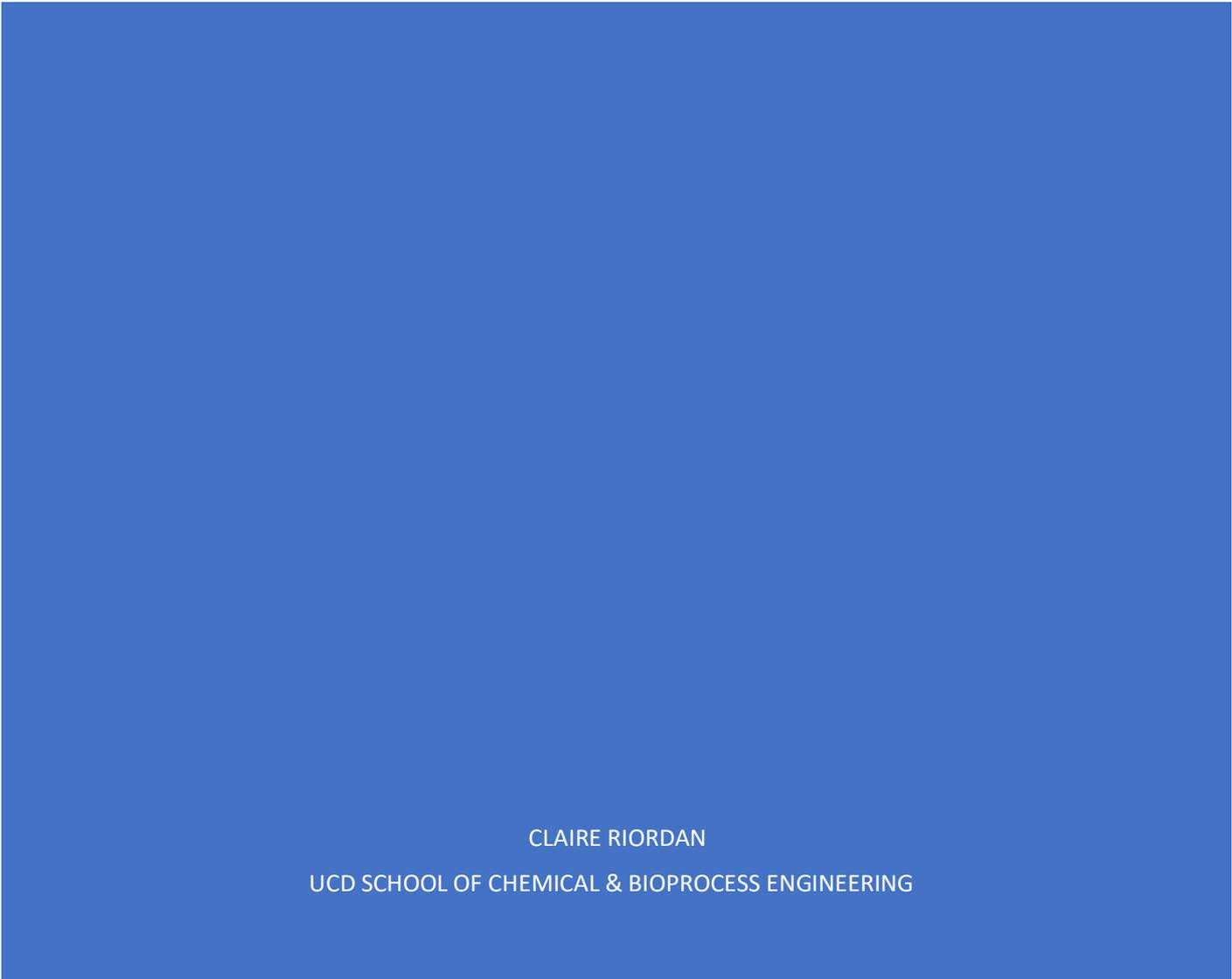


# MCADAM TRAVEL BURSARY 2018



CLAIRE RIORDAN

UCD SCHOOL OF CHEMICAL & BIOPROCESS ENGINEERING

## Initial Expectations

“Exploration is really the essence of the human spirit” -Frank Borman

I embarked on this trip hoping to immerse myself in a vastly different culture, while simultaneously deepening my understanding of chemical engineering and growing more confident in my engineering abilities. I left for China briefly after my final third year exam in May 2018 and, in a four-day whirlwind, collected my 120 day visa, packed my suitcase, and said good to Ireland for the next three months. I didn't comprehend the distance I would be travelling from my home in Kerry, my parents, and our sheep in the backyard, until the boarding call for Shanghai in CDG Paris airport. I will admit in that moment, walking down to the boarding gate, I was not excited. I was terrified! Now, however, I can confidently say that during my three months in China I met, and surpassed, my initial expectations of what I had hoped to accomplish, and it would not have been possible without the generous McAdam Travel Bursary.

## Home Base: Yantai, China

The program which I was involved with was IAESTE, an international internship exchange for students in technical backgrounds. I was offered a traineeship in Yantai, China with Wanhua, a petrochemical company. I accepted immediately as it was the perfect opportunity to get out of my comfort zone, both culturally and work-wise.



Yantai is located in the middle of the Eastern seaboard of the country, half-way between Shanghai and Beijing, and is actually considered a small city, despite a population of 7 million - more than the entire population of Ireland! The city is sprawling with no unified centre. Instead, smaller areas, such as the development district and Fushan are grouped together based on population trends and infrastructure present in the area. I lived in the so-called development area, with most of the other Wanhua employees. This area is known for its beautiful beaches, large hotels, and great barbeque restaurants. However, our workplace was based in Fushan, a more industrial area, housing numerous factories. We were fortunate enough to live within a 15 minute walk from the beach and on many evenings, I joined the international interns at the beach for an evening swim. Interestingly, many of our colleagues had not learnt how to swim and instead preferred to dance up on the sands with other members of the community. Despite its expanse, there is only one time-zone in China and, therefore, while living on the eastern coast, I witnessed not only wonderful sunsets but also equally wonderful sunrises, sometimes before five in the morning. In the sweltering heat of the summer, if the humidity didn't wake you, the sunrise would!





### Company Culture

I was housed in a dorm style building with the other Wanhua employees. We would eat, travel, work, and eventually, return home together. Interestingly, this style of living often lasts until employees are in their mid-30s or even 40s. The company cares for their employees, providing subsidised meals, accommodation, and even paying for their weddings. In turn, employees worked longer hours and were often expected to work overtime and at weekends for no extra pay. During my time in Wanhua, I, too, was expected to partake in the give-and-take of the company dynamic: I often came in on weekends to sample my reactions, but was then given gifts, such as a speaker or laundry detergent.

### Cultural Attitude

This generous attitude extended beyond the work environment. Often colleagues would be kind enough to invite us for meals. Below, to the left, is a picture of Arpad, another international intern, with his Wanhua mentors, Harry and Jerry, enjoying Hot Pot; to the right, is a picture of another colleague sharing his tea with us.



Additionally, when we were invited to these dinners, it is customary for the person paying to decide what will be ordered. This was a fantastic way to try numerous local specialities, from barbequed aorta or slippery, see-through noodles.

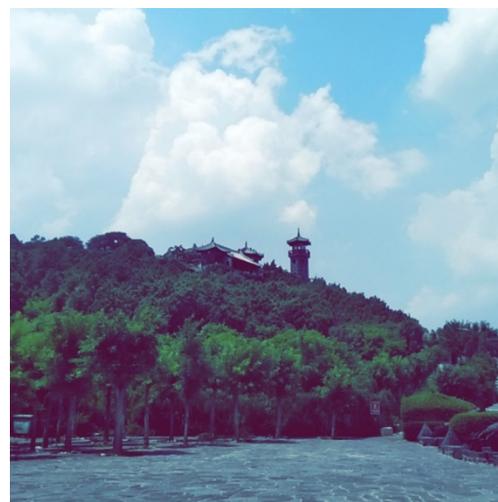
The Chinese also practice what they call “saving face” or what we might view as politeness taken to the extreme. As a westerner, we communicate more directly, giving verbal responses to indicate if something is pleasing or not. However, within the Chinese culture, the difference between yes and no can be much more subtle. When I asked my mentor to elaborate, he said that they must always appear happy and give the impression that nothing is wrong. It is then up to the individual to be vigilant and ascertain from other colleagues if something they did displeased another staff member.

### **Practical Work**

From an engineering perspective, an internship with Wanhua represented an opportunity to gain experience in an industry other than pharmaceuticals, which is the predominant sector for Chemical Engineering graduates in Ireland. I had the opportunity to work in a research laboratory, developing and optimizing a biological compound due to be scaled-up in the coming year. I worked closely with the team responsible for the optimizing the fermentation, and was involved in discussions around the scale-up procedure. Fermentations were run weekly at both lab- and pilot-scales, to identify the influence of different factors on product inhibition or stimulation. For reasons of confidentiality, I am unable to provide further information about this work.

### **Travel Within China**

I was lucky enough to visit six cities during my time in China. Yantai was the city where I lived and spent most of my time. Below (left) is a photograph of my colleagues and myself, exploring Yantai’s Kunyu mountain, Kunyushan, famous for its Shaolin Academy. Penglai was one of Yantai’s neighbouring cities, accessible by car or train. I visited the beach and ancient temples while there. Below (right) is one of the temples which looks out on to the harbour. I visited this city in early in July and it was very popular with local Chinese tourists. I was, however, the only western tourist present that day.



With other interns, I visited Qingdao, famous for Tsingtao beer. Qingdao is also a coastal city, drawing large crowds of Chinese tourists for beach holidays. Below (left) is one of Qingdao's famous (and very crowded) beaches. Qingdao is also well known for some of its Western style architecture. A Christian church equivalent to a local parish church draws large crowds. It is very popular for Chinese to get married/and or take photos at these western style churches as a status symbol. I visited Shanghai to meet with other interns coming to China. Shanghai is westernized, with coffee shops and Dominos at every corner. The streets were always packed, making Yantai seem like a small country town. Below (right) is the famous Shanghai sky line. Interestingly, numerous Chinese tourists asked for to take our photograph, ignoring the beautiful skyscrapers behind us: as westerners, we were part of the tourist attraction!

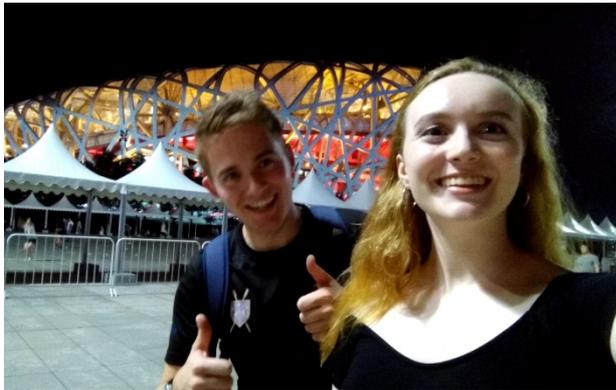


Of all the cities we visited, my favourite city was Hangzhou. It is a city famous for its tea, as well as its sunsets. The city perfectly blends the old culture and architecture with some of the newer western shops. While there, we visited tea fields as well as gorgeous temples.





The last city which I visited was Beijing, the capital. It was a city steeped in history and perhaps not as modern as Shanghai. We ate as much crawfish as possible, visited Chinese bookshops, and, of course, hiked a section of the Great Wall. We also made sure to sample Peking duck, crispy duck skin and succulent duck breast served in small pancakes. It was by far the best meal of the entire trip!



### **Allocation of Funds**

The bulk of the McAdam Travel Bursary allowed me to book flights to and from Yantai, as well as covering my health insurance. Although we were given a small stipend, from Wanhua, which covered accommodation, food, and utilities, additional travel within China was paid through personal savings.

### **Cultural Challenges**

The challenges which I faced both in the work place and in everyday life were probably the most beneficial for my confidence as an engineer, and for my adaptability as a person. Firstly, the language barrier was, of course, ever prevalent. I will be the first to admit that I went severely underprepared. With a lackadaisical attitude, I assumed that “sure, it will be grand.” Don’t get me wrong, for the most part it was. My colleagues, new found friends, and people on the street were quick to say “Hello”, when they saw a western-looking face. However, sometimes, their English did not go much further than that initial “Hello.” Luckily, some colleagues were always there to help me expand my knowledge of Mandarin so that I could communicate where I needed to go or ask how much something cost. There were some instances in which my lack of Mandarin and their lack of English did hinder my progress at work. Namely, when they couldn’t explain why a certain reaction was producing a set of certain results. However, this challenge has strengthened my confidence in the lab. I was able to learn to adapt to working in a lab where the majority

of people didn't understand me and I them. Secondly, I am coeliac and thus, a lot of food was off-limits for me. Explaining my allergy and its severity was almost as challenging as finding food that didn't contain gluten. However, again the Chinese generosity astounded me. My colleagues always were quick to check if food had gluten and the chefs at work and at home would stop me with hand gestures if I was taking a dish that contained an allergen. Even a local restaurant began to know me and my orders.

### Conclusions and Thank You

I remember chatting with one of the other interns as my time in China drew to a close. She asked me,

“Did you change while in China?”

I said, adamantly, that of course I had; how could I have not? However, not even a week back in Ireland, it was as if I had never left the home. Nevertheless, I still stand by my answer. Although, I am not a new person, I developed an ability to approach things from a new angle, with a new outlook. Looking forward, I know traveling, exploring, and working in China is only the beginning. I want to reach further, experience more, learn more, and push my boundaries. Below is the final sunset I saw on golden beach before heading home. It was a bittersweet moment, as I was looking forward to returning to the comforts of home and my family, yet was sad to leave my new routine, new friends, and research behind.

I want to thank Mr. Martin McAdam and the McAdam family for their continued generosity. The summer I spent in China was a brilliant experience, from both personal and professional standpoints. The McAdam Travel Bursary helped to make my journey possible and I am extremely grateful for it. Thank you!

