

Undergraduate Research Grants Support Engineering Students Studying Macular Degeneration | College of Engineering

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News Release — January 10, 2022 — Undergraduate research grants from Utah State University and the College of Engineering are providing support to two engineering students using hagfish proteins to better understand macular degeneration.



Dillon Weatherston and Emilee Rickabaugh are USU engineering students working in the lab of Elizabeth Vargis, an associate professor of biological engineering. Each of them received an Undergraduate Research and Creative Opportunities grant from Utah State last year. (Matt Jensen/USU)

Dillon Weatherston and Emilee Rickabaugh are working in the lab of Elizabeth Vargis, an associate professor of biological engineering. Each of them received an [Undergraduate Research and Creative Opportunities](#) grant from Utah State last year. Rickabaugh also received an [Engineering Undergraduate Research Program](#) grant through the College of Engineering.

The grants support student research by providing scholarship money and funding for supplies. Beyond the financial support, receiving the grant can provide students an important sense of validation regarding their research.

“Like a lot of people who have the experience of being a woman in STEM, I’m no stranger to imposter syndrome,” Rickabaugh said. “So it was cool to be able to tell people about my research and then have other people be

like, yeah, this is really cool what you’re doing and it is deserving of funding.”

Rickabaugh said her hands-on experiences in a lab have sparked her desire to go to graduate school and continue in research work professionally.

For Weatherston, who had been working on other projects in Vargis’s lab, applying for the grant really helped develop a sense of ownership in his work.

“I started working in this lab a year and a half ago,” he said. “And you know, it was always someone else’s project. I took over from someone that graduated and was kind of just trying to figure it out. Once I started applying for the grant, Dr. Vargis really encouraged me to actually figure out what I wanted to do with it.”

The grants can help ease financial burdens for students like Weatherston and Rickabaugh who are participating in research, and Rickabaugh said having the additional financial support has allowed her the resources to be more creative in her research.

Right now the students are using hagfish proteins to develop a membrane that mimics the membrane at the back of the eye. Weatherston said their results so far have shown the membrane they have created is a pretty good model for the eye. From there, the team will work to create a disease model with the eye in order to better understand macular degeneration and test for treatment and cures.

This research is also supported by [funds from the BrightFocus Foundation](#).

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Writer: Matilyn Mortensen, matilyn.mortensen@usu.edu, 435-797-7512

Contact: Emilee Rickabaugh, emilee.rickabaugh@usu.edu
Dillon Weatherston, dillon.weatherston@usu.edu