WELCOME

New Online Masters Students for Spring 2019:
Hiba Abu Madi, MN; Stephanie Allard, ME; Mark Badtorff, PA; Kyle Bergstrom, IL; Dalton Bichlmeier, NE; Julia Blanco, IA; Brittney Bryan, AR; Caroline Estrada, Quebec; Kelly Gale, TX; Weronika Granat, IN; Amanda Griffith, TX; Samantha Grizzell, OH; Tolga Gulyasar, TX; Audra Keehn, NE; Rakin Khan, FL; Christopher Madden, NE; Victoria McIlwain, PA; Mary Miller, NJ; Jennifer Racz, MI; Emily Robertson, NJ; Amanda Rocker, NC; Natalie Sater, FL; David Satterfield, MD; Joeseph Schumm, NE; Julia Schwartz, NE; Kevin Separa, CA; Caitlyn Smith, NY; Courtney Stunkel, TX; Adam Sullivan, NY; Krystle Teague, AR; Kenneth Thorson, FL; Neal Vogel, AL; Melinda Wannes, CA; Emma Wass, NE; Ykeara Wilson, CO; Erica Winner-Manson, FL; Ashley Wolterstorff, IA; Victoria Yeselevige-Rudovitz, PA

NEWSFEED

A Biology Professor’s research was highlighted by the University of Nebraska Kearney news this fall. Below is an excerpt from the article on Dr. Mary Harner’s, Associate Professor in the Departments of Communication and Biology, entitled “UNK researchers Brinley Buckley, Harner look at eclipse’s impact on ecosystem”. For the full article click on the link:

University of Nebraska at Kearney faculty Emma Brinley Buckley, left, and Mary Harner conducted a study investigating the biological and environmental effects of the Aug. 21, 2017, solar eclipse. (Photo by Corbey R. Dorsey, UNK Communications)

By TYLER ELLYSON
UNK Communications

KEARNEY – One year ago, thousands of people flocked to Nebraska to witness “The Great American Eclipse.”

The solar eclipse, spanning from Oregon to South Carolina and casting a 70-mile-wide shadow along the path of totality, was a once-in-a-lifetime spectacle for many observers staring at the sky through those special cardboard glasses.

Watching the sun disappear midday was an awe-inspiring moment for spectators, but two researchers at the University of Nebraska at Kearney were equally interested in some less-obvious reactions to the big event.

Mary Harner, an associate professor in the departments of communication and biology, and Emma Brinley Buckley, a research scientist in the department of communication, conducted a study investigating the biological and environmental effects of the Aug. 21, 2017, solar eclipse.

The resulting article – “Assessing Biological and Environmental Effects of a Total Solar Eclipse with Passive Multimodal Technologies” – details observations from that day as recorded by a network of time-
lapse and trail cameras, sound recorders and environmental sensors installed at sites along the Platte River to determine how this ecosystem responded to the rare occurrence.

Their findings, published earlier this month in the journal Ecological Indicators, reveal a combination of expected and surprising outcomes.

UNK faculty Emma Brinley Buckley and Mary Harner used time-lapse cameras to study the solar eclipse and its impact on the ecosystem. This composite photo of the Aug. 21, 2017, event is among those the researchers produced. (Photo courtesy of Emma Brinley Buckley)

Shortly after totality, when the moon completely blocked the sun, temperatures decreased an average of 12 degrees and humidity increased about 20 percent. That was expected; however, an interesting comparison showed a wooded area they monitored experienced less of a temperature shift than a prairie site located just 20 miles away.

Sound recordings also indicated a reduction in wind near totality, a phenomenon known as “eclipse wind.”

“It was pretty neat to be able to pick that up on the sound recordings,” said Brinley Buckley, who had never heard the term prior to this project.

Although many of the recorders were in relatively isolated locations, Harner noted that they still picked up the sounds of people cheering and yelling during the eclipse’s climax.

A total solar eclipse doesn’t engulf the landscape in complete darkness. The researchers looked at time-lapse photos taken every 30 seconds to determine the level of illumination declined an average of 67 percent at totality, similar to dawn or dusk. Still, this was enough to change the habits of some birds and insects.
The researchers discovered the calling activity of birds was impacted by the eclipse. Sedge wrens, for example, increased their singing near totality, and western meadowlarks had the opposite reaction.

The sound recordings also captured a shift in insect calls from diurnal to nocturnal species, such as katydids and crickets, as the sky darkened, and the frequency of these calls got lower as the temperature dropped.

The researchers hypothesized that plants and other animals that respond to changes in light may alter their behaviors – such as flowers closing their petals, bat colonies coming to life and unusual wildlife movement – but trail cameras and ultrasonic microphones didn’t pick up any of this activity.

“It was a little bit surprising that we didn’t detect changes from the trail cameras that we had on the landscape,” Harner said.

In addition to documenting a rare event, Harner said the project is an example of how collaboration among diverse disciplines can advance research and education.

This research, supported in part by the University of Nebraska Collaboration Initiative, was a partnership between UNK, the Crane Trust, Center for Global Soundscapes at Purdue University and Platte Basin Timelapse project, which is based at the Center for Great Plains Studies at the University of Nebraska-Lincoln.

“Our teams had been working together in various capacities, but this was a way to come together and really formalize some of the things we had been laying the foundation for,” Harner said.

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**CONGRATULATIONS**

**December 2018 Graduates:**


Three graduates were able to make the journey to Kearney for the UNK Fall Commencement ceremony on December 14th held in the Health and Sports Center. Fifteen guests including graduates, their families, and Biology faculty, attended the Department breakfast before the ceremony to honor our graduates.
(pictured top from left to right: Brittany De Ruyter, Benjamin Lazzari, Heather Gordon)

(pictured below from left to right: Dr. Paul Twigg, Professor and Graduate Program Chair; Brittany De Ruyter; Benjamin Lazzari; Heather Gordon; Dr. Janet Steele, Professor; and Dr. Julie Shaffer, Professor and Biology Department Chair)
Publications, Meetings, Grants

Grants


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.

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**Director’s Desk from Dr. Letty Reichart**

Happy New Year and best wishes for a successful spring semester!

We just finished up our first semester as a part of the new College of Arts and Sciences at UNK! As I mentioned in my letter, UNK implemented a merger of two former Colleges, the College of Natural and Social Sciences and the College of Fine Arts and Humanities, to form the new College of Arts and Sciences. As a result of our merger, many members of our Biology faculty have been busy serving on new committees tasked with determining new governance procedures for faculty, staff, and students. In addition, faculty members have started discussions of possible avenues for future collaborative opportunities. We have an exciting time ahead of us at UNK!

Second, I would like to congratulate 30 online masters students, who graduated with their Master of Science degrees in Biology in December 2018. We also had the opportunity to celebrate with three of our graduates who were able to come to campus for graduation. We always enjoy meeting our online graduate students in person and especially love the opportunity to celebrate their achievements with them!

Next, I would like to highlight some new course offerings for Summer 2019. We have two new physiology courses, Dr. Surabhi Chandra will teach “Chronic Pain-Physiology and Care” (2 credits), and Dr. Joseph Dolence will teach "Biology of Allergic Disease" (3 credits). Dr. Julie Shaffer will offer a three-credit course titled, “Foundations in Microbiology,” which will provide a solid background of microbiology for students who have never taken microbiology and/or for students who took a microbiology course in the past, but would like to learn about new developments within the field. Finally, Dr. Dawn Simon will offer a fun one-credit course titled, “Domestication of Dogs.” Be sure to consider some of these new electives for your summer course options. As always, for any of our course offerings each semester, I encourage you to visit the following webpage, where you can view course syllabi for all of our online course offerings, it’s just a click away, www.unk.edu/academics/msbio/Course_Descriptions.php.

In closing, I look forward to an exciting spring. Sending you all good wishes for a successful spring semester! Please let me know if you have any concerns or questions, I am happy to discuss these with you. You can contact me by email at reichartlm@unk.edu or call me at 308-865-8568. I look forward to hearing from you and best wishes for Spring 2019!

---Dr. Letty Reichart
Student News

Tonya Baxley (December 2014 graduate) was recently awarded the Online Learning Consortium Digital Learning Innovation Award. She is a faculty member in the Life and Physical Science department at Mohave Community College in Arizona and teaches the introductory biology courses. The award comes with $10,000 to continue the development of the course work. (pictured left)

Amanda Fashano (July 2017 graduate) welcomed her son, Dominic, on April 14 at 4:01 am. He weighed 6lbs 9.5oz and was 19¼ inches long. (pictured right)

Tim Feit (May 2012 graduate) graduated in December from the University of Wisconsin–Whitewater with an MBA in finance and marketing.

Dawn Fuelberth (December 2011 graduate) received the 2018 National Association of Biology Teachers Outstanding Biology Teacher of the Year for the State of Nebraska. (pictured left)
Camille Merck (May 2016 graduate) welcomed her third child on November 9 at 12:14 am. Charlotte Noelle was 20.5” long and weighed 8 lbs 15oz. She joins her big sister, Hailey and big brother, Colton. (pictured left)

Erica Oberlin (December 2018 graduate) completed classes and fieldwork for a Field Naturalist Certification program through the Massachusetts Audubon Society this fall. In addition to the course meetings, participants are required to complete 40 hours of independent environmental stewardship/volunteer work which she plans to complete in Spring 2019. Upon successful completion of the classes, fieldwork, and volunteering component, she will receive certification as a Field Naturalist.

Matthew Ridgway (July 2017 graduate) accepted a position as a regional terrestrial ecologist for NAVFAC NW for the Navy in Silverdale, Washington.

Casey Sutton (May 2017 graduate) began a new position at Indigo Ag as a Nebraska Agronomist. She will also be getting married this February.

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

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**Office Space**

**Spring 2019 Deadlines:**
- January 7th – Spring classes begin
- January 11th – Last day to add/drop class on MyBlue with no penalty
- January 17th – E-bill notifications sent to Lopermail account
- January 21st – Martin Luther King Jr. Holiday, all classes dismissed
- February 1st – Last day to apply for May graduation
- February 7th – Tuition & Fees due in full
- March 8th – Last day to drop a course (no refund at this time)
- March 17th – 24th – Spring break, all classes dismissed
- March 29th – Comprehensive Exams (for graduating students) must be returned to the Biology Dept
- April 1st – Early Registration for Summer and Fall 2019 classes begins for all currently enrolled students
- April 22nd – General Registration for Summer and Fall 2019 classes begins for all admitted students
- April 29th – May 2nd – Finals Week
- May 3rd – Spring Commencement at 10:00 am in the Health and Sports Center
- May 6th – Summer 2019 semester begins
- May 7th – Deadline for faculty to submit final grades for spring classes
Students planning to graduate this May 2019 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 May graduation is **February 1st**. 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 May 3rd 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 so we can plan some special events for you.