

Meet the Fellow

Zoe Rice

Host Laboratory: Michigan State University
Veterinary Diagnostic Laboratory (MSU VDL)

Degree of Study: Bachelor's of Science in Biology

Graduation: April 2024

School: Eastern Michigan University



What is your educational background?

I graduated Eastern Michigan University *summa cum laude* with my bachelor's degree in biology with a minor in chemistry and concentration in physiology.

What brought you into laboratory science?

In college, I was part of a cellular and molecular biology laboratory researching the genetic mutations responsible for different ball python morphs. I became very fascinated with research and learned of the many things that can be accomplished within a laboratory. I had a lot of background in health and wanted to incorporate this into whatever I did in the future. After I graduated, I applied for a job as a clerical aide in the toxicology/nutrition section of Michigan State University's Veterinary Diagnostic Laboratory (MSU VDL). This position was very different from anything I had done previously, and the wealth of knowledge and new things was exciting. I was originally skeptical about a career in a laboratory, but these experiences brought it back into consideration.

How did you hear about the Public Health Laboratory Fellowship Program?

As the end of my term as a clerical aide for MSU VDL was approaching, my mentor, Dr. John Buchweitz asked what I was planning to do next and if I would like the opportunity to continue working with them in a new way. He then introduced me to the APHL fellowship program. He had mentored APHL interns and fellows in the past, and thought I might enjoy the program. Soon after, I applied and was accepted to be a fellow in his laboratory.

How did this fellowship match or exceed your expectations?

The APHL fellowship program has so much to offer. I was impressed by the extensive resources available to fellows and the dedicated support from the APHL team. The training materials served as an effective introduction to public health and laboratory work, and I found them to be accessible and manageable. Additionally, the annual conference was well organized and provided a wealth of valuable learning and networking opportunities.

Tell us what you learned from your mentor.

My mentors have taught me everything I currently know about mass spectrometry, analytical chemistry, and method development. Along the way, I've learned many aspects of experimental design, data analysis, troubleshooting, and how what we do in the lab affects decisions made outside of it. When I first started, I couldn't really understand the lab jargon, but my mentors were patient and explained them to me whenever I asked. Since then, they have also helped me with my scientific writing and communication with collaborators. They are curious and respectful of

my ideas, offering new resources and perspectives, and always pushing me to be a better scientist. Their leadership and expertise has also modeled to me how to build confidence in myself and my work and avoid burning out when chaos inevitably arrives.

Tell us about your project assignments/laboratory roles.

My project assignment is to develop and optimize a method for the simultaneous extraction of vitamins A, E, and 25-hydroxyvitamin Ds from animal tissue with quantitation on liquid chromatography tandem mass spectrometry (LC-MS/MS). This project will expand toward various animal feed matrices to assist the Food and Drug Administration (FDA) with more accurate nutrient analyses and product regulations. This vitamin tissue method was recently validated for clinical diagnostic use at MSU VDL and is currently undergoing blind-method testing through the Veterinary Laboratory Investigation and Response Network (VetLIRN). We are hoping to publish this data in the Journal of AOAC.

How has your fellowship experience inspired you?

My fellowship experience has inspired me by introducing new ideas and career paths. I've wanted to pursue a PhD for a long time, but for much of that time I couldn't decide exactly which science I should study or what I should do with it. My fellowship experience helped me clarify this. I used to think I wouldn't work well in a lab setting, but through my time at MSU VDL I came to be quite fond of it. Now, I feel inspired to do more. I also felt inspired by the program's reinforcement of public health laboratory importance. I was feeling discouraged about the state of the world, but the speakers at the APHL 2025 annual conference lifted my spirits. It was relieving to see how many of us are still working for a better future.

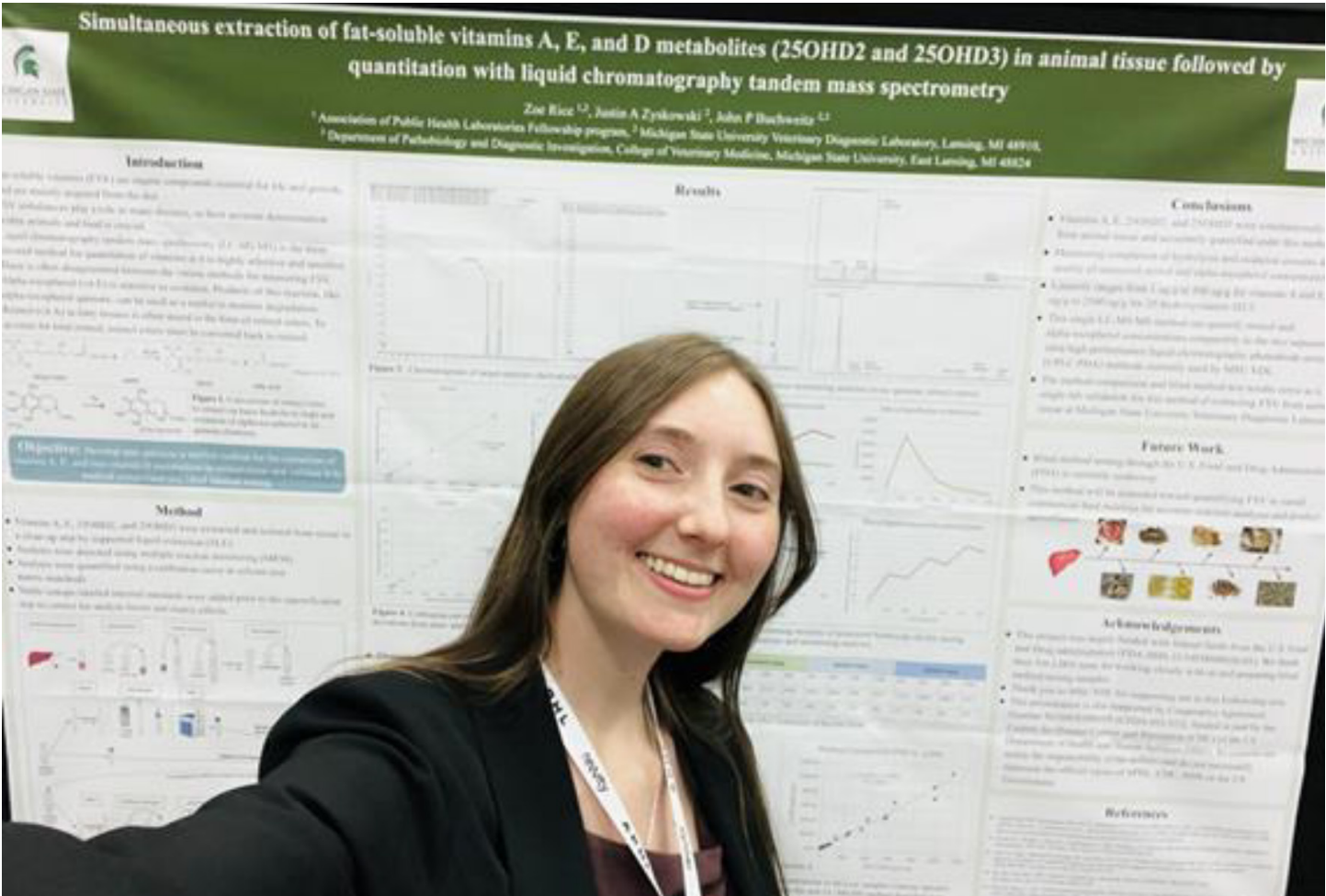
How would you describe the APHL Fellowship to other students?

From speaking with other fellows, I've realized that

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your experience in the fellowship heavily depends on your relationship with your mentor and how the host laboratory runs. Luckily, the matching process allows students to align their interests with a focus area and mentor with similar goals. There are many opportunities for professional development and presentations/publications, as well as APHL conferences where you can meet your peers and learn more about their projects. Overall, it is a great way to get more experience in public health laboratories, surround yourself with professionals and experts in the field, and prepare for future careers as lab scientists advantage of all the training and opportunities that are afforded to you, it can be an experience unlike any other. There are so many opportunities to learn and grow without the fear of failure or having to go it alone. The program staff and mentors have been invaluable in making sure that we are seen, heard, and supported.

Aside from the laboratory and the science skills and knowledge, did you gain any other beneficial life experiences?

Yes. My colleagues at the host lab have been very kind and give great life advice! There were many times when my mentors or colleagues encouraged my growth and helped me on a personal level. Once, very early in my fellowship, I made a mistake on an instrument. I was very concerned about the potential reaction, so this situation made me very nervous. One of my mentors, who had caught the mistake, was not angry or mean about it. He explained things calmly and told me not to worry, as I was just learning. Naturally, I was still worried about it. Later that day, he pulls me aside to show me the room he just flooded by forgetting to turn the sink off. We laughed and he emphasized that everyone makes mistakes regardless of how much experience they have. I really valued this moment because it gave me back an inch of confidence and showed me I could trust them.