

The Natural Inquirer



FORT HAYS STATE UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES

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Fall Semester, 2021

Dr. Tara Phelps-Durr selected as new chair of Biology



The Department of Biological Sciences is happy to welcome Dr. Tara Phelps-Durr as department chair. Dr. Phelps-Durr has a Ph.D. from the University of Missouri, and a background in plant molecular biology and genetics. Prior to coming to FHSU, Dr. Phelps-Durr was an Associate Professor of Biology at Radford University in Virginia. Her other academic interests include project-based learning in the classroom, and embedding research in curricula. Such practices can enhance the student learning experience, and teach students how to enjoy the process of discovery.

Dr. Lori Patrick's research lab at work in the field, fall 2021



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Meetings and Presentations

Pakkebier, A., C. Crawford, and **L. Patrick**. Perceptions of Scientist Spotlight Assignments; Perspectives of Students at a Rural State University (poster). Society for the Advancement of Biology Education Research annual meeting, virtual. July 1, 2021.

Patrick, L. Assessment of Student Learning Outcomes from Squirrel-Net CUREs (symposium talk). Ecological Society of America annual meeting, virtual. August 1, 2021.

Publications

Gonsar, N., **L. Patrick**, S. Cotner. 2021. Graduate-and undergraduate-student perceptions of and preferences for teaching practices in STEM classrooms. *Disciplinary and Interdisciplinary Science Education Research* 3(6). <https://doi.org/10.1186/s43031-021-00035-w>

Luttbeg, B., L. E. Beaty, **M. Ambardar**, and J. L. Grindstaff. 2021. Mathematical modeling reveals how the speed of endocrine regulation should affect baseline and stress-induced glucocorticoid levels. *Hormones and Behavior* 136:105059. <https://doi.org/10.1016/j.yhbeh.2021.105059>

Patrick, L., L. A. Howell, and E. W. Wischusen. 2021. Roles matter: Graduate student perceptions of active learning in the STEM courses they take and those they teach. *Science Progress* 104(4): 1-16. <https://doi.org/10.1177/00368504211033500>

Zhao, F., G. Roehrig, **L. Patrick**, L. Chantal, S. Cotner. 2021. Using a Self-Determination Theory Approach to Understand Student Perceptions of Inquiry-Based Learning. *Teaching & Learning Inquiry* 9(2).

Christmas bird count

The 2021 Christmas Bird Count took place on Saturday, December 18th. Participants included FHSU faculty, staff, students, and members of the Hays community, birding at various locations and at bird feeders in Hays. The group spotted 41 different species and over 10,000 individual birds!





Mallory Benortham, a junior majoring in Biology/ Health Professions and minoring in chemistry and psychology, participated in a **summer internship with the Masonic Cancer Alliance in Kansas City**.

The program, called “Pool Cool”, is a sun safety education program designed to increase awareness and promote sun protection behavior. Her internship responsibilities included traveling to public swimming pools around Kansas, and teaching sun safety to lifeguards.

Benortham discovered the internship through FHSU’s office of Career Services, and knew it would be a good opportunity to learn more about the health profession. As a Biology major, Benortham has enjoyed the opportunity to interact with professors and classmates, and feels that her program of study has helped prepare her

for applying to a Physician’s Assistant program after graduation.

She has also been able to develop a close relationship with her advisor, Dr. Medhavi Ambaradar, assistant professor of biological sciences. “I really look up to my advisor,” Benortham said. “She’s a professional woman in science, and people take her seriously. That gives me hope that people will take me seriously as a woman in science.”



In September, Dr. Lori Patrick's **Mammalogy class**, joined by Curtis Schmidt from the Sternberg Museum, took a weekend field trip to Barber County, KS to survey mammals. The students learned to trap, handle, and identify small mammals, as well as proper field techniques for capturing and handling bats.



The **Biology Club** hosted a Halloween party and BBQ at Frontier Park on October 29th. The event included the 1st annual Biology Olympic Games, which featured events like costume contests, gel loading, and skull identification.



New Biology Club officers elected for the 2021-22 school year:



Emily Redding
(President),
KAMS student



Emily Kreutzer
(Vice
President),
majoring in
Biology and
Chemistry



Audrey Rymer
(Secretary),
majoring in
Biology/Pre-
med



**Kalinn
Baumgartner**
(Treasurer),
majoring in
HHP/Pre-PT.



Kassie Zimmer
(Social Media
Specialist),
majoring in
General Biology.



The following students were accepted into professional programs:

Nate Hendricks (B.S. 2021) was accepted into the Physical Therapy program at Southwest Baptist University, Bolivar, MO.

Autumn Sneath (B.S. 2022) was accepted into the Occupational Therapy program at Rockhurst University, Kansas City, MO.

Ethan Shippy (B.S. 2021, Biology-Secondary Education) was hired as a science teacher at Chapman Middle School, Chapman, KS.

Graduate Student News:

Congratulations to these graduate students, who completed their master's degrees this semester:

Erica Clark ("An investigation into historical and contemporary breeding occurrence of the Ferruginous Hawk in Kansas")

Scout Harrison

Morgan Pearson

And to these graduate students, who passed their oral exams:

Lauren Jarboe

Allison Pardis

Sarah Hallyburton

Elisabeth Russell

Nora Lazerus

Alumni news:

Shingo Ishihara (B.S. 2010, M.S. 2012) completed his Ph.D. in the Integrated Biomedical Sciences Department at Rush University Medical Center, Chicago IL.

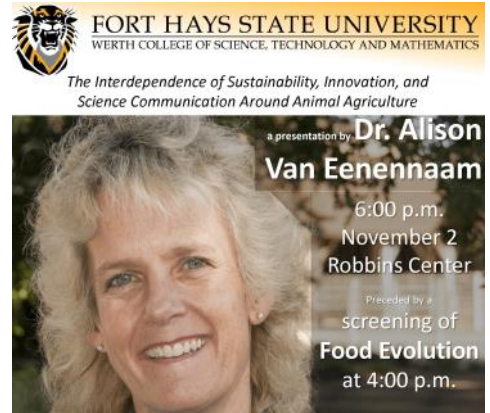
Aquatic Ecology Field Trip



Dr. Stark's **Aquatic Ecology Class** traveled to an area near Alma, KS for three days in October to conduct stream surveys around the Mill Creek Watershed. With the support of many generous landowners, the class was able to spend extended periods investigating fish and invertebrate communities from the headwaters to the lower reaches of this beautiful Flint Hills stream system. Students quantified the physical characteristics of the stream sites, as well as the species they encountered. The data they collected will be used to develop an overall evaluation of factors that influence stream quality and the communities supported in this system.

Guest Speakers

On November 2, FHSU's Werth College of Science, Technology and Mathematics hosted a screening of the documentary, "Food Evolution". Following the documentary, **Dr. Alison Van Eenennaam** presented "The Interdependence of Sustainability, Innovation, and Science Communication Around Animal Agriculture". Dr. Van Eenennaam is a professor of Cooperative Extension in the field of animal genomics and biotechnology in the Department of Animal Science at UC-Davis. She is a highly regarded advocate for the sciences, and was a consultant and featured scientist in "Food Evolution". Her presentation addressed the use of genomics and biotechnology in agricultural production systems.

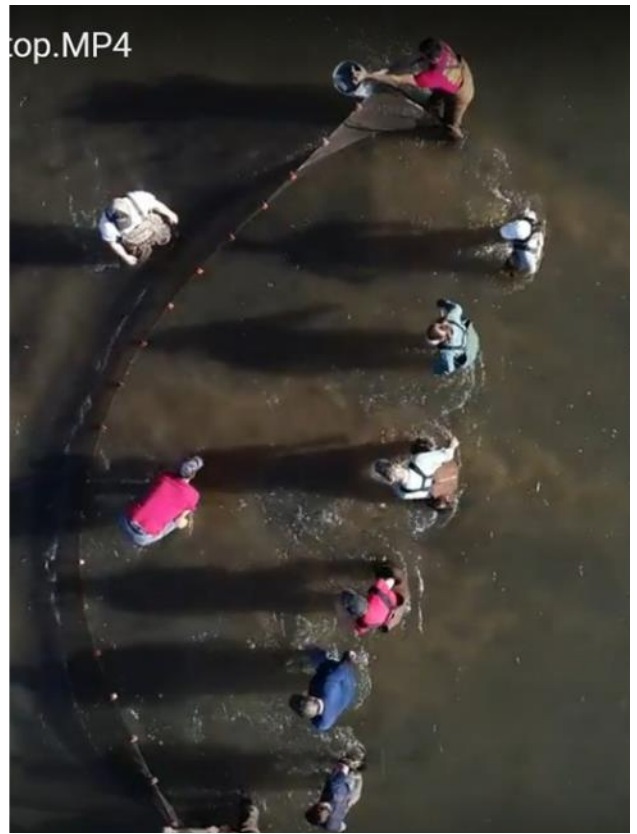


Dr. Luz Cumba-Garcia, an immunologist and science communicator working in Washington, D.C., presented "Lessons Learned: An Immunologist's Journey into Science Communication" to the Biology department on October 8. Dr. Cumba-Garcia's career is focused on conveying complex science and public-health topics to diverse audiences, ranging from students to policy makers. During the lunch hour, Dr. Cumba-Garcia met with Spanish-speaking students of all majors to discuss her experiences, motivations, and role models.

On September 3rd, a big brown bat (*Eptesicus fuscus*) found its way into the Biology department in Albertson Hall. Dr. Patrick captured the bat and released it outside.



Ichthyology class field trip

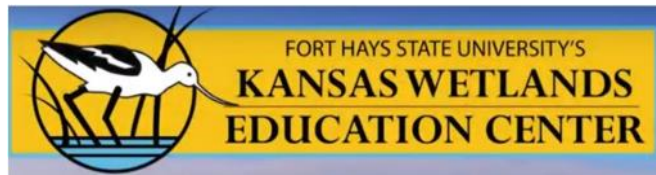


(Photos taken from drone footage)



Dr. Medhavi Ambardar's lab (and friends) takes measurements on house wren nestlings, June, 2021.





Courtesy of KWEC's Facebook page (<https://www.facebook.com/wetlandscenter>)



Five **bald eagles** (3 adults and 2 immatures) were spotted on the southern edge of Cheyenne Bottoms in December. Bald eagles can be seen at both Cheyenne Bottoms and Quivira National Wildlife Refuge through spring. They feed on fish, and sick and injured geese and ducks.



Snowy owls were observed at KWEC in December. Snowy owls are the largest (by weight) North American owl. Their range is typically north up into Canada and the Arctic Circle. Occasionally, they will have an irruptive migration, flying south in large numbers. Unlike other owls, snowy owls are diurnal (hunting during the day).

Other recent bird sightings at KWEC can be found here:

<https://wetlandscenter.fhsu.edu/news/bird-watch/2021/recent-bird-sightings--december-21.html>

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