

Engineering Cultural Connections

Elysia Swinford

Electrical Engineering Student

UTPB & NTHU

“The things that we share in our world are far more valuable than those which divide us.” (NASA Astronaut Donald Williams) As a student in STEM there is a growing importance to explore collaboration both locally and globally as the world becomes more complex and interconnected with technologies. The two month long international research opportunity in Taiwan given by the National Science Foundation has provided an exceptional chance to both learn and connect with global STEM individuals. While the primary focus of the trip was to assist and experience higher-level research with students of National Tsing Hua University, navigating cultural exchange and interpersonal connections in another country were also important.

All initial expectations were exceeded on this trip. So many different sources talked about how clean the country of Taiwan is, but it was truly amazing to see how every citizen reinforced this cultural expectation in every facet of life. There are very few trash cans around, so carrying their trash until eventually finding a trash can is the expectation, sometimes that means not throwing away trash until returning home. Learning to carry a small bag for trash when heading out was not the only thing on our daily life learning curve. I would say one of the more complicated things was figuring out navigating the bus system. We had to find out which application had the most accurate times and how to compare our apps to the bus stop live information at the stops. Thankfully English was relatively common to encounter, and anytime we seemed lost or confused there was always someone willing to step in and help us figure things out. The people of Taiwan were incredibly nice everywhere we went.

This experience being my first time taking part in professional research, I found the practice and learning opportunities to be invaluable. I was able to learn team dynamics in a larger laboratory setting amongst high-level individuals. I was also able to observe extremely sophisticated equipment that we don't have access to at home, such as a Scanning Electron Microscope and an X-Ray Diffraction machine. This helped give me a better understanding of how important international collaboration and sharing of both knowledge, but research equipment can be. Outside of the lab, Dr. Chueh set up a tour of the TSMC Museum which taught us a lot about the company that is the world's largest producer of semiconductors, something that is quickly becoming a pivotal part of international relations.

My personal favorite “adventures” were getting to wander around the beautiful NTHU campus and take pictures of all the local flora that is unique to the region, a

personal favorite was the water lilies on the lake. I also especially loved the experience of going to a cat/capybara café where you order food and drinks then get to pet the cats and two capybaras. Due to the heat and humidity during the day there was also a unique nighttime culture. Night Markets were another wonderful experience with delicious food, amazing smells, and so many things to buy, that were held after sundown and went deep into the night to avoid the heat.

My laboratory experience showed not only invaluable lessons in equipment for potential further research but also provided an opportunity for interpersonal international relationships maintained past the two-month trip itself. We were able to share social media handles to keep in touch and continue to share potential information. I hope to maintain a broader perspective on engineering and use these connections as a reminder of the importance of learning from a broad range of cultural perspectives. I am extremely thankful for this once-in-a-lifetime opportunity I was able to take part in.