

Congratulations to our three undergraduate students received the Best Project Award 2021 from the CUHK Faculty of Engineering as part of its Undergraduate Research Summer Internship Program. The Faculty's Best Project Awards will be given to the top 10% projects and there are 6 students have been selected for the awards this year, while 3 out of 6 are BME students!

Student Name	Project Title	Supervised by
SIU Man Hei Connie	Designing antisense DNA/LNA oligonucleotides for targeting specific kidney genes & treating kidney diseases	Prof. Jonathan CHOI (BME)
TRAN Thi Trang	Reusable biosensor based on graphene transistors	Prof. GAO Zhaoli (BME)
WONG Cheuk Yiu	Optogenetic control of mitochondrial fission in living cells	Prof. DUAN Liting (BME)



The three awardees of Best Project Award 2021:

(from left to right) WONG Cheuk Yiu, TRAN Thi Trang, SIU Man Hei



October 2021





**TRAN Thi Trang**

**Project Title: Reusable biosensor based on graphene transistors**

**Supervised by: Prof. GAO Zhaoli (BME)**

Summer research internship is really an unforgettable experience of my college life. It is not only an opportunity for me to be clearer about my future career but also to explore myself. For the first time ever, I had a chance to come up with an idea, design and conduct my own experiment and analyze data on my own. That made me feel excited but worry at the same time because I am just an undergraduate student with very little research experience. But the feedbacks from my mentor and supervisor were very helpful and made me more consistent on my project.

Besides gaining hands-on experience, I also learned some important things in conducting research: curiosity and patience. For most of the time, the research would not go as smoothly as we planned, but being consistent and not hesitate to ask "silly" questions helped me a lot in finding out a better way to improve it. I am so grateful for the opportunity that the university gave us as well as all the support from my supervisor and lab mates. Without it, I would never have a chance to conduct an independent project at such early stage and become an awardee of "Best Project Award".



**WONG Cheuk Yiu**

**Project Title: Optogenetic control of mitochondrial fission in living cells**

**Supervised by: Prof. DUAN Liting (BME)**

My project for this internship is a further investigation based on the research of Song et al. (2021) on mitochondrial deformation by light. The project is separated into two parts. Firstly, the feasibility of using light to induce mitochondrial fission. Secondly, the light-induced mitochondrial fission's DRP1 protein recruitment pattern. Optical motors and light sources were utilised in the experiments.

At the start of the internship, I was not that familiar with the lab equipment, and often require assistance in order to successfully perform the tasks, such as cell culture, cell seeding, and plasmids transfection for the imaging of cells under fluorescence microscope. Yet, I slowly became more confident in performing experiments alone and learnt to analyse the data collected (mitochondria images) with various software. This internship is definitely a great summer time experience for us to learn more about the research fields if one is interested.



**SIU Man Hei Connie**

**Project Title: Designing antisense DNA/LNA oligonucleotides for targeting specific kidney genes & treating kidney diseases**

**Supervised by: Prof. Jonathan CHOI (BME)**

This internship has been an enlightening research experience that gave me new perspectives on biomedical engineering and how it plays an important role in our lives. I have been working on the project of Designing Antisense DNA/LNA Oligonucleotides for Targeting Specific Kidney Genes and Treating Kidney

Diseases over the past 2 years, with the first summer being a literature review, and the second being hands-on lab experience.

The experiences and challenges from this summer internship have introduced me to a network of ideas, all of which would help me move forward with my aspirations. I would like to thank Prof. Choi and everyone in the C.H. Jonathan Choi research group for treating me as a part of the team over the past 2 summers, in particular Dr Cecilia Chan for being such an amazing mentor, who genuinely took so much time and effort to guide and provide opportunities for me to gain biomedical knowledge, as well as refine my lab and research skills.

I am honoured and grateful to have had the privilege of being a research intern for this project, and I would recommend this summer internship to anyone interested in the research field, as you would be able to gain much more than you would have expected.

