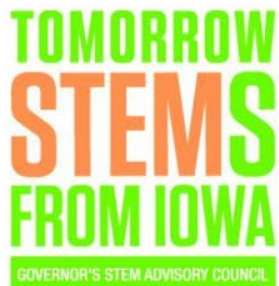


# 2023 Iowa STEM Teacher Externships

Extern Yearbook



# Travis Angell

## Iowa DNR at Sweet Marsh

Sumner, IA

Travis worked with the DNR staff to maintain the health of the wetland. This included planting seeds in plots, maintaining the dikes and grounds around Sweet Marsh, and tagging a variety of birds to monitor. He also learned the process and procedures required to develop and maintain wetland areas around Sweet Marsh.



*“By the end of the externship, I felt like I was part of the team and felt like I could help them get things done without getting in the way too much. It has opened my eyes to a whole new career for students who love being outside in nature. I feel very strongly this experience will help me reach some students who I know do not like school but love hunting, fishing, and being outside. This may be a great connection to help these students see purpose in school.”*

– Travis Angell, math and science teacher at Waverly Shell Rock Middle School

# Kayla Britt

## Winneshiek County Conservation

Fort Atkinson, IA



Kayla's focus was to prepare and teach the weekly Discovery day camps held for children going into grades 1-9. The camps give children a chance to learn about the environment, how they can protect it, and interact with it. Each week, a different age group attends camp to participate in lessons that will bring them closer to nature. Kayla prepared three fun and engaging lessons each week related to the environment and age appropriate. After the three weeks of camp were complete, Kayla assisted with creating eye-catching displays for the county fair to attract people of all ages to their booth.



*"I want to make more connections between the content I am teaching and future careers. I've always loved math and did it because it was fun. I never needed a real-world reason to be learning math. However, as a teacher, I want to be able to share this with students because the connection can help some feel more engaged in the content."*

– Kayla Britt, math teacher at John R. Mott High School in Postville

# Chet Chapin

## Geater Machining & Manufacturing

Independence, IA



Chet spent his time learning the finer details of the manufacturing process among dedicated industry professionals, as well as developing and refining learning materials for his students. The processes he learned about include machine operation, machine setup, machine programming, and part design. The learning materials he worked on include project plans for students to build their own machining tools like hammers, squares, and basic measuring tools. This is all happened as Chet ran equipment and machined parts for clients.



*“If you can make the value of the skill and knowledge self-evident to the students, then for the most part they’ll naturally want to learn more and get better.”*

– Chet Chapin, industrial technology teacher, Western Dubuque High School



# Dawn Colsch

## Iowa DNR at Decorah Fish Hatchery

Decorah, IA



Dawn's main duties were to feed the rainbow trout, clean the raceways, stock the streams, and help the DNR employees. She learned about trout in Northeast Iowa, including stream locations, population count, and daily care. Dawn also participated in water sampling and data collection. She was exposed to data sites that show levels of nitrogen, dissolved oxygen, turbidity, etc. Her project was analyzing data from streams to determine the ideal setting for trout. This included researching brown, rainbow, and brook trout and matching them with streams. The idea is to have the greatest survival rate by providing supreme habitat.



*"I have seen a glimpse of the inner workings and efforts of the DNR and I wasn't aware of all that they do! I have learned so much about trout and will be able to bring that back to my students along with opportunities to connect through field trips and content sharing."*

- Dawn Colsch, science teacher at MFL MarMac Middle School in McGregor

# Jessica Duprey

## Buchanan County Conservation

Hazleton, IA



Jessica worked with the hosts to design and paint a mural on two sides of an outdoor building and design and paint interactive sidewalk art. The hosts wanted to use art to help the public learn about and interact with nature. The mural is of the creek and the wildlife living in and near the creek. Jessica researched the plants and wildlife and created an artistic version. The hosts wanted permanent sidewalk art that is interactive; (“waddle like a duck” with duck prints to waddle on). Jessica designed stencils to spray paint and worked with other artists to paint the sidewalk art.



*“Naturalists at Fontana use art standards frequently in classes with kids. They create art based on nature, collaborate to find materials, and relate the art they make to the world around them. I have been inspired by projects the naturalists do with kids and the conversations they have about projects. One of my hosts, Sondra, is amazing at making learning engaging, fun and real world. I could learn so much about teaching art from her!”*

– Jessica Duprey, art teacher at Jesup Community School District

# Lindsey Ernst

## Blank Park Zoo

Des Moines, IA

Lindsey reviewed STEM lessons for Summer Safari Camp to see how they align with the NGSS. The education staff at BPZ wants to be sure that campers have fun and learn about the zoo, but that they also gain experience and information relevant to the NGSS standards. Lindsey looked through the Habitat Boxes, which BPZ lends out to classroom teachers. She also assisted in teaching STEM lessons to the k-2 grade level Summer Safari Campers.



*"I hope to implement activities where students need to work with others, and cooperate, collaborate, and communicate effectively. I hope in increase the rigor so they can sharpen critical thinking skills. I want to provide alternative assignments and projects so they can demonstrate knowledge and use creativity. Artistic and out-of-the-box thinking students would thrive with more input in how they are able to convey what they are learning."*

– Lindsey Ernst, science teacher at Expo Alternative Learning Center in Waterloo



# Amanda Fowler

## Jackson County Conservation

Maquoketa, IA



One of many projects that Amanda worked on was finding the genus and species for the native landscaping in front of the Hurstville Interpretive Center for new signs that include the plant scientific names. She communicated with a local print shop to create signage. Amanda has become a compost expert to help maintain the newly started compost for plates from the local farmers market each week. Another project she completed is a tour guide for Maquoketa Caves State Park for externs and interns with stopping points along the tour.



*“My externship with Jackson County Conservation has been the best experience. The naturalists are so knowledgeable and passionate about their job. My relationship with JCC has grown stronger and I know I can come to them with any questions or material needed for my curriculum.”*

– Amanda Fowler, math and science teacher at Easton Valley Schools in Preston



# Carter Harris

## Upper Iowa University

Fayette, IA



Carter worked in streams in Northeast Iowa everyday and examined water quality, temperature, and the habitat. Organisms like fish, macroinvertebrates, and aquatic plants were examined to determine stream health. The University also worked with the DNR to help them ensure what streams suitable habitat for different trout species. All of the data was used to tell the DNR if a stream is suitable for trout or if it has wild-spawning trout in it.



*“Being able to work in this has been a very enjoyable experience. I think that I can use this to open kids up to so many different career opportunities. I have definitely been able to improve the curriculum for my classes because of this experience. I am really excited to implement this in the classroom and have really enjoyed the program.”*

– Carter Harris, science teacher at Independence Jr/Sr High School

# Madyson Larson

## McGregor Municipal Utilities, Allamakee-Clayton REC



Madyson's main project was to upgrade the current programming on their current routers, so that they are able to work with the REC's current firmware. Additionally, she put together lists of IP addresses to see which ones are incorrectly named and shouldn't be included in the company list, and ensure that they are being used appropriately. Finally, she completed an instruction sheet for some of the linemen, using the company's mapping program.



*"A main component that I will be able to carry back to the kids is that you should always push yourself to grow and try new things. There is always an uncomfortability with trying new things and this is because we haven't had enough practice with it yet. If we can push past the initial uncomfortability, the rewards are endless!"*

– Madyson Larson, math and writing teacher at MFL-MarMac Community Schools

# Hallie Matthias

## Iowa DNR at George Wyth Park

Waterloo, IA



Hallie worked with the DNR officers that managed the park. Her main duties were to develop accessible Iowa Hunter's Education materials for diverse cultures. She also assisted in daily duties and procedures in the park wherever needed. Hallie was able to learn new skills, develop lesson plans, and gain practical perspective on real world jobs for her students in the classroom.



*“Using this newfound experience I think I should be introducing my students to different job opportunities related to content and workplace skills weekly. Even if these jobs are just in a bellringer. I want my students to learn meaning from both my content as well as the job skills needed to complete daily work in class.”*

– Hallie Matthias, science teacher at Oelwein High School

# Kim Ross

## Zoetis

Charles City, IA



Zoetis is a global leader in the animal health industry and works to discover, develop, manufacture and commercialize vaccines, medicines, diagnostics and other technologies for companion animals and livestock. The Charles City facility is mainly focused on poultry vaccines but also produces vaccines for other animals like hogs, dogs and horses. Eggs play an important role in the manufacture of the vaccines and Kim is working on tracking the path of the egg from entry into the facility to final vaccine production.



*“Knowing how to teach and assess soft skills can be difficult and it takes time that could otherwise be used for content. However, all the content in the world is pointless if students don't do the work or can't communicate what they've learned. It is a constant balancing act to make sure students feel supported in both areas.”*

– Kim Ross, science teacher at Waverly Shell Rock High School



# Bridget Schaufenbuel

## Clayton County Development

Elkader, IA



Bridget created TripAdvisor accounts for Clayton County lodging to display great places to stay in the county. In addition to this project, she assisted in updating the Clayton County industries database and learned more about opportunities and resources available in the county. Finally, she developed a tear-off map for bicycling and ATV routes and promoting the best stops on the routes.



*“Hopefully, if [students] can see these employability skills intertwined with content, they will begin to understand the benefits of lifelong learning! After working at Clayton County Development Group, I will be able to promote skills they will need in the workforce even more next year as well.”*

– Bridget Schaufenbuel, math teacher at Clayton Ridge High School in Guttenberg

# Jennifer Strohbehn

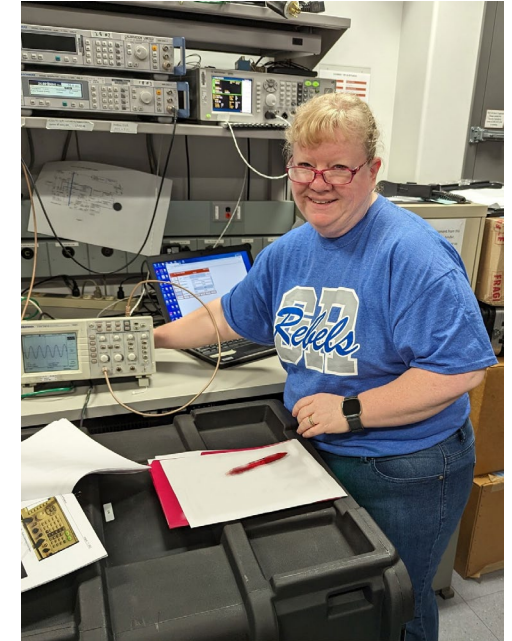
## Collins Aerospace

Cedar Rapids, IA



**Collins  
Aerospace**

Jennifer was assigned to the Tactical Communications Systems Engineering group. Within that larger group, she was assigned to the High Frequency (HF) Airborne and Ground Communications Products. Jennifer helped the Systems Engineers in the section with things like documentation, lab work, integration, and information assurances. She helped wherever needed and learned about how radios are used in many applications both by the military and other entities.



*“Overall, the program is amazing. The ability to be in the “real world” was eye opening. I plan to implement more specific direction on these skills instead of just assuming that kids can do them. I want my students to be contributing members of their work forces. They are not all going to be engineers, but they will have jobs that need communication, critical thinking and creativity.”*

– Jennifer Strohbehn, science teacher at Gladbrook- Reinbeck Junior-Senior High School

# Kenan Willey

## Winneshiek County Conservation

Fort Atkinson, IA



Kenan assisted conservation staff with educational programming. Her main duties were Discovery Camps, three week long outdoor summer camps for children aged 7-8, 8-10, and 11-14, interactive displays for the Winneshiek County Fair, and community education events such as kayak and fishing clinics. Kenan gained knowledge and a deeper understanding of many science and conservation topics that will benefit her future students.



*“My most impactful part of this externship was reaffirming my love of teaching and the fact I am good at building rapport with kids. I just really enjoyed teaching during Discovery camps and I now have so many new ideas on lessons to share with my future students.”*

– Kenan Willey, 6th grade teacher at Notre Dame Catholic School in Cresco