



UQ-KU Project

九州大学 研究教育交流拠点

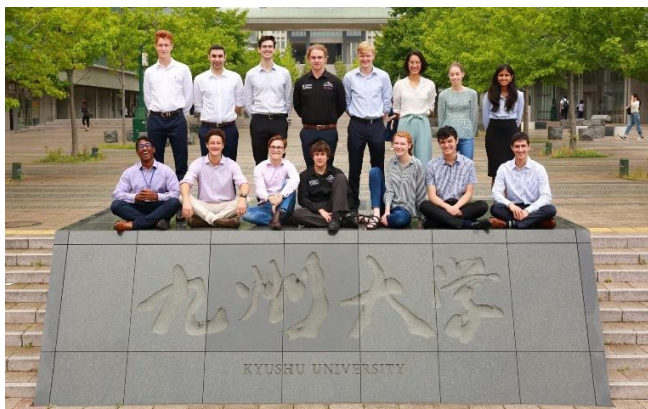
UQ-KU Project Newsletter

August 2019

THE UNIVERSITY OF QUEENSLAND – KYUSHU UNIVERSITY OCEANIA PROJECT

August Newsletter

UQ-JPIE/New Colombo Plan



UQ students attending at the Centre Zone of the Kyushu University Campus, on the first day of the UQ-JPIE program

The Kyushu Economic Federation (KEF) facilitated the industry tours including Toyota, Nissan, Mitsubishi, Bridgestone, and Nippon Steel.

The UQ students also participated in a short Japanese language course "An introduction course to Business Japanese Language and Etiquette", provided by Kyushu University with the Kyushu Economic Federation (KEF).

The language and culture lectures at Kyushu were of a

general nature, tailored for Engineering students and concentrating on culturally significant communication protocols. Similarly, the lectures delivered by KEF at an external location in the central business district were oriented towards language specific to business communication.

Selected reflections of some of the participants in the UQ-JPIE are included in this Newsletter.

The University of Queensland students that were part of UQ-JPIE would like to extend their thanks to Professor Chiharu Kubo, President of Kyushu University, Professor Yoshio

Hisaeda, Dean of Engineering, Professor Syo Matsumura and Professor Yoshimi Sonoda, Vice Deans of the Faculty of Engineering, for their warm welcome to Kyushu University. Thanks also to Mr Ian Brazier, Australian Consul-General for Fukuoka for his ongoing support and a very special thanks to Professor Qiang Chen, Director of the International Education Support Centre for Engineering and his team for putting together such an another very successful UQ-JPIE program.

Q²PEC 2019

The University of Queensland is very happy to welcome Kyushu University students as part of the fourth iteration of Q²PEC or Qshu-Queensland Program for English Communication.



Q²PEC students at the Welcome Event at the University of Queensland.

Students from the University of Queensland recently visited Osaka and Fukuoka as part of the New Colombo Plan, an initiative of the Australian Government with great support from Kyushu University.

In Fukuoka the UQ students participated in the very successful UQ Japan Programme for Industry Experience or UQ-JPIE, organised by Kyushu University prior to the industry visits, the UQ students were fortunate to receive a preparatory lecture from one of Kyushu University's experts for each particular industry. In addition, there were further lectures from Kyushu University's leading researchers across a variety of fields. This year the lectures and industry visits had a particular focus on electric/hydrogen vehicles.

The Kyushu students arrived at the University of Queensland on the 19th of August and will stay until the 27th of September.

background of engineering and economics studies by the Institute of Continuing and TESOL Education (ICTE-UQ).

The University of Queensland - Kyushu University Academic Exchange Workshop

The University of Queensland is looking forward to hosting a group of young academics from Kyushu University as they take part in a comprehensive weeklong workshop on Teaching and Learning, organised in conjunction with the Institute of Continuing and TESOL Education (ICTE)

The start of this program is a welcome event and Academic Exchange Workshop, where researchers from both the University of Queensland and Kyushu University can network, discuss research interests and explore the prospects of research collaboration.



UQ-JPIE students meeting up with their 'buddies' in the Q²PEC delegation

Students from the University of Queensland were very happy to meet up again with the Kyushu University friends that they had made during their visit to Kyushu University as part

In addition to the five-week long intensive English language course, the Kyushu University students will visit a number of laboratories.



Group photo of Q²PEC and UQ-JPIE students

of the University of Queensland-Japan Program for Industry Experience, hosted by Kyushu University UQ-JPIE, supported by New Colombo Plan Mobility Programme.

Kyushu University students in the Q²PEC program will participate in comprehensive English language courses that will be specifically designed for them and their

UQ-JPIE 2019 AWESOME! ISN'T IT?

Awesome! Isn't it? Reflections on my Trip to Japan
 New Colombo Plan Mobility Project to Japan
 Advanced Manufacturing in Practice, MECH4950



I've written a haiku to describe my feelings after returning from the land of the rising sun.

Metal sparks flowers
 Engineering is Awesome
 Delicious Rice Ball

When I first arrived in Japan I had a reasonable idea of what to expect given that I have a handful of Japanese friends who are international students in Brisbane. However, the challenge of finding my way from the airport to my hostel in Tokyo still filled me with a little anxiety. Despite the Tokyo train lines being an absolute jungle maze separated into two distinct maps in another language I was able to find my way without too much trouble. While many things in Japan are not simple it is obvious that they have been thought through and in a larger sense everything is quite intuitive.

It didn't take me long to fall in love with the country, even just walking around the streets. Taking the Shinkansen trains was marvellous. The trains banked perfectly at 300km/h meaning you could put a cup of water on a table and it wouldn't spill. The train lines, I later found out at Nippon steel, were hundreds of metres long as well, which went a little way to explaining why it was so smooth.

There are only two Japanese condiments I do not think are absolutely delicious. They are wasabi and natto. Every other food in the country is cheap, wonderful and convenient especially the rice balls at any corner store. The rice is separated from the seaweed on the outside with a thin plastic layer that is easily slid out after opening it so that the seaweed stays fresh. That's genius!

But enough of me, this was an engineering trip after all. Mechanical engineering in Japan is exactly what you imagined engineering to be in the 5th grade. Things get made. And not just a few things. Giant Goliath Cranes lift steel milled in workshops nearby onto a half-built tanker, steel forges as big as an apartment block glow with molten steel, gigantic warehouses with conveyor belt production lines churn out cars.

The only thing I missed culturally was the Australian relaxed and genuine nature, especially the ability to make a joke in any context. This void however, was soon filled going out with our Japanese buddies from Kyushu University. Young people there are surprisingly similar to young people in Australia too (but much better at singing karaoke). Once you get past introductions, they are a lot of fun and I got to make a lot of good friendships which I hope will continue when they come to Australia in August.

I am incredibly grateful to the New Colombo Plan Mobility Grant and to Professor Nogita and Youichirou for the opportunity; for inspiring us and for looking after us. Definitely would love to go back for an internship.

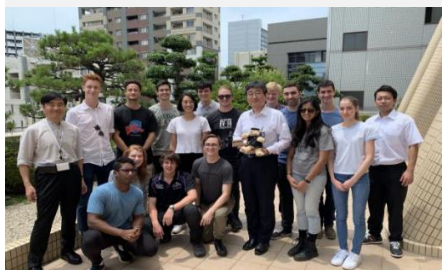
Dante Waugh



UQ-JPIE 2019 ADVANCED MANUFACTURING IN PRACTICE

Advanced Manufacturing in Practice (MECH4950) is an intensive, short term exchange course based in Japan supported by the Australian Government's New Colombo Plan. I was one of 15 students that received the opportunity to take part in this experience and represent Australia for its 2019 iteration. The program consisted of two main parts; the first was based in the Osaka Prefecture and involved an on-site workshop at Nihon Superior Co. R&D centre as well as visits to the Panasonic, Daihatsu and Cup Noodle museums. The second part of the program involved participation of the University of Queensland Japan Program for Industry Experience (UQ-JPIE) that took place at the Kyushu University Ito Campus in the Fukuoka Prefecture.

The program kicked off by first visiting Nihon Superior Co. where we learnt about their metal joining products for soldering and brazing as well as flux and Nano-silver paste products. It was particularly interesting to learn about their flagship product *SN100C*; lead-free solder used by many high-profile electronics manufacturers. We also toured one of Nihon Superior's nearby manufacturing and R&D facilities where we got to see how they manufacture and test some of their soldering and brazing products.



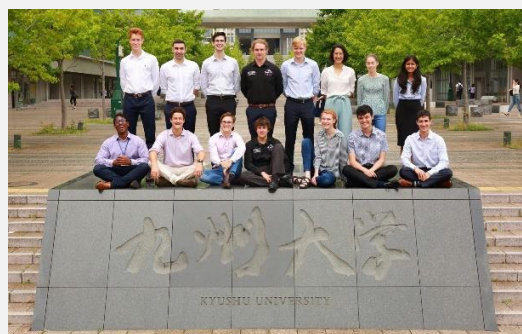
Nihon Superior Co. Visit



During our stay in Osaka, we also visited the Panasonic museum where we learnt about

the story of Kōnosuke Matsushita, the founder of Panasonic, and how he evolved his company into the electronics giant we know today. We then toured the Cup Noodle museum and designed our very own Cup Noodle packaging and flavour. As an added bonus, some of us decided to fit in a visit to the Daihatsu museum as our last activity in Osaka.

The day we were to leave Osaka for Fukuoka, we did not have to meet until later in the evening, so a group of us decided to stop by Hiroshima for some quick site seeing. We visited the Peace Memorial Park; a place dedicated to the memories of those fallen victim to the atomic bomb. We also toured the Peace Memorial Museum before continuing our travel to Kyushu University.



First Day at Kyushu University



Meeting our buddies

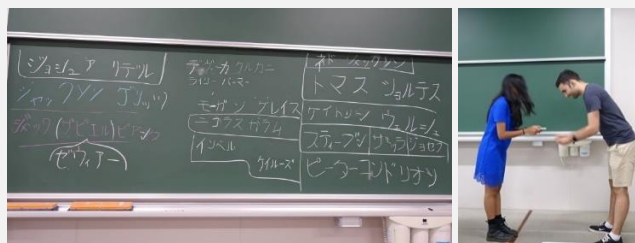
Our first full day in Fukuoka was dedicated to making us feel welcome and familiarising ourselves with the campus. We started our day with a tour of the Ito campus followed by a formal opening ceremony and welcome party.

Later that day, we got to meet our Kyushu University buddies for the first time. They had prepared some of their favourite snacks for us to try which was a fun way to break the ice.

With the opening ceremony done, the UQ-JPIE program was in full swing. The two-week program consisted of on-campus days where we would attend lectures and seminars, and to break things up, there were off-campus days where we would visit Japanese industries.

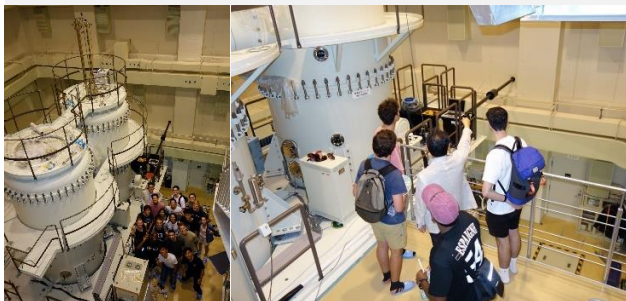
The on-campus days typically consisted of a lecture on Japanese industries or business practices, a session to prepare us for industry visits and a seminar showcasing some of the world leading research topics being explored at Kyushu university. In one of our Japanese business communication lectures, we learnt about various Japanese professional practices such as business card exchange and how to introduce ourselves in Japanese. We also learnt how to represent our English names in Japanese using the Katakana writing system.

Peter Condoleon



Katakana Names and Business Card Exchange

UQ-JPIE 2019 ADVANCED MANUFACTURING IN PRACTICE... CONTINUED



High Voltage Transmission Electron Microscope Facility

A world leading research seminar that I was particularly fascinated by was that on Ultramicroscopy with Prof. Syo Matsumura. Some interesting concepts that we learnt about were the principles of electron microscopy, atomic structure determination and electron tomography. Afterwards, we were given the opportunity to tour Kyushu University's Advanced Ultramicroscopy Research Centre and see their high voltage transmission electron microscope.

Through the off-campus industry visits, we had the opportunity to see first-hand what a Japanese manufacturing environment is like. The companies that we visited this year included Toyota Motors, Yaskawa Electric, J-Power, Bridgestone, Nippon Steel, TOTO, Mitsubishi Heavy Industries, SUMCO and Mitsubishi Electric. The visits typically consisted of an introductory presentation followed by a tour of the respective company's manufacturing facilities.

On our first weekend in Fukuoka, Kyushu University staff organised a tour of Itoshima. This was a day packed with site seeing of famous locations including the Shiraito Waterfall, the Sennyō-ji temple and the Sakurai Futamigaura. We also had our first full set Japanese meal at Ito Aguri; an acclaimed restaurant famous for its rice bowls.



Futamigaura Beach and the Shiraito Waterfall



Yamakasa Festival

At the end of the program we had a Japanese style closing ceremony to acknowledge our participation in the program and each received a certificate. To celebrate the end of our journey, we went out to Karaoke with our buddies and attended the Yamakasa Festival. The festival has a long history of tradition where teams of Japanese men carry heavy floats in a time-based race.

Peter Condoleon

UQ-JPIE 2019 MY MECH4950 EXPERIENCE

My MECH4950 Experience



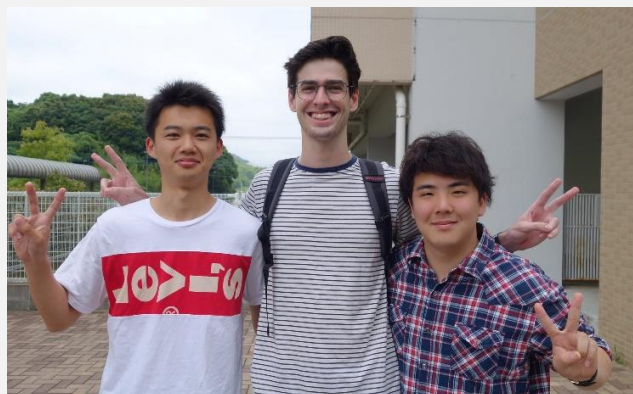
Recently, I was lucky enough to be chosen as one of 15 students from UQ to travel to Japan as part of the course MECH4950: Advanced Manufacturing in Practice. MECH4950 was one of the best courses I have ever taken at university. The course title is no joke; "Advanced Manufacturing Practices in Japan" might even be an understatement. As a part of this course we were able to visit 9 different companies who are highly specialised in a particular area of manufacturing. In addition to these site visits, we sat a series of lectures at Kyushu University, who hosted us during our stay in Fukuoka. But that's not all! We made some life-long friends from Kyushu University, and shared some fantastic cultural experiences.

Kyushu usually experiences heavy rain during July, which meant that some of our site visits were likely to be cancelled. Luckily enough, I think we brought with us the best July weather Fukuoka has ever experienced... We didn't have to cancel a single site visit and were able to enjoy most days without an umbrella!

One of these visits which I found particularly interesting was our trip to Nippon Steel. As a mechanical engineering student, I had learnt a little bit about the steel manufacturing process, but it was really something else to see it happen in person. Nippon steel has three sites at the Yawata works, with a combined size of 11.12 million square metres. This is 3.2 times the size of Central Park in New York! In order to transport material within this expansive area, they even have their own private railway! During our visit, we saw a huge blast furnace which runs continuously, melting coked coal and sinter ore into iron. This iron (still molten, and up to 350 tonnes at a time!) then travels in a 'torpedo car' on the railway, to the continuous caster. The continuous caster produces blooms or slabs, which can then be turned into a vast array of different steel products. While we were there, we also saw a 100,000 tonne coal shipment arrive from Queensland - We couldn't get away from the place!

During our time on the Kyushu University campus, we sat lectures given by 12 world-leading researchers. I learned for the first time about hydrogen fuel cells, and how they really are the future of electric vehicles in the world; I learned about electron microscopy, and saw a 3D photograph of a microscopic fracture within a material; I learned about organic light emitting diodes, and about excitons and saw how many colours of light can be made using these principles; and many, many more fascinating areas of engineering research. I feel as though I've come back to Australia with a brain full of new ideas and my eyes opened far wider to the world of engineering capabilities.

Finally, I would be remiss not to discuss the two f's. Food and friendship. Japan has the best food in the world, and I was able to eat so much of it. Luckily for me, I don't have a set of scales at home so I wasn't able to determine how much weight I put on while I was away! I ate the best sushi I've ever had, more chicken katsu than I've eaten in my life, and an excessive number of onigiri balls. The food was delicious. It would have been hard to have such a good culinary experience if I did not have such great local buddies to guide me! Kyushu university matched up the Aussie students with Japanese students who will be visiting UQ later on. Sora and Yuichi are my buddies, and they helped me to eat at the best local restaurants, took me to a baseball game, and showed me some of the other great things Kyushu has to offer. I'm really looking forward to returning the favour when they visit Brisbane in a weeks' time!



I hope you have enjoyed hearing about some of the aspects of my trip that I enjoyed the most. I've barely even scratched the surface on the hard-core engineering that we experienced, it truly was a once in a lifetime learning opportunity. I'm so thankful to everyone who was involved, from Kazuhiro who put the whole thing together, to all of the staff at UQ and KU that made it possible (they worked so hard for us to have a good time!), right down to all of the excellent people that I was able to share the trip with. Arigato Gozaimashita!

Reilly Palmer

UQ-JPIE 2019 NEW COLUMBO PLAN REFLECTION

My participation in the New Colombo Plan (NCP) has been a once in a lifetime experience. I have had the opportunity to experience the Japanese industry and make connections that I would otherwise have been unable to. The NCP has allowed me to experience and appreciate the differences between Japanese and Australian culture and made me a more open-minded person and a better engineer. There were two main avenues through which I gained the most knowledge, the lectures at Kyushu University and the industry tours with various Japanese companies.

There were many industry tours that were fascinating as we were able to see first-hand the manufacturing process of various products. Such as steel, tires and even toilets! This chance to walk through some of these factories and learn from the company representatives themselves was an opportunity I would have never gotten anywhere else.

The industry tour at SUMCO was one that caught my attention, as we were able to see the entire manufacturing process of silicon wafers. From forming the single silicon crystal to the packaging and shipping. What fascinated me most was the level of precision and accuracy needed to produce these wafers as well as the number of robots that are used for evaluation of the silicon wafers and transportation throughout the factory.



Figure 1-Industry visit at Bridgestone



Figure 2-Exchanging business cards

would extend from social rules and context. Learning and understanding the way business is conducted in Japan allowed me to gain an appreciation of the cultural differences between Australia and Japan. This skill will allow me to make more relations in the Indo-Pacific region further in my career and will make me a more well-rounded engineer.

The NCP has been an experience that I will cherish throughout my life. I have gained knowledge and skills that I would not have been able to learn anywhere else and had the opportunity to make connections with industries in Japan that otherwise would not have had. I will be forever grateful for this opportunity and will encourage my peers to apply for this program in the future so they too can have the opportunity of a lifetime.

Devika Kulkarni

This industry tour we had was nothing like I had ever seen before, which is why I was very intrigued by it. Through this SUMCO's tour, I was able to learn more about the way Japan manufactures products and also the commitment they have to ensure every detail lives up to a high standard. I had a better understanding of the ideology behind the manufacturing processes, which showed me the different mindsets that you can have when tackling an engineering problem.

In addition to the industry tours, there were many lectures we attended at Kyushu University. In the Japanese business communication lecture, we learned about the importance of business cards and how to exchange them. In Japan, business cards are seen as an extension of that person, and therefore you should treat that business card with the same level of respect. Learning about the practice of properly exchanging business cards taught me how Japanese tradition was really engrained in their business culture as well. Additionally, a lot of taboos we learned about bowing also extended from Japanese tradition I found, whereas taboos in Australian business culture



Figure 3 - UQ Students at Kyushu University