

Summer Internship Report 2017

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Hometown: Mt. Juliet, Tennessee



Biology Research Assistantship: Crocodiles Sewanee, Tennessee

Provide an overview of the organization/research project and a summary of your responsibilities, tasks, and/or projects.

This summer I worked on a variety of projects with Dr. Brandon Moore to accumulate more information regarding crocodilians, as well as a few other projects for future studies. The major goals of our project are to use a diversity of information sources to characterize male, phallic morphological variation among the known 23 species of crocodilians. We received MRI scans of the American alligator as well as the Nile crocodile, and used a 3D program to trace and create 3 dimensional morphological structures from these scans to better understand tissue function and shape. We also took histological sections of each phallus using a variety of staining techniques to analyze detail in tissue structure, later comparing the 3D model to the 2 dimensional stains. While in the process of accomplishing these projects, we worked with Dr. Edwards and her study on fish in Botswana. We took the samples of liver and muscle from over 300 different fish that were collected, and processed pellets out of them to determine what metals were found in certain fish.

During your internship, what did you accomplish or how did you make a difference? In what ways did you grow in your professional and technical skills?

We completed nearly everything we were aiming for at the beginning of summer, and even made necessary adjustments when needed. There were errors and mistakes, however they were learned from and can be looked at from a learning perspective for future tasks. Gaining experience in different areas throughout the lab was crucial, and will help me going forward in my college career as well as my lab during the school year with Dr. Moore. For example, mastering the 3D program and other visual tools on the computer helped me to create the first 3-dimensional phallus and all its tissue structures within. It has become an important visual piece in our lab and for studies to come.

Describe a problem that you helped to solve at your internship. What skills or knowledge from your education at Sewanee helped you address the problem?

Being able to adapt to certain situations is very important when working on any project. In our lab, things wouldn't always go our way and would change abruptly. For example, if something breaks or spills, or the computer crashes and you lose all your data, you always have to have a backup plan. We made sure we had extra tools and equipment for our use, and always wrote down the data elsewhere. Sewanee has taught me to always be prepared and do your best to find alternatives in a difficult situation.

In what way were your teamwork skills strengthened?

In my internship I worked with Kelsie Schiavone, a fellow student and friend, as well as Dr. Moore who I also work with during the school year. We all have different ideas on how to communicate, how to complete a task, and how we manage our time in the lab. However, we all worked phenomenally well together. Working together every day really helped understand how each other worked. Our tasks were done with ease and we were able to express new ideas and really work as a team.

How did your internship affect your career plans?

It provided me with new interests and a new passion. I get excited to explain what I'm doing as well as all the details behind the different studies. That is what I want to look for in a career. I'm currently still deciding on my path, as I'm still a sophomore. However, this internship has really opened my eyes for a path in science and my desire to discover new things.

In what ways did your internship cause you to encounter people of different backgrounds from your own? What steps did you take to communicate effectively with such persons? What did you learn from such persons' perspectives?

For me, I think the only challenge with effective communication was scheduling. Each of us had different plans and other things going on outside the lab. Our main source of communication for the three people was through email, so we had to adjust accordingly to make sure we fulfilled what was needed and when we did it. There had to be an agreement, and if we couldn't come to one, we found another solution very quickly.

Words of advice for future interns (housing, transportation, etc.)?

Bring a lot of fans, you will get VERY hot. I would recommend buying groceries (from Walmart or Kroger, the Pig is expensive) instead of going to McClurg or Stirling's everyday- the money will build up. But the best advice I can give anyone is just have fun: if your internship is in Sewanee, there's so much more to do than you think and you'll make some of the best friends you've ever had. It's all worth it.

Words of thanks to your internship funding donors:

This was one of the most amazing opportunities I've ever experienced. It has given me the motivation to continue work in this subject and further my education in molecular biology as well as art. Thank you so much for a fantastic summer!