# Ethan S. Walker, PhD, MPH, BSN

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## **EDUCATION**

PhD, Environmental Health | Epidemiology Colorado State University (2019)

Master of Public Health, Epidemiology Colorado School of Public Health (2017)

**Bachelor of Science in Nursing** University of Kansas School of Nursing (2010)

## PROFESSIONAL EXPERIENCE

**Assistant professor** Center for Population Health Research

2021 – current School of Public and Community Health Sciences

University of Montana, Missoula, MT, USA

**Postdoctoral researcher** School of Public and Community Health Sciences

2019 – 2021 University of Montana, Missoula, MT, USA

**Research assistant** Department of Environmental and Radiological Health Sciences

2015 – 2019 Colorado State University, Fort Collins, CO, USA

**Practicum Student**Larimer County Department of Health and Environment

2016 Fort Collins, Colorado, USA

Certified Clinical Analyst University of Kansas Hospital

2012 – 2014 Kansas City, Kansas, USA

**Orthopedic Nurse** Shawnee Mission Medical Center

2011 – 2012 Kansas City, Kansas, USA

Medical/Surgical Nurse Cushing Memorial Hospital

2010 – 2011 Leavenworth, Kansas, USA

## **SCHOLARLY ACTIVITIES**

## **PUBLICATIONS**

- **Walker, E.S.**, C.W. Noonan, A. Belcourt, et al., Efficacy of air filtration and education interventions on fine particulate matter among rural native American homes heated with wood stoves: Results from the EldersAIR randomized trial, Science of the Total Environment (2022), https://doi.org/10.1016/j.scitotenv.2022.157029
- Walker, E. S., E. O. Semmens, A. Belcourt, B. B. Boyer, E. Erdei, J. Graham, S. E. Hopkins, et al. "Efficacy of Air Filtration and Education Interventions on Indoor Fine Particulate Matter and Child Lower Respiratory Tract Infections among Rural U.S. Homes Heated with Wood Stoves: Results from the Kidsair Randomized Trial." Environ Health Perspect 130, no. 4 (Apr 2022): 47002. https://doi.org/10.1289/EHP9932. https://www.ncbi.nlm.nih.gov/pubmed/35394807.
- Walker, E. S., C. W. Noonan, E. O. Semmens, D. Ware, P. Smith, B. B. Boyer, E. Erdei, et al. "Indoor Fine Particulate Matter and Demographic, Household, and Wood Stove Characteristics among Rural Us Homes Heated with Wood Fuel." Indoor Air (Feb 23 2021). https://doi.org/10.1111/ina.12808. https://www.ncbi.nlm.nih.gov/pubmed/33620109.
- Walker, E. S., K. M. Fedak, N. Good, J. Balmes, R. D. Brook, M. L. Clark, T. Cole-Hunter, et al. "Acute Differences in Blood Lipids and Inflammatory Biomarkers Following Controlled Exposures to Cookstove Air Pollution in the Stoves Study." Int J Environ Health Res (Jul 2 2020): 1-14. https://doi.org/10.1080/09603123.2020.1785402. https://www.ncbi.nlm.nih.gov/pubmed/32615777.
- Walker, E. S., K. M. Fedak, N. Good, J. Balmes, R. D. Brook, M. L. Clark, T. Cole-Hunter, et al. "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." Environ Res 180 (Jan 2020): 108831. <a href="https://doi.org/10.1016/j.envres.2019.108831">https://doi.org/10.1016/j.envres.2019.108831</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/31648072">https://www.ncbi.nlm.nih.gov/pubmed/31648072</a>.
- Walker, E. S., M. L. Clark, B. N. Young, S. Rajkumar, M. L. Benka-Coker, A. M. Bachand, R. D. Brook, et al. "Exposure to Household Air Pollution from Biomass Cookstoves and Self-Reported Symptoms among Women in Rural Honduras." Int J Environ Health Res 30, no. 2 (Apr 2020): 160-73. <a href="https://doi.org/10.1080/09603123.2019.1579304">https://doi.org/10.1080/09603123.2019.1579304</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/30760020">https://www.ncbi.nlm.nih.gov/pubmed/30760020</a>.
- Montrose, L., E. S. Walker, S. Toevs, and C. W. Noonan. "Outdoor and Indoor Fine Particulate Matter at Skilled Nursing Facilities in the Western United States During Wildfire and Non-Wildfire Seasons." Indoor Air 32, no. 6 (2022). https://doi.org/10.1111/ina.13060.
- Schuller, A., E. S. Walker, J. M. Goodrich, M. Lundgren, and L. Montrose. "Indoor Air Quality Considerations for Laboratory Animals in Wildfire-Impacted Regions—a Pilot Study." Toxics 10, no. 7 (2022). <a href="https://doi.org/10.3390/toxics10070387">https://doi.org/10.3390/toxics10070387</a>.
- Reed, I. G., **E. S. Walker**, and E. L. Landguth. "Sars-Cov-2 Serial Interval Variation, Montana, USA, March 1-July 31, 2020." Emerg Infect Dis 27, no. 5 (May 2021): 1486-91. https://doi.org/10.3201/eid2705.204663. https://www.ncbi.nlm.nih.gov/pubmed/33900189.
- Benka-Coker, M. L., B. N. Young, J. P. Keller, E. S. Walker, S. Rajkumar, J. Volckens, N. Good, et al. "Impact of the Wood-Burning Justa Cookstove on Fine Particulate Matter Exposure: A Stepped-Wedge Randomized Trial in Rural Honduras." Sci Total Environ 767 (May 1 2021): 144369. <a href="https://doi.org/10.1016/j.scitotenv.2020.144369">https://doi.org/10.1016/j.scitotenv.2020.144369</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/33429278">https://www.ncbi.nlm.nih.gov/pubmed/33429278</a>.
- Cole-Hunter, T., R. Dhingra, K. M. Fedak, N. Good, C. L'Orange, G. Luckasen, J. Mehaffy, **et al.** "Short-Term Differences in Cardiac Function Following Controlled Exposure to Cookstove Air Pollution: The Subclinical Tests on Volunteers Exposed to Smoke (Stoves) Study." Environ Int 146 (Jan 2021): 106254. <a href="https://doi.org/10.1016/j.envint.2020.106254">https://doi.org/10.1016/j.envint.2020.106254</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/33221594">https://www.ncbi.nlm.nih.gov/pubmed/33221594</a>.
- Fedak, K. M., N. Good, **E. S. Walker**, J. Balmes, R. D. Brook, M. L. Clark, T. Cole-Hunter, et al. "Acute Changes in Lung Function Following Controlled Exposure to Cookstove Air Pollution in the

- Subclinical Tests of Volunteers Exposed to Smoke (Stoves) Study." Inhal Toxicol 32, no. 3 (Feb 2020): 115-23. <a href="https://doi.org/10.1080/08958378.2020.1751750">https://doi.org/10.1080/08958378.2020.1751750</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/32297528">https://www.ncbi.nlm.nih.gov/pubmed/32297528</a>.
- Fedak, K. M., N. Good, E. S. Walker, J. Balmes, R. D. Brook, M. L. Clark, T. Cole-Hunter, et al. "Acute Effects on Blood Pressure Following Controlled Exposure to Cookstove Air Pollution in the Stoves Study." J Am Heart Assoc 8, no. 14 (Jul 16 2019): e012246. https://doi.org/10.1161/JAHA.119.012246. https://www.ncbi.nlm.nih.gov/pubmed/31286826.
- Young, B. N., J. L. Peel, M. L. Benka-Coker, S. Rajkumar, **E. S. Walker**, R. D. Brook, T. L. Nelson, et al. "Study Protocol for a Stepped-Wedge Randomized Cookstove Intervention in Rural Honduras: Household Air Pollution and Cardiometabolic Health." BMC Public Health 19, no. 1 (Jul 8 2019): 903. <a href="https://doi.org/10.1186/s12889-019-7214-2">https://doi.org/10.1186/s12889-019-7214-2</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/31286921">https://www.ncbi.nlm.nih.gov/pubmed/31286921</a>.
- Bilsback, K. R., J. Dahlke, K. M. Fedak, N. Good, A. Hecobian, P. Herckes, C. L'Orange, **et al.** "A Laboratory Assessment of 120 Air Pollutant Emissions from Biomass and Fossil Fuel Cookstoves." Environ Sci Technol 53, no. 12 (Jun 18 2019): 7114-25. <a href="https://doi.org/10.1021/acs.est.8b07019">https://doi.org/10.1021/acs.est.8b07019</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/31132247">https://www.ncbi.nlm.nih.gov/pubmed/31132247</a>.
- Witinok-Huber, R., M. L. Clark, J. Volckens, B. N. Young, M. L. Benka-Coker, **E. S. Walker**, J. L. Peel, et al. "Effects of Household and Participant Characteristics on Personal Exposure and Kitchen Concentration of Fine Particulate Matter and Black Carbon in Rural Honduras." Environ Res (Jul 9 2022): 113869. <a href="https://doi.org/10.1016/j.envres.2022.113869">https://doi.org/10.1016/j.envres.2022.113869</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/35820656">https://www.ncbi.nlm.nih.gov/pubmed/35820656</a>.
- Fedak, K. M., N. Good, **E. S. Walker**, M. L. Clark, C. L'Orange, J. Volckens, and J. L. Peel. "An Expert Survey on the Material Types Used to Start Cookstoves." Energy Sustain Dev 48 (Feb 2019): 59-66. <a href="https://doi.org/10.1016/j.esd.2018.11.001">https://doi.org/10.1016/j.esd.2018.11.001</a>. <a href="https://www.ncbi.nlm.nih.gov/pubmed/31598056">https://www.ncbi.nlm.nih.gov/pubmed/31598056</a>.
- Young, B. N., N. Good, J. L. Peel, M. L. Benka-Coker, J. P. Keller, S. Rajkumar, **E. S. Walker**, et al. "Reduced Black Carbon Concentrations Following a Three-Year Stepped-Wedge Randomized Trial of the Wood-Burning Justa Cookstove in Rural Honduras." Environmental Science & Technology Letters (2022). <a href="https://doi.org/10.1021/acs.estlett.2cooo98">https://doi.org/10.1021/acs.estlett.2cooo98</a>.

#### GRANT ACTIVITY

- Funding source: Center for Population Health Research, NIH-NIGMS, P20GM130418
  - o Funding amount: \$149,961
  - o Dates: 03/21/2023 02/29/2024
  - Title: Wildfires and arrhythmias: evaluating associations and intervention strategies.
  - O Purpose: As wildfires continue to increase across the United States, there is a critical need for the development and evaluation of intervention strategies that reduce wildfire exposures and improve health outcomes. We are collaborating with a local cardiovascular clinic to assess associations between air pollution and cardiovascular arrhythmias and to develop and evaluate a household-level air pollution intervention program. The proposed work will inform a future randomized trial to assess the efficacy of the intervention program at lowering air pollution exposures and decreasing cardiovascular arrhythmias.
  - o Role: PI
- Funding source: ECHO IdEA States Pediatric Clinical Trial Network, NIH-OD, U24OD024957, Subaward from the Board of Trustees of the University of Arkansas
  - o Funding amount: \$275,440
  - o Dates: 09/01/2022 08/31/2023
  - o Title: BREATHE UM Central Site Startup
  - Purpose: Acute viral bronchiolitis is the most common reason for hospitalization of infants in the United States. Children hospitalized for bronchiolitis are at high risk for adverse respiratory outcomes for which there are no effective secondary prevention strategies.
     Improvement of indoor air quality may improve post-bronchiolitis health outcomes. The primary objective of the Bronchiolitis Recovery through HEPA (BREATHE) clinical trial is to

determine if use of a HEPA filtration home intervention reduces the respiratory symptom burden over 24 weeks compared to a use of a control filter. The UM Central site is leading management of all equipment and indoor air quality data for BREATHE.

- o Role: Co-I
- Funding source: Center for Population Health Research, NIH-NIGMS, P20GM130418
  - o Funding amount: \$49,995
  - o Dates: 04/20/2022 02/28/2023
  - o Title: A novel approach to assess wildfire air pollution and cardiovascular health.
  - Purpose: The public health impact of wildfire air pollution is difficult to assess due to the transient, unpredictable nature of wildfire smoke events. We are proposing a novel framework to assess the impact of wildfire air pollution on cardiovascular outcomes in a field setting using low-cost air pollution sensors and remote measurement of health data. This study framework will provide a platform for high-impact extramural applications aimed at reducing wildfire exposures among vulnerable populations.
  - o Role: PI
- Funding source: ECHO IdEA States Pediatric Clinical Trial Network, NIH-OD, U24OD024957,
   Subaward from the Board of Trustees of the University of Arkansas
  - Funding amount: \$482,538
  - o Dates: 01/01/2022 08/31/2022
  - o Title: BREATHE UM Central Site Startup
  - O Purpose: Acute viral bronchiolitis is the most common reason for hospitalization of infants in the United States. Children hospitalized for bronchiolitis are at high risk for adverse respiratory outcomes for which there are no effective secondary prevention strategies. Improvement of indoor air quality may improve post-bronchiolitis health outcomes. The primary objective of the Bronchiolitis Recovery through HEPA (BREATHE) clinical trial is to determine if use of a HEPA filtration home intervention reduces the respiratory symptom burden over 24 weeks compared to a use of a control filter. The UM Central site is leading management of all equipment and indoor air quality data for BREATHE.
  - o Role: Co-I
- Funding source: Clinical Translational Research Infrastructure Network (CTR-IN), NIH-NIGMS, U54GM104944, Subaward from Boise State University
  - o Funding amount for subaward: \$20,362
  - o Dates: 07/15/2021 02/28/2022
  - Title: Air Quality-Focused Personnel Intervention to Improve Health Among Nursing Home Residents.
  - O Purpose: In this CTR-IN pilot we propose to work collaboratively with the long-term care community to develop and trial a personnel-based intervention aimed at mitigating the negative health impacts of poor indoor air quality that results from episodic ambient air pollution events such as wildfires. The main objective that will be addressed by the University of Montana subaward is to demonstrate the feasibility of relating indoor air quality with respiratory health outcomes. Using low-cost onsite air quality monitoring and facility-level health data, we will produce preliminary data to support a largescale version of the pilot.
  - o Role: PI

## **PRESENTATIONS**

#### **Oral Presentations:**

- International Society of Environmental Epidemiology North American Chapter Conference, June 2023, Oral Presentation. "A novel framework for particulate matter exposure assessment in a multisite clinical trial: The BREATHE Study (Bronchiolitis Recovery and the Use of High Efficiency Particulate Air Filters."
- International Society of Environmental Epidemiology North American Chapter Conference, June 2023, Oral Presentation. "Fine particulate matter infiltration at Western Montana residences during wildfire season."

- Research Education on Air & Cardiovascular Health (REACH) Teacher Workshop, August 2022, Oral Presentation. "Wildfires and cardiovascular health: a research overview, a crash course in study design, and examples from Montana."
- Summer Undergraduate Research Program Seminar, July 2022, Oral Presentation. "Air Pollution Research Methods in Community Settings."
- Center for Population Health Research Symposium, July 2022, Oral Presentation. "Wildfires and cardiovascular health in Western Montana: a progress update and future directions."
- Summer Undergraduate Research Program Seminar, June 2022, Oral Presentation. "Introduction to Data Science and R."
- Residential Wood Smoke Working Group, May 2022, Oral Presentation. "Residential wood smoke studies at the University of Montana."
- Missoula City County Health Department and University of Montana Academic Health Department Symposium, May 2022, Oral Presentation. "Wildfire Smoke Adaptations."
- Missoula City County Health Department and University of Montana Academic Health Department Symposium, May 2022, Oral Presentation. "Covid-19 Epidemiological Situation Unit Update."
- Global Public Health Seminar, University of Montana, February 2022, Oral Presentation. "Impact of the wood-burning Justa cookstove on household air pollution and cardiometabolic health: A stepped-wedge randomized trial in rural Honduras."
- Advancing Sustainable Household Energy Solutions (ASHES) Webinar, January 2022, Oral Presentation. "Impact of the wood-burning Justa cookstove on household air pollution and cardiometabolic health: A stepped-wedge randomized trial in rural Honduras."
- Center for Population Health Research Symposium, October 2021, Oral Presentation. "Novel approaches to assess biomass air pollution and cardiometabolic health."
- 2021 Bi-Annual Navajo Research Conference, October 2021, Oral Presentation. "Wood stove interventions and indoor air pollution."
- 2021 Bi-Annual Navajo Research Conference, October 2021, Oral Presentation. "Wood stove interventions and respiratory infection."
- Panelist for Celebration of Undergraduate Research and Creative Scholarship, University of Montana, 2021, Oral Presentation. "UM's Public Health and Pandemic Response"
- Panelist for Mansfield Dialogues, University of Montana, 2021, Oral Presentation. "Serving Montana: UM's Public Health COVID-19 Response"
- Rocky Mountain Regional Wildfire Smoke Symposium, Boise State University, 2020, Oral Presentation. "Fine particulate matter measurements inside and outside buildings in a community impacted by wildfire"
- Pettinato Lecture, University of Montana, 2020, Oral Presentation. "Epidemiology and the response to COVID-19 in Montana"
- COVID-19 Epidemiology Situation Unit Press Conferences, Missoula City County Health Department, Missoula, MT, multiple occurrences in 2020-2021, Oral Presentation.
- Public Health Seminar, University of Montana, 2019, Oral Presentation. "Associations between air pollution emitted from cookstoves and central hemodynamics, arterial stiffness, and blood lipids in laboratory and field settings"
- Dissertation Defense Presentation, Colorado State University, 2019, Oral Presentation. "Associations between air pollution emitted from cookstoves and central hemodynamics, arterial stiffness, and blood lipids in laboratory and field settings"
- Dissertation Proposal Presentation, Colorado State University, 2018, Oral Presentation. "Assessing the associations between air pollution emitted from cookstoves and cardiovascular outcomes of arterial stiffness, inflammation, and lipid metabolism in laboratory and field settings"
- Guest lecturer for undergraduate course Introduction to Environmental Health, Colorado State University, 2018, Oral Presentation. "Research in Environmental Epidemiology"
- Vice President for Research 3-Minute Thesis Competition Finalist, Colorado State University, 2018, Oral Presentation. "Household Air Pollution, Health, and the Basic Human Rights of 3 Billion"
- MPH Capstone Presentation, Colorado School of Public Health, 2017, Oral Presentation. "Household Air Pollution and Self-Reported Health Symptoms"

#### First Author Abstracts and Poster Presentations:

- International Society of Environmental Epidemiology Conference, 2022, Poster Presentation. "Fine particulate matter infiltration at skilled nursing facilities during wildfire season in the Western United States"
- International Society of Environmental Epidemiology Conference, 2021, Poster Presentation. "Intervention efficacy in reducing childhood lower respiratory infections and indoor fine particulate matter among US households with wood heating stoves"
- International Society of Environmental Epidemiology Conference, 2020, Poster Presentation. "Acute Differences in Inflammatory Biomarkers Following Controlled Exposures to Cookstove Air Pollution in the Subclinical Tests of Volunteers Exposed to Smoke (STOVES) Study"
- International Society of Environmental Epidemiology Conference, 2020, Poster Presentation. "Blood pressure, spirometry, and indoor fine particulate matter in homes heated by wood stoves: pre-intervention results from the EldersAIR randomized trial"
- International Society of Environmental Epidemiology Conference, 2020, Poster Presentation. "Indoor fine particulate matter and stove-use characteristics in homes heated by wood stoves: results from control homes in the KidsAIR randomized trial"
- International Society of Environmental Epidemiology Conference, 2019, Poster Presentation. "Acute Changes in C-reactive Protein and Lipoproteins Following Controlled Exposures to Cookstove Air Pollution in the Subclinical Tests of Volunteers Exposed to Smoke (STOVES) Study"
- International Society of Environmental Epidemiology Conference, 2019, Poster Presentation. "Effects of an improved biomass cookstove intervention on augmentation index and central pulse pressure during a randomized controlled trial in rural Honduras"
- International Society of Environmental Epidemiology Conference, 2018, Poster Presentation. "Acute Changes in Augmentation Index and Pulse Wave Velocity Following Controlled Exposures to Cookstove Air Pollution in the Subclinical Tests of Volunteers Exposed to Smoke (STOVES) Study"
- Colorado State University Graduate Student Showcase 2017, Poster Presentation. "Household Air Pollution and Self-Reported Health Symptoms in Honduras"
- MPH Capstone Poster Presentation 2017, Poster Presentation. "Household Air Pollution and Self-Reported Health Symptoms"

# Coauthor Abstracts and Presentations (\* Indicates student presentation for which I was the primary advisor/mentor):

- \*Stewart, T., International Society of Environmental Epidemiology North American Chapter Conference, June 2023, Poster Presentation. "Wildfires, cardiovascular health and human behavior: a pilot study in Western Montana."
- \*Stewart, T., Montana Public Health Association and Montana Environmental Health Association Conference, April 2023, Oral Presentation. "Wildfires, cardiovascular health and human behavior: a pilot study in Western Montana."
- \*McIver, A., Society of Toxicology Conference, March 2023, Poster Presentation. "Self-reported health outcomes and fine particulate matter at Western Montana residences during the 2022 wildfire season."
- \*Stewart, T., Rocky Mountain Wildfire Symposium, November 2022, Oral Presentation. "A Novel Remote Wildfire Smoke Study."
- Slater, K., et al. International Society for Environmental Epidemiology Conference, September 2022, Poster Presentation. "Impact of the wood-burning Justa stove on Fractional Exhaled Nitric Oxide: A stepped-wedge randomized trial in Honduras."
- Young, B., et al. International Society for Environmental Epidemiology Conference, September 2022. "Impact of the wood-burning Justa stove on C-reactive protein: A stepped-wedge randomized trial in Honduras."
- \*Stewart, T., Center for Population Health Research Symposium, July 2022, Oral Presentation. "A Novel Remote Wildfire Smoke Study."

- Montrose, L., et al. American Geophysical Union (AGU) Conference, December 2021. "Outdoor and indoor fine particulate at skilled nursing facilities in a wildfire impacted landscape."
- Young B, et al. International Society of Environmental Epidemiology Conference, 2020: "Effects of a randomized biomass cookstove intervention on glycated hemoglobin among women in Honduras"
- Hagler G, et al. International Society of Environmental Epidemiology Conference, 2020: "Monitoring for clean air spaces during wildfire events"
- Fedak KM, et al. International Society of Environmental Epidemiology Conference, 2019: "Acute changes in lung function following controlled exposure to cookstove air pollution in the Subclinical Tests on Volunteers Exposed to Smoke (STOVES) Study"
- Fedak KM, et al. International Society of Environmental Epidemiology Conference, 2018: "Acute Changes in Blood Pressure Following Controlled Exposures to Cookstove Air Pollution in the Subclinical Tests of Volunteers Exposed to Smoke (STOVES) Study"
- Bilsback K, et al. International Society of Environmental Epidemiology Conference, 2017: "Household Cookstoves: A Comprehensive Assessment of Health-Relevant Emissions"
- Bilsback K, et al. American Association for Aerosol Research Conference, 2017: "A Laboratory Assessment of PM<sub>2.5</sub> and CO as Markers of Cookstove Air Pollution Composition"

## **TEACHING**

- Data Science and Research Methods Using R (PUBH 691), University of Montana, Fall 2022
  - New course developed for Public Health Program
- Guest lecturer for Environmental Health graduate course, University of Northern Colorado, Colorado School of Public Health, 2021
- Co-developer and co-instructor for Basics of Epidemiology Workshop, Montana Public Health Training Center, 2020 and 2022
- Guest lecturer for Advanced Quantitative Methods graduate course, University of Montana, School of Public and Community Health Sciences, 2020
- Guest lecturer for Environmental Health undergraduate course, Colorado State University, 2018
- Graduate Teaching Assistant for MPH Course Introduction to Epidemiology, Colorado School of Public Health, 2018
  - o Lectured on identifying study designs and their various strengths and weaknesses
  - Lectured on theoretical and statistical concepts of confounding
  - o Lectured on research methods and PhD research
  - Wrote exam and quiz questions on epidemiological concepts
  - o Held weekly office hours to explain concepts in more detail
- Mentor for MPH student Capstone Project, 2018
  - Extensive contributor to linear regression analysis and deliverables: abstract, poster, oral presentation, and final written document for project.
- Undergraduate Teaching Assistant, Introduction to Biology, Kansas State University, 2008

# PROFESSIONAL HONORS, AWARDS, AND SERVICE

- Air Quality Advisory Council member, Appointed by Missoula City-County Health Department Air Pollution Control Board, July 2022 – July 2025
- Data analyst, Epidemiology Situation Unit COVID-19 response team for Missoula City County Health Department, Missoula, MT
- Technical reviewer:
  - Science of the Total Environment
  - Environmental Science and Technology
  - Journal of Health and Pollution
  - o Air Quality, Atmosphere & Health

- o International Journal of Environmental and Occupational Health
- o International Journal of Hygiene and Environmental Health
- o International Journal of Environmental Research and Public Health
- o International Society for Environmental Epidemiology conference abstract reviewer

#### Member

- American Association for the Advancement of Science
- o Delta Omega Honor Society for graduate studies in Public Health
- o International Society for Environmental Epidemiologists
- o Society for Epidemiologic Research
- University of Montana School of Public and Community Health Sciences
  - o PhD Admissions Committee, Spring 2022
  - Faculty Evaluation Committee, Fall 2022
  - o Strategic Planning Committee, 2022-2023
- Vice President for Research 3-Minute Thesis Competition Finalist, Colorado State University
- Newcomer award at Shawnee Mission Medical Center
- Honor Roll at University of Kansas School of Nursing