

## Expedition Fund Report -Singapore June 2024



This summer I was granted the amazing opportunity to attend a summer school in Singapore NTU. The expedition was a transformative experience allowing me to experience Singaporean culture,

connect with students from universities across the world and to study at a world class institution for a subject I am deeply passionate about. During the four weeks I was stationed in Nanyang Technological University, I studied Climate and Climate Change Studies learning about the atmospheric composition of the Earth, wind patterns and.... All topics I believe will help me develop into a future chemical engineer.

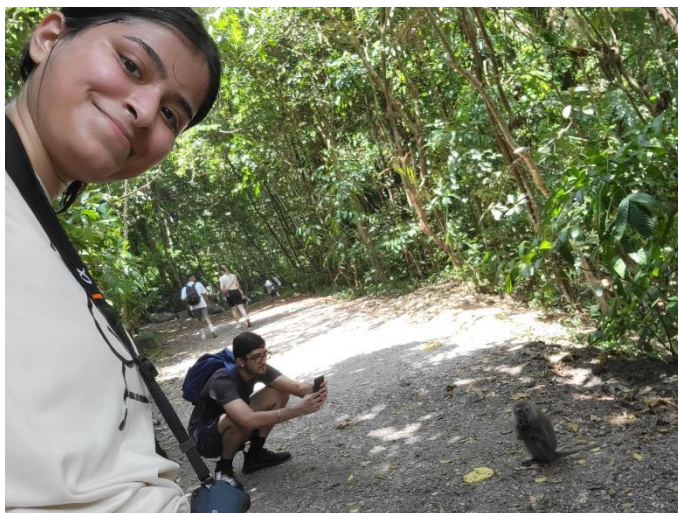
NTU is situated in the far west of Singapore, saturated with greenery and wildlife. The location is quite closed off to the city but there are many beautiful sites in the area such as the Yunnan Garden integrated with the Chinese Heritage Centre, a symbol of the university's passion to sustainability and biodiversity.



The focus of my summer school programme was to study the climate and how different conditions such as increased pressure and temperature affect it. It was enlightening learning about weathering and how conditions such as storms and deserts form. Particularly, it was fascinating to learn how the mountains within Africa block easterly winds from blowing over the terrain creating arid land. It was also interesting understanding that though technically due to low pressure centres, the polar region should be desert like, the extreme low temperatures and relative humidity being about 100% allows moisture to form and the polar regions not dry.

On the 4<sup>th</sup> lesson, I was given the opportunity to tour the Climate Change Research Centre in Singapore. The day started with a talk from an esteemed climatologist explaining the ways they monitor weather and how they contribute to forecasting climate events. One of the highlights was learning about their use of advanced supercomputers, which allow for in-depth simulations and predictions of future weather cycles. These technologies play an integral role in understanding and preparing for potential climate changes.

During my summer school programme at NTU, I gained valuable insight into climate systems that are relevant to my studies in chemical engineering. Climate engineering, which includes techniques like carbon capture and storage, geoen지니어ing, and the development of renewable energy sources is a rising field within chemical engineering. By applying climate and weather data to these technologies, chemical engineers can create processes that are not only sustainable but also capable of addressing the broader challenges posed by climate change. My experience at NTU let me learn the importance of integrating climate science into chemical engineering.



Outside of the summer school course, I visited the Chinese, Malay and Indian heritage sites in Singapore, as well as the Birds Paradise and Treetop Walkway. These pursuits have significantly enhanced my understanding of climate and climate change studies. At Birds Paradise, I observed the effects of climate change on avian biodiversity and the critical need for habitat conservation. This

experience highlighted the importance of addressing climate change to protect wildlife as well as demonstrated the real-world implications of climate change and the necessity for sustainable practices.

The funding I received significantly enhanced my experience by covering essential expenses such as food, transportation, and other necessities. This financial support allowed me to fully immerse myself in the summer programme without the distraction of financial concerns. It ensured that I could participate in additional recreational activities, including visits to Birds Paradise and Bukit Timah in Singapore and other



enriching experiences, which contributed to a deeper understanding of conservation and sustainability. Overall, the funding played an important role in improving my engagement and learning throughout the programme, making the entire experience more impactful and rewarding.