

# The Natural Inquirer



FORT HAYS STATE UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES

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## Biology alum is featured KAMS speaker

Biology alumnus **Morgan (Mitchiner) Jibowu**, (KAMS, 2016, B.S., 2017) MPH, PhD, was the featured speaker at the 2025 KAMS completion ceremony on May 10.

Dr. Jibowu graduated from the Kansas Academy of Mathematics and Science in 2016, and completed her B.S. in Biology-Health Professions, with a minor in Chemistry, in 2017. She then earned a Masters in Public Health, specializing in Infectious Disease and Zoonoses, from Kansas State University in 2019, and a PhD in Epidemiology, with minors in Geospatial Analysis and Biostatistics from The University of Texas Health Science Center in 2024.



Dr. Jibowu states, “As an infectious disease epidemiologist, my expertise lies in unraveling the epidemiologic patterns of vector-borne and neglected tropical diseases, with a focus on developing targeted interventions through epidemiological investigations and spatial analyses.” Dr. Jibowu previously worked as an epidemiologist at Johns Hopkins Hospital, as a quarantine contractor for the CDC, and as a data analyst with the American Medical Association.



Congratulations to **Dr. Lori Patrick**, who earned tenure this semester, as well as promotion to Associate Professor!

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## Meetings and Presentations

### 23<sup>rd</sup> Annual K-INBRE Symposium, January 17-19, Kansas City, MO



**Acquah, L.,** and M. Gruenstaeudl. DNA barcoding of bloom-forming cyanobacteria in western Kansas.



**Chen, K., C. Shippy,** and T. Phelps-Durr. CRISPR analysis of HIRA in plants.



**Fan, Y.,** and T. Phelps-Durr. Study of ASF1a protein's biological significance in *Arabidopsis thaliana* via phenotypic manifestations of CRISPR/CAS induced *A. thaliana* ASF1a 1081 gene mutagenesis.



**Frans, H.,** and T. Phelps-Durr. Impact of CRISPR-induced mutations on *Arabidopsis thaliana* gene APETALA3 sites AP3-3 and AP3-5.

*Hazel Frans* (KAMS alum and junior in Biology) was one of ten presenters selected for the **Award of Excellence**, based on her poster's appearance, content, relevance, and oral presentation.



**Haugness, C.,** and T. Phelps-Durr. Investigating the molecular function of the *Arabidopsis* AS2 gene.

Smith, G., and M. Gruenstaeudl. Assessing depth and evenness of sequencing coverage across hundreds of archived plastid genomes.

## Meetings and Presentations (continued)



**Taylor, K. E.,** and I. Adefuye. The role of tumor microenvironment (TME) in glioblastoma therapeutic resistance.



*The K-INBRE poster display room at the Intercontinental Hotel, Kansas City, MO.*

### **157<sup>th</sup> Annual Kansas Academy of Science Meeting, April 4-5, Friends University, Wichita, KS.**

Geyer, P., and L. Patrick. From caves to crops: Brazilian free-tailed bats in Kansas (poster).

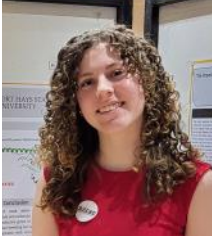
Zerr, C., and L. Patrick. Species-specific counts of insects on and off prairie dog colonies (presentation).

### **20<sup>th</sup> Annual John Heinrichs Scholarly and Creative Activity Day (SACAD), April 24, Hays KS.**

Cole, E. D., Z. E. Daniels-Sneed, M. Galliard, and S. Elzay. Plant biodiversity of short-grass prairie on an eastern Colorado cattle ranch from 1988-2024.

Fan, Y., and T. Phelps-Durr. Study of ASF1a Protein's Biological Significance in *Arabidopsis thaliana* via Phenotypic Manifestations of CRISPR/CAS Induced *A. thaliana* ASF1a Mutagenesis.

## Meetings and Presentations (continued)



Frans, H., and T. Phelps-Durr. CRISPR-induced mutagenesis of *Arabidopsis thaliana* gene APETALA3.

Hanson, N. I., and M. Ambardar. The Impact of Anthropogenic Infrastructure on Avian Reproductive Success: A Study Of House Wrens In Proximity To Highways.

Maness, J., S. Kim, and E. T. Gillock. The Medicine From Nature; Finding the Antibacterial Power of Essential Oils.



## Publications

Molleker, C.N. and E. T. Gillock. 2025. Fatal Familial Insomnia: A Brief Overview of a Human Prion Disease. Transactions of the Kansas Academy of Science. 128(1-2):115-125.

Rooney, B., et al, (including **L. E. Patrick**). 2025. SNAPSHOT USA 2019–2023: The First Five Years of Data From a Coordinated Camera Trap Survey of the United States. Global Ecology and Biogeography. 34 (1), <https://doi.org/10.1111/geb.13941>



## Saying Goodbye:



Dr. Medhavi Ambardar has accepted the position of Chief Scientist at the Lake Michigan Bird Observatory in Port Washington, WI.



Nora Lazerus has accepted a position at the University of Colorado, Boulder, as an academic advisor for Ecology & Evolutionary Biology, Molecular, Cellular, and Developmental Biology, and Integrative Physiology.



## Health Professions Students visit Kansas College of Osteopathic Medicine

In January, Biology faculty and pre-health professions students traveled to Wichita to visit the Kansas College of Osteopathic Medicine (KCOM). FHSU and KCOM have an admission partnership agreement designed to help address Kansas' physician shortage.

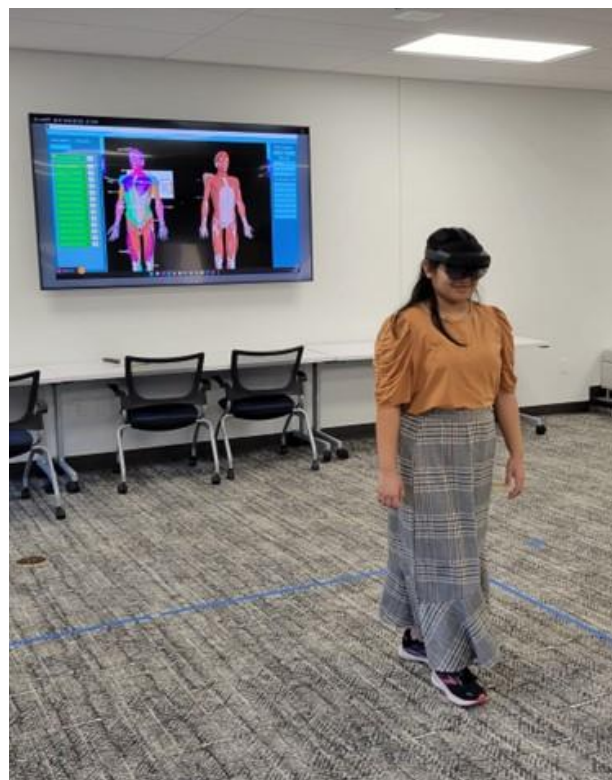
The KCOM admissions team gave the students a tour of the facilities, including the HoloAnatomy lab, where students interacted with augmented reality devices. These help bring a library of 3D anatomical structures to life and allow students to examine the structures more closely.

Freshman Ella Colson stated, "What most impressed me during the visit was how technologically focused the entire medical school was. The cadaver lab headsets were definitely the most impressive and I love the idea of allowing students to still be able to learn anatomy without the smell of formaldehyde. This is especially nice for students who aren't necessarily looking to be surgeons."

Students also toured the Simulation Center, a 22,000-square-foot clinical learning center. This space is designed to model a variety of environments, including a hospital room wing and an outpatient wing that is set up like a clinic or doctor's office.

The students learned about how to plan for and apply to the new FHSU- KCOM partnership program. This agreement allows select FHSU students to accelerate their career path with a 3+4 program. Qualified students who meet admission requirements can begin their first year of medical school in their senior year of undergraduate studies at FHSU. After completing their first year at KCOM, students receive their bachelor's degree from FHSU and are able to complete their medical degree in seven years.

"This partnership with KCOM is an exciting opportunity to support our biology pre-med students while addressing the state's growing demand for healthcare providers," said Dr. Claudia Carvalho, assistant professor of biology at FHSU. "Our students are eager to gain early exposure to an innovative curriculum, cutting-edge technology, and hands-on training from KCOM—all while completing their bachelor's degree at Fort Hays State University."



**Hailey Maldonado** uses AR goggles to examine a 3D hologram of human musculature.

-Hays Post

## Student News:

### Congratulations to these students, who completed their Masters degrees this semester:

**Jacob Alexander** (“Forest for the trees: A multimedia approach to informal education and interpretation”).

**Alfred Appiah** has accepted a position as a Medical Laboratory Scientist at St. Mary’s Hospital in Grand Junction, CO.

**Zoe Buffington** has accepted a position with FHSU as a professional advisor for the Werth College.

**Nana-Esi Hanson** (“The influence of anthropogenic infrastructure on avian reproductive success: A study of house wrens in proximity to highways”). Nana has been accepted into a PhD program at Texas Tech University in Lubbock, TX.

**Zachary Herbert** (“The swimming of sea serpents: A geographic morphometric analysis of the limb morphologies of mosasaurs”).

**Haley Piland-Jackson** is founder and director of a non-profit softball organization, coaching young female athletes (ages 6-13) from central and western Kansas.

**Katie Strack** (“Native bee utilization of sorghum and community richness in western Kansas”).

### ... and congratulations to these graduating seniors, who were accepted to professional programs or will begin new jobs soon:

**Khloee Braun** has accepted a position as the middle school and high school science instructor at Logan Junior/Senior High, Logan, KS.

**Caroline Brungardt** was accepted to Optometry School at Indiana University in Bloomington, IN.

**Yue Fan** (AMS) was accepted to Johns Hopkins University, Baltimore, MD.

**Steve Hutchins** has accepted a position with Kansas Department of Wildlife and Parks as a Conservation Officer in Riley County, KS.

**Kinsey Lindner** was accepted to Optometry School at the University of Houston, TX.

**Stephen Reed** has accepted a position with Kansas Department of Wildlife and Parks as a Fisheries Wildlife Biologist II at the Meade (KS) hatchery. Stephen will be rearing smallmouth bass, largemouth bass, striped bass, channel catfish, and koi.

**Audrey Rymer** was accepted to the Doctor of Osteopathic Medicine program at Kansas City University, Kansas City, MO.

**Kyler Semrad** was accepted to University of Kansas Medical School in Wichita KS.



## Alumni news:

**Courtney Molleker** (B.S. Biology and Psychology 2022, M.S. Biology 2023, M.S. Clinical Psychology 2025) has been accepted to the PhD program in Lifespan Developmental Psychology at West Virginia University. She plans to work on dementia research, working with individuals and families, and continue research on healthcare employee well-being (burnout, employee satisfaction, organizational commitment, and personality traits).



**Sonja Brandt** (M.S. 2024) presented, “Conservation Biology Work in the Pacific: The Experience of a FHSU Alum on Palmyra Atoll”, on April 16, at FHSU. Sonja talked about her recent experiences working on Palmyra Atoll at the Sunflower Audubon meeting.



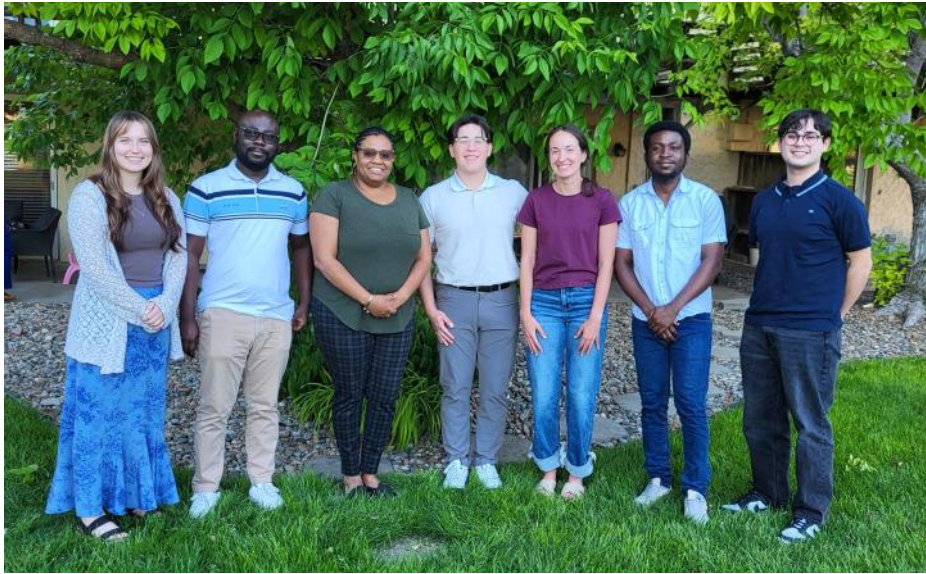
The Biology Club held their annual plant sale fundraiser on April 22-23 in the Union



L-R: *Gianna Rojas, Jaden Carlson, Audrey Rymer, Jonathan Ferguson.*



Dr. Claudia Carvalho enjoys an end-of-semester get together with some of her research students

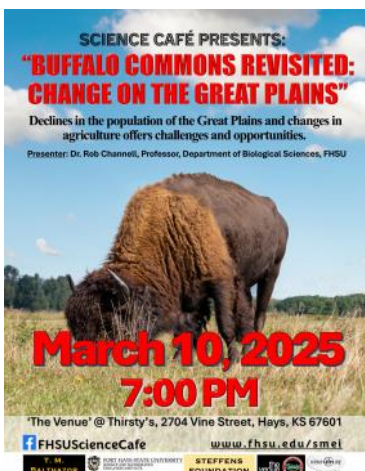


L-R: Audrey Rymer, Alfred Appiah, Dr. Carvalho, Jaime Arelanes, Morgan Fischer, Yaw Antwi, Jonathan Ferguson.

## THROWBACK PIC!

2009 Outstanding Thesis Award winners, with their advisors:

L-R: Dr. Greg Farley, Christian Edwards, Dr. Bill Stark, David Bender, Claudia Carvalho, Dr. Eric Gillock



On March 10<sup>th</sup>, **Dr. Rob Channell** presented “Buffalo Commons Revisited: Change on the Great Plains”, at the Science Café.



Biology students supervise area grade-schoolers at the “Make a Cell” station, at the **3rd annual Grade School Biology Fair**, held on April 25th.

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### **FHSU awarded National Science Foundation grant for biology research experiences**

The Department of Biological Sciences has been awarded a grant from the National Science Foundation (NSF) for their research project, “Uncovering Change Catalysts: Examining Community of Practice Members as They Leverage Individual Course Improvements to Achieve Systemic Departmental Change.” This funding will support the integration of course-based undergraduate research experiences (CUREs) into the biology curriculum.

“This grant gives faculty the time and money they need to add authentic research experiences to many of our courses,” said Dr. Lorelei Patrick, assistant professor of biology. “The students who take these improved courses will gain science skills that will help prepare them for their future careers.”

The project aims to equip biology faculty with the necessary training and resources to implement CUREs in their courses. These redesigned courses will provide students with the chance to engage in authentic, real-world research while completing their undergraduate degree. Participation in CUREs helps students build essential skills and knowledge that are highly desirable to future employers.

“Embedding research opportunities into biology courses ensures that all undergraduate students experience research and build skills to prepare them for their future careers,” said Dr. Tara Phelps-Durr, biology department chair.

“As a unique way to bring genuine research into the classroom, course-based undergraduate research experiences will significantly enhance learning opportunities for students in my courses,” said Dr. Michael Gruenstaeudl, assistant professor of biology. “Students will not only be involved in selecting and designing bona fide research questions, but they will also develop technical and organizational skills that are rarely offered in traditional laboratory courses.”

- FHSU University Relations

The first **Kansas Science Festival** to be held in Hays was May 4<sup>th</sup> in the downtown pavilion and other areas along Main Street. Several groups presented science demos, including the Sternberg Museum, Dr. Lori Patrick's Scientific Communication class, Geoscience students, Chemistry Club, the KAMS robotics team, STEM Harvest, and the K-State extension office.



Senior Emily Redding shows a child a snake at a biology department booth

Sternberg Museum's collections manager Dr. Jackson Roberts talks to a child about museum specimens



Grad student Katie Strack explains a butterfly demo to children at a Xerxes Society booth

## End of semester Taco Party!!





KWEC director **Curtis Wolf** received the 2025 Excellence in Conservation and Environmental Education Award from the Kansas Association for Conservation and Environmental Education (KACEE), in the category of Community/Non-profit.



According to KACEE, “The Kansas Wetlands Education Center in Great Bend has expanded its environmental education efforts despite recent staff shortages, thanks to the dedication of Director Curtis Wolf. Traditionally serving in an administrative role, Curtis has stepped in as an educator, delivering 83 programs to 1,718 participants in 2024 alone. His hands-on approach, from teaching preschoolers about plants to leading bird identification workshops, has enriched KWEC’s programming and ensured its mission continues to thrive.

“Beyond the center, Curtis is a tireless advocate for Cheyenne Bottoms and Kansas wetlands. He presents to community groups, hosts a monthly radio segment, and collaborates with the City of Great Bend and the Convention and Visitors Bureau to promote ecotourism. As chairman of the Wetlands and Wildlife National Scenic Byway Committee, he works to attract visitors to the region, furthering appreciation for Kansas’ largest marshland. He also leads birding tours, engages with conservation organizations, and mentors future environmental professionals, fostering a new generation of conservation leaders.”

*-FHSU University Communications*



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