WELCOME

New Online Masters Students for Fall 2021:
Nikia Anacrayon, FL; Kelli Barth, NE; Brian Bitney, MO; Keegan Case, NE; Vivian Chi, CA; Matthew Clarke, MI; Amanda Coats, PA; Renee Cool, OR; Dylan Cooper, AZ; Vu Dang, MN; Magdalena Downing, OH; Justin Dunn, NE; Tykle Eddy, TX; Ferleen Esmundo, MNP; Aurea Fehringer, CO; David Fielding, NE; David Foulds, CA; William Frisch, NE; Jennifer Gray, VA; Miranda Hamann, IL; Sara Hansen, MI; Mohammed Hassan, NE; Heather Hilsenbeck, MO; Taylor Hopper, MO; Mikayla Jacobsen, DE; Kristen Kramer, FL; Katy Longmire, TN; Jessica Nye, UT; Hannah Obermiller, NE; Andrea Peay, NC; Ariele Peters, NE; Kaitlyn Pruett, MO; Lauren Sheehan, CT; Taryn Sigl, CA; Jamee Smith, NE; Robert Smith, IL; Angela Soelberg, NE; Candice Spivey, NC; Christina Utz, TX; Maria Vasquez, FL; Nicole Welshans, KS; Emily Worley, TX

New Online Faculty

Dr. Yipeng Sui joins the Biology Department this fall as a new Assistant Professor. He was born in Qingdao China, a city that is famous for Tsingtao Beer. Dr. Sui started to play volleyball when he was in high school, and he also enjoys hiking, traveling, and music. His PhD dissertation studied how ecdysone and juvenile hormone regulated some proteases and lipase that played the key roles in the physiology of cotton bollworm. Later he began his postdoctoral research at College of Medicine, University of Kentucky, where he investigated the mechanisms underlying human cardiometabolic diseases, such as atherosclerosis, hyperlipidemia, and obesity-related metabolic disorder. Prior to UNK, he was a Visiting Assistant Professor at Baker University, Kansas, where he taught Human Anatomy and Physiology. Dr. Sui’s research interests focus on the effects of environmental chemicals on human cardiometabolic diseases. He will be teaching BIOL 838 Essential Human Anatomy and BIOL 861P Human Genetics this fall.
A Biology Professor’s research was highlighted by the University of Nebraska Kearney news in June. Below is an excerpt from the article on Dr. Melissa Wuellner, Associate Professor in the Department of Biology, entitled “UNK research project uses tiny trackers to improve South Dakota salmon fishing”. For the full article click on the link: https://unknews.unk.edu/2021/06/21/research-project-uses-tiny-trackers-to-improve-south-dakota-salmon-fishing/

UNK research project uses tiny trackers to improve South Dakota salmon fishing

Dylan Gravenhof, a fisheries biologist with South Dakota Game, Fish and Parks, uses a hydrophone to "listen" for tagged fish as they’re released into Lake Oahe earlier this month. The University of Nebraska at Kearney and South Dakota Game, Fish and Parks are collaborating on a research project that uses acoustic tags to monitor Chinook salmon at the reservoir. (Photos by Allie Ellingson, South Dakota Game, Fish and Parks)

By TYLER ELLYSON
UNK Communications

Walleye. For sure.

But salmon?

“Usually when we say salmon and South Dakota in the same sentence, people are kind of confused,” admits Dylan Gravenhof, a fisheries biologist with South Dakota Game, Fish and Parks.

It’s true, though.

The agency that manages the state’s recreational and outdoor resources has been stocking salmon in Lake Oahe since the early 1980s, providing a unique fishing opportunity for the region.

“Not many people know you can catch salmon in the Midwest,” Gravenhof said. “You think it has to be a coastal thing.”

Found naturally in the northern Pacific Ocean and Pacific Northwest, Chinook salmon thrive in the deep, cold waters of Lake Oahe, an artificial reservoir that stretches for 231 miles from Oahe Dam near Pierre to Riverdale, North Dakota.

South Dakota Game, Fish and Parks stocks about 300,000 young Chinook salmon there each spring – as well as a smaller number of Atlantic salmon – and the fish can grow to 30 pounds or more within three or four years.

They’re a big hit with anglers who are in the know.

“There’s definitely a lot of interest. When the fish are biting, people come out of the woodwork to target them,” Gravenhof said.

Other predators are looking for the succulent salmon, too. Smallmouth bass, walleye, northern pike and adult salmon all pose a threat to the juvenile fish after they’re transported to Lake Oahe from the Cleghorn Springs hatchery in Rapid City and McNenny hatchery in Spearfish.

It’s up to Gravenhof to protect the state’s investment.
The University of Nebraska at Kearney and South Dakota Game, Fish and Parks are collaborating on a research project that uses acoustic tags to monitor Chinook salmon stocked at Lake Oahe. The tiny tags transmit a high-frequency "ping," allowing researchers to track the fish using a hydrophone and underwater receivers.

UNK PARTNERSHIP

In addition to his full-time job, Gravenhof is pursuing a master's degree in biology from the University of Nebraska at Kearney.

That’s where he reconnected with associate professor Melissa Wuellner, a fellow fisheries biologist who taught him as an undergraduate student at South Dakota State University.

Together, they recently launched a research project that uses sound-emitting acoustic tags to keep tabs on Chinook salmon in Lake Oahe.

The tiny tags – each about 13 millimeters long and 5 millimeters wide – contain even tinier batteries that allow them to transmit a high-frequency “ping” every two minutes. They’re surgically implanted at the hatchery and tracked using unique ID numbers.

Once the tagged salmon are released, their movements are monitored by underwater receivers that are continuously “listening” for the fish or by boat using a hydrophone that picks up the signals. By tracking the fish in real time, the researchers can determine where the salmon go and what types of habitat they prefer.
“This gives us a whole new look at what happens to these fish following stocking,” said Wuellner, who holds a doctorate in wildlife and fisheries science from South Dakota State.

Historically, South Dakota Game, Fish and Parks has relied on coded wire tags that didn’t provide any information until the fish were recaptured, either by anglers or by state officials collecting eggs each fall.

“That’s the drawback of the coded wire tags. We put those tags in when they’re a juvenile and we never see those fish again until three to four years later,” Gravenhof said. “There’s a big gap in there when we don’t know what those fish are doing. With acoustic tags, we can see what happens to these fish immediately after they’re in the water.”

The new tags offer one more major benefit. They’re coated in a special polymer membrane that dissolves in stomach acid. If a tagged fish is eaten by a predator, a different signal is sent to the receivers. It’s the first time South Dakota has used this technology.

The joint research project will help South Dakota Game, Fish and Parks answer a number of questions related to salmon stocking. Among them, where are the best locations to release salmon? What’s the ideal size? Can they use other fish to satisfy predators? Even the type of feed used at the hatchery could impact salmon survival rates.
Another Biology professor was also featured in the University of Nebraska news this past May. Dr. Brandon Luedtke, Associate Professor in the Department of Biology, was one of 3 UNK faculty members to be named as a National Strategic Research Institute (NSRI) fellow. NSRI’s mission is to help “the Department of Defense and other federal agencies meet evolving national security objectives in multiple domains. Scientists from the University of Nebraska and NSRI deliver responsive, innovative research and solutions while developing the workforce of the future.” For the full article, including a link to the NSRI webpage, click on the following link: https://unknews.unk.edu/2021/05/20/three-unk-faculty-to-assist-with-national-security-research/

CONGRATULATIONS

**Biology Scholarship Recipients:**

Three MS Biology students received scholarships for 2021-22 academic year. Iszac Burton (Marvin C. Williams Family scholarship), Sara Hays (Eugene and Loree Maddux and Marvin C. Williams Family scholarships), and Celeste Mildenstein (Eugene and Loree Maddux scholarship).

Iszac Burton

Sara Hays

Celeste Mildenstein
Students can apply for the Continuing Student Scholarships each year from February 1 through the last day of February by accessing the online application on MyBLUE. This single application on MyBLUE will submit a student’s application for consideration of all UNK scholarships for which they qualify. All applicants will be notified of their results by the month of June. You can find out more information about these scholarships at the following link: [www.unk.edu/offices/financial_aid/continuing-student-scholarships.php](http://www.unk.edu/offices/financial_aid/continuing-student-scholarships.php)

**July 2021 Graduates:**

James Babcock, Elizabeth Brier, Susan Brown, Taylor Cassidy (Thesis), Colleen Conway, Jason Genise-Gdula, Louisiana Gomez, Sarah Goodman, Alanna Gray, Kaley Keldsen (Thesis), Jordan McAllister, Amanda Medaries (Thesis), Alyssa Meier (Thesis), Sarah Meriwether, Michael Mills, Tess Peterman, Scott Petersen, Frank Platas, Ema Ruzic, Julia Schwartz, Lindsay Scott, Jennifer Suter, Krystle Teague, Jami Tuttle, Laura Yany

Two graduates were able to attend the commencement ceremony on July 30th at 10:00 am in the Health and Sports Center: Amanda Medaries (Thesis) and Lindsay Scott

Amanda Medaries (left) and Lindsay Scott (right) are hooded at ceremony.
Grants


Meetings


**Publications**


Continue to send us updates on any meetings, publications, grants, or awards that you have been involved with. Please email details to msbiology@unk.edu.

---

**Director’s Desk from Dr. Austin Nuxoll**

Greetings!

I hope everyone had a great summer. It is hard to believe we are starting another fall semester already. I hope you were able to incorporate some summer adventures or relaxation time before beginning the new school year. We have a couple of new faculty joining our department this fall. Alexis Hobbs received her master's degree from UNK and will now be joining the Biology department as a lecturer. Mrs. Hobbs will be teaching undergraduate labs in Anatomy and Physiology, Microbiology, and Biology 1. You will also notice Dr. Yipeng Sui teaching a couple of online courses this fall. He was hired to help accommodate the
increase in health science students from the new MS Health Science program that began this past summer. Dr. Sui has a strong background in anatomy, physiology, and genetics; he joins us from Baker University.

We recently held our yearly department retreat and there will be a few changes to the online program, specifically in regard to the Comprehensive Exam. I want everyone to be aware of one major change. Upon failure of the comprehensive exam, a student will have one more attempt, but must wait until the following semester before retaking the exam.

I hope everyone has a great semester and please let me know if I can assist with anything! You can contact me at nuxollas@unk.edu or 308-865-8602.

-----

**Faculty News**

Brian Peterson’s research findings were highlighted in Quality Whitetails Magazine article entitled “Deer by the Numbers”, 2021 Volume 28, Issue 2, pp. 36-38 and highlighted by the National Deer Association Online: [https://www.deerassociation.com/10-highlights-from-new-deer-science-you-can-use/](https://www.deerassociation.com/10-highlights-from-new-deer-science-you-can-use/)

-----

**Student News**

**Angela Consani (December 2017 graduate)** was named CEO of a newly formed nonprofit, Bioscience Core Skills Institute, this past February. Information on the organization was featured in the BioNexus in May: [https://bionexuskc.org/bioscience-core-skills-institute-enhances-workforce-development-in-kansas-city/?fbclid=IwAR2IlxJtZiP10neBLXZXvVnZBTwDbThsbYQWw8x_HY3Yy5rkC9IBV3z6Svk](https://bionexuskc.org/bioscience-core-skills-institute-enhances-workforce-development-in-kansas-city/?fbclid=IwAR2IlxJtZiP10neBLXZXvVnZBTwDbThsbYQWw8x_HY3Yy5rkC9IBV3z6Svk).

**Martha Brauning (current thesis student)** will begin this fall working with Dr. Benjamin Pelissie on rapid adaptation in the Colorado potato beetle.

**Dawn Fuelberth (December 2011 graduate)** is one of 33 teachers in the nation to be a Curriculum Field Tester for the National Center of Science Education.

**Tonya (Baxley) Jackson (December 2014 graduate)** was awarded her EdD in Education, Curriculum, and Instruction from Capella University. She has also accepted a position as Interim Dean of Instruction at Mohave Community College.

**Mike Mills (July 2021 graduate)** was hired as an adjunct professor at Midlands Technical College in Columbia, South Carolina. He begins this fall semester and will be teaching Biology 101.
Jessica Mumm (May 2021 graduate) welcomed a new baby girl Addyson on January 7th. Addy weighed 6 lbs 1 oz and was in the NICU for 3 weeks. She was born with a bilateral cleft lip and palate and had surgery on June 1st from which she is recovering like a champ. (pictured right) Jessica also signed up for the Ironman Hawaii scheduled for next June. Due to completion of her Masters through UNK, she is now teaching forensics and advanced life science classes.

Matthew Schomaker (July 2019 graduate) recently achieved the certification of Specialist in Molecular Biology through the American Society for Clinical Pathology.

Jordan Valla (December 2020 graduate) was hired this fall for a full-time biology faculty position at Iowa Western Community College.

Please let us know what is going on in your lives; email us your news at msbiology@unk.edu.

---

**Office Space**

**Fall 2021 Deadlines:**
August 23rd—Fall classes begin
August 27th—Last day to add/drop class on MyBlue with no penalty
September 2nd—E-bill notifications sent to Lopermail account
September 6th—Labor Day break, all classes dismissed and UNK office closed
September 15th—Last day to apply for December graduation
September 23rd—Tuition & Fees due in full
October 18th—Fall break, all classes dismissed
October 22nd—Last day to drop a course on MyBlue (no refund at this time)
October 25th—Early Registration for Spring 2022 classes begins for all currently enrolled students
November 2nd—General Registration for Spring 2022 classes begins for all admitted students
November 12th—Comprehensive Exams (for graduating students) are due to the Biology Dept
November 24th—26th—Thanksgiving break, all classes dismissed
December 1st—Spring 2022 graduation application opens on MyBlue
December 13th—16th—Finals Week
December 17th—Commencement ceremony at 10:00 am in the Health and Sports Center
December 21st—Deadline for faculty to submit final grades for fall classes
December 24th—January 1st—University Offices closed for the holidays
January 3rd—UNK offices open
January 3rd—21st—Spring 2022 Three-Week Session
January 3rd—Last day to drop a 3-week session class on MyBlue and receive a full refund
January 12th—Last day to drop a 3-week session course
January 24th—Spring 2022 classes begin
**Students planning to graduate this December 2021 must apply for graduation on MyBlue.**
Even if you do not plan to attend ceremony you must apply in order to receive your degree. The deadline to apply for fall graduation is **September 15th**. There is a $25 application fee which can be paid on-line during the application process. Commencement ceremony will take place at 10:00 am on December 17th in the Health and Sports Center. Please consider making the trip to Kearney to walk in graduation and if you do, please let the Biology Department know.

**BIOL 856P – Regional Field Study courses**
Below are some photos from Dr. Bryan Drew’s, Associate Professor in the Biology Department, field study trips. This past summer students visited each of the 4 deserts in the Southwestern United States.
This fall and upcoming spring semesters, students will have the opportunity to visit Baja California Sur in Mexico. The pictures above are from the last trip taken in Fall 2018 to the area.

Information on this spring 3-week session trip is below. Enrollment will be by permission of instructor only; email Dr. Bryan Drew at drewbt@unk.edu for permission or with questions. Students can register for the 3-week session during Spring 2022 registration.

**Trip Dates:** Thursday, January 13th to Sunday, January 23rd, 2022.

**Course Description (2 units):** During this course we will travel to Baja California Sur in Mexico. The trip will combine hiking, snorkeling (weather dependent), botany, entomology, colonial history, and birdwatching, amongst other things. We will fly to San Jose del Cabo and venture as far north as Mulege in Baja CA. Students will make their own flight arrangements, and I will pick people up at the airport in Mexico on Thursday, January 13th. Prior to the field trip, in order to familiarize yourself with Baja California, a short paper will be due, and we will also have a short zoom meeting. The cost, excluding airfare, should be around $800 assuming you share a hotel room with someone.
Course Objectives:

-- Gain an appreciation for the culture and biodiversity of southern Baja CA

-- Learn about Baja California ecology and ecosystems

-- Learn about common plants and animals of the southern Baja CA peninsula