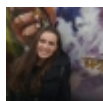
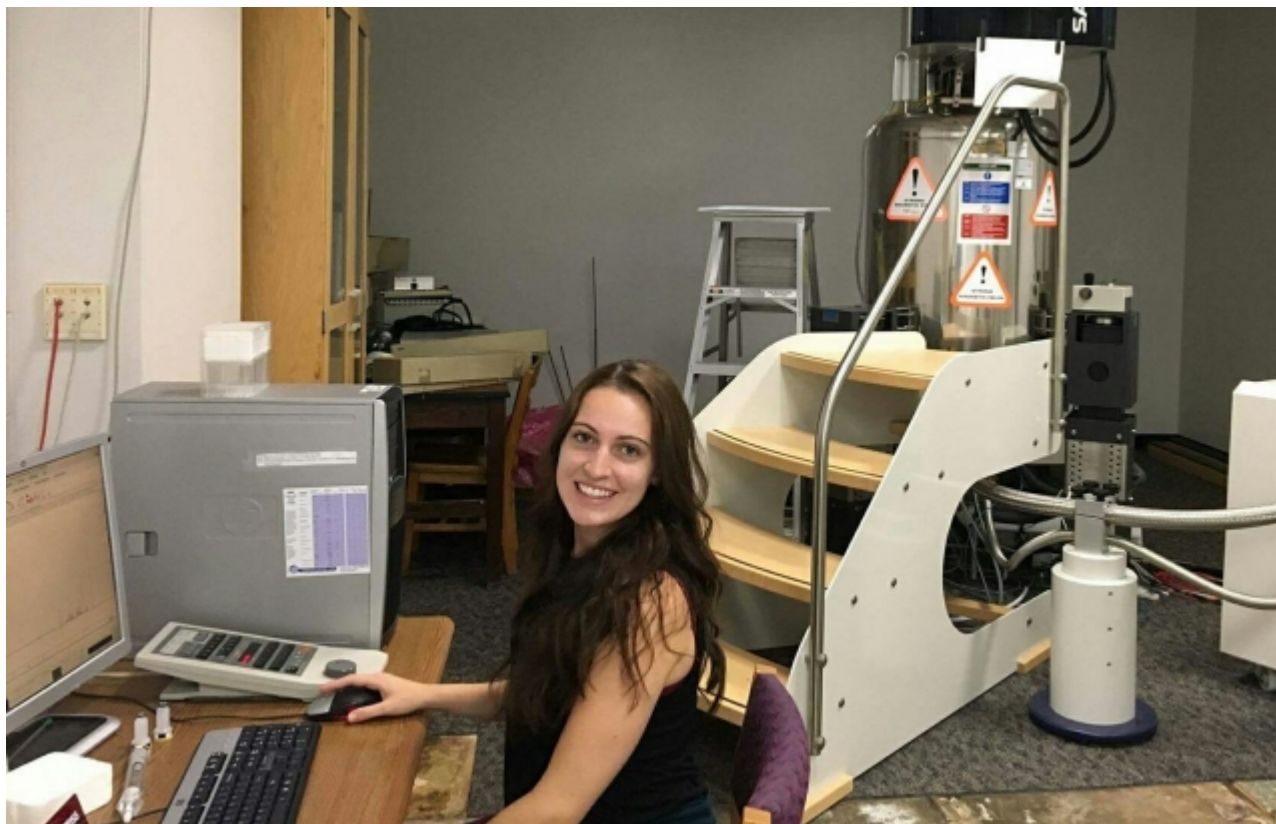


Metabo-whaaat? ^[1]

Submitted by [Seneca Cox](#) ^[2] on 28 June 2017 - 3:55pm



^[2]



Hanging with Kerry (the NMR spectrometer)

Most people are surprised to hear that I am a physics and mathematics major at the University of Hawaii at Hilo. I love mathematics and have research experience in mathematics, but I decided I am more interested in a career doing physics research. One of my main interests in physics is materials science, and I thought an REU in soft matter would be a good way to explore that interest. I learned about this internship at the University of Puerto Rico at Mayagüez from the chair of the physics department at the University of Hawaii at Hilo, and applied immediately. I got

accepted in April, and the excitement of getting to do physics research in Puerto Rico got me through my finals. The day after my finals, however, I found out I did not get any of my top choices for research, and my internship got relocated to Wisconsin. I was going to be doing cancer metabolism research in Wisconsin.

I was overwhelmed when I began my internship. The chemistry lingo sounded like Chinese, but my mentor, Suehelay Acevedo, was very helpful. Eventually, I found out my research was mostly computational, and I felt comforted by the statistics. My project is to determine if lymphatic endothelial cells affect the metabolism of breast cancer cells and how. Endothelial cells are the cells that line all blood vessels and lymphatic vessels. In this experiment breast cancer cells are grown with endothelial cells, then the metabolites are extracted from the cancer cells. I am using proton NMR (Nuclear Magnetic Resonance) analysis to identify and measure the concentration of metabolites in a sample and the MetaboAnalyst web server to do statistical analysis. So far, we have found that the lymphatic endothelial cells do affect the metabolism of breast cancer cells but are still researching how.

The further I get in my academic career, the more I realize how important it is to have a diverse range of skills. Even though my internship was not exactly what I had expected, I am thankful for the skills I have learned so far this summer. In addition, my time here in Wisconsin has been much more interesting than I anticipated. I have made quite a few wonderful friends this summer and some awesome memories. The best of which include a hilarious evening at the comedy club and the insane hour we spent trying to get out in time from an escape room. I am looking forward to more adventures in Wisconsin as well as to continuing my research and hopefully finding conclusive results. This REU has been a great experience, and I am very thankful to everyone who helped organize it!

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