



Director's Update Dr. Deb Miller

Summer is progressing in Tennessee and, whereas we started the summer excited to finally be able to emerge out of our COVID hibernation, we have had to back-paddle slightly as the Delta variant bears down on us. Still, I remain hopeful as I see folks continuing to exercise caution by donning their masks and continuing to socially distance. As with any emergence, we come out of it hungry for all that we missed but we know we must do so with caution, allowing ourselves to gradually adapt while avoiding major setbacks.

Inside this issue of the University of Tennessee One Health Initiative newsletter, you will find updates on OHI-supported seed awards. We also feature the One Health Scholar, Xinhua Yin, and his seed grant project, "Impact Assessment of Climate Change on Cotton Production via Computational Simulation." Indeed, this is an awesome introduction to our theme for this year's One Health Day on November 3rd, which will focus on climate change.

In the coming weeks, we are excited to welcome back students, especially those who will be minoring in One Health and taking the new course Introduction to One Health (AGNR 101). This is such an exciting venture, and we expect that, with time, the introductory course will be popular as it will also apply toward Vol Core requirements! Besides One Health Day, please plan to visit our booth at Ag Day on October 16, prior to the Tennessee vs Ole Miss football game. We will have fun activities for kids and adults alike and information to share as well.

Remember, you can keep track of our past, current, and future activities through our website onehealth.tennessee.edu. These include our monthly Lunch and Learn series, podcasts with comedian Shane Mauss, resources for K-12 educators, as well as info on research and educational opportunities. There is even a donation button on the website for those who want to support OHI activities! So please check it out, and as always, we invite you to join us in uniting disciplines to protect and promote the health of all life on Earth.

UTOHI Research

Impact Assessment of Climate Change on Cotton Production via Computational Simulation

Investigators: Xinhua (Frank) Yin, Joshua Fu

One of the many important expected impacts of global climate change is that it will change the viable range and expected yield for major crops. Anticipating these changes can give farmers the tools they need to make decisions about which crops to plant and how to ensure best sustainable management practices. This kind of planning isn't just important for the farmers but is also important for the security of supply for their crops. Global climate change has caused changes for farmers here in West Tennessee during recent years, which will likely be getting more severe in the future.

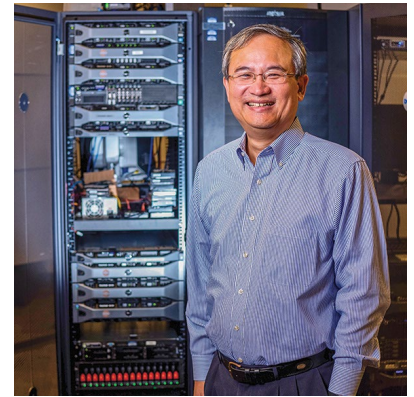
In this project, we are using cutting-edge models to consider the likely impact of different scenarios for climate change on cotton production. Not only is cotton a major crop here in Tennessee, but the cotton we grow here is critical in assuring global fiber security. To figure out what might happen to cotton production in the future, we are taking a One Health approach:





integrating cutting-edge climate change forecasting with state-of-the-art agricultural yield models to project both production and sustainability of several key management practices under some different scenarios. This work also relies on real-world observations from a 40-year-long cotton field experiment still going on today in Jackson, TN, to help parameterize the computational models. This study will provide a critical understanding of the interactions of climate variables on cotton growth and yield in Tennessee and the Mid-south region.

Our One Health team is a collaboration between a systems agronomist (Xinhua Yin) and a civil and environmental engineer (Joshua Fu), taking a transdisciplinary approach to tackle this important question. Once we get the results of our models, we have plans in place to work with extension and outreach experts, making sure that both our local cotton farming community and the global cotton production industry can benefit today by understanding how to manage the risks of tomorrow.



## One Health in the News

- [Soil Micronutrient Deficiencies and Hidden Hunger](#)  
*Micronutrient deficiencies negatively affect the growth and development of plants, animals, and humans. The issue of 'hidden hunger', or the deficiency of specific minerals and vitamins, is prevalent in many countries of sub-Saharan Africa, particularly in women and children. Maps that pinpoint areas of Africa associated with micronutrient-poor grains now offer a way to target interventions that tackle such deficiencies.*
- [Providing Care at "Both Ends of the Leash"](#)  
*The Brevard (Florida) Health Alliance and the Brevard Street Dog Coalition partnered for an event to offer medical services for unhoused people in need and veterinary care for their pets. While people may not be motivated seek health care for themselves, they will seek it for a beloved pet, so this joint event provided an extra incentive for turnout. "I wanted to do a one health clinic – vaccines for people and vaccines for animals."*
- [Women and Wildlife: Ecofeminism in Africa](#)  
*Women in many countries across Africa are joining forces to preserve and protect wildlife and to educate others to respect and share conservation values. Research shows that empowerment of women and environmental conservation success are inextricably linked. Some of the women featured in the article include an all-women anti-poaching unit in Zimbabwe, Uganda's first wildlife veterinarian, a conversation and community officer in Rwanda, and a community outreach leader in Namibia.*
- [One Health High Level Expert Panel](#)  
*The World Health Organization (WHO) has appointed 26 international experts with a range of knowledge and experience to serve as members on the One Health High Level Expert Panel (OHHLEP). This multidisciplinary panel will provide guidance on One Health-related matters that support improved cooperation among governments.*
- [National Veterinary Scholars Symposium Highlights Importance Of One Health Expertise and Perspective](#)  
*Nearly 900 veterinary students and leaders from three dozen veterinary schools in the U.S. convened virtually this week for the annual National Veterinary Scholars Symposium. They learned from researchers, public health officials and industry experts about the global burden of disease, infectious disease control and potential pathways for research careers – such as in emerging and transboundary diseases – where their veterinary training and One Health perspective is critical.*



**One Health Job Postings**

Organization	Position	Deadline
Life Sciences Research Foundation	<a href="#">Postdoctoral Fellowship Program</a>	October 1, 2021
University of Pennsylvania	<a href="#">One Health Programs Coordinator</a>	October 22, 2021
Environmental Defense Fund	<a href="#">Community Environmental Health Tom Graff Fellow</a>	Until Filled

**One Health Events**

**One Health Lunch & Learn Seminar**

*September 1, 2021 | 12-1pm EST*

*Connections between Emerging Diseases in Urban and Forested Ecosystems, Anthropogenic Change, and Human Health*

*Dr. Jane Stewart, Colorado State University*

Zoom: <https://tennessee.zoom.us/j/96108015904>

Passcode: onehealth

**One Health Lunch & Learn Seminar**

*October 6, 2021 | 12-1pm EST*

*Transdisciplinary Diagnostic Investigation of Freshwater Mussel Mortality in the Clinch River*

*Dr. Michelle Dennis, University of Tennessee*

Zoom: <https://tennessee.zoom.us/j/92514953906>

Passcode: onehealth

**Grad Student Research Swap and Social**

*October 22, 2021 | 3:30-5:30pm EST*

*Student Union, Room 260*

*Get to know fellow grad students, share your research interests, and explore collaboration opportunities. Space is limited, registration required.*

*More details coming soon!*

**One Health Day**

*November 3, 2021 | 9am-5pm EST*

*Student Union, Room 362-A/B*

*Join us for a day of presentations and hands-on activities focusing on One Health and climate change.*

*Virtual and in-person options available as circumstances allow. More details coming soon!*

Event information and previous seminars can be viewed on our website: <https://onehealth.tennessee.edu/events/>

