

DATA VERSIFY

Nicole C. Riddle

Researcher Background:

Nicole Riddle (she/her) is a biologist at the University of Alabama at Birmingham. The Riddle lab studies exercise response and aging. To do so, they look at how chromatin silencing mechanisms can modify how genes are expressed during transcription to impact organism-level phenotypes. For this work, the Riddle lab uses the genetic model system *Drosophila melanogaster*, a fruit fly.

Q: How would you describe your science to a 5th grader?

A: All the cells in our bodies, no matter if they are part of our skin, liver, or brain, have the same information available to them. But each type of cell doesn't use all the information - skin cells only use what's needed to make a skin cell, liver cells only use what's need to make a liver cell, and so on. I study how the cells make sure to use only the right bits of information and ignore everything else.

Q: Why did you become a biologist?

A: My grandpa was a gardener. When I was little, he would take me on hikes and teach me all about the plants we saw along the way. In school, mathematics and the sciences were my favorite subjects. At the end of high school, I had a very hard time deciding what STEM subject I wanted to major in. When I realized that as a biologist, I could study biochemistry, biophysics, biostatistics, or bioinformatics, and I didn't really need to pick just one subject, I decided to major in biology.

Q: What is your favorite part about your job?

A: My favorite part about being a scientist is that I learn new things all the time. I get to learn about other people's new findings, I get to learn new methods, techniques, or skills, and I get to design experiments to find answers to questions that nobody knows the answer to.

Q: Do you have any aspects of your identity that you feel are underrepresented, marginalized, or minoritized in STEM or society?

A: I'm a women and a first-generation college student.



Nicole in her research lab where she works with a model system, fruit flies.



Nicole looking at fruit flies under a microscope.

Q: What obstacles have you overcome to get where you are?

A: Learning how to manage failure and rejection. As a scientist, failure and rejection are commonplace, and I encountered this challenge first as an undergraduate researcher, when my experiments did not work for more than 3 months. The graduate student that I worked with gave me great advice - that it was important to have something other than research in your life, so that there would always be success to balance out the failure. She cooked elaborate meals when the experiments weren't going well. I knit socks.

Q: What are hobbies and/or interests that you have outside of your research?

A: I have two main hobbies, reading (mostly mystery novels and fantasy) and knitting.

Q: What is your favorite thing about reading?

A: I read fantasy novels because I enjoy discovering the new worlds that the writers build for us to explore. What I enjoy most about mystery novels is that they are "tidy" - at the end of the book, the bad guy is caught and everything is set right again. Doing science is often messy and not very predictable, so it's nice to escape into a world where things are simpler.



Nicole enjoying a novel outside.

Q: How did you get into reading novels?

A: In first grade, we took a field trip to the public library, and everyone got a library card. Back then, my goal was to read all the books in the children's part of library. I didn't quite get there, but I haven't stopped reading for fun since.

Q: What advice do you have for aspiring biologists?

A: Be curious about the world around you and find others that enjoy biology as much as you do. There are many communities that you can join to learn more about biology and contribute to science, be that through your local botanical garden or zoo, organizations like the Nature Conservancy, or online communities like iNaturalist.

Q: What do you believe are key elements that contribute to being successful in biology?

A: That's a difficult question to answer, as there are a lot of different ways to be a successful biologist. I think the key is to be the kind of biologist that best matches your skills and personality. If you enjoy working with people, be a biologist that focuses on outreach, working at a zoo or non-profit where you help educate the public, or focus on teaching. If you enjoy working with computers, seek out training in bioinformatics and "big data", which will allow you to work in industry, academia, or government positions.