## Kan, Leo Lai Hok簡禮鶴

My research project is using CRISPR to knock out a gene in soybean to study the gene function in nodulation.

The most important thing I have learnt is planning of a research project. Time management is very important for any research project, especially in FYP where the time of research is really limiting. More often than not, a student will find himself or herself relaxing perhaps a bit too much in the beginning and ending up having too many deadlines to meet in the end. It also forces you to think independently because no one else will know every detail of your project, and thus you have to be crystal clear in every step. I have also learnt to be more proactive because many advanced lab techniques were not taught at the undergraduate level, and thus it is important to ask around in the lab for valuable pieces of advice.

FYP is an active learning experience whereas lectures are more passive. It is also more flexible in that students can choose their own approaches in addressing a scientific problem.

The most difficult part is seeing a hurdle that was seemingly impossible to overcome at a certain point in the research. It is usually due to two reasons: 1. Your ability is limiting 2. Your expectation is too high. As a researcher, I always question my own abilities and/or methods first, so that I can think of ways to overcome the difficulties. However, if the problem is really something intrinsic, that you cannot change easily, then perhaps it’s time to lower your expectation and re-strategize the research direction to a more plausible one.

For my project, the most tedious task is the hairy root transformation which requires lots of preparations and skillful manipulations. It is a task that I simply cannot complete by myself on a single day, thus I have asked for some help from a couple of lab members. I was amazed and touched that at the end of the day, almost the entire lab help with this task and we form some sort of factory line to efficiently complete the “mission impossible”. When asked what I can do for them to repay the favor, all they said is that friends always looked out for each other, and that's why Prof Lam's lab completely changed my mind towards research. In the past, I had always associated research with words like boring, tedious, and often comes with a sense of loneliness, but in Prof Lam's lab, doing research is a joyful experience with lots of waves of laughter and interesting stories to share every day.

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I am going for further studies at this moment. My FYP training has equipped me with the molecular techniques needed to conduct my own individual research. Moreover, it enables me to think ahead and have better planning for my project, which is critical for any researcher to be successful.

I wish to thank Prof. Hon-Ming Lam for all his guidance and support during my time as his student. There is no doubt that Prof. Lam loves his students and he always treats us as if his own sons and daughters. Even though he is a super busy man, he often encourages us to discuss projects and science with him. He is also the primary reason that I decided to minor in Molecular Biotechnology, and the experience is extremely rewarding as I have learnt molecular techniques and knowledge that are essential in research. Words cannot tell how touched I have been for every helpful advice he has given me, every connection opportunities to graduate students in world-class universities such as Oxford, and to scientists working in renowned pharmaceutical companies. Not only is he a remarkable man, but also a delightful person with a sense of humor, which may explain why his lab is a fun environment to work. Most importantly, Prof. Lam always supports and encourages us to pursue our own dreams. I, in particular, was influenced a lot by him in that I wasn't so sure about my choice of career path at first, being afraid of failure, but now I am a more determined person, and I hope that one day I could be a scientist as successful as him.

FYP is more challenging than any other regular courses, but if you love your project, it will also be the most rewarding course.