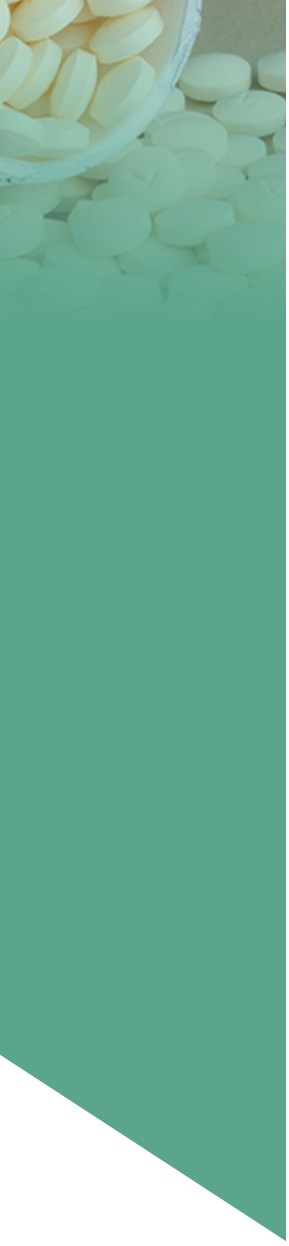
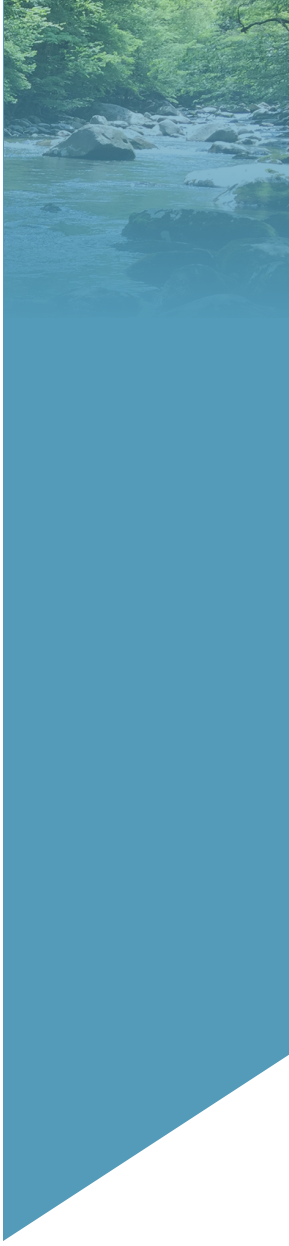


THE UNIVERSITY OF TENNESSEE

THE UNIVERSITY OF TENNESSEE
ONE HEALTH
INITIATIVE

2024-25

Annual Report

Research.

Outreach.

Leadership.

Education.

Director's Update

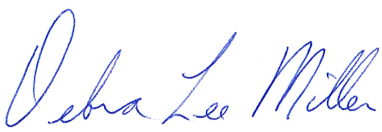
As we are nearing the end of 2025, we want to recap the events of the 2024-25 year. I will say that just as I thought that the UT One Health Initiative could not get any more active, we do! This has been a busy year from gearing up the NSF-funded APPEX, joining the newly launched North American One Health University Network (NAOHUN), traveling to the White House to participate in a pandemic prevention roundtable discussion, to hosting the second biennial One Health Student Leadership Summit, to an awesome Spooky Science One Health Day celebration.

Within this report, we highlight several OHI-supported projects and events. First, we highlight UTOHI engagement and collaboration with local, national, and global entities. Ashley Morgan attended the NAOHUN launch meeting, and she and I continue to actively participate in committees and subcommittees. NAOHUN has already expanded from the original members and we are so excited to be a part of it! Our very own Nina Fefferman was invited to the White House for a roundtable discussion on preventing pandemics, and Alyssa and I participated in the UT Grand Challenges Summit. We participated in a research summit to explore collaboration possibilities with Tennessee State University and are already engaging in preparing at least one proposal for submission. We also participated in an interprofessional education experience on antimicrobial resistance that was hosted by the National Institute of Antimicrobial Resistance Research and Education (NIAMRE). After these great highpoints we transition to highlighting some of our outreach activities. Our One Health Day celebration this year took place on Halloween, so naturally we combined the two and had an amazingly fun and well-attended event. It was great to see so many great costumes… from the audience and presenters alike! We then transition to our amazing One Health Student Coalition. This group hosted a fantastic One Health Student Leadership Summit. It was originally planned for January but nature had different plans with an impressive snowstorm! Thus, it took place in April and was filled with hands-on activities and energizing talks. Last, but not least, we include a quick overview of the seminar series speakers and lists of grants and publications from our active faculty.

In just these first couple of months of the 2025-26 academic year, we have already engaged in numerous local and global complex issues, including some that are expected to escalate in 2026. Through consilience and collaboration, we are building teams to tackle these and other daunting matters because it takes all of us working together to achieve success!

So, let's continue uniting disciplines to protect and promote the health of all life on Earth!

Deb Miller
UTOHI Director



OHI Team

Deb Miller
Director

Nina Fefferman
Associate Director

Ashley Morgan
Post-Doctoral Researcher

Alyssa Merka
Administrative Specialist

One Health Scholars

Shigetoshi Eda

One Health Scholar-in-Chief

Professor,
School of Natural Resources

Brad Collett

Assistant Professor,
Dept. of Plant Sciences

Associate Professor,
School of Landscape Architecture

Director, Tennessee RiverLine

Jennifer DeBruyn

Professor,
Dept. of Biosystems Engineering and Soil Science

Blair Downey

Assistant Professor,
Dept. of Animal Science

Nathan Fleshner

Associate Dean of Research and Facilities,
Associate Professor,
Natalie L. Haslam College of Music

Jeanine Fletcher

Professor,
Agriculture and Veterinary Medicine Librarian

Matt Gray

Professor,
School of Natural Resources

Dan Grove

Extension Assistant Professor,
School of Natural Resources

One Health Scholars

Becky Jacobs

Waller Lansden Distinguished Professor, College of Law

Xueping Li

Dan Doulet Faculty Fellow and Professor, Dept. of Industrial and Systems Engineering

Michael Mahero

Assistant Professor, Dept. of Biomedical and Diagnostic Sciences

Emily Martin

Associate Professor, Dept. of Medicine, Division of Research

Laura Miller

Associate Professor, School of Communication Studies

Hollie Raynor

Executive Associate Dean of Research and Operations, College of Education, Health, and Human Sciences

Professor, Dept. of Nutrition

Heather Sedges

Associate Professor, Dept. of Family and Consumer Sciences

Charles Sims

Director, Baker School for Public Policy, Center for Energy, Transportation, and Environmental Policy

Professor, Dept. of Economics

One Health Scholars

Elizabeth Strand

Clinical Professor,
Dept. of Large Animal Clinical Sciences

Director and Founder,
Center for Veterinary Social Work

Chunlei Su

Professor,
Dept. of Microbiology

Becky Trout Fryxell

Professor,
Dept. of Entomology and Plant Pathology

Brynn Voy

Education Director, UT-Oak Ridge Innovation Institute

Professor,
Dept. of Animal Science

Adam Willcox

Research Associate Professor,
School of Natural Resources

Academic Programs Coordinator, Smith Center for Int'l Sustainable Agriculture

Yang Zhao

Associate Professor,
Dept. of Animal Science

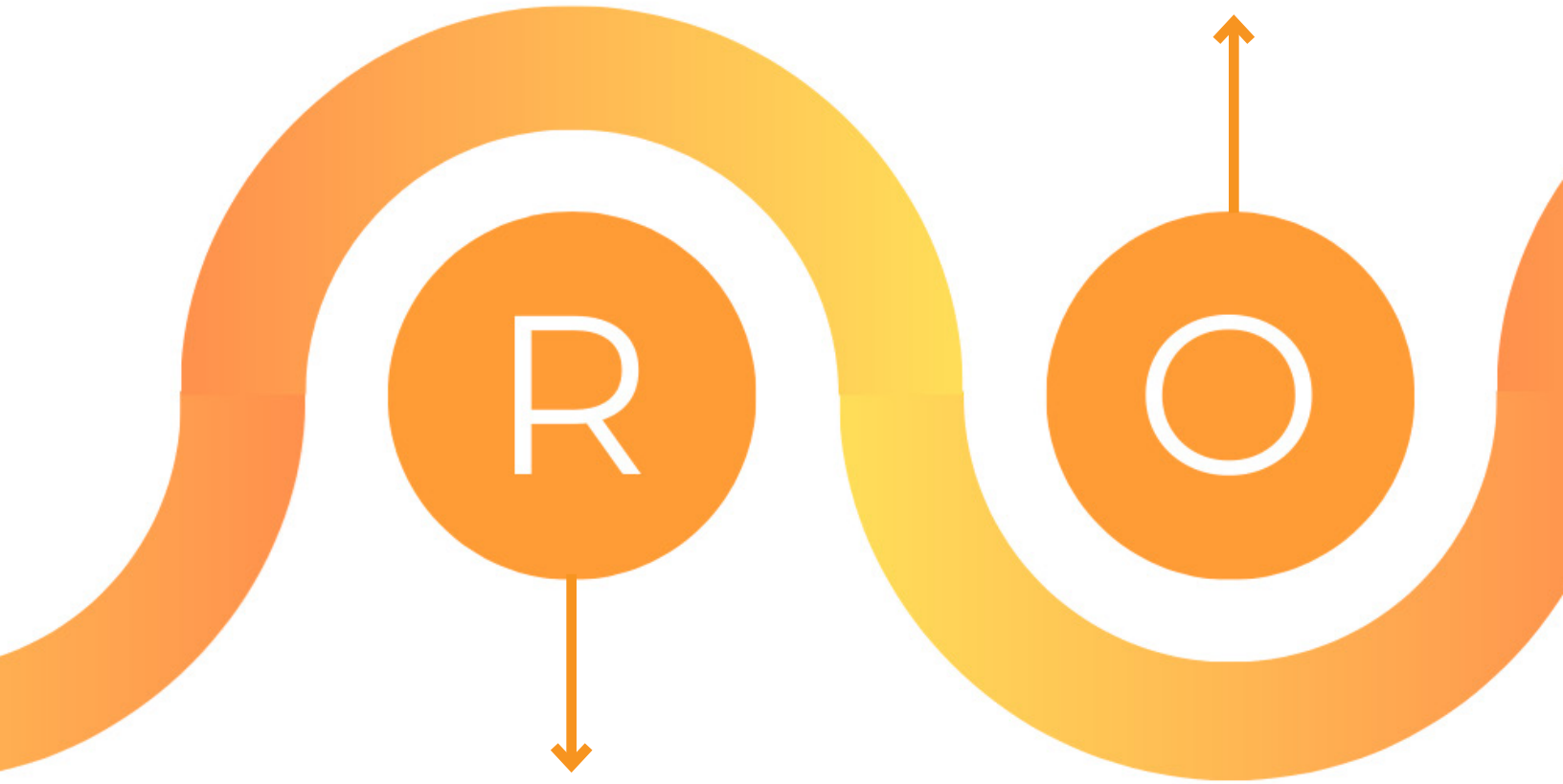
WHAT'S THE "ROLE" OF THE

We highlight important issues and partnerships through annual One Health Day celebrations

We host accessible, informative seminars with experts from public health, veterinary, agriculture, and environmental sectors

We participate in campus, community, and global events to elevate the One Health concept

OUTREACH



RESEARCH

We build and lead interdisciplinary teams tackling complex issues

We support interdisciplinary proposal teams with coordination, concept development, and stakeholder engagement

We contribute to peer-reviewed publications and lead collaborative writing efforts

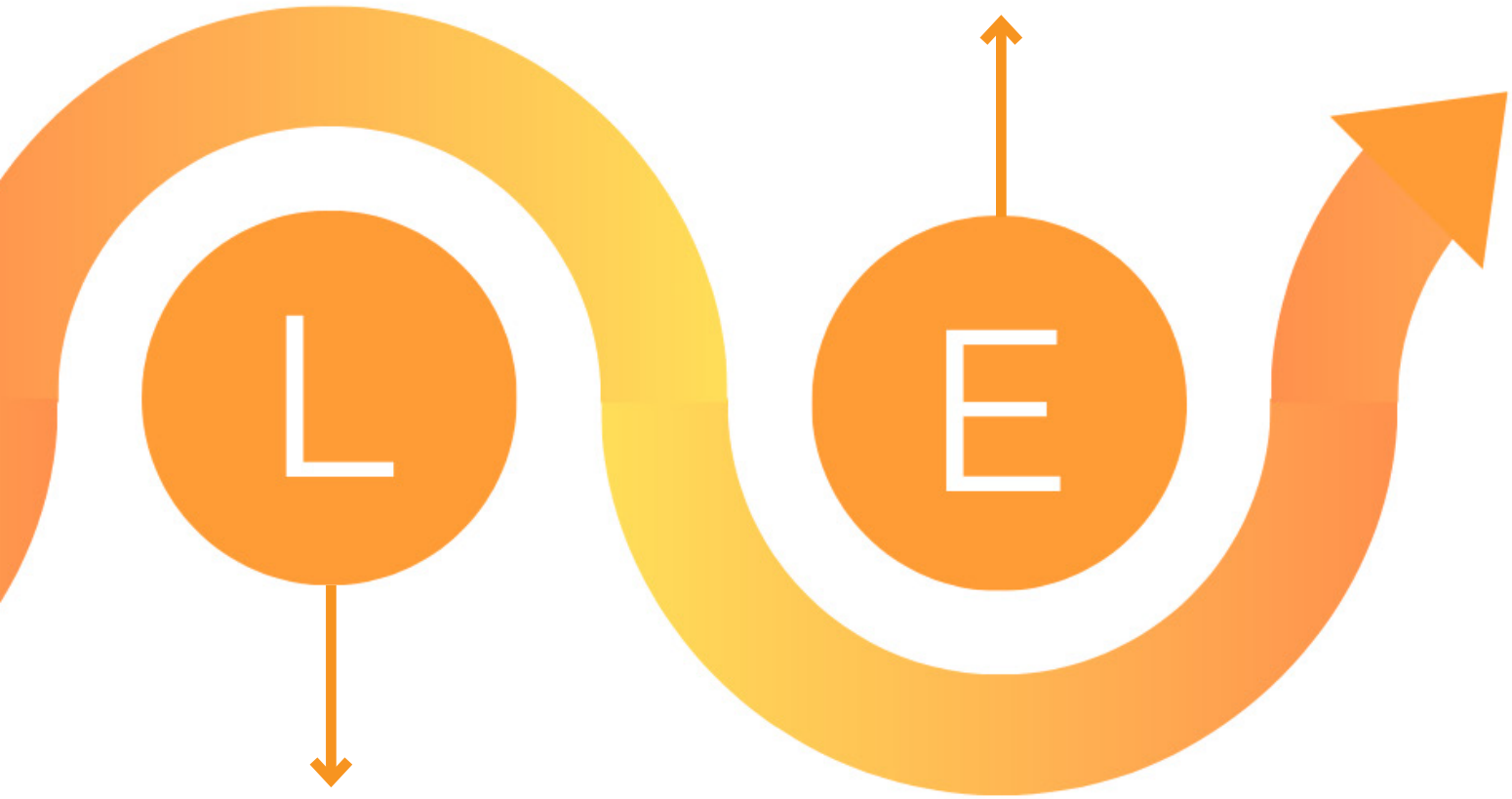
UT ONE HEALTH INITIATIVE?

We engage UT students through events like our One Health Student Leadership Summit

We encourage interdisciplinary learning through our One Health Minor Program

We provide networking, mentorship, and training opportunities through the One Health Student Coalition

EDUCATION



LEADERSHIP

We facilitate a One Health network that spans the UT System

We engage with stakeholders to inform policies on critical issues at the intersection of human, animal, plant, and environment health

We represent UT in regional, national, and global One Health alliances

OHI ON THE MOVE

Launch of the North American One Health University Network

In August 2024, Colorado State University's One Health Institute hosted a meeting of North American universities with One Health programming to formally launch the North American One Health University Network (NAOHUN). More than 90 participants gathered to brainstorm around the formation, structure, and function of this exciting network. Attendees represented more than 40 universities across North America, as well as partners from the National Academies of Science, Engineering, and Medicine; US Centers for Disease Control and Prevention; US Food and Drug Administration; US Department of Agriculture; US Geological Survey; National Instutes of Health; and Merck Animal Health.

The main topics of discussion included One Health: 1) Research – how to capitalize on industry interests, how to better engage the environmental sector, and how to secure larger funding opportunities for transdisciplinary research; 2) Education – connecting veterinary and human medical schools to offer more interprofessional education opportunities for students, bolstering undergraduate and graduate One Health programs, and engaging K-12 students through community service, outreach, and One Health curriculum for teachers; 3) Service – the importance of building regular service projects into our One Health programs to stay connected to community needs and better disseminate One Health knowledge to others; and 4) Advocacy and Policy – working with professionals in the humanities to create more effective science communication tools, advocacy for One Health legitimacy through other professional organizations, and leveraging connections with legislators to increase awareness and lobby for One Health research support and funding.

NAOHUN could critically strengthen One Health efforts in North America by:

- Helping universities coordinate across states and disciplines to tackle important issues like emerging disease, antimicrobial resistance, and food safety;
- Providing shared, cohesive training opportunities to students and professionals in fields like public health, veterinary medicine, agriculture, and policy;
- Enhancing funding opportunities for interdisciplinary research teams; and
- Promoting policy engagement on One Health issues at national and international scales.

We are excited for the future direction of this network and are committed to continue being an active member and leader within it.

Tennessee State University and UT Institute of Agriculture Joint Research Summit

Tennessee State University (TSU) and the UT Institute of Agriculture held the third Joint Research Summit on August 16, 2024, to further collaborations in research and innovation between the state's two land-grant universities. OHI's Ashley Morgan presented "Conservation Crossroads: Exploring One Health Approaches in Forestry, Wildlife, and Fisheries" to the group. This presentation highlighted the interdisciplinary work of OHI including current research endeavors in the areas of: herpetofauna health, mussel ecology, pollinator health, chronic wasting disease, and environmental toxicology. It also emphasized the importance to include climate impacts and indicators of climate change resilience into health-related research. We are in continued contact with TSU researchers to solidify future research collaboration.

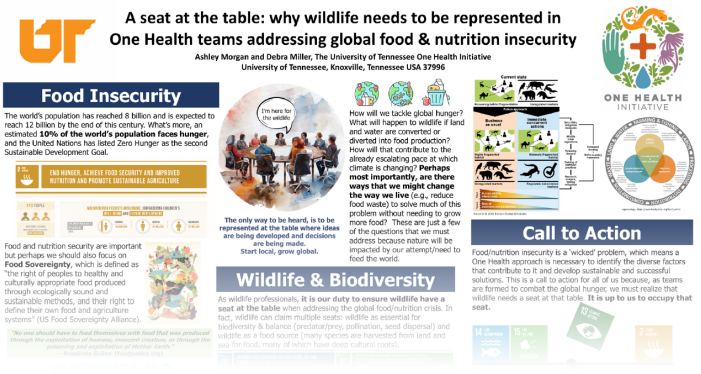
White House Roundtable on Pandemic Prevention

OHI's Nina Fefferman was among the invited participants at the White House Roundtable on Emerging Technology for Preventing Health Emergencies on August 27, 2024. The meeting involved researchers, practitioners, stakeholders, and policy makers from the White House Office of Science and Technology Policy to examine ways that technologies from outside of biomedicine are protecting us from health emergencies across the One Health nexus. She was honored to represent cutting edge modeling capabilities, contributing to our National Biodefense Strategy and Global Health Security Strategy efforts.

The Wildlife Society Conference

The Wildlife Society held its 31st Annual Conference October 19-23, 2024, in Baltimore. OHI's Ashley Morgan gave two presentations; the first was an oral presentation entitled, "Mercury in the Mountains: A "reel" threat to smallmouth bass?". This highlighted findings from her recent research looking at the histological alternations in smallmouth bass from three different stream systems in Great Smoky Mountains National Park. The study looked at site differences in histological findings and mercury contamination and looked at correlations between pathologies and heavy metal concentrations.

The second presentation was a poster presentation stressing the importance of wildlife professionals having a seat at the table when discussing the global issue of food security and food sovereignty. This poster highlighted the important role of biodiversity and land-use decisions in the health of the environment as well as in promoting productive and sustainable agriculture. Ashley attended a plethora of other talks focused on the role of wildlife in One Health and connect with wildlife professionals with particular interests in furthering One Health research and outreach.



UT Grand Challenges Summit

In February 2025, the UT Grand Challenges Summit brought together more than 400 leaders from UT campuses, state agencies, and community organizations to collaborate on solutions to the state's most pressing issues—advancing K–12 education, strengthening rural communities, and overcoming addiction. OHI's Deb Miller and Alyssa Merka attended the summit and hosted an OHI table.

The summit showcased partnerships that crossed colleges, fields, and sectors, highlighting the importance of working together to drive innovation and statewide impact. Faculty in healthcare and engineering explored ways to improve medical delivery and product development, while a rural disability network joined forces with behavioral-health collaborators to enhance support for students across Tennessee.

The summit's agenda and outcomes reflect the One Health concept, recognizing the interdependence of human well-being, thriving communities, and healthy environments. Through interdisciplinary teamwork and statewide engagement, attendees embraced systems-based solutions rather than siloed approaches.

This collaborative momentum aligns with UT's commitment to building partnerships that strengthen health, resilience, and opportunity for communities across the state.

Interprofessional Education on Antimicrobial Resistance

The National Institute of Antimicrobial Resistance Research and Education (NIAMRRE) leads efforts to combat antimicrobial resistance (AMR) through collaborative, cross-sector research and education. One of the programs they offer is the One Health AMR Interprofessional Education Program (IPE), an immersive and collaborative virtual experience designed to address AMR through a One Health lens.

OHI members participated in their 2025 IPE as part of a diverse cohort representing human, animal, plant, and environmental sectors. Participants worked in interdisciplinary teams to analyze and discuss real-world AMR case studies. The program involved both synchronous Zoom sessions with breakout focus groups and asynchronous assignments and reflections, which allowed participants to practice collaboration and communication across with individuals from various scientific sectors and career stages.

The NIAMRRE One Health IPE Program proved to be a valuable professional development opportunity that will enhance the abilities of the UT One Health Initiative's AMR working group to work interdisciplinarily and tackle the many challenges of antimicrobial resistance.

ONE HEALTH DAY 2024

One Health Day is a global campaign launched in 2016 that celebrates the interconnectedness of human, animal, plant, and environment health and considers how health challenges might be solved with an interdisciplinary approach. OHI has held One Health Day events each fall since 2020.

In 2024, we held Spooky Science on Halloween and heard from UT faculty on some rather "spooky" topics, all grounded in serious research and the One Health framework.

- Jennifer DeBruyn presented "The Living Dead: How Microbes Recycle our Bodies After Death," offering a compelling look at decomposition and microbial ecosystems;
- Sebastian Stockmaier presented "Fanged Friends: Sociality and Disease Transmission in Vampire Bats," delving into bat behavior and pathogen spread;
- Chris Magra presented "Tricked by Treats: Unwrapping the Bitter History of Chocolate," exposing the unfair food systems and environmental implications of chocolate production;
- Maria Stehle presented "Women Who Eat Children: Witch Myths and Their Racist and Misogynist Legacies," unpacking folklore and its lasting health, social, and cultural implications; and
- Charity Owings presented "Creepy Crawly Clues: Decoding Crime Scenes with Insect Evidence," highlighting how entomology contributes to forensice science and ecosystem health.

The event was a big success, attracting over 125 attendees, many choosing to arrive in costume. It was as informative as it was festive—each talk illuminated how human health and wellbeing is intertwined with that of animals, plants, and the environment.

Planning for our 2025 One Health Day celebration is underway! Along with various UT partners, the Tennessee Department of Health, and community groups, we're focusing on food and nutrition insecurity in Tennessee—specifically, how we can begin to address this complex issue by building diverse partnerships and taking a creative, interdisciplinary approach.

THE UNIVERSITY OF TENNESSEE KNOXVILLE · ONE HEALTH INITIATIVE · Second Harvest Food Bank of East Tennessee · TN Department of Health · UNITED WAY Greater Knoxville

STUDENT ACTIVITIES

One Health Student Coalition

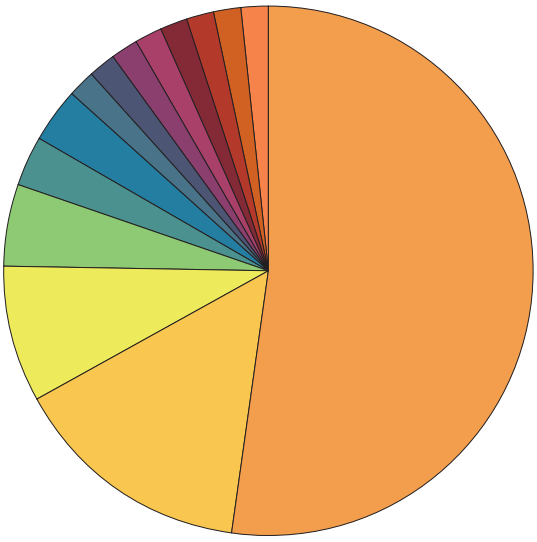
The One Health Student Coalition had a busy year! Their largest undertaking was planning and hosting the 2nd Biennial One Health Student Leadership Summit (OHSLS). This event was entirely student-led; coalition leaders Heather Smith and Sarah Fiedler recruited speakers, planned the activities, sourced supplies, and hosted the event. It was a large undertaking, and we are grateful for their hard work.

In addition to the OHSLS, they represented OHI at Ag Day and hosted several engagement events throughout the year, giving students a chance to learn more about the coalition and student opportunities while grabbing a hot cocoa or UT Creamery ice cream.

One Health Minor Program

The One Health minor program has continued to attract students from across the UT system. Since its launch in 2021, 61 students declared the One Health minor; 31 students declared the One Health minor in the 2023-24 academic year alone and represent a wide range of disciplines (noted below).

AGNR 101, the Introduction to One Health class taught by One Health Scholar Adam Willcox, continues to be popular choice among students, with 77 students enrolled in Fall 2024. The syllabus features guest lectures on a wide variety of topics like antimicrobial resistance, zoonoses, globalization, biodiversity, and many more.



- Animal Science
- Wildlife and Fisheries Science
- Communication Studies
- Biology
- Agricultural Communications
- Political Science
- Business Administration
- College Scholars
- Environmental and Soil Sciences
- Global Studies
- Medical Laboratory Science
- Psychology
- Public Health
- Therapeutic Recreation

2nd Biennial One Health Student Leadership Summit

The 2nd Biennial One Health Student Leadership Summit was held on April 16–17, 2025, bringing together students from a wide range of academic disciplines to explore the interconnected health of humans, animals, plants, and the environment. Over two days, participants engaged in interactive sessions, expert-led lectures, and hands-on activities that highlighted the importance of interdisciplinary approaches to global health challenges.

The event had a general theme of sustaibaility and was curated to encourage attendees to seek out One Health opportunities in their own communities. Session highlights included:

- **Food Waste Management**
  Students learned practical methods for minimizing personal and institutional food loss and made compost bins out of upcycled materials.
- **Sustainability Practices**
  Presenters shared actionable sustainability frameworks and demonstrated how small changes can have large-scale environmental impacts.
- **Native Plants and Biodiversity**
  Participants learned about the value of native species in preserving ecosystem resilience and supporting local wildlife and planted native wildflower seeds that they could take transplant in their own backyards.
- **Urban Green Spaces**
  Students explored how parks, greenways, and community gardens support public health and environmental quality.

> ***"I loved the summit and the ways it increased awareness about One Health across different disciplines! This event provided a great opportunity to meet new people and be exposed to a lot of new ideas."***
>
> ***Mikayil Birdal, Vet Student, UT College of Veterinary Medicine***

- **Zoonotic Diseases**
  Speakers highlighted the complex interface between human and animal health, underscoring the importance of prevention, surveillance, and interdisciplinary collaboration.

This event was entirely student-led and was put together by the One Health Student Coalition (OHSC) co-presidents, Heather Smith and Sarah Fiedler, vet students at the UT College of Veterinary Medicine. It was open to students of all levels and disciplines and attracted attendees from the life sciences, engineering, public health, environmental studies, social sciences, and beyond. This diverse representation allowed for rich conversation and enhanced learning as participants exchanged ideas from their unique academic perspectives.

In an effort to make the summit as accessible as possible, the OHSC applied for and received a $7,000 Green Fee grant from the UT Office of Sustainability, making it

Students participate in some of the hands-on activities offered during the summit, including making a DIY zen garden (left) and a personal compost bin out of upcycled materials (right).

completley free to participants. At the conclusion of the event, each participant received a Certificate of Participation, recognizing their commitment to expanding their knowledge and engaging in One Health leadership training. The feedback from attendees highlighted the value of gaining hands-on experience, connecting with peers and experts, and exploring real-world challenges through a One Health lens. Many expressed interest in future One Health programming and continued involvement with the UT One Health Initiative.

The success of this year's One Health Student Leadership Summit demonstrates a growing interest in interdisciplinary approaches to global health and reinforces the university's commitment to preparing the next generation of leaders who will address complex challenges at the intersection of people, animals, plants, and the environment. The next summit will be held in 2027; in the meantime, students can plan to attend our Global One Health Symposium in Spring 2026.

> ***"The One Health Student Leadership Summit was an incredibly enriching experience. Engaging with peers from diverse fields and participating in hands-on activities deepened my understanding of the interconnectedness of human, animal, and environmental health. This summit not only broadened my perspective but also reinforced my commitment to collaborative approaches in public health."***
>
> ***Sumon Ghosh, PhD Student,***
> ***UT Department of Public Health***

Dr. Michael McKinney gives a talk on the benefits of green infrastructure.

One World, One Health, One Vision

Global One Health Symposium

UNITING DISCIPLINES, BRIDGING BORDERS

Virtual Student Poster Session

One Health Student Group Dialogue

Faculty Collaboration Breakout Session

SPRING 2026

VIRTUAL NETWORKING AND RESEARCH EVENT FOR ONE HEALTH STUDENTS AND FACULTY

THE UNIVERSITY OF TENNESSEE
ONE HEALTH
INITIATIVE

For more info please email:
onehealth@utk.edu
with your name & institute affiliation

SEMINAR SERIES

One Health Lunch & Learn Series

Chief among OHI's outreach efforts is its monthly seminar series. The series has attracted excellent speakers from across UT, the nation, and world to discuss their work, how they tackle current global challenges, and how solutions can be achieved with a One Health approach.

Seminars are held on the last Thursday of each month, and all past seminars are available on demand on the OHI website and YouTube channel.

June 27, 2024

Listening with Glaciers: The Sounds and Songs of a Melting Landscape

Konstantine Vlasis

New York University

July 25, 2024

From Fish in the Water to Fish on the Plate

Erika Gavenus

University of British Columbia

August 29, 2024

Eco-Health Benefit Pathways

Kristen Rappazzo

US Environmental Protection Agency

September 26, 2024

An Ethnobiological Analysis of How Humans Select Medicinal Plants

Orou Gaoue

University of Tennessee

February 27, 2025

Contending with the Polycrisis in the Anthropocene

Daniel Mason-D'Croz

Cornell University

March 27, 2025

Sequencing Support Options at the UT Genomics Core

Veronica Brown

University of Tennessee

April 24, 2025

AMR and Molecular Epidemiology in East TN Dairy Farms

Benti Gelalcha

University of Tennessee

May 29, 2024

Expanding the Mental Health Component within the One Health Framework

Christopher Weatherly

University of Georgia

RESEARCH

New Working Group Web Platforms Advancing One Health Collaboration

To strengthen interdisciplinary engagement and expand participation across the University of Tennessee System, the One Health Initiative launched dedicated websites for the Antimicrobial Resistance (AMR) and Environmental Contamination and Toxicology (EcoTox) working groups. These platforms serve as centralized hubs for sharing expertise, highlighting ongoing efforts, and fostering collaboration across human, animal, and environmental health disciplines.

The **AMR Working Group** website showcases faculty expertise spanning microbiology, veterinary and human medicine, environmental science, agriculture, diagnostics, and policy. It highlights the group's commitment to addressing antimicrobial resistance through integrated surveillance, research, and innovation across clinical, agricultural, and environmental systems.

The **Environmental Contamination and Toxicology Working Group** website brings together researchers focused on contaminants and toxic exposures affecting ecosystems, wildlife, and human populations. The site emphasizes One Health approaches to understanding pollutant pathways, environmental change, and health outcomes through cross-disciplinary research and applied solutions.

Together, these web platforms enhance visibility of One Health activities, lower barriers to collaboration, and provide accessible entry points for faculty engagement.

Those interested in contributing to interdisciplinary One Health research, education, or outreach are encouraged to explore these working group websites and connect with group leadership. Participation is open to researchers, students, and professionals across disciplines who are interested in collaborative approaches to complex health challenges.

One Health Working Group Proposals

Below is a non-comprehensive list of proposals that One Health working groups worked on or submitted addressing complex challenges at the intersection of human, animal, and environmental health. These efforts reflect a systems-based approach to disease prevention, environmental stewardship, and biosecurity.

Antimicrobial Resistance (AMR)
The AMR Working Group pursued funding to better understand and mitigate the spread of antimicrobial resistance across agricultural, animal, and environmental systems—an urgent One Health priority with direct implications for human and veterinary medicine.

- NIH CARB-X / CARBIRUS
  Environmental factors influencing antibiotic resistance spread in agricultural soils
  Status: Proposal development supported; not submitted
- USDA–NIFA
  Surveillance of antimicrobial-resistant E. coli in raw milk and agricultural environments using a novel diagnostic tool
  Status: Submitted; pending review
- Morris Animal Foundation
  Viability-Based Molecular Detection of Drug-Resistant E. coli in mares with endometritis and urinary tract infections
  Status: Submitted; not funded

Environmental Toxicology
The Environmental Toxicology Working Group focused on how environmental change and contaminant exposure affect ecosystem integrity, wildlife health, and downstream risks to human communities.

- Burroughs Wellcome Fund
  Rivers and Roots: Climate change–driven freshwater salinization and impacts on contaminant uptake in Appalachian heritage species
  Status: Submitted; not funded
- Conservation Nation
  Poisoned Paradise: Unusual mortality event in green sea turtles and a possible toxic cause
  Status: Submitted; pending review

Highly Pathogenic Avian Influenza (HPAI)
The HPAI Working Group advanced innovative diagnostic strategies to enhance early detection and response to zoonotic and agriculturally significant pathogens.

- USDA–APHIS
  Rapid and Sensitive On-Site Detection of HPAI Antibodies in Poultry and Livestock Using Advanced Capacitive Electrokinetic (ACEK) Chips as a DIVA Strategy
  Status: Submitted; not funded
- USDA–APHIS
  Field-Deployable ACEK Chip Platform for Rapid Detection of HPAI in Poultry and Environmental Sources
  Status: Submitted; pending review

Chronic Wasting Disease (CWD)
The CWD Working Group focused on advancing detection technologies to improve surveillance of prion diseases affecting wildlife, with implications for ecosystem health and human exposure risk.

- CFD Research Corporation (CFDRC)
  NEAT-LAMP: A Rapid, LAMP-Based Diagnosis of Misfolded Proteins
  Status: Submitted; pending review
- CWD Alliance
  Improving Impedimetric Detection of CWD Prion with Isothermal DNA Amplification
  Status: Submitted; pending review

Non-comprehensive list of publications generated by the One Health community at UT in 2024-25; listed alphabetically by author

Alali, W. Q., Yackley, J., Garman, K., **Miller, D. L.**, **Morgan, A.**, Crabtree, W., Mongold, S., **Grove, D.**, Leonard, E., & Fill, M.-M. A. (2025). One Health Landscape in Tennessee: Current Status, Challenges, and Priorities. *Tropical Medicine and Infectious Disease*, *10*(6), 150. https://doi.org/10.3390/tropicalmed10060150

Armsworth, P. R., Dilkina, B., Jackson, H. B., Kroetz, K., & **Sims, C.** (2025). Multilevel Decision-Making and Protected Area Prioritization. *Natural Resource Modeling*, *38*(3), e70004. https://doi.org/10.1111/nrm.70004

Armsworth, P. R., Fovargue, R. E., Hyman, A. A., Iacona, G. D., **Sims, C.** B., & Yoon, H. S. (2025). Strategically timing land protection decisions to enhance biodiversity benefits. *Conservation Biology*, e70068. https://doi.org/10.1111/cobi.70068

Baker, E., Dennis, M., **Miller, D.**, Su, C., von Dohlen, A. R., Abouelkhair, M. A., Hamer, S. A., Jensen, A., & Gerhold, R. (2025). Pathology and parasitology of free-ranging coyotes from Tennessee and South Carolina. *PLoS ONE*, *20*(2 February). https://doi.org/10.1371/journal.pone.0318645

Berenson, L., Nugent, W. R., **Strand, E. B.**, Zottarelli, L. K., & Laurienti, P. J. (n.d.). Internalized and externalized mental health symptoms among latinx children: A comparison between rural latinx farmworker and urban latinx low-income families living in North Carolina. *Social Work in Mental Health*, *0*(0), 1–22. https://doi.org/10.1080/15332985.2025.2497851

Chen, L.-D., Carter, E. D., Urban, M. P., Merolle, C. T., Chen, D. M., Kouba, A. J., **Gray, M. J.**, **Miller, D. L.**, & Kouba, C. K. (2025). Near-infrared spectroscopy as a diagnostic screening tool for lethal chytrid fungus in eastern newts. *Communications Biology*, *8*(1), 625. https://doi.org/10.1038/s42003-025-08025-8

Chepkwony, M. C., Makau, D. N., Yoder, C., Corzo, C., Culhane, M., Perez, A., Perez Aguirreburualde, M. S., Nault, A. J., & **Mahero, M.** (2025). A scoping review of knowledge, attitudes, and practices in swine farm biosecurity in North America. *Frontiers in Veterinary Science*, *12*. https://doi.org/10.3389/fvets.2025.1507704

Chepkwony, M. C., Yoder, C., Culhane, M. R., Aguirreburualde, M. S. P., Perez, A. M., Corzo, C. A., Makau, D. N., & **Mahero, M. W.** (2025). Beliefs, Behaviors, and Practices of Farm Biosecurity in the Midwestern U.S. Swine Operations. *Animals*, *15*(17), 2515. https://doi.org/10.3390/ani15172515

Cho, S.-H., Mingie, J. C., & **Sims, C. B.** (2025). Social cost of carbon and the potential for forest carbon credits. *Applied Economics*, 1–17. https://doi.org/10.1080/00036846.2025.2516160

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Seed Grant Program

Since its launch in 2020, OHI and partnering campus organizations have awarded $820,000 in seed funding to 16 interdisciplinary teams of UT researchers. ***These projects have gone on to generate $4.9M in extramural funding to UT so far, with more proposals planned that could not have been prepared without this critical support allowing the team to come together across disciplines.*** More information about these projects, including abstracts and updates, is available on our website at www.onehealth.tennessee.edu/seed-grant-program/.

Detection of Chronic Wasting Disease Prion in the Environment (2020)

- PI: Shigetoshi Eda (Herbert College of Agriculture, School of Natural Resources)
- Co-PI: Jay Ramos (Herbert College of Agriculture, School of Natural Resources)
- Extramural funding generated: $279,127

Developing a Model of Chronic Inflammation to Elucidate its Effects on Reproduction (2020)

- PI: Dr. Brian Whitlock (College of Veterinary Medicine, Large Animal Clinical Sciences)
- Co-PI: Bhavya Sharma (College of Arts and Sciences, Dept. of Chemistry)
- Co-PI: Allison Renwick (College of Veterinary Medicine, Comparative and Experimental Medicine Program)

Developing a System for Molecular Detection and Identification of Zoonotic Pathogens of Most Concern in the USA (2020)

- PI: Chunlei Su (College of Arts and Sciences, Dept. of Microbiology)
- Co-PI: Richard Gerhold (College of Veterinary Medicine, Biomedical and Diagnostic Sciences)
- Co-PI: Michelle Dennis (College of Veterinary Medicine, Biomedical and Diagnostic Sciences)
- Co-PI: Sree Rajeev (College of Veterinary Medicine, Biomedical and Diagnostic Sciences)

Impact Assessment of Climate Change on Cotton Production via Computational Simulation (2020)

- PI: Xinhua Yin (Herbert College of Agriculture, Dept. of Plant Sciences)
- Co-PI: Joshua Fu (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)
- Co-PI: Sangeeta Bansal (Herbert College of Agriculture, Dept. of Plant Sciences)

One Health Approach to Controlling Escherichia albertii, the Emerging Human Pathogen (2020)

- PI: Jun Lin (Herbert College of Agriculture, Dept. of Animal Science)
- Co-PI: Qiang He (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)

Socio-Economic Epidemiology of Disease Risk in Wildlife Trade Networks (2020)

- PI: Matthew Gray (Herbert College of Agriculture, School of Natural Resources)
- Co-PI: Neelam Poudyal (Herbert College of Agriculture, School of Natural Resources)
- Co-PI: Nina Fefferman (College of Arts and Sciences, Dept. of Ecology and Evolutionary Biology, Dept. of Mathematics)
- Extramural funding generated: $2,999,694

Transdisciplinary Diagnostic Investigation of Freshwater Mussel Mortality in the Clinch River (2020)

- PI: Michelle Dennis (College of Veterinary Medicine, Biomedical and Diagnostic Sciences)
- Co-PI: Nina Fefferman (College of Arts and Sciences, Dept. of Ecology and Evolutionary Biology, Dept. of Mathematics)
- Co-PI: Gerald Dinkins (McClung Museum of Natural History and Culture)
- Extramural funding generated: $14,000

Effectiveness of a "Living Shoreline" on Environmental and Human Health on the Tennessee River (2022)

- PI: Michael McKinney (College of Arts and Sciences, Dept. of Earth and Planetary Sciences)
- Co-PI: Andrea Ludwig (Herbert College of Agriculture, Dept. of Biosystems Engineering and Soil Sciences)
- Co-PI: John Schwartz (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)
- Co-PI: Michael Ross (Herbert College of Agriculture, Dept. of Plant Sciences)
- Co-PI: Garrett Ferry (Facilities Services)

Integration of Molecular Biology, Electrochemistry, and Electrical Engineering for the Development of a Rapid On-site Detection Platform for Zoonotic RNA Viruses (2022)

- PI: Shigetoshi Eda (Herbert College of Agriculture, School of Natural Resources)
- Co-PI: Doris D'Souza (Herbert College of Agriculture, Dept. of Food Science)
- Co-PI: Jayne Wu (Tickle College of Engineering, Dept. of Electrical Engineering and Computer Science)
- Extramural funding generated: $1,000,000

Multiscale, Poly-topographic Platforms for Complex, Multifunctional Tissue Regeneration Using Precision Engineering: A Prelude to Organogenesis (2022)

- PI: Madhu Dhar (College of Veterinary Medicine, Large Animal Clinical Sciences)
- Co-PI: Dayakar Penumadu (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)

Physics-Based and Machine-Learning Models for Goat Tibia Fracture (2022)

- PI: Timothy Truster (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)
- Co-PI: Pierre-Yves Mulon (College of Veterinary Medicine, Large Animal Clinical Sciences)
- Co-PI: David Anderson (College of Veterinary Medicine, Large Animal Clinical Sciences)

Towards a Biogeochemical Coupling of Machine Learning and Process-based Modeling for Improved Prediction of Soil's Climate Mitigation Potential (2022)

- PI: Debasish Saha (Herbert College of Agriculture, Dept. of Biosystems Engineering and Soil Sciences)
- Co-PI: Subhadeep Chakraborty (Tickle College of Engineering, Dept. of Mechanical, Aerospace, and Biomedical Engineering)
- Extramural funding generated: $650,000

Training the Next Global One Health Workforce: An Educational Pilot Program for Cross-Sectoral Engagement in Darien, Panamá (2022)

- PI: Jennifer Retherford (Tickle College of Engineering, Dept. of Civil and Environmental Engineering)
- Co-PI: Nan Gaylord (College of Nursing)
- Co-PI: Sara Mulville (Smith Center for International Sustainable Agriculture)
- Co-PI: David Ader (Smith Center for International Sustainable Agriculture)

Lixus, City and Country: Environment and Sustainability in an Ancient Landscape (Larache, Morocco) (2023)

- PI: Stephen Collins-Elliott (College of Arts and Sciences, Dept. of Classics)
- Co-PI: Alison Damick (McClung Museum of Natural History and Culture)

Modular Landscapes: Tackling Water Quality through Arts and Science (2023)

- PI: Sarah Bolivar (College of Architecture and Design, School of Landscape Architecture)
- Co-PI: Michael Ross (Herbert College of Agriculture, Dept. of Plant Sciences; College of Architecture and Design, School of Landscape Architecture)
- Co-PI: Jason Brown (College of Arts and Sciences, School of Art)

Mycotoxins in Cannabis: Implications for One Health (2023)

- PI: Kimberly Gwinn (Herbert College of Agriculture, Dept. of Entomology and Plant Pathology)
- Co-PI: Julia Albright (College of Veterinary Medicine, Small Animal Clinical Sciences)

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Uniting disciplines to protect and promote the health of all life on earth.