

UCTS Fellowship Reflection

Introduction

I'm Austin Yowming Tsai, currently a 5th-year medical student. This summer, I had the amazing opportunity to spend six weeks at the University of Chicago (UChicago) through the UCTS fellowship, where I conducted research in biophysics in Professor Margaret Gardel's lab. Whether you're interested in the UCTS program, considering summer research abroad, or just curious about my experience, I hope this reflection will provide some helpful insights!

Why University of Chicago?

Although my focus in medical school is on the applied aspects of science, I've always been fascinated by the fundamental rules and patterns that govern biological processes. This curiosity fueled my dream of becoming a scientist. In Fall 2023, during the course "Fundamentals of Biophysics," Professor Keng-Hui Lin introduced the UCTS program. Since I've always wanted to pursue my career abroad, I realized this was the perfect opportunity to explore whether this path was right for me.

The University of Chicago, ranked among the top 11 universities in the U.S. by *U.S. News & World Report*, has a rich legacy in physics, economics, and many other fields. This reputation further solidified my commitment to applying for the UCTS fellowship. I knew that being part of such a prestigious academic environment would not only deepen my knowledge in biophysics but also provide insight into what pursuing a research career abroad might be like.

Challenges

Am I Qualified?

One of the main struggles was imposter syndrome. Coming from a medical background and transitioning to biophysics research made me question whether I was qualified enough to contribute meaningfully in the lab. The other lab members had diverse scientific backgrounds, and I felt that their technical expertise far surpassed mine. This self-doubt, while common among international students, took some time to overcome.

However, with the guidance of Professor Gardel and other lab members, I slowly began to find my footing. By embracing a growth mindset, I realized that every experience was an opportunity to learn, and even if I wasn't the most experienced in the lab, I brought a unique perspective to the team.

This is totally irrelevant to being a doctor...

Another challenge I faced was reconciling the gap between the research I was doing and my medical studies. I often found myself thinking, "How is this going to help me become a better doctor?" At first glance, biophysics seemed worlds apart from clinical practice. But as I spent more time in the U.S., I came to realize that it's perfectly okay to explore areas outside of my

immediate field. Our lab even had an MD/PhD who was focused on epithelial growth and computational modeling—quite different from typical medical work. I also noticed that many graduates I know have interesting "side kicks" in various fields. This experience taught me that it's important to follow my heart, even if it leads me down paths that seem unrelated to medicine.

Not enough time to do research...

Six weeks might sound like a long time, but in the world of research, it flies by. I was worried that I'd have to leave before seeing any real results. But I soon realized that my main goal was to gain experience and immerse myself in the process. Plus, I discovered that I could continue working remotely even after the program ended, which made me feel more at ease about making a lasting contribution.

Observations

Academic Environment

One of the most vibrant aspects of being at the University of Chicago was the thriving academic environment. It was far beyond just the daily lab work—it was about being part of a larger intellectual community. The university hosted a variety of academic conferences and talks almost every week, offering opportunities to hear from leading experts across diverse fields. From physics to economics and biology, it felt like there was always a stimulating discussion happening somewhere on campus.

On top of that, many of these events were accompanied by free food! While this might seem like a small detail, it became a great incentive to explore more academic talks. It also fostered a more informal atmosphere, where students and faculty could network and exchange ideas over coffee or lunch. Sharing a meal with fellow researchers after a talk made it easier to approach professors or senior scientists for discussions, which often led to valuable advice or even potential collaborations.

This active academic environment, with its frequent intellectual exchanges and opportunities for networking, really set the University of Chicago apart. It created an ideal setting for both personal growth and professional development, making me realize how important it is to surround oneself with a community that is constantly pushing the boundaries of knowledge.

Capitalism (IU concert)

My time in the U.S. gave me a real taste of capitalism at its most intense. While Taiwan is a capitalist country, the level of commercialization in the U.S. is on another scale. I realized that with enough money, almost anything is possible. Take, for example, the way events like IU's concerts are handled. In Taiwan, companies tightly control ticket sales by recording each buyer's name and ID number to prevent resale. However, in the U.S., there are numerous well-established platforms for reselling tickets, where people can sell them at higher prices, ensuring that the price of each ticket reflects its true market value. The same applies to sports events. The

Chicago White Sox, known for their record-breaking losing streak since 1988, often give away tickets, while the Chicago Cubs, the city's more popular team, charge significantly higher prices. I was fortunate enough to score tickets to both an IU concert and a Cubs game at an affordable price.

Another eye-opener was how universities in the U.S. recruit professors. One of the PIs in the UCTS fellowship (whose identity remains confidential as the information is not public yet) revealed plans to move to Baltimore in the next few years, after being offered over \$10 million in funding by their new institution. In Taiwan, we often associate industry jobs with higher financial rewards, but this experience showed me that excelling in academia can be just as financially rewarding. If you conduct groundbreaking research, the monetary rewards can be substantial, proving that pursuing an academic career doesn't necessarily mean sacrificing financial stability.

What I could have done better

There are also a few things that I think I can do better:

Preparing Earlier: While I was well-prepared for the research itself and had read extensively on related topics, I could have taken the initiative to arrange some computational tasks that could be done remotely before arriving. This would have allowed me to hit the ground running and make even better use of the time in the lab.

Focusing on Experiences Unique to This Time: At times, I was so focused on visiting certain sites or ticking off my to-do list that I overlooked experiences I may never have again. I could have embraced more social opportunities, like hanging out with people at nightclubs, meeting up with friends, or joining a barbecue at the lakeshore. These moments of connection and fun are just as important as academic pursuits, and I wish I had balanced the two more.

Being More Outgoing: I often found myself staying within the comfort of my lab environment, when I could have taken more initiative to network with others outside of my immediate circle. UChicago offers such a diverse intellectual community, and I wish I had been more proactive in reaching out to professors or students from different departments to broaden my understanding of interdisciplinary research.

Acknowledgement

The person I'm most grateful of is Professor Cheng Chin, the mastermind behind the UCTS fellowship. In Chicago, we had some great conversations about how he built this exchange program from the ground up, from negotiating with UChicago's administration, to promoting it across Taiwanese universities, to finding funding for the next cohort. His dedication is seriously impressive, and without him, none of us would have had the chance to experience Chicago and gain such an enriching experience.

A huge thank you also goes to my mentor, Amanda, for patiently answering my endless questions and just being such a kind and supportive guide. I'd also like to give a shout-out to the rest of the

lab crew—Liya, Sarah, Andy, Heather, Desbamita, and Shailaja—your warmth and helpfulness really made me feel like I was part of the team.

And of course, a special thanks to my fellow UCTS participants—Boyu, Muchen, Vincent, YC, Luke, Weber, Kelly, Polly, and Lilian—you guys were such great company and made the whole experience so much more fun.

Last but definitely not least, I want to thank NTU OIA for all their support this summer. You guys made this whole adventure possible, and I couldn't be more grateful!

Contact Information

If you would like to know more about how to apply for this program, preparation before going to US, experiences in Chicago or anything related, feel free to reach out to me directly.

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Photo Gallery



“The Hutch”, UChicago dining hall



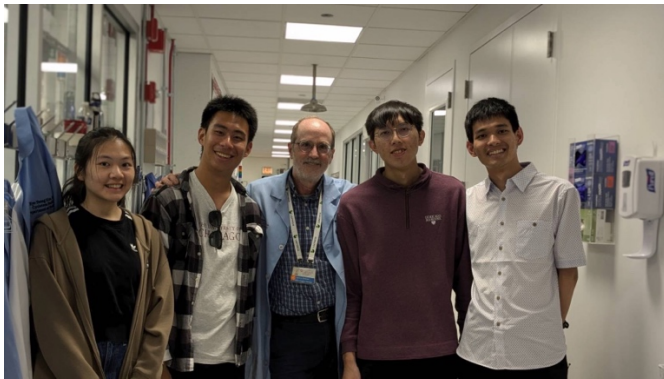
study room in the dorm



Chicago deep dish pizza a.k.a. calorie monster



riverside barbecue



Uchicago Medicine cyclotron tour



"Kingston Mine", a blues bar in Chicago



"The Blue Paradox" in Griffin Museum of Science



IU HER tour in Rosemont with Muchen and Kelly(who took the photo)



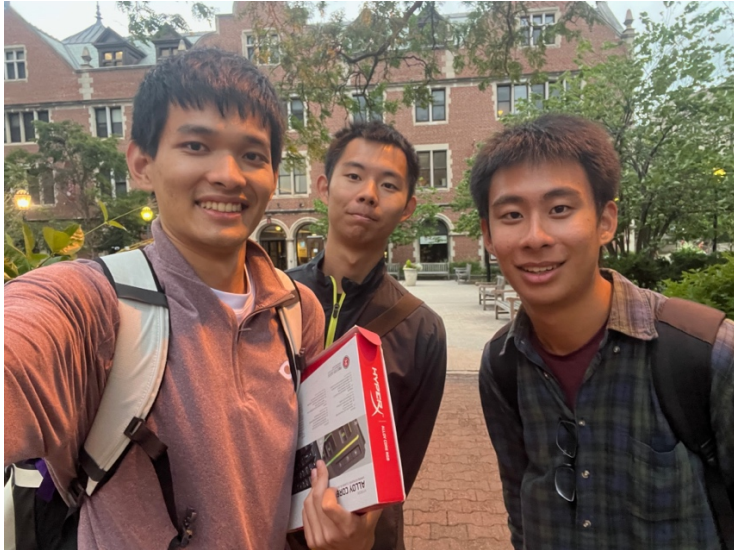
Night view in Chicago downtown



Me with my lab members



Go Cubs!!! With my roommate BoYu



"5 hours before the flight"