

Wong Tit-shing Student Exchange Scholarship

Exchange Learning Report



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Host Institution: *Technical University of Munich*

Exchange Period: *3-Apr-2023 to 23-Aug-2023*

Abstract

My journey as an exchange student at the Technical University of Munich (TUM) has been a remarkable chapter in my academic and personal growth. Through this one-semester program, I had the precious opportunity to immerse myself in a new living and studying environment, gain fresh perspectives on my career aspirations, cultivate connections with students from diverse backgrounds, and foster a deep appreciation for the rich European culture.

I. Learning experience on this trip

My studying at TUM was enlightening and has introduced me to an entirely new realm of learning. Regarding the perspective of academics, I consider the most striking distinction between TUM and PolyU lies in the evaluation methodology. Unlike the multifaceted grading approach at PolyU, TUM uses the final exam as the sole determinant of a student's grade. The final exam includes both oral and written formats. In oral exams, students are engaged in face-to-face meetings with professors, tasked with the oral presentation to the problems that the professors had asked during the meeting. Therefore, an excellent performance in the oral exam demands not only the proper solution but also the clarity of explanation. On the other hand, written exams, though structurally resembling those at PolyU, pose distinct challenges due to their condensed content of test. Students are required to tackle a substantial number of questions within only 90 minutes. Thus, adequate preparation becomes pivotal for TUM exams, as excelling in such assessments without proper readiness proves exceedingly challenging.

Apart from the approach of assessment, TUM has some other interesting characteristics that diverge from those of PolyU. Firstly, while PolyU has all departments located in a single campus, TUM's departments span across multiple campuses throughout Munich. Garching, a small town 20 km from the city center, accommodates most of the engineering departments, including my own in Mechanical Engineering. Furthermore, each department in Garching possesses its distinctive building, which often exhibits unique architectural styles. For example, the contour of the Mechanical Engineering building resembles an internal combustion engine (*Figure 1*) while the Informatics and Mathematics building boasts a slide connecting the third floor to the ground level (*Figure 2*). Additionally, some TUM lecturers uphold conventional teaching methods, preferring the use of chalk and blackboards over slides on the computer. Interestingly, at the end of each lecture, students express their appreciation by applauding in a special manner – knocking on the table of their chair.



Figure 1 (a) and (b): Outside and inside of TUM Mechanical Engineering Building

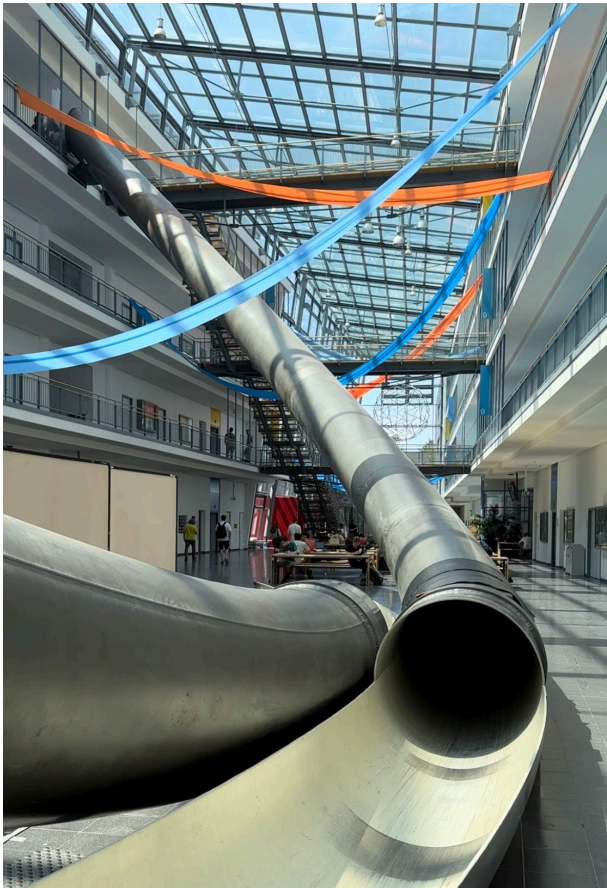


Figure 2: The slide in Informatics and Mathematics Building

In addition to my academic journey, I've also developed meaningful connections with both local and international students. TUM's Buddy Program, where incoming international students are paired with TUM peers, provided me chances to interact with German locals and students from diverse origins. Through these connections, it became easier for me to dive into the Bavarian culture. Moreover, I participated in the TUMCarbon student initiative as a member, which provided me with the chance to collaborate with German peers. In the initiative, I have gained firsthand insights into how German students operate as a team.



Figure 3: Movie night with the local students

II. Career aspiration

Studying at TUM, a university renowned for its technology development, and in Germany, a country with a reputation of engineering excellence, has provided me with profound insights about my career. In my course Sustainable Mobile Powertrains, I've learned about the gradual shift towards vehicle electrification—a significant departure from conventional fossil fuel reliance, driven by both resource limitations and the urgency to combat global warming. This has reshaped my understanding of the future of transportation and prompted me to think about the role I can play in contributing to this transformation. Additionally, an impressive moment of my academic journey at TUM was the opportunity to attend the guest lecture on Additive Manufacturing with Alloys by the industry experts. The discussions centered on the example of applying the technology in dentistry, showcasing how additive manufacturing can realize customized production with low cost. These experiences have inspired me to remain open-minded and proactive in embracing emerging technologies and their potential applications.

III. Views on other culture

During my stay in Munich, I actively participated in a multitude of local activities. For instance, I have tasted Bavaria's unique dishes, including the well-known pork knuckle, sauerkraut, sausages, and an array of beer selections that demonstrated the region's rich gastronomic heritage. Furthermore, my explorations extended to some renowned Bavarian landmarks such as the Neuschwanstein and Konigsee (*Figure 4a*). One of my most unforgettable moments was a thrilling hike in the Alps with German local students, where I overcame a variety of challenges and finally had a chance to enjoy the breathtaking vistas from the top of Europe (*Figure 4b*). Additionally, I jumped at an opportunity to watch an exciting football match of FC Bayern at the iconic Allianz Arena, an experience that allowed me to feel the local passion for football.



Figure 4 (a) and (b): The trip to Neuschwanstein and Alps hiking

I also embarked on the journeys in other cities in Germany and other European countries, experiencing the diverse cultures. During my holidays, I visited the masterpiece of Gothic architecture, the Cologne Cathedral in Cologne. In France, I saw and experienced the French romance which fills the entire country. A visit to London provided an enthralling glimpse into the vibrancy of European urban life, while Amsterdam presented a unique scene of feasting and freedom. These experiences collectively deepened my appreciation for the rich cultural tapestry that Europe weaves.



Figure 5: Visting the windmills in Netherland and the Alps in Switzerland

IV. Detailed study schedule in the exchange-out institution

I have enrolled in four courses in TUM Faculty of Engineering and Design: Sustainable Mobile Powertrains, Aerospace Structures, Additive Manufacturing with Metals, and Aircraft Systems and the regular study plan is displayed (Figure 6). The courses, except for Sustainable Mobile Powertrains, offered both live-streamed sessions and recorded videos, enabling the flexibility to adjust my traveling and studying schedules. The following Table 1 displays a comprehensive schedule of the semester's entire schedule.

	Monday_17.04.2023	Tuesday_18.04.2023	Wednesday_19.04.2023	Thursday_20.04.2023	Friday_21.04.2023	Saturday_22.04.2023	Sunday_23.04.2023
07:00							
08:00							
09:00			☑ Aerospace 5 MW 1250_Hors		☑ Aircraft Systems MW 1801_Ernst-Schmidt-Horsaa		
10:00			☑ Aerospace 5 MW 1250_Hors		☑ Aerospace 5 MW 1250_Hors		
11:00			☑ Aerospace Structures - Centri 1450_Wiliv-Messerschmitt-Zeich				
12:00							
13:00	☑ Sustainable Mobile Powertrain MW 1801_Ernst-Schmidt-Horsaa						
14:00		☑ Sustainable Mobile Powertrain MW 1801_Ernst-Schmidt-Horsaa			☑ Additive Manufacturing with M MW 0250_Ludwig-Prandtl-Horsaa		
15:00					☑ Additive Manufacturing with M MW 0250_Ludwig-Prandtl-Horsaa		
16:00				☑ Additive Manufacturing with M MW 1050_Johann-Bauschinger-2			
17:00							
18:00							
19:00							
20:00							

Figure 6: Timetable of my courses

Table 1: Schedule for the entire semester

<i>April</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>
<p><i>Arrived on 3rd Apr</i></p> <p><i>Set up the accommodation</i></p> <p><i>Networking through Buddy Program</i></p> <p><i>Traveled abroad to East Europe</i></p>	<p><i>Participated in the local activities</i></p> <p><i>Applied for TUMCarbon student initiative and completed the interview</i></p> <p><i>Traveled in Germany and abroad</i></p>	<p><i>Participated in the local activities</i></p> <p><i>Worked at TUMCarbon</i></p> <p><i>Traveled abroad to South Europe</i></p>	<p><i>Reviewed the courses and prepared for the exams</i></p> <p><i>Traveled to UK</i></p>	<p><i>Completed the exams</i></p> <p><i>Travel to Greece</i></p> <p><i>Leave Munich on 23rd Aug</i></p>

Concluding Remarks

To conclude, I want to quote TUM’s perspective about exchange, “life is good, exchange is better.” The exchange program at TUM has a profound influence on my learning, career aspirations, and cultural perspectives. As I return to PolyU, I will carry a renewed commitment to embracing challenges, thinking innovatively, and approaching learning with an open mind and I am excited to apply all I have gained from this experience to my future academic pursuits and career endeavors.