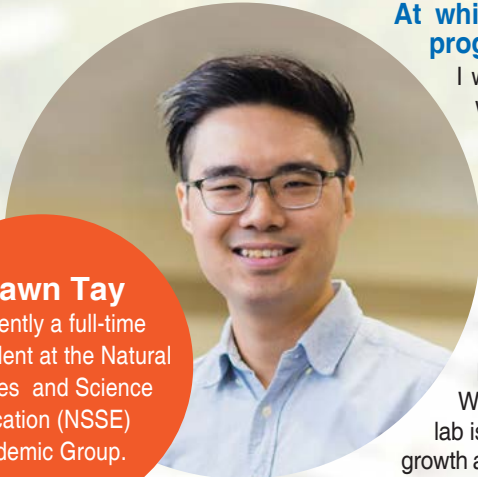


Getting To Know Our Students

Shawn Tay , PhD student



Shawn Tay

is currently a full-time PhD student at the Natural Sciences and Science Education (NSSE) Academic Group.

At which point in your career did you aspire to do a higher degree programme?

I was previously teaching, and during my work in school, I had the opportunity to work with students through managing the school's garden and science enrichment programmes. The work that we were doing, and a shared interest with two of my colleagues in growing orchids, sparked my interest in this field. It was then that I decided to extend my knowledge and skills through pursuing a higher degree through research.

What attracted you to a higher degree programme at NIE?

Through the recommendation of my friend who was then working in the Plant Physiology Lab, I was introduced to the lab's principal investigator, Associate Professor He Jie. She had worked on orchids, in collaboration with Dr Yam Tim Wing from the Singapore Botanic Gardens. The research work on orchids done in this lab is aligned with my interest in learning how science can deepen our understanding of growth and stress adaptation in orchids. This was what attracted me to enrol in NIE's Master of Science by Research and eventually the PhD programme in my second year of studies here.

What is your research on?

My research is on understanding the physiological responses to environmental stress in some of Singapore's native orchid species. We use a mixture of both biochemistry-based and spectrofluorometry-based methods for analysing parameters. The latter has become more popular in recent years because of the development of more advanced equipment suitable for use in the field and the lab. It has also benefitted my work because this method is often non-destructive and I avoid having to sacrifice orchid leaves when sampling, which is especially crucial when orchids are slow-growing, compared to crop plants.

What impact do you wish to make with your research?

I hope my research can help advance our knowledge on stress response in orchids and how they adapt to changes in the environment. This is especially important for orchid conservation efforts in Singapore, in light of climate change. My work is part of an ongoing orchid conservation programme by the National Parks Board, Singapore. I also hope that my research can benefit anyone interested in growing orchids better, through better knowledge in how to cope with sub-optimal growth conditions, such as strong light and water deficit.

How would you describe your interactions with NIE faculty members?

I learned a lot from my colleagues in the Plant Physiology Lab, and most of all from my supervisor, Associate Professor He Jie, in these two years of studies. We discuss our respective research findings often and it has helped me improve in my work by being able to look at it from different perspectives. I also enjoy the lunch and after-hours conversations about matters outside of work with other lab members in Natural Sciences and Science Education (NSSE) Academic Group. I did my Postgraduate Diploma in Education with NIE in 2010, so there are a few of my lecturers whom I will come across on campus and we would strike up conversations - such is the openness in the interactions between senior and junior faculty members.

What is the best part of being a student at NIE?

The best part is having the freedom to think and explore ideas related to my work and being able to self-manage the pace and progress in my work, while still being guided by good senior faculty members who give really valuable input. Being a student here also means I am able to learn from mistakes in a supportive environment and have access to good literature that advances my understanding in plant sciences.

How will the programme prepare you for your career progression?

Doing my PhD research in NIE enables me to stay in touch with the latest advances in plant science, while translating some of these findings into real-world applications; such as finding the most optimal plant growth conditions using equipment and parameters that are applicable even beyond the lab. The programme also deepens my knowledge on plant sciences which can be used to tackle productivity problems faced in horticulture. It will also enable me to share knowledge through teaching, presentations and communication of ideas through conferences and symposiums.

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