

CURRICULUM VITA

Natalie M. Johnson, PhD

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Education

B.S. Biology, Texas A&M University, College Station, TX. 2006 *Magna Cum Laude*

Ph.D. Toxicology, Texas A&M University, College Station, TX. 2010

Research Advisor: Dr. Tim Phillips

Doctoral Dissertation: *Biomarkers of Exposure to Foodborne and Environmental Carcinogens: Enterosorbent Intervention in a High Risk Population*

Postdoctoral Toxicology, Johns Hopkins University, Baltimore, MD. 2013

Research Advisors: Dr. Tom Kensler and Dr. John Groopman

Professional Experience

2019- Associate Professor, Department of Environmental & Occupational Health, School of Public Health, Texas A&M University
2016- Vice Chair, Interdisciplinary Program in Toxicology, Texas A&M University
2014- Co-director, Program on Asthma Research and Education, School of Public Health, Texas A&M University
2013-2019 Assistant Professor, Department of Environmental & Occupational Health, School of Public Health, Texas A&M University
2010-2013 Postdoctoral Fellow, Department of Environmental Health Sciences, NIEHS Training Program, Johns Hopkins University Bloomberg School of Public Health
2012 Johns Hopkins University/Notre Dame of Maryland University Postdoctoral Teaching Fellow
2006-2010 Graduate Research Assistant, Department of Veterinary Integrative Biosciences, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University
2007-2009 NSF GK-12 Fellow, Partnership for Environmental Education and Rural Health, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University

Honors and Awards

2020 Robert Wood Johnson Foundation Interdisciplinary Research Leaders Program Fellow
2020 Society of Toxicology, Reproductive and Developmental Toxicology Specialty Section New Career Scientist Award
2018 Texas A&M School of Public Health Inaugural Early Career Faculty Research Award
2018 Texas A&M Association of Former Students Distinguished Teaching Award

- 2018 Delta Omega Public Health Honor Society
- 2018 Texas A&M University Sustainability Champion Award
- 2017 National Institute Environmental Health Sciences Outstanding New Environmental Scientist Award
- 2015 Texas A&M School of Public Health Faculty Best Paper Award
- 2010 Women in Toxicology Vera W. Hudson & Elizabeth K. Weisburger Scholarship Award
- 2009 Philanthropic Educational Organization (P.E.O.) Betty Cook Karrh Endowed Scholar
- 2008 Society of Toxicology Frank C. Lu Graduate Student in Food Safety Award
- 2007 Society of Toxicology Burdock Group Graduate Student in Food Safety Award
- 2006 Society of Toxicology Inaugural Pfizer Undergraduate Student Travel Award
- 2005 Phi Beta Kappa

Membership in Professional Societies

- 2019- Sigma Xi
- 2017- Society for Birth Defects Research and Prevention (formerly Teratology Society)
- 2007- Society of Toxicology (SOT)

Short Courses and Workshops

- 2020 Timing Is Everything: Developmental Exposure Alters the Path of Immune Cell Maturation and Function. Society of Toxicology Continuing Education Course
- 2019 Facilitating Entering Mentoring. Center for the Improvement of Mentored Experiences in Research (CIMER) Workshop at Texas A&M University
- 2015 Phenotyping Mouse Models of Human Lung Disease. Workshop at Jackson Laboratory
- 2012 Embryology and Developmental Toxicology. Society of Toxicology Continuing Education Course

Bibliography

Refereed papers:

*, indicates doctoral trainee; #, indicates master's trainee; &, indicates undergraduate trainee.

1. Uwak I*, Olson N, Fuentes A, Moriarty M#, Pulczynski J#, Lam J, Xu X, Taylor BD, Taiwo S, Koehler K, Foster M, Chiu WA, **Johnson NM**. Application of the Navigation Guide Systematic Review Methodology to Evaluate Prenatal Exposure to Particulate Matter Air Pollution and Infant Birth Weight. *Environment International*. (in press)
2. Mustapha TA*, Chang RC, Garcia-Rhodes D#, Pendleton D*, **Johnson NM**, Golding MC. 2020. Gestational exposure to particulate air pollution exacerbates the growth phenotypes induced by preconception paternal alcohol use: a multiplex model of exposure. *Environmental Epigenetics*. 6(1), dvaa011.
3. Rychlik KA*, Secrest J*, Lau C*, Pulczynski JC#, Zamora ML, Leal J, Langley R#, Myatt L#, Raju M#, Chang C-A, Golding M, Rodrigues-Hoffmann A, Molina MJ, Zhang R, **Johnson NM**. *In utero* particulate matter exposure causes offspring pulmonary immunosuppression. *Proceedings of the National Academy of Sciences USA*. 2019; 116(9):3443-48.
4. Wu G, Brown J, Zamora ML, Miller A, Satterfield MC, Meininger CJ, Steinhauser CB, Johnson GA, Burghardt RC, Bazer FW, Li Y*, **Johnson NM**, Molina MJ, Zhang R. Adverse organogenesis and predisposed long-term metabolic syndrome from prenatal exposure to fine

- particulate matter. *Proceedings of the National Academy of Sciences USA*. 2019; 116(24):11590-5.
5. Livingstone MC, **Johnson NM**, Roebuck BD, Kensler TW, Groopman JD. Serum miR-182 is a predictive biomarker for dichotomization of risk of hepatocellular carcinoma in rats. *Molecular Carcinogenesis*. 2019; 58(11):2017-25.
 6. Wang M*, Hearon S*, **Johnson NM**, Phillips T. Development of broad-acting clays for the tight sorption of benzo[a]pyrene and aldicarb. *Applied Clay Science*. 2019; 168:196-202.
 7. Zhang X*, **Johnson NM**, Carrillo G, Xu X. Decreasing trend in passive tobacco smoke exposure and association with asthma in U.S. children. *Environmental Research*. 2018; 166:35-41.
 8. Carrillo G, Perez Patron MJ, **Johnson NM**, Zhong Y, Lucio R, Xu X. Asthma prevalence and school-related hazardous air pollutants in the US-Mexico border area. *Environmental Research*. 2018; 162:41-8.
 9. Zamora ML, Pulczynski JC[#], **Johnson NM**, Garcia-Hernandez R, Rule A, Carrillo G, Zietsman J, Sandragorsian B[#], Vallamsundar S, Askariyeh MH, Koehler K. Maternal exposure to PM_{2.5} in South Texas, a pilot study. *Science of the Total Environment*. 2018; 628-29:1497-1507.
 10. Livingstone MC, **Johnson NM**, Roebuck BD, Kensler TW, Groopman JD. Profound changes in miRNA expression during cancer initiation by aflatoxin B1 and their abrogation by the chemopreventive triterpenoid CDDO-Im. *Molecular Carcinogenesis*. 2017; 56(11):2382-90.
 11. Vallamsundar S, Askariyeh M, Zietsman J, Ramani T, **Johnson NM**, Pulczynski JC[#], Koehler K. Maternal exposure to traffic-related air pollution across different microenvironments. *Journal of Transport & Health*. 2016; 3(2), S72.
 12. Shi J, Chen R, Yang C, Lin Z, Cai J, Xia Y, Wang C, Li H, **Johnson NM**, Xu X, Zhao Z, Kan H. Association between fine particulate matter chemical constituents and airway inflammation: A panel study among healthy adults in China. *Environmental Research*. 2016; 150:264-8.
 13. Sharma VK, **Johnson NM**, Cizmas LH, McDonald TJ, Hyunook K. A review of the influence of treatment strategies on antibiotic resistant bacteria and antibiotic resistance genes. *Chemosphere*. 2016; 150:702-14.
 14. **Johnson NM**, Egnér PA, Baxter V, Sporn MB, Sutter TR, Groopman JD, Kensler TW, Roebuck BD. Complete protection against aflatoxin B1-induced liver cancer with a triterpenoid: DNA adduct dosimetry, molecular signature and genotoxicity threshold. *Cancer Prevention Research*. 2014; 7(7):658-65.
 15. Kensler KH, Dolan P, Slocum S, **Johnson NM**, Ilic Z, Sell S, Groopman JD, Kensler TW, Egnér PA. Genetic or pharmacologic activation of Nrf2 signaling fails to protect against aflatoxin genotoxicity in hypersensitive GSTA3 knockout mice. *Toxicological Sciences*. 2014; 139(2):293-300.
 16. Marroquín-Cardona A, **Johnson NM**, Phillips TD, Hayes AW. Mycotoxins in a changing global environment: a review. *Food Chemical Toxicology*. 2014; 69C:220-30.
 17. Mitchell NJ, Kumi J, **Johnson NM**, Dotse E, Marroquin-Cardona A, Wang JS, Jolly PE, Ankrah NA, Phillips TD. Reduction in the urinary aflatoxin M1 biomarker as an early indicator of the efficacy of dietary interventions to reduce exposure to aflatoxins. *Biomarkers*. 2013; 18(5):391-8.

18. Taylor JF, Robinson A, Mitchell NJ, Marroquín-Cardona A, **Johnson NM**, Elmore SE, Romoser AA, Phillips TD. In vivo efficacy of ferrihydrite as an enterosorbent for arsenic: short-term evaluation in rodents. *Journal of Toxicology and Environmental Health Part A*. 2013; 76(3):167-75.
19. Robinson A, **Johnson NM**, Strey A, Taylor JF, Marroquín-Cardona A, Mitchell NJ, Afriyie-Gyawu E, Ankrah NA, Williams JH, Wang JS, Jolly PE, Nachman RJ, Phillips TD. Calcium montmorillonite clay reduces urinary biomarkers of fumonisin B1 exposure in rats and humans. *Food Additives and Contaminants*. 2012; 29(5):809-18.
20. Marroquín-Cardona A, Deng Y, Garcia-Mazcorro JF, **Johnson NM**, Mitchell NJ, Tang L, Robinson A, Taylor JF, Wang JS, Phillips TD. Characterization and safety of uniform particle size NovaSil clay as a potential aflatoxin enterosorbent. *Applied Clay Science*. 2011; 54(3-4):248-57.
21. **Johnson NM**, Qian G, Xu L, Tietze D, Marroquín-Cardona A, Robinson A, Rodriguez M, Kaufman L, Cunningham K, Wittmer J, Guerra F, Donnelly KC, Williams JH, Wang JS, Phillips TD. Aflatoxin and PAH exposure biomarkers in a U.S. population with a high incidence of hepatocellular carcinoma. *Science of the Total Environment*. 2010; 408(23):6027-31.
22. Williams JH, Grubb JA, Davis JW, Wang JS, Jolly PE, Ankrah NA, Ellis WO, Afriyie-Gyawu E, **Johnson NM**, Robinson A, Phillips TD. HIV and hepatocellular and esophageal carcinomas related to consumption of mycotoxin-prone foods in sub-Saharan Africa. *American Journal of Clinical Nutrition*. 2010; 92(1):154-60.
23. **Johnson NM**, Afriyie-Gyawu E, Huebner HJ, Marroquín-Cardona A, Robinson A, Tang L, Xu L, Ankrah NA, Ofori-Adjei D, Jolly PE, Williams JH, Wang JS, Phillips TD. PAH exposure in a Ghanaian population at high risk for aflatoxicosis. *Science of the Total Environment*. 2009; 407(6):1886-91.
24. Taylor JF, Robinson A, **Johnson NM**, Marroquín-Cardona A, Brattin B, Taylor R, Phillips TD. In vitro evaluation of ferrihydrite as an enterosorbent for arsenic from contaminated drinking water. *Environmental Science and Technology*. 2009; 43(14):5501-6.
25. Marroquín-Cardona A, Taylor JF, Hallmark CT, Deng Y, **Johnson NM**, Phillips TD. In vitro and in vivo characterization of mycotoxin-binding additives used for animal feeds in México. *Food Additives and Contaminants*. 2009; 26(5):733-43.
26. Afriyie-Gyawu E, Wang Z, Ankrah NA, Xu L, **Johnson NM**, Tang L, Guan H, Huebner HJ, Jolly PE, Ellis WO, Taylor R, Brattin B, Ofori-Adjei D, Williams JH, Wang JS, Phillips TD. NovaSil clay does not affect the concentrations of vitamins A and E and nutrient minerals in serum samples from Ghanaians at high risk for aflatoxicosis. *Food Additives and Contaminants*. 2008; 25(7):872-84.
27. Wang P, Afriyie-Gyawu E, Tang Y, **Johnson NM**, Xu L, Tang L, Huebner HJ, Ankrah NA, Ofori-Adjei D, Ellis WO, Jolly PE, Williams JH, Wang JS, Phillips TD. NovaSil clay intervention in Ghanaians at high risk for aflatoxicosis: II. Reduction in biomarkers of aflatoxin exposure in blood and urine. *Food Additives and Contaminants*. 2008; 25(5):622-34.
28. Afriyie-Gyawu E, Ankrah NA, Huebner HJ, Ofosuhen M, Kumi J, **Johnson NM**, Tang L, Xu L, Ofori-Adjei D, Williams JH, Wang JS, Phillips TD. NovaSil clay intervention in Ghanaians at high risk for aflatoxicosis: I. Study design and clinical outcomes. *Food Additives and Contaminants*. 2008; 25(1):76-87.

29. Phillips TD, Afriyie-Gyawu E, Williams JH, Huebner HJ, Ankrah NA, Ofori-Adjei D, Jolly PE, **Johnson NM**, Taylor JF, Marroquín-Cardona A, Xu L, Tang L, Wang JS. Reducing human exposure to aflatoxin through use of clay: a review. *Food Additives and Contaminants*. 2008; 25(2):134-45.

Book chapters:

1. Fox M, Koehler K, **Johnson NM**. Established and emerging effects of traffic-related air pollution. Khreis, Nieuwenhuijsen, Zietsman, Ramani (Eds.) *Traffic-related Air Pollution* Elsevier 2020.
2. **Johnson NM**, Carrillo G, Mehta RK. The academic and psychosocial impact of air pollution on children. Riccio (Ed.) *Pediatric Neurotoxicology: Academic and Psychosocial Outcomes*. Springer Science 2016.
3. Carrillo G, Mehta RK, **Johnson NM**. Neurocognitive effects of pesticides in children. Riccio (Ed.) *Pediatric Neurotoxicology: Academic and Psychosocial Outcomes*. Springer Science 2016.

Oral Presentations at National/International Conferences:

*, indicates doctoral trainee; #, indicates master's trainee; &, indicates undergraduate trainee.

1. Lau C*, Garcia-Rhodes D#, Pendleton D*, Myers A, Secrest J*, Li Y*, Vargas T&, Zhang R, Rodrigues-Hoffmann A, **Johnson NM**. A mouse model of *in utero* ultrafine particulate matter exposure and infant respiratory syncytial virus disease. 2019 Transportation, Air Quality, and Health Symposium.
2. **Johnson NM**, Pulczinski JC#, Rychlik KR*, Guo J, Shi W, Carrillo G, Zietsman J, Vallamsundar S, Koehler K, Levy M, Zhang R. Biomarkers of prenatal exposure to particulate air pollution. 2016 American Chemical Society National Meeting.
3. **Johnson NM**, Afriyie-Gyawu E, Robinson A, Marroquín-Cardona A, Tang L, Xu L, Ankrah N-A, Williams JH, Wang J-S, Phillips TD. Three-month clinical intervention trial with NovaSil clay in Ghanaians: reduction of urinary aflatoxin M₁ levels and no effect on serum micronutrients. 2010 Latin American Congress on Mycotoxins.
4. **Johnson NM**, Tietze D, Marroquín -Cardona A, Robinson A, Taylor J, Mitchell N, Qian G, Xu L, Rodriguez M, Kaufman L, Cunningham K, Wittmer J, Guerra F, Donnelly KC, Wang JS, Phillips TD. Association between tortilla, peanut and rice consumption and urinary aflatoxin M₁ levels in a U.S. population with an elevated incidence of liver cancer. 2010 Society of Toxicology Meeting.

Poster presentations at National/International Conferences:

1. Uwak I*, Ramani T, **Johnson NM**, Jaikumar R, Aguilera J, Ramirez I, Whigham L, Li W, Vallamsundar S. Exposure assessment of traffic-related air pollution in El Paso, Texas, using personal and ambient monitoring. 2020 Society of Toxicology Meeting.
2. Lau C*, Shore R*, Pendleton D*, Behlen J*, Mustapha T*, Garcia-Rhodes D#, Myers A, Brar A#, Vargas T&, Secrest J*, Li Y*, Zhang R, Rodrigues Hoffmann A, Harvey N, **Johnson NM**. A mouse model of *in utero* ultrafine particulate matter exposure and infant respiratory syncytial virus disease. 2020 Society of Toxicology Meeting.

3. McBee D[&], Behlen J^{*}, Mustapha T^{*}, Pendleton D^{*}, Drury N^{*}, Lau C^{*}, Shore R^{*}, **Johnson NM**. Targeting Nrf2 through lactational transfer of sulforaphane: Implication for respiratory syncytial virus severity in a neonatal mouse model. 2020 Society of Toxicology Meeting.
4. Mustapha T^{*}, Drury N^{*}, Liu Y, McDonald TJ, **Johnson NM**. Direct quantification method for S-phenyl cysteine benzene oxide hemoglobin adduct. 2020 Society of Toxicology Meeting.
5. Shore R^{*}, Lau C^{*}, Mustapha T^{*}, Pendleton D^{*}, Drury N^{*}, Harvey N, Li Y^{*}, Zhang R, Rodrigues Hoffmann A, **Johnson NM**. The role of long non-coding RNA, MALAT1, in regulation of oxidative stress and inflammation in a mouse model of infant for respiratory syncytial virus infection. 2020 Society of Toxicology Meeting.
6. **Johnson NM**, Lau C^{*}, Li Y^{*}, Zhang R, Rodrigues-Hoffmann A. A mouse model of *in utero* ultrafine particulate matter exposure and infant respiratory syncytial virus disease. 2019 Cellular and Molecular Mechanisms of Toxicity Gordon Research Conference.
7. **Johnson NM**, Lam J, Uwak I^{*}, Xu X, Taylor B, Foster M, Moriarty M[#], Taiwo S, Fuentes A, Olson N, Chiu W. Application of the Navigation Guide systematic review methodology and meta-analysis to evaluate the association between prenatal particulate matter air pollution exposure and birth weight. 2019 International Society of Environmental Epidemiology.
8. Mustapha TA^{*}, Chang C, Pendleton D^{*}, Garcia-Rhodes D[#], Secrest J, Li Y^{*}, Lee H[#], Brar A[#], Lau C^{*}, Rodrigues-Hoffmann A, Zhang R, Golding M, **Johnson NM**. Offspring growth inhibition in a multiplex model of paternal alcohol and maternal air pollution exposure. 2019 Society of Toxicology Annual Meeting.
9. Uwak I^{*}, Lam J, Xu X, Taylor B, Foster M, Moriarty M[#], Taiwo S, Fuentes A, Olson N, Chiu W, **NM Johnson**. Application of the Navigation Guide systematic review methodology to evaluate the association between prenatal particulate matter air pollution exposure and birth weight. 2019 Transportation, Air Quality, and Health Symposium.
10. Van Cleve A[&], Pulczynski JC[#], Luo Y-S, Myatt L[#], Rychlik KA^{*}, **Johnson NM**. Maternal exposure to polycyclic aromatic hydrocarbons in South Texas. 2018 Society of Toxicology Meeting.
11. Cantu S[#], Umah C[#], Johnson NM. Environmental factors and elevated cancer incidence in South Texas. 2018 Advancing the Science of Cancer in Latinos Meeting.
12. Rychlik KA^{*}, Pulczynski JC[#], Zamora M, Zhang R, **Johnson NM**. Decreased offspring weight, length, and immune response in BALB/cJ mice following inhaled particulate matter exposure during gestation. 2017 Teratology Society Annual Meeting.
13. Rychlik KA^{*}, Pulczynski JC[#], Cardenas A, Myatt L[#], Roman-Cruz V[#], Secrest J^{*}, Zamora M, Langley R[#], Raju M[#], You D, Cormier S, Zhang R, **Johnson NM**. Strain-dependent inflammatory responses in a mouse model of intrauterine particulate matter air pollution exposure. 2017 Society of Toxicology Meeting.
14. Lam J, **Johnson NM**, Koehler K, Chang H. Internal Validity of Air Pollution Assessment Methods: A tool for Evaluating Risk of Bias. 2017 International Society for Environmental Epidemiology Meeting.
15. Pulczynski JC[#], Rychlik KA^{*}, Ramani T, McDonald TJ, Carrillo G, Koehler K, Zietsman J, **Johnson NM**. Validation of novel biomarkers of traffic-related ambient air pollution exposure in a susceptible South Texas population. 2016 American Chemical Society National Meeting.

16. Rychlik KR*, Pulczynski JC#, Zamora ML, Zhang R, **Johnson NM**. Physiologic and epigenetic alterations in offspring following prenatal exposure to particulate matter air pollution in two strains of mice. 2016 American Chemical Society National Meeting.
17. Livingstone MC, Roebuck BD, **Johnson NM**, Kensler TW, Groopman JD. Temporal trends in microRNAs during subchronic aflatoxin dosing and modulation by the chemopreventive oleane triterpenoid, CDDO-Im. 2016 American Association for Cancer Research Annual Meeting.
18. Rychlik KA*, Pulczynski JC#, **Johnson NM**. Strain differences in DNA methylation and hydroxymethylation following prenatal exposure to diesel exhaust particulate matter. 2016 Society of Toxicology Meeting.
(First-author only as trainee)
19. **Johnson NM**, Egner PA, Dolan PM, Groopman JD, Kensler TW. The synthetic triterpenoid CDDO-Im modulates aflatoxin B1 metabolism in the rat. 2012 20th Annual Scientific Workshop for the NIEHS Training Program in Environmental Health Sciences.
20. **Johnson NM**, Tietze D, Marroquín-Cardona A, Afriyie-Gyawu E, Rodriguez M, Kaufman L, Cunningham K, Wittmer J, Guerra F, Donnelly KC, Wang JS, Phillips TD. Urinary aflatoxin M₁ and 1-hydroxypyrene levels in a U.S. population compared to a high-risk population in Ghana. 2009 Society of Toxicology Meeting.
21. **Johnson NM**, Marroquín-Cardona A, Robinson A, Taylor J, Afriyie-Gyawu E, Xu L, Tang L, Ankrah NA, Ofori-Adjei D, Williams JH, Wang JS, Phillips TD. Urinary 1-hydroxypyrene: a biomarker of polycyclic aromatic hydrocarbon exposure in a Ghanaian population. 2008 Society of Toxicology Meeting.
22. **Johnson NM**, Taylor J, Robinson A, Marroquín-Cardona A, Afriyie-Gyawu E, Huebner H, Xu L, Tang L, Ankrah NA, Williams JH, Wang JS, Phillips TD. Enterosorbent therapy for humans at high risk for environmental exposures. 2007 NIEHS Superfund Basic Research and Training Program Meeting.
23. **Johnson NM**, Robinson A, Sarpong N, Afriyie-Gyawu E, Huebner H, Xu L, Tang L, Ankrah NA, Ofori-Adjei D, Williams JH, Wang JS, Phillips T.D. Three-month clinical intervention trial with NovaSil clay in Ghanaians: reduction of urinary aflatoxin M₁ levels. 2007 Society of Toxicology Meeting.
24. **Malek N (Johnson)**, Huebner H, Afriyie-Gyawu E, Taylor J, Dash B, Phillips TD. Development of a noninvasive immunoaffinity based assay to prescreen populations exposed to dietary aflatoxins. 2006 Society of Toxicology Meeting.

Invited research and educational presentations:

State/National/International:

- 2020 Seminar. Baylor College of Medicine, Department of Molecular and Cellular Biology “Tiny particles, enduring effects: Modeling prenatal exposure to ultrafine PM and infant health risks.”
- 2020 Seminar. University of Texas at Arlington, Department of Earth and Environmental Science. “Impact of air pollution on infant respiratory syncytial virus infection.”
- 2020 Seminar. University of New Mexico, Department of Pharmaceutical Sciences. “Impact of particulate matter air pollution on infant respiratory syncytial virus infection.”
- 2020 Speaker. NIEHS Outstanding New Environmental Scientist Meeting. “Mechanisms of Particulate Matter Driven Infant Respiratory Disease.”

- 2020 Speaker. Georgia State University, School of Public Health. EMPOWER Virtual Forum
- 2019 Speaker. NIEHS Training Directors' Meeting. "Innovative Approaches in Training: Moving Beyond the Didactic."
- 2019 Organizer and Panelist. Society of Toxicology Annual Meeting Career Development Symposium, "Stepping out of the lab: opportunities for graduate student internships in toxicology."
- 2019 Speaker. Texas Department of State Health Services Public Health Funding and Policy Committee Meeting. "One health concept."
- 2018 Platform & Session Chair. Teratology Society Annual Meeting, Clearwater Beach, FL. "Prenatal air pollution exposure and offspring pulmonary immunosuppression."
- 2018 Seminar. George Washington University, Milken Institute School of Public Health, Department of Environmental and Occupational Health. "Early life air pollution exposure and infant respiratory disease."
- 2018 Seminar. Louisiana State University School of Veterinary Medicine, Department of Comparative Biomedical Sciences. "Early life air pollution exposure and infant respiratory disease – starting a research program as an assistant professor."
- 2018 Webinar Organizer and Panelist. Society of Toxicology Graduate Education Committee, "Stepping out of the lab: opportunities for graduate student internships in toxicology."
- 2018 Panelist. Society of Toxicology Committee for Diversity Initiatives Undergraduate Education Program, "Applying for graduate school - an academic adviser's perspective."
- 2018 Speaker. NIEHS Outstanding New Environmental Scientist Meeting. "Mechanisms of Particulate Matter Driven Infant Respiratory Disease."
- 2016 Panelist. Earth Day Texas, Dallas, TX. "Air Quality in Texas."
- 2015 Seminar. Nanjing University School of the Environment, Nanjing, China. "Prenatal exposure to particulate air pollution and epigenetic changes."
- 2015 Session Chair. China-U.S. Relations Conference, Houston, TX. "Intersection of infectious disease and environmental health: a global perspective on clean air and safe food and water."
- 2012 Panelist. Society of Toxicology Committee for Diversity Initiatives Undergraduate Education Program, "What is graduate school and what can I expect." (Since 2008)

Regional/Local:

- 2020 Panelist. Brazos Valley Action Group, Sierra Club. "Gibbons Creek coal plant - Fighting Goliath film screening."
- 2020 Panelist. Texas A&M Sustainability and Climate Action (SACA) Panel Discussion. "Gibbons Creek coal plant - Air and water pollution from coal-fired power plants."
- 2020 Speaker. Texas A&M American Medical Student Association (AMSA). "How the environment influences our health."
- 2020 Speaker. Texas A&M College of Veterinary Medicine and Biomedical Science Graduate Student Association. "Giving effective virtual presentations."
- 2019 Seminar. Texas A&M Department of Veterinary Pathobiology. "The role of particulate matter air pollution and oxidative stress in a mouse model of infant respiratory syncytial virus infection."
- 2019 Speaker. Harris County One Health Conference. "One health – the environmental impact."

- 2019 Organizer and panelist. Texas A&M University Public Health Week Symposium. “Re-thinking plastics: in our products, our oceans, and our bodies.”
- 2019 Speaker. Texas A&M Women and Science and Engineering Conference. “Writing grants and addressing Valentine’s cards.”
- 2019 Panelist. 16th Annual Pathways Symposium. “Preparing for graduate school.
- 2018 Speaker. Texas A&M Interdisciplinary Program in Toxicology Annual Regulatory Science Symposium. “Mechanistic insights into air pollution and health.”
- 2018 Panelist. Texas A&M Research Development, “NIH specific aims clinic.”
- 2017 Speaker. Texas A&M University Memorial Student Center Freshman Leadership International Student Organization. “Health effects of air pollution and impact on climate change.”
- 2017 Seminar. Texas A&M Interdisciplinary Faculty in Reproductive Biology. “Prenatal air pollution exposure and childhood respiratory disease.”
- 2016 Seminar. Texas A&M Department of Atmospheric Sciences. “Prenatal air pollution exposure and childhood asthma.”
- 2015 Seminar. Texas A&M School of Public Health Program in Maternal & Child Health. “Early life air pollution exposure and childhood asthma.”
- 2015 Speaker. Texas A&M Transportation Institute and Texas A&M Health Science Center Strategic Research Development for Health and Transportation. “Exposure to traffic-related air pollution during critical windows.”
- 2015 Panelist. Texas A&M University Student One Health Association. “One health in action” (Since 2014)
- 2014 Seminar. Texas A&M University Center for Epigenetics & Disease Prevention. “Prenatal air pollution exposure, epigenetics and asthma.”
- 2014 Speaker. Texas A&M University International Advisory Board Meeting. “Addressing air pollution from South Texas to China.”
- 2014 Speaker. Texas A&M Transportation Institute Strategic Research Program on Health and Transportation. “Traffic-related air pollution near the Texas-Mexico border.”
- 2014 Texas A&M School of Public Health Epidemiology Student Organization, “Special topics in environmental health.”
- 2014 Panelist. Texas A&M School of Public Health MPH Career Development Series, “Pursing a doctoral degree: paths and perspectives.”
- 2013 Seminar. Texas A&M University Interdisciplinary Program in Toxicology. “Chemoprotection against aflatoxin-induced hepatocellular carcinoma.”

Outreach presentations for K-12 students/teachers:

- 2020 Summer Educator Fellowship Program for Teachers (MENTORS Project). Texas A&M University College Station, TX. “You are what you breathe: Measuring exposure to air pollution.”
- 2019 Health Ambassadors (SHARE Program, MENTORS Project). Med High and Mercedes High School Mercedes, TX. “E-cigarettes, air pollution and health.”
- 2012 Expanding Your Horizons, Career Discovery Day for middle school girls. Stevenson University, Stevenson, MD. “Crime scene investigators.”
- 2009 Expanding Your Horizons, 6th Grade Girls Conference. Texas A&M University College Station, TX. “Crime scene investigators.” (Since 2008)

2007 NSF GK-12 Southwest Regional Conference, “Motion impossible: hands-on activity for teaching potential and kinetic energy to middle school students using an inquiry-based teaching method.”

Teaching Experience

Courses Taught: Environmental Diseases (graduate) (2013-2021)
Toxicology Journal Club (graduate) (2019-2021)
Public Health Capstone (graduate) (2016-2017)

Guest Lecturer: Broad Street Learning Community (undergraduate) (2019-2020)
Special Topics in Public Health (undergraduate) (2020)
Environmental Toxicology (graduate) (2014-2020)
One Health in Action (undergraduate) (2016-2019)
Foundations in Maternal and Child Health (graduate) (2018)
Orientation to Public Health (undergraduate) (2016-2018)
Global Health (graduate) (2015-2016)
Environmental Measures (graduate) (2014-2017)
Social & Behavioral Determinants of Health (graduate) (2015)
Public Health Capstone (graduate) (2014)
Public Health Practices (undergraduate) (2013-2014)
Environmental Protection & Public Health (undergraduate) (2013)

Mentoring:

Junior Faculty:

1. Ping Ma, Assistant Professor, Department of Health Promotion & Community Health, Texas A&M University, 2019-present

Postdoctoral/doctoral Teaching Mentor (Academy for Future Faculty Program):

1. Alexander Blanchette, PhD student, Interdisciplinary Program in Toxicology, 2020-2021
2. Jiaqi Liu, Postdoctoral fellow, Interdisciplinary Program in Toxicology, 2018-2019

Doctoral: (Primary advisor or co-chair)

1. Kristal Rychlik. PhD Toxicology. 2014-2017 (chair)
Prenatal Exposure to Particulate Air Pollution and Effects on Postnatal Immune Response.
2. Inyang Uwak. DrPH Environmental Health. 2016-2020 (chair)
Air Pollution Exposure Assessment: Applications in Personal Air Monitoring Studies.
3. Jonathan Behlen. PhD Toxicology. Since 2019 (chair)
4. Ross Shore. PhD Toxicology. Since 2018 (chair)
5. Nicholas Drury. PhD Toxicology. Since 2018 (co-chair)
6. Toriq Mustapha. PhD Toxicology. Since 2018 (chair)
7. Drew Pendleton. PhD Toxicology. Since 2017 (chair)
8. Carmen Lau. PhD Biomedical Sciences. Since 2017 (chair)

Doctoral: (Committee member)

1. Yating Cheng. PhD Toxicology. 2013-2016
2. Long Chen. DrPH Environmental Health. 2013-2017

3. William Skiles. PhD Biomedical Sciences. 2014-2017
4. Jeremiah Secrest. PhD Chemistry. 2014-2019
5. Melanie Warren. PhD Toxicology. 2014-2019
6. Meichen Wang. PhD Toxicology. 2014-2019
7. Gaston Casillas. PhD Toxicology. 2015-2019
8. Xiao Zhang. DrPH Environmental Epidemiology. 2016-2020
9. Ariela Thomas. PhD Food Science. 2016-2020
10. Raed Alotaibi. DrPH Environmental Epidemiology. 2016-2020
11. Sara Heron. PhD Toxicology. Since 2017
12. Alan Valdiviezo. PhD Toxicology. Since 2018
13. Yixin Li. PhD Chemistry. In progress. Since 2018
14. Alina Roman-Hubers. PhD Toxicology. PhD Toxicology. Since 2018
15. Jingshu Chen. PhD Biomedical Sciences. Since 2019
16. Samantha Goodman. PhD Toxicology. PhD Toxicology. Since 2019
17. Ashli Brown. PhD Toxicology. Since 2019
18. Alexandra Folcik. PhD Toxicology. Since 2020
19. Bidemi Fashina. PhD Soil and Crop Sciences. Since 2020
20. Christopher Marbaniang. DrPH Environmental Health. Since 2020
21. Abigail Schoeller. PhD Toxicology. Since 2020
22. Alexandra Cordova. PhD Toxicology. PhD Toxicology. Since 2020

Masters: (Primary advisor - thesis)

1. Jairus Pulczynski. MSPH Environmental Health. 2014-2016 (chair)
Exposure to Traffic-Related Air Pollution Among Pregnant Women in South Texas.

Masters: (Committee member - thesis)

1. Kristin McCamy. MS Toxicology. 2018-2020
2. Melinda Wilson. MS Toxicology. 2014-2016

Masters: (Committee member - nonthesis)

1. Laura Gerik. MS Science and Technology Journalism. 2014-2016
2. Cody Maki. MS Toxicology (non-thesis). 2015-2017
3. Ava English. MS Science and Technology Journalism. Since 2019

Masters: (Primary advisor – MPH Directed Studies)

1. Charlie Villamarie. 2013-2014
2. Brenda Sandragorsian. 2014-2016
3. Valery Roman-Cruz. 2015-2016
4. G’Nita Wright. 2015-2016
5. David Lala. 2015-2016
6. Louise Myatt, 2015-2017
7. Muppala Raju. 2016-2017
8. Chiamaka Umah. 2016-2017
9. Stacy Cantu. 2016-2017
10. Wenting Liu. 2016-2017
11. Rebecca Langley. 2016-2018

12. Dennis Garcia-Rhodes. 2017-2018
13. Cierra Carter. 2017-2018
14. Amandeep Brar. 2018
15. Hanngi Lee. 2018
16. Toriq Mustapha. 2018
17. Dylan Gaitlin. 2020
18. Mariya Rahman. 2020
19. Tanaya Tonpay. 2020

Undergraduate: (Primary advisor - thesis)

1. Jairus Pulczinski. 2014 Undergraduate Research Scholar Thesis. *Development of an analytical procedure using 1-Nitropyrene metabolites as urinary biomarkers of exposure to diesel particulate matter.*
2. Allison Van Cleve. 2017 Undergraduate Research Scholar Thesis. *Development of a 1-hydroxypyrene quantification method for use as a biomarker in assessment of polycyclic aromatic hydrocarbon exposure.*

Undergraduate: (Primary advisor)

1. Jairus Pulczinski, Biology. 2013-2014
2. Louise Myatt, Biomedical Sciences. 2015
3. Cierra Carter, Bioenvironmental Sciences. 2017
4. Allison Van Cleve, Chemistry. 2017-2018
5. Anna Lee, Biomedical Sciences. 2018
6. Tiffanie Vargas, Biomedical Sciences. 2018
7. Dylan McBee, Biochemistry. 2019-2020
8. Erin Sherman. Meteorology. 2020

High School Students:

1. Gabriela Ramirez, South Texas High School for Health Professions. Summer 2019
2. Abril Reyes, Mercedes High School. Summer 2018

High School Teachers:

1. Jennifer Garza, Mercedes High School. Summer 2019

Research Grants

Current Funding

(External awards)

2020- 2023 Robert Wood Johnson Foundation Interdisciplinary Leaders Program

Joppa Environmental Equity Project: Examining the impact of air pollution on community health and redressing environmental racism. Total award \$345,600 – Co-Principal Investigator

2017- 2022 National Institute of Environmental Health Sciences R01 ES028866

Mechanisms of Particulate Matter Driven Infant Respiratory Disease. Total award \$2,068,455 – Principal Investigator

2019-2024 National Institute of Environmental Health Sciences P30 ES029067

Texas A&M Center for Environmental Health Research. Integrative Health Sciences Facility Core (IHSFC) \$217,974 – IHSFC Co-director (PI David Threadgill)

2016-2021 National Institute of Environmental Health Sciences T32 ES026568

Regulatory Science in Environmental Health and Toxicology. Total award \$1,337,971 – Co-Investigator/Director of Diversity in Training (PI Ivan Rusyn)

2016-2021 National Institute of General Medical Sciences R25 OD020219

The MENTORS (Model Education Networks to Optimize Rural Science) Project. Total award \$1,300,911 – Co-Investigator/Executive Committee Member (PI Robin Fuchs-Young)

(Internal awards)

2020-2022 Texas A&M University Research Development Fund

mRAPiD – Mobile Responding to Air Pollution in Disasters. Total award \$489,090 – Principal Investigator

2020-2021 National Institute of Environmental Health Sciences P30 ES029067

Texas A&M Center for Environmental Health Research Pilot Grant, Air pollution and the gut-lung axis: mitigation of particulate matter-induced pulmonary immune modulation through neonatal *Bifidobacterium breve* supplementation. Total award \$50,000 – Principal Investigator

2020-2021 National Institute of Environmental Health Sciences P30 ES029067

Texas A&M Center for Environmental Health Research Pilot Grant, Health Risks and Hazard Perception of Airborne Toxic Metals to Vulnerable Populations Neighboring the Houston Ship Channel. Total award \$50,000 – Co-Investigator (PI Shankar Chellam)

2020 National Institute of Environmental Health Sciences P30 ES029067

Texas A&M Center for Environmental Health Research Integrative Health Sciences Facility Core Voucher, Chronic air pollution exposure and Covid-19 mortality: a cross-sectional study using air quality index. Total award \$10,000 – Principal Investigator

Previous Funding

2017- 2019 U.S. Department of Transportation, Center for Advancing Research in

Transportation Emissions, Energy and Health Border Crossing Emissions Impacts Study. Total sub-award \$100,000 – Co-Investigator (PI Tara Ramani)

2017-2018 National Institute of Environmental Health Sciences P30 ES023512

Center for Translational Environmental Health Research Pilot Grant, Maternal Benzene Exposure following Hurricane Harvey. Total award \$30,000 – Principal Investigator

2017-2018 National Institute of Environmental Health Sciences P30 ES023512

Center for Translational Environmental Health Research Pilot Grant, Comparison of post-Harvey environmental sampling and wristband results and translation of results to community residents and groups. Total award \$30,000 – Co-Investigator (PI Robin Fuchs-Young)

2017-2018 National Institute of Environmental Health Sciences P30 ES023512

Center for Translational Environmental Health Research Pilot Grant, Potentiation of preconception exposures and intrauterine environmental factors in a multiplex model of environmentally-induced dysgenesis. Total award \$50,000 – Co-Investigator (PI Mike Golding)

(Internal awards)

2018-2020 Texas A&M T3 Award

The Role of Malat1 and Nrf2 in Regulating Diabetogenic Effects of Early Life Air Pollution Exposure. Total award \$30,000 – Principal Investigator

2018-2020 Texas A&M University Tier One Program Award

Hands-On Training in Food Diversity – From Food Fraud to Public Health – Co-Investigator (PI Susanne Talcott)

2015-2016 Texas A&M School of Public Health Research Enhancement and Development Initiative Award

Impact of *in utero* aerosol exposure on asthma susceptibility. Total award \$25,000 – Principal Investigator

2014-2016 Texas A&M Transportation Institute; Texas A&M Health Science Center

Strategic Research Development for Health and Transportation. Total award \$120,000 – Principal Investigator

2014-2016 Texas A&M National Natural Science Foundation of China Collaborative Grant

Biomarkers of Prenatal Exposure to Particulate Air Pollution in U.S. and Chinese Populations. Total award \$50,000 – Principal Investigator

Professional Service

National and International Grant and Technical Document Reviews

NIH Study Section:

Special Emphasis Panel/Scientific Review Group ZES1 JAB-K T8 2, Sep 2020

Special Emphasis Panel/Scientific Review Group ZES1 JAB-D(C), Apr 2017

Special Emphasis Panel/Scientific Review Group ZES1 LWJ-J (U2), Nov 2015

Special Emphasis Panel/Scientific Review Group ZES1 LWJ-J (TG), Nov 2015

Special Emphasis Panel/Scientific Review Group ZES1 LKB (K9) 1, Nov 2015

Special Emphasis Panel/Scientific Review Group ZES1 LKB-D (C), Apr 2015

National Toxicology Program Technical Reviewer:

NTP Technical Report on the Toxicity Studies of *Aspergillus Fumigatus*, Dec 2020

French Foundation for Medical Research:

Environment and Health Proposals, Oct 2020

National Committees

Society of Toxicology Graduate Education and Career Development Committee, appointed 2020-present

Institute for Infectious Animal Diseases Advisory Board, appointed 2017-2020

Society of Toxicology Graduate Education Subcommittee, appointed 2018-2019

National Society Leadership Positions

Vice President, Society of Toxicology Lone Star Regional Chapter, 2020-2021

Councilor, Society of Toxicology Lone Star Regional Chapter, 2019-2020

Host Mentor, Society of Toxicology Committee for Diversity Initiatives Undergraduate Education Program, 2017-2018

Councilor, Society of Toxicology Occupational and Public Health Specialty Section, 2015-2017

Postdoc Representative, Society of Toxicology Committee for Diversity Initiatives, 2011-2013

Postdoc Representative, Society of Toxicology Food Safety Specialty Section, 2011-2013
Peer Mentor, Society of Toxicology Committee for Diversity Initiatives Undergraduate
Education Program, 2008-2013

Journal Reviewer

- *Cancer Epidemiology, Biomarkers, and Prevention*
- *Chemosphere*
- *Environment International*
- *Environmental Health Perspectives*
- *European Respiratory Journal*
- *G3 Genes, Genomes, Genetics*
- *Inhalation Toxicology*
- *International Journal of Environmental Research and Public Health*
- *Journal of Toxicology and Environmental Health*
- *PLOS ONE*
- *Science of the Total Environment*
- *Sustainability*
- *Texas Public Health Journal*
- *Toxicology in Vitro*
- *Toxins*
- *World Mycotoxin Journal*

University Committees

Texas A&M Institute for Genomic Medicine Advisory Board, 2020-present
Texas A&M Presidential Clinical Research Partnership Grant Review Panel, 2020
Texas A&M College of Veterinary Medicine and Biomedical Sciences Small Animal Hospital Visioning Committee, 2020
Texas A&M One Health Campus Council, 2015-2018
Texas A&M Health Science Center Environmental Management Committee, 2014-2017
Texas A&M Research Subcommittee, Distinguished Achievement Selection Committee, 2014

Interdisciplinary Program in Toxicology

Executive Committee (Vice-chair), 2016-present
Admissions Committee, 2016-present

School of Public Health Committees

Department of Epidemiology & Biostatistics Department Head Search Committee, 2020-2021
Strategic Planning Committee for School of Public Health, 2020
Delta Omega, President 2019-2020
Dean Search Committee for School of Public Health, 2019
Faculty Search Committee for Health Promotion and Community Health Sciences, 2017
Research Committee, 2014-present
Founder/Faculty Advisor, Environmental Sustainability Group, 2013-present
Wellness Committee, 2015-2018

Department of Environmental & Occupational Health Committees

Tenure & Promotion Committee