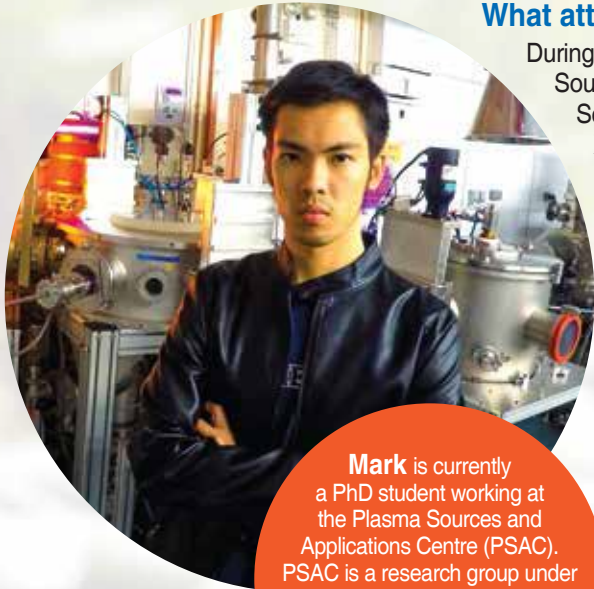


Getting To Know Our Students

Mark Lim Jian Wei, PhD student



Mark is currently a PhD student working at the Plasma Sources and Applications Centre (PSAC). PSAC is a research group under the Natural Sciences and Science Education (NSSE) Academic Group, and helmed by Professor Xu Shuyan.

What attracted you to a higher degree programme at NIE?

During my undergraduate days, I was given the opportunity to work with the Plasma Sources and Applications Centre (PSAC), a research group under the Natural Sciences and Science Education (NSSE) Academic Group, helmed by Professor Xu Shuyan for my final year project (FYP). I continued working with PSAC even after finishing up my FYP independently, presenting my findings at conferences and in technical journals. So when I had the chance to enroll in a higher degree programme at NIE, the natural option was to take it up, knowing that the work I have done so far has barely scraped the surface of things to follow.

How would you describe your interactions with NIE faculty members.

I recall my very first lecture (Fluid Mechanics) as an undergraduate, where Prof Xu captivated the class and displayed mastery in his understanding of the subject matter that would eventually lead to questions beyond the classroom. The classes I had as a Physics student with the other Professors allowed room for dialogue and discussion which would rarely be seen elsewhere. I was also given the opportunity to be under the supervision of the faculty members from the Chemistry division. The interactions that I had taught me various skills and content which would become crucial in my research later on.

What is your research on?

My current research deals with the fabrication of materials for high-efficiency photovoltaic applications for generation and supply of clean energy through plasma processing. In line with developing a truly environmentally friendly means of

energy generation, the feedstocks used in the processing of materials should also be environmentally friendly. I currently am working on Nitrogen based plasma discharges and its functionality in developing advanced opto-electronic materials.

What impact do you wish to make with your research?

My goal is to realise novel materials through plasma processing for the purpose of energy capture and energy storage; to bring about a paradigm shift in the way renewable energy is perceived by the community at large, and to re-ignite interest in photovoltaics as a means for sustainable and clean energy generation.

At the same time, I believe that the quality of education of youths is crucial in ensuring continuity in the field of Science and Technology. I believe that knowledge should be made accessible to youths and that it is important to keep students updated with the up-and-coming trends in research. As a research student at NIE, I hope to inspire undergraduates and trainee teachers to be passionate in what they would eventually be teaching in mainstream schools.

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

It would be the opportunity to be under the close supervision of Professors who give constructive feedback, as well as the flexibility to conduct research independently. The graduate student community in NIE is also very supportive and interactions with peers often result in meaningful discussions with numerous new insights on a plethora of fields.

How will the programme prepare you for your career progression?

Being a research student in NIE gives me a competitive edge as I am not only able to hone my expertise in my field of research in a laboratory which can hold its own amongst the best in the field, but also to develop my skills in pedagogical methods in the delivery of lessons.