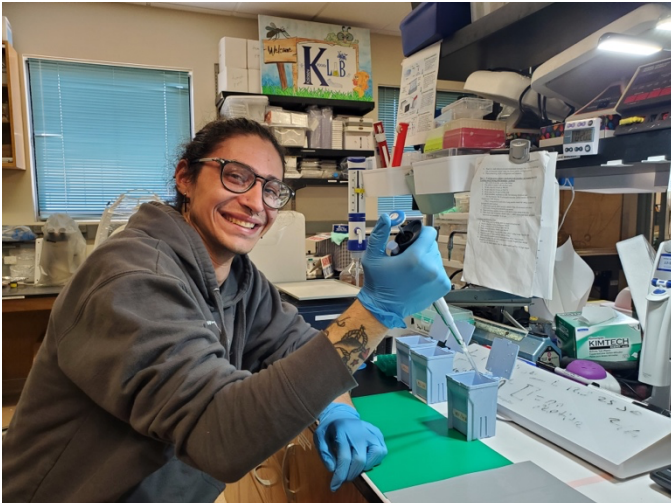


Exposé Interview

Undergraduate Researcher Interview: Brendan Boyd



Please introduce yourself below – your name, your major and year of study, and whose research lab you’re in.

My name is Brendan Boyd. I am Cellular/Molecular Biology major with a Chemistry minor, and I am a senior. I am currently doing animal physiology research in Dr. Dennis Kolosov’s lab.

Please describe your scientific journey and your current research focus.

My scientific journey began when I was very young as I was always fascinated with animals. I was captivated anytime I would go to the San Diego Zoo or watch nature documentaries. Eventually I began to build bioactive enclosures for several different animals such as poison dart frogs. I was always so enthralled with having a slice of the rainforest right in front of me and just watching the frogs interact in their environment. My foray into science really began in community college when I started to really gain an appreciation for the sciences. The biology classes were my favorite, so I finally settled on pursuing biology. When I found out I could do research as an undergraduate here at CSUSM, I was elated, as I had always thought about becoming a scientist, but I never really knew how to get there. My current research focus is how caterpillars are able to maintain their salt and

water balance so that they are able to eat and grow the way they do. I study how they use ion channels in their kidneys to regulate the salts in their bodies.

What made you choose to research this topic or go into this field—what drew you in?

I have always had a fascination with animals, including insects, so going into an animal physiology lab was a natural entrance into research for me. Insects are absolutely fascinating, and they have so many weird adaptations and physiological features, so they can be very enticing models to study. When I had a class with Dr. Kolosov as the professor, I learned a bit about what he does and was captivated right away. When I found out I could do research in his lab, I jumped on the opportunity.

How would you explain to the general audience what the most rewarding/exciting thing about what you study today is?

The most rewarding thing about what I study is gathering data that contributes to a growing body of knowledge. I love the idea that when I gather enough data to go on a publication, that I am helping to contribute to the greater scientific community. Being able to help discover new things about these amazing animals and how they work is extremely rewarding to me. The more we know about caterpillars, the more we can work to maintain a healthy relationship with them as humans!

How would you explain to the general audience what has been the most challenging for you so far and how you have overcome it?

The most challenging thing for me has been dealing with failure in science. There have been many times where I have tried to do a specific experiment and it did not work. I have had to do a lot of methodical troubleshooting that has been very meticulous, however I have stayed persistent and have gained a wealth of knowledge and skill from it. Once I got comfortable with the idea that I will fail, I was able to simply learn from failed experiments rather than become frustrated.

What do you enjoy most about research, and why?

I simply just enjoy learning. When I am conducting research, I feel like I am at the forefront of collective knowledge on the particular thing that I am studying. This idea is very exciting to me. I also love learning about all of the previous research that has been done on caterpillars and insects as a whole. I find research to be very challenging and engaging, and that is what makes it so much fun for me.

What are your passions outside of school & research?

Outside of research, I enjoy listening to music, running, hiking, video games, and Magic the Gathering. I also like to keep different amphibians, reptiles, and invertebrates. On the weekends, I am a bartender at a craft cocktail bar, as I also really enjoy mixing drinks.

Do you have any advice for others just starting out or hope to work in your field?

My biggest advice that I could give is to do as Issac Newton said and stand on the shoulders of giants. I would not be anywhere without my advisor, Dr. Kolosov, or the rest of my lab mates who have all taught me so much. Furthermore, being willing to learn from those who came before you allows you to be equipped with the knowledge necessary to tackle new questions. When entering a research lab for the first time, stay humble, keep an open mind, and be ready to learn!

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