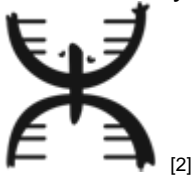


Conquering Johns Hopkins (Summer 2018) ^[1]

Submitted by [Nicole E. Félix](#) ^[2] on 3 September 2018 - 2:59pm



Johns Hopkins University has had a lot of firsts... It was the first research university established in the US... It snapped the first picture of Earth from outer space... And it

established the first academy of music. But this year, it was home to my second summer research experience, thanks to the Johns Hopkins Institute of NanoBiotechnology.

I worked at Dr. Sean Sun's lab, which belongs to the Institute for NanoBiotechnology (INBT). His lab studies cell mechanics and there's lots of interesting research going around. I worked with a microfluidic device which is used to imitate kidney tubules to study and compare normal kidney cells to cells that expressed Polycystic Kidney Disease (PKD). This disease is a common genetic disorder that affects every 1 in 1,000 people. PKD is caused by a mutation in either the *pkd1* or *pkd2* genes. My work focused on using mouse kidney epithelial cells to model PKD. Mice are a good mammal model system because they have close genetic and physiological similarities to humans, and their genome can be easily manipulated, for example, the mouse cells I used could be converted to diseased cells simply by the addition of a drug.

Second to the research, one of the most fun things to do at an internship is explore. You will find yourself thrust into a new city, new culture, and new friends. "Charm City", how people so lovingly call the city of Baltimore, is huge, which means there is lots to do. Also, we're just a road trip away from the greatest spots in the East coast, such as New York City and Philly.

The most memorable thing for me this summer was the friendships I made with the other students at the program. It's a bittersweet moment when you realize you've cultivated great relationships with people from all over the country but you might not see them again because we all come from such different places.

I am so grateful to have been a participant of this program at such a recognized university. While working in really cool research, I discovered that I really enjoy thinking like an engineer and am now considering a PhD in Biomedical Engineering. The experience also gave me tools for furthering my scientific career and I am pumped to keep doing science!

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