# Martha G. Rhoades

Research Assistant Professor of Environmental Health and Toxicology
*School of Natural Resources*
Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln


## OFFICE


102 Kiesselbach Crops Research Laboratory, Lincoln, NE, USA 68583-0817
PH: +1-402-472-1633; FAX: +1-402-472-7904
Email: mrhoades1@unl.edu
ORCID: 0009-0008-8216-7328


## EDUCATION

**Ph.D.** Environmental Toxicology
University of Nebraska Medical Center, 2010
Dissertation: *Nitrate and Atrazine Contaminated Drinking Water as Risk Factor for Non-Hodgkin Lymphoma in Nebraska*

**B.S.** Dual Major: Chemistry; Psychology
University of Nebraska-Lincoln (UNL), 2001

**Diploma.** Medical Assistant
Omaha College of Health Careers, Omaha, NE, 1980

## CURRENT AND PREVIOUS POSITIONS

| | |
|---|---|
| 7/2024 to present | *Research Assistant Professor of Environmental Health and Toxicology*, School of Natural Resources (SNR), UNL |
| 7/2014 to 7/2024 | *Research Manager*, SNR, UNL |
| 7/2004 to 6/2014 | *Laboratory Manager/Research Technologist*, SNR, UNL |
| 3/2001 to 4/2015 | *Medical Transcriptionist*, Saint Elizabeth Regional Medical Center/Conifer Solutions, Lincoln, NE |
| 10/2001 to 8/2003 | *Analytical Chemist*, U.S. Army Corps of Engineers, Environmental Chemistry Branch, Omaha Facility, Omaha, NE |
| 9/1990 to 9/2000 | *Medical Transcriptionist*, Pulmonary Specialties, P.C., Lincoln, NE |

## MAJOR RESEARCH INTERESTS

- Impacts of agrichemicals, their degradation products, and mixtures on drinking water quality
- Gene-environment interactions
- Environmental toxicology/epidemiology
- One Health principles of integrated approach to health and ecosystems.

## REFEREED PUBLICATIONS (*undergraduate; **graduate student)


VanDeSteeg GN**, Russum AR*, Sandbulte MR, Rogan EG, **Rhoades MR**. Environmental Pesticide Exposure in the Etiology of Pediatric Brain Tumors and Leukemia: A Scoping Review of Epidemiological Studies. *International Journal of Cancer*. 2026: 159(6) 1360–1384, https://doi.org/10.1002/ijc.70546.

**Rhoades MG**, Adjei AK**, Barnes-Josiah DL, Spalding RF, Howard LM, Steele CE, Eskridge KM. Ecological study exploring relationships between county level birth defect rates and nitrate, atrazine, and other nitrosatable agrichemicals in Nebraska groundwater. *ACS ES&T Water*. 2025:5(7) 3643-3651. DOI:10.1021/acsestwater 4c01061.

Joshi N**, **Rhoades MG**, Bennett GD, Wells SM, Mirvish SS, Breitbach MJ*, Shea PJ. Developmental abnormalities in chicken embryos exposed to *N*-nitrosoatrazine. *Journal of Toxicology and Environmental Health, Part A*. 2013: 76(17) 1015-1022. DOI:10.1080/15287394.2013.831721.

**Rhoades MG**, Meza JM, Beseler CL, Shea PJ, Kahle A, Vose JM, Eskridge, KM, Spalding RF. Atrazine and nitrate in public drinking water supplies associated with non-Hodgkin lymphoma in Nebraska USA. *Environmental Health Insights* 2013:7 15-27. https://doi.org/10.4137/EHI.S10629.

Wei HR**, **Rhoades MG**, Shea PJ. 2011. Formation, adsorption, and stability of *N*-nitrosoatrazine in water and soil. Ed. Benvenuto MA, Roberts-Kirchhoff ES, Murray MN, Garshott DM. Ch. 1, pp. 3-19 in *It's All in the Water: Studies of Materials and Conditions in Fresh and Salt Water Bodies*. ACS Symposium Series 1086. American Chemical Society, Washington, DC. DOI: 10.1021/bk-2011-1086.ch001

*In review*

**Rhoades MG,** Adjei AK**, Eskridge KM, Barnes-Josiah DL, Gilmore TE. Pilot study of birth defect risk associated with maternal exposure to agrichemical mixtures in household drinking water. *Journal of Applied Toxicology*

*In preparation:*

PytlikZillig LM, **Rhoades MG**, Jorgens K. Barriers and facilitators to participation in an environmental epidemiological study of birth outcomes and water quality. Target journal: *BMC Medical Research Methodology*

Rhoades MG, et al. Maternal exposure to nitrate and nitrite in drinking water, salivary nitrate and nitrite and risk of adverse birth outcomes in Nebraska, USA

Rhoades MG, et al. An ecological study exploring relationships between birth weight and nitrate, atrazine, and other nitrosatable agrichemicals in Nebraska groundwater.

Rhoades MG, et al. *N*-nitrosoatrazine and avian embryogenesis.

Rhoades MG, et al. The Birth Outcomes and Water (BOW) study. A multidisciplinary case-control epidemiology study to evaluate the association between agrichemical mixtures in drinking water and risk for birth defects in Nebraska, USA.

## BOOK CHAPTERS

**Rhoades MG**, Meza JM, Beseler CL, Shea PJ, Kahle A, Vose JM, Spalding ME, Spalding RF. Evaluating mixtures in drinking water supplies as risk factors for cancer: A case study of nitrate and atrazine. Chapter 2, p. 21-62 in *Epidemiology II - Theory, Research and Practice.* I -Concept Press, Ltd., Hong Kong 2015

## INVITED ORAL PRESENTATIONS

Birth Outcomes and Water. Amplify Engagement Conference. Nebraska Extension. Lincoln, NE. May 11, 2022.

Nitrate +: Health Outcomes and Agrichemical Mixtures in Drinking Water. Public Health and Water Quality Webinar Series. January 31, 2022.

Studying health impacts of agrichemicals in drinking water: There is no place like Nebraska. Lower Platte North NRD Groundwater Management Area Meeting. Schuyler, NE. February 6, 2020.

Drinking Water and Public Health Research: The Birth Outcomes and Water (BOW) Study. 2019 Nebraska Water Conference. Norfolk, NE. October 9-10, 2019.

Agrichemical mixtures in drinking water and health outcomes in Nebraska, Nebraska Extension Educators. Webinar. July 10, 2019.

Linkages between agricultural water pollution and health. Why we know so little. 2019 Water for Food Global Conference. Lincoln, NE. April 29-30, 2019

Nebraska: A model for studying agrichemical mixtures in drinking water and health outcomes. Bazile Groundwater Management Area Winter Open House. Osmond, NE. February 7, 2018.

Agrichemical Mixtures in Drinking Water and Health Outcomes in Nebraska: Preliminary Findings and Research Opportunities. VA Nebraska and Northwest Iowa Research Seminar. Omaha, NE. October 13, 2017.

Non-Hodgkin Lymphoma, Birth Defects and Water Quality in Nebraska: Preliminary Findings and the Role of the Natural Resources Districts. Lower Elkhorn Natural Resources District Board meeting. Norfolk, NE. June 9, 2016.

Non-Hodgkin Lymphoma, Birth Defects and Water Quality in Nebraska: The Chicken or the Egg? Nebraska Water Center Spring Seminar Series. Lincoln, NE. January 13, 2016.

**PRESENTATIONS**

**Rhoades MG**, Eskridge KM, Barnes-Josiah DL. Maternal Exposure to Agrichemical Mixtures and Birth Outcomes: Two Nebraska Studies. Poster. 2025 Midwestern Symposium on Environmental Determinants of Pediatric Cancer and Congenital Anomalies. Omaha, NE. October 7, 2025

Adjei A, **Rhoades M**, Eskridge K, Barnes-Josiah D. From county level groundwater to individual household drinking water exposure: The impact of agrichemicals in drinking water on birth outcomes. Poster. Child Health Research Institute Pediatric Research Forum. Omaha, NE. May 8-9, 2025.

Adjei A, **Rhoades M**, Eskridge K, Barnes-Josiah D. From county level groundwater to individual household drinking water exposure: The impact of agrichemicals in drinking water on birth outcomes. Presentation. Daugherty Water for Food Global Institute Research Forum. Lincoln, NE. April 8, 2025.

Adjei A, **Rhoades M**, Eskridge K. The Nebraska Quality Clearinghouse: Linking groundwater agrichemicals and health. Natural Resources Tour for the Senators. Poster. Lincoln, NE. January 21, 2025.

Adjei A, **Rhoades M**, Eskridge K. Nebraska Groundwater Quality Clearinghouse: A valuable tool for linking health and agrichemicals in water. Poster. Water and Integrated Cropping Systems Conference – Creating Connections Together. Lincoln, NE. October 29, 2024. https://digitalcommons.unl.edu/wicsconf/5

Adjei A, **Rhoades M**, Eskridge K, Gilmore T. Adverse birth outcomes associated with maternal exposure to agrichemicals and their mixtures in personal drinking water. A Nebraska

(USA) case-control pilot study. Oral Presentation. 2024 Daugherty Water for Food Global Institute Research Forum. Lincoln, NE. April 17, 2024.

Adjei A, **Rhoades M**, Eskridge K. Comparative analysis of agrichemical mixtures in drinking water and birth defects in Nebraska. Oral presentation. Child Health Research Institute Annual Scientific Conference. Omaha, NE. November 3, 2023.

Adjei A, **Rhoades M**, Gilmore T & Eskridge K. Comparative analysis of agrichemical mixtures in drinking water and birth defects in Nebraska. Poster. 2023 Water and Integrated Cropping Systems Conference – Moving Beyond the Ordinary. Lincoln, NE. October 24, 2023.

Adjei A, **Rhoades M**, Gilmore T, Eskridge K. Agrichemicals, and birth defects in Nebraska: What is in the water? Oral presentation/Poster. Central States Regional Chapter of the Society of Toxicology Conference – One World, One Health, One Toxicology. Lincoln, NE. October 19-20, 2023.

Adjei AK, **Rhoades MG**, Eskridge K. Exploring the multifactorial nature of birth defects in the Birth Outcomes and Water pilot study: The impacts of agrichemical exposure, maternal age and lifestyle. Poster. 2023 Daugherty Water for Food Global Institute Research Forum. April 13, 2023. Lincoln, NE.

**Rhoades MG**, Kniep KJ, Billings CD, Gilmore TE. Agrichemical mixtures in drinking water samples collected for the Birth Outcomes and Water study. Poster. 2022 WICS Conference – Water and Integrated Cropping Systems – Driving Research, Teaching and Extension Impact. November 30-December 1, 2022. Lincoln, NE.

**Rhoades MG**, Barnes-Josiah DL Spalding RF, Howard LM, Steele CE, and Beseler CL. Exploring nonlinearity in the association between birth defect rates and agrichemicals in groundwater in an agricultural state. Poster. Child Health Research Institute Pediatric Research Forum. May 5-6, 2022. Omaha, NE. https://digitalcommons.unmc.edu/chri_forum/59

New-Aaron M, Roslan N, **Rhoades M,** Meza J, Eskridge K. Epidemiological and laboratory evidence of the embryotoxic effects of nitrate and atrazine interaction. American Public Health Association. November 2-6, 2019. Philadelphia, PA. Poster DOI: 10.13140/RG.2.2.21334.19526

New-Aaron MO, **Rhoades MG**. Birth Outcomes and Water. Oral presentation. Midwest Rural Agriculture Safety and Health (MRASH) Conference. Council Bluffs, IA. November 27-29, 2018.

New-Aaron MO, Roslan NF, Wallman JJ, **Rhoades MG**, Meza JL. *N*-nitrosoatrazine and Avian Embryogenesis. Poster. Daugherty Water for Food Institute Water Symposium October 24-26, 2018.

New-Aaron M, Meza JL, Shea PJ, **Rhoades MG**. Birth Outcomes and Water: A Multidisciplinary Study. Poster. Central States Society of Toxicology meeting. Manhattan, KS. October 18-19, 2018.

Roslan NF, New-Aaron M, **Rhoades M**, Eskridge K. Effect of *N*-nitrosoatrazine on Embryogenesis in Avian Embryos. Poster. Central States Society of Toxicology meeting. Manhattan, KS. October 18-19, 2018.

New-Aaron M, **Rhoades M**, Meza JL, Wallman, J. Effect of Nitrosamine (NNAT) on Embryogenesis: Evidence from a Study Using Avian Embryos Exposed to NNAT. Poster. Midwest Biomedical Student Forum. Omaha, NE. February 17, 2018. http://digitalcommons.unmc.edu/coph_pres/9

New-Aaron M, **Rhoades M**, Meza J, Wallman J. An analysis of correlation between agrichemical contaminated wells and birth defects in Nebraska. Poster. College of Public Health Student Research Conference. University of Nebraska Medical Center. Omaha, NE. April 5, 2017.

Wallman JJ, Shea P, **Rhoades M**. Assessing *N*-Nitrosoatrazine toxicity in the chicken embryo. Poster. Undergraduate Student Poster Session and Creative Exhibition Research Fair. University of Nebraska-Lincoln. Lincoln, NE. April 4-5, 2017.

**Rhoades MG**, Howard LM, Steele CE, Shea PJ, Beseler CL, Raikes HH, Wallman JJ, Eskridge KM, Meza JL, New-Aaron MO, VanWormer E, Barnes-Josiah D, Gilmore TE, Rosenquist TH, Spalding RF. Risk of Adverse Birth Outcomes associated with wells testing positive for nitrate and nitrosatable agrichemical compounds in Nebraska: An ecological study. Poster. National Council for Science and the Environment National Conference and Global Forum on Science, Policy, and the Environment. Arlington, VA January 24-26, 2017.

**Rhoades MG**, Howard LM, Steele CE, Shea PJ, Raikes HH, VanWormer E, Travnicek DA, Eskridge KM, Spalding RF, Barnes-Josiah D, Rosenquist TH, Beseler CL. An ecological study evaluating the association between county birth defect rates and percent of wells testing positive for nitrate and nitrosatable agrichemical compounds in Nebraska, USA. Poster. Water for Food Global Conference. Lincoln, NE April 24-26, 2016.

Shim J, Oh BT, **Rhoades M**, Shea PJ. Development of a Novel Composite Adsorbent for Removal of Aromatic Odor and Antibiotic Compounds from Water. Poster. NRD's 2016 Legislative Conference. Lincoln, NE. January 27, 2016.

Shim J, **Rhoades M**, Shea PJ. Composite Alginate Beads for VOC and Heavy Metal(loid) Removal from Water. Poster. Daugherty Water for Food Institute Water Center Retreat, Kearney NE. October 7, 2015.

Ma S. Shim J, **Rhoades M**, Shea PJ. Development and Testing of Novel Composite Alginate Beads for Removal of Aromatic Odor and Antibiotic Compounds from Water. Poster. UNL Summer Research Fair August 12, 2015.

Gang X, Shim J, **Rhoades M**, Shea PJ. Materials for VOC Control in Feedlots: Preliminary Tests. Poster. UNL Summer Research Fair August 6, 2014.

Shim J, **Rhoades M**, Shea P.J. Development of Hybrid Alginate Beads for Contaminant Removal and Metal Recovery from Water and Waste Water. Poster. OP-SETAC Conference, May 20, 2014

Wei HR, **Rhoades MG**, Shea PJ. *N*-nitrosoatrazine Formation and Behavior in Water and Soil. 241$^{st}$ American Chemical Society National Meeting & Exposition. Anaheim, California March 30, 2011

**Rhoades MG,** Meza JM, Beseler CL, Vose JM, Shea PJ, Spalding RF. Non-Hodgkin Lymphoma Risk in Nebraska and Drinking Water Contaminants: Atrazine and Nitrate. American Public Health Association 138$^{th}$ Annual Meeting. Denver, CO. November 10, 2010

Joshi N, **Rhoades M**, Bennett GD, Wells SM, Shea PJ. Assessing the Formation and Biological Significance of Selected Environmental Nitrosamines Using Model Systems. American Public Health Association 138$^{th}$ Annual Meeting. Denver, CO. November 10, 2010

**Rhoades MG.** Agrochemical Contaminated Drinking Water and Risk of non-Hodgkin Lymphoma: Assessing the Exposure. College of Public Health Department of

Environmental, Agriculture and Occupational Health Department and Student Seminar. University of Nebraska Medical Center, 2008

Kim JS, Liu HY, **Rhoades MG**, Snow DD, Shea PJ. Nitrosamine Formation from Reaction of Pharmaceuticals and Pesticides with Nitrite and Chloramine. School of Natural Resources Research Colloquium. University of Nebraska Lincoln, 2007

Kim JS, **Rhoades MG**, Shea PJ. Formation of *N*-Nitrosamines from Reaction of Pharmaceuticals with Nitrite and Chloramine. Society of Toxicology, Central States meeting, 2007

Kim JS, **Rhoades MG**, Shea PJ. Formation and Fate of *N*-Nitrosamines from Pharmaceuticals at Physiological pH. American Chemical Society, National Meeting. 2006

**Rhoades MG**, Meza JL, Rogan EG, Exner ME, Spalding RF. A Spatial Model Exploring the Association of Groundwater Atrazine Concentration and the Incidence of Non-Hodgkin Lymphoma in Nebraska. Society of Environmental Toxicology and Chemistry, Ozark-Prairie Meeting, 2006.

Kim JS, **Rhoades MG**, Shea PJ. *N*-Nitrosamine Formation from Ethambutol at the pH of the Human Stomach. Society of Environmental Toxicology and Chemistry, Ozark-Prairie Meeting, 2006.

MacMillan DK, Hindemith AM, **Rhoades MG**. Isotope-Coded Affinity Tags and LC/MS for the Study of Human Hepatoma Cytochrome P450 Isozyme Response to 2,3,7,8-Tetrachlorodiabenzo-*p*-Dioxin Exposure. American Society of Mass Spectrometry. 2002

**Rhoades MG**, Schnitker PS, MacMillan DK. Determination of Solubility and Stability of the Three Degradation Products of Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX). 37$^{th}$ American Chemical Society Midwest Regional Meeting. 2002

MacMillan DK, Hindemith AM, **Rhoades MG**. LC/MS and Isotope Labeling to Evaluate Changes to Cytochrome P450 1A Expression After Exposure to 2,3,7,8-Tetra-Chlorodibenzo-*P*-Dioxin. 37th Midwest Regional Meeting of the American Chemical Society. 2002

## TEACHING

UNL interdisciplinary campus wide Bachelor of Science in Public Health degree program.
- Development committee. 2023-present
- Environmental One Health option proposal leader. 2023-present

Environmental Health (NRES/NUTR 330) – designed and developed. Achievement-Centered Education (ACE) 8 (ethics) certified. Part of International Studies Minor-College of Education and Human Sciences and International Agriculture and Natural Resources. Minor-College of Agricultural Sciences and Natural Resources. Offered spring semester.
- Primary instructor. 2018-present

Water Resources Seminar (NRES/AGRO/GEOG/GEOL 484/884 and WATS 484)
- Primary instructor. 2020-2024
- Co-instructor. 2014-2019

Environmental Communication Skills (NRES 301)
- Teaching assistant. 2016-2021

Forensic Toxicology (FORS 415/815) – designed and developed.
- Primary instructor. 2018-2019

Introduction to Agriculture and Natural Resource Systems
- Recitation instructor. 2012-2015

Toxins in the Environment

Teaching assistant. 2011

## MENTORING

### Graduate

Beenu Sarena 2026-present
Zora Zhang 2026-present
Ryan Barent 2026-present
Augustine Kena Adjei – PhD Statistics, UNL (co-advisor) 2023-2025
Krystal Davis – MPH Biostatistics, UNMC 2019
Augustin Bakauon – MPH Biostatistics, UNMC 2018
Moses New-Aaron – MPH Biostatistics, UNMC 2016-2018
Jason Reed – Master of Applied Science, UNL 2018
DaiTrang Le – MPH Epidemiology, UNMC 2018
Jessyka Johnson – MPH Public Health Practice, UNMC (Capstone supervisor/committee member) 2018

### Undergraduate (total UCARE funding: $38,400 – 14 projects)

Nolin Lazaroff – Earth and Atmospheric Sciences, UNL 2026-present
Undergraduate Creativity and Research Experience (UCARE)
Brianna Finnegan – Biochemistry, UNL 2025-present
Undergraduate research and teaching assistant
Tyler Davis – Statistics, UNL 2025-2026
UCARE
Zora Zhang – Statistics, UNL 2025-2025
UCARE
Grace VanDeSteeg – Biochemistry UNL, MPH George Washington University 2023-2025
Undergraduate research and teaching assistant
Elizabeth Struwe – Biochemistry, Community Health and Wellness, UNL 2023-2024
UCARE
Carolyn Billings – Forensic Science, UNL 2022-2023
UCARE
Honors Thesis: *Evaluation of High-Performance Liquid Chromatography and Mass Spectroscopy in the Analysis of N-Nitrosoatrazine*
Abigail Stevens – Biology/English, UNL 2020-2023
UCARE 2022-2023
Alexis Finch – Biology, UNL 2021-2023
UCARE 2021-2022
UCARE 2022-2023
Honors Thesis: *An Analysis of t(14;18) and Seasonality of Disease, Cause of Death, and Other Chromosomal Abnormalities*
Alyssa Russum – Biochemistry, UNL 2021-2022
UCARE 2021-2022
Claire Klein – Entomology, UNL 2021-2025
CASNR Change maker
Kaili Jorgens – Microbiology, UNL 2019-2021
UCARE 2020-2021

Honors Thesis: *Motivators and Barriers for Participation in the Birth Outcomes and Water Pilot Study*

Ashley Thyes – Actuarial Science, UNL 2019-2020
UCARE 2020-2021

Emily Swanda – Microbiology, UNL 2017-2019
UCARE 2018-2019

Jenna Kacheroski – Forensic Science, UNL 2018-2019
UCARE

Deborah Marik – Environmental Studies. Senior Thesis reader. 2018

Courtney Dehm – Nutrition and Health Sciences, UNL 2017-2018

Ibraheem Hamzat – Microbiology, UNL 2017-2018

Jeffrey Wallman – Biochemistry, UNL 2016-2017
UCARE
Honors Thesis: *Assessing N-nitrosoatrazine Toxicity in the Chicken Embryo*.

Research Experiences for Undergraduates (REU): Northwest Agriculture and Forestry University (NWAFU), Yangling, China
Zuhui Huang, Yue Zheng 2017
Yu-nong Sun, Nai-yuan Jiang 2016
Sheng-nan Ma 2015
Xue Gang 2014

## GRANTS

### Funded

January 1, 2027-December 31, 2027. Co-occurrence of geogenic metals and agrichemicals in Nebraska groundwater. $29,581. USGS 104b.
Principal Investigator.

October 1, 2025-September 30, 2030. Empowering future scientific leaders in agriculture, water quality and health (Hatch multi-state committee W_5045). $250,000. Agricultural Research Division Hatch Multistate Enhancement Program (USDA/NIFA).
Principal Investigator.

January 1, 2024-December 31, 2027. Groundwater monitoring for public health.
$196,602. Nebraska Environmental Trust.
Collaborator. Lower Elkhorn Natural Resources District-project sponsor.

January 1, 2024-December 31, 2025. Can knowledge-based research incentives promote the health and safety of Nebraskans?
$19,750. UNL Research Council.
Co-investigators: Pennisi L, Rhoades M, PytlikZillig L, Herpel R, Weisbrod J.

January 1, 2023-December 31, 2025. Graduate student support.
$17,304 (Yr 1); $18,060 (Yr 2); $17,304 (Yr 3). Daugherty Water for Food Global Institute.
Co-advisor. Primary advisor-Kent Eskridge-Statistics.

February 1, 2022- January 31, 2024. Evaluating placental passage and teratogenicity of N-nitrosoatrazine in a pregnant rat model.
$14,908. Child Health Research Institute.
Co-investigator. PI-Kim K, Peeples E, Rhoades M.

October 1, 2020-September 30, 2035. Conservation Reserve Program (CRP) Grasslands US Department of Agriculture Conservation Reserve Program Contract-Environmental priority.
$1990/year.
Landowner.

August 1, 2020-June 30, 2021. Water is Life: An Indigenous Summit.
$3000. NU Inclusive Excellence Development Grant.
Collaborator.

November 1, 2017-June 30, 2022. Risk of Adverse Fetal Outcomes Associated with Maternal Exposure to Nitrate and Nitrosatable Compounds in Drinking Water.
$19,600. Daugherty Water for Food Global Institute.
Co-Principal Investigator.

July 1, 2017-June 30, 2022. Risk of Adverse Fetal Outcomes Associated with Maternal Exposure to Nitrate and Nitrosatable Compounds in Drinking Water.
$149,964. NU Collaboration Initiative Seed Grant.
Collaborator/Project Leader.

January 1, 2016 - March 31, 2017. Nitrate and Atrazine: Is the Mixture Toxic to the Developing Embryo?
$10,000. NU Foundation Research Council.
Principal Investigator.

August 11, 2014 - June 1, 2015. Non-point Source Pollution Control Program Cost Share.
$3500. Division of Conservation, Kansas Department of Agriculture.
Landowner.

**Submitted/In Preparation**

Genetic Alterations in Populations Chronically Exposed to Agrichemical Mixtures Through Drinking Water. National Institutes of Health.
$1,105,782. Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER). In revision.
Principal Investigator.

Agrichemical Mixtures in Drinking Water and t(14;18)-defined Subtypes of NHL.
$41,256. Nebraska Department of Health and Human Services. Cancer and Smoking Disease Research. LB506. In revision.
Principal Investigator.

## SKILLS/PROFESSIONAL TRAINING

Consortium for IRB Training Initiative in Human Subjects Protections (CITI/HIPAA)
Safe Gatherings to work in service to children, youth, and vulnerable adults
Statistical Package for Social Sciences (SPSS)
Microsoft Word, Excel, Access, and PowerPoint
High Performance Liquid Chromatography, Gas Chromatography/Mass Spectrometry, Liquid Chromatography/Mass Spectrometry
Standard operating procedures and good laboratory practice for handling hazardous materials and radioisotopes.
Laboratory maintenance
Inventory and laboratory records of procedures and experiment data
Laboratory equipment

Laboratory budgets

## PROFESSIONAL AFFILIATIONS/MEMBERSHIPS

Fred and Pamela Buffett Cancer Center 2025-present
Cancer Prevention and Control Program
Daugherty Water for Food Global Institute Faculty Fellow 2022-present
Child Health Research Institute 2021-present
UNL Writing Faculty Fellow 2019-present
Society of Toxicology 2007-present
American Chemical Society 2005-present
Society of Environmental Toxicology and Chemistry 2005-2010

## JOURNAL REVIEWER

ACS Environmental Science and Technology 2025-present
Applied Science 2024-present
Marine Science and Engineering 2024-present
Ecotoxicology and Environmental Safety 2019-present
Sustainability 2017-present
Water 2017-present
International Journal of Environmental Research and Public Health 2016-present
Environmental Health Insights 2015-present

## RESEARCH PROJECT REVIEWER

Society for Science Regeneron Science Talent Search 2014-present
Research project judge 2024

## AWARDS

Twenty-Year Service Award, UNL 2025
Recognition for Contribution to Students, UNL 2023
Fifteen-Year Service Award, UNL 2021
Writing Fellow Faculty, UNL ($500) 2019-present
Achievement-Centered Education (ACE) Leadership Fellow, UNL ($1000) 2019-2020
Energy Conservation Award, Smith County Conservation District 2016
Ten-Year Service Award, UNL 2015
National Register of Historic Places – James and Margaret Greer Farmstead. United States Senate 2011
Tuition remission and research support -$2800. Center for Environmental Toxicology, University of Nebraska 2005-2007

## PROFESSIONAL SERVICE

Investigations Team – Office of Student Conduct and Community Standards, UNL 2025-present
School of Natural Resources Undergraduate Curriculum Committee, UNL 2022-present
Natural Resources Conservation Connecting Points Workshop, UNL
Planning committee 2023-2024

| | |
|---|---|
| Water and Integrated Cropping Systems | 2020-2024 |
| Faculty Search Committee-School of Natural Resources, UNL | 2020, 2022 |
| Prairie Streams Working Group, UNL | 2019-2023 |
| Faculty Search Committee, Forensic Science, UNL | 2018 |
| Nitrate Working Group, UNL | 2018-2024 |
| Staff Advisory and Professional Development Committee, School of Natural Resources, University of Nebraska-Lincoln. | 2010-2013 |

**COMMUNITY/CIVIL SERVICE**

| | |
|---|---|
| Member - Board of Directors, Cass County Rural Water District #2 | 2017-present |
| Precinct Election Official, Cass County, NE. | 2005-present |
| Blood donor - Nebraska Community Blood Bank (9+ gallons) | 2004-present |
| Nebraska Alumni Association member | 2002-present |
| Chair - Finance Committee, First United Methodist Church, Waverly, NE. | 2012-2015 |
| Chair - Worship Committee, First United Methodist Church, Waverly, NE. | 2006-2008 |