-brain> Study finds air pollution might reduce benefits of physical activity on brain

<https://www.earth.com/news/brain-benefits-of-exercise-are-compromised-by-air-pollution/>

<https://d1softballnews.com/running-and-playing-sports-in-polluted-areas-reduces-the-benefits-of-physical-exercise-the-positive-effects-on-the-brain-disappear-i-study-2/>