

Exploring Japan through JUACEP

Name: **David Komorowicz**

Affiliation at home country: **Department of Informatics, Technische Universitaet Munich**

Participated program: **Summer Course 2022**

Research theme: **Reconstructing Lost Building from Historical Imagery**

Advisor at Nagoya Univ: **Prof. Toshiaki Fujii**

Affiliation at Nagoya Univ.: **Department of Information and Communication Engineering**



The JUACEP program allowed me to contact my own research which wasn't possible at my home university. I was able to finish a large portion of my project and I got valuable feedback. It helped me get a better idea for my future career direction.

I experienced everyday life in Japan as opposed to a short tourist trip. I was able to explore the country side surrounding Nagoya on bike: Toyota, Tokoname and Tajimi. I took lots of photos of the beautiful nature and learned about regional specialties.

I joined the art club to practice drawing and get to know Japanese students. We went on a BBQ trip to Gifu which was a lot of fun.



An important goal for me was to learn playing the koto (琴), a traditional Japanese music instrument. During my three months of learning I got to a level that I was able to perform at a concert at the end. https://www.youtube.com/watch?v=flUMvnp_HUA

Findings through JUACEP

Name: **Hiromu Koyama**

Affiliation at home country: **Department of Civil, Construction and Environmental Engineering, North Carolina State University**

Participated program: **Summer Course 2022**

Research theme: **Energy Capture of Waves**

Advisor at Nagoya Univ: **Prof. Tomoaki Nakamura**

Affiliation at Nagoya Univ.: **Department of Civil and Environmental Engineering**



Although saying goodbye to the friends I made in Japan was difficult, I am extremely grateful I was able to participate in this program. I am a child of two fully Japanese parents, but I moved to America when I was just two years old. This left me grappling with a complex cultural identity for most of my life, one where I was told to be Japanese at home but was expected to act American everywhere else. Over time, it felt as though my Japanese identity was being eroded away by all the time I spent in America. If I were to decide that I were purely American, that I was only interested in living in America and studying here, surely no one could have blamed me. However, I couldn't seem to give up my Japanese identity. I watched anime and listened to Japanese music. I found myself wishing my Japanese was better. Then I had the opportunity to live in Japan for two months while forwarding my career in academia. Living in Japan made me more comfortable with the idea of being Japanese. Being Japanese wasn't some mythical thing that was impossible to achieve, it was something I was already capable of. I could talk with workers, order food, and make friends in Japan. By any metric, the me living in Japan was Japanese. It was a great realization, to realize that I am equally valid as an American and a Japanese person.

The exposure to academia in Japan was a great addition also. Not only was the research engaging and great for my career; it taught me a lot about how academia works in Japan. What the culture is like, how the system differs from America, and what the graduate students are like. It has increased my interest in attending graduate school in Japan.

Of course, traveling in a new country was amazing too! Here are some of my favorite photos from all the various destinations I was able to visit during my short stay here.



Findings Through JUACEP

Name: **Jacob McKibbin**

Affiliation: **Department of Chemical Engineering, NCSU**

Participated Program: **JUACEP Summer 2022**

Research Theme: **Molecular dynamics simulations using machine learning potential**

Advisor at Nagoya University: **Prof. Ryoji Asahi**

Affiliation: **Institute of Innovation for Future Society, Graduate School of Engineering**



I'm confident that participating in JUACEP is one of the best decisions I've ever made. I've been fascinated with Japan all my life, and always interested in spending an extended period of time living there. As an undergraduate I had been accepted into a semester-long study abroad program in Japan, but it was canceled due to Covid-19. After finishing my degree and beginning graduate school, it was difficult to imagine I would be able to live in Japan in a similar capacity. JUACEP really made my dream possible. I gained valuable research experience, and I was able to immerse myself in Japanese culture.

Working with Prof. Asahi and my labmates, we trained a machine learning forcefield for silicon and hydrogen. We applied this machine-learned potential to a crystalline - hydrogenated amorphous silicon interface. This is a challenging problem, long simulation times and a large number of atoms are needed to get accurate statistics from the simulation. A large number of atoms leads to excessive calculation times under normal conditions. The machine-learned potential can solve this problem, and we were able to achieve over 1000-times faster simulations. Of course, much work remains to be done, and I'm happy to say I am going to continue to collaborate with the Asahi lab remotely, and we will work towards writing a publication. I was very happy to be given the opportunity to work with machine learning methods, and I think this experience will be very valuable moving forward in future projects. I was also given the opportunity to take a five-week-Japanese course. I had studied Japanese on my own, but nothing could compare to the opportunity to speak often, and freely with native speakers. I will continue studying Japanese at NC state.

While my research was extremely engaging, I also found time to explore Japan. In my time there, I summited three major mountains, and narrowly avoided summiting Mt. Fuji due to inclement weather. Japan's incredible public transport system made it all very convenient. My lack of a driver's license didn't set me back. I visited Tokyo, Osaka, and Sapporo as well. All of the cities I went to had a unique feel to them, and two activities I particularly enjoyed were their unique food cultures, and visiting shrines and temples. It would be impossible to summarize everything here, but everything exceeded my wildest expectations.

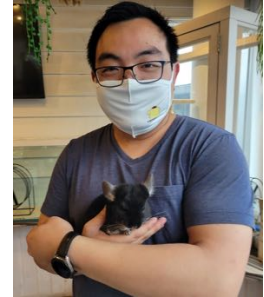
Finally I made lifelong friends from all over the world, and valuable connections which I'm sure will influence my career for the better. As I said before, I will continue to work with the Asahi lab to publish a paper, which I hope will be the first of many fruitful collaborations.

A Reflection on my Internship Experience with JUACEP

Name: George Li

Affiliation: Electrical and Computer Engineering, NCSU

Participated program: JUACEP Summer 2022



Research theme: Superconducting Quantum Logic Circuits

Advisor at Nagoya Univ: Prof. Akira Fujimaki

Affiliation: Electrical and Electronics Engineering, Graduate School of Engineering

The JUACEP program experience was one that I would recommend to anyone interested in and willing to conduct research work in any capacity, regardless of one's curiosity towards cultural exchange or travel. The compelling amount of knowledge I gained and relevance of the work I was pursued during my internship was a truly fantastic – it proves to be useful in my continuing studies and research work each day. The cutting-edge research topics I was exposed to and valuable connections I made will be treasured for the rest of my career.

With the professional aspects of relevance covered, however, there was so much more to the time spent I will cherish, which were directly enabled by the JUACEP internship. From even before arriving in Japan, making pre-departure accommodations and paperwork, the international office staff worked tirelessly through hurdle after hurdle to make sure our arrivals were guaranteed and painless. Due to pandemic restrictions, this commendable feat was rewarded with a successful program. After arriving in Japan, the dormitory staff, JUACEP staff, and my research lab faculty and lab mates were all welcoming and genuinely helpful in more ways than I could possibly ask for. They, along with my fellow cohort of international exchange students, helped me feel secure and confident enough to explore things I wanted while feeling connected to a larger community. Collaborating with a foreign laboratory and research advisor, discussing technical details and topics, and being integrated into a research team in a foreign country were genuinely eye-opening experiences. I have gained many new perspectives on research environments and workflows which could not be learned any other way. Taking the subway to the lab every day and eating lunch in the cafeteria, simple moments of the mundane, are things that have left a strong imprint on my memories.

There is so much more to my time which I could share about, but there is one fundamental message to it all: I had a wonderful time during my internship. This was made possible through the support of the JUACEP program and all the faculty and staff who helped. I was able to learn and work to further my career, form new networks, connections and friendships, travel to beautiful destinations, eat delicious food, gain novel perspectives and communication skills, and enjoy an unforgettable summer abroad experience in Japan.



Photo time with fellow JUACEP exchange students



Sunrise view from Mount Fuji. You can see Lake Yamanakako, Lake Kawaguchiko, and Kanagawa.

Findings through JUACEP

Name: **Diksan Muhammad**

Affiliation at home country: **Aerospace Engineering, Bandung Institute of Technology**

Participated program: JUACEP Summer Course 2022

Research theme: **Investigation of the effect of arrangement of multiple jets by computational fluid dynamics**

Advisor at Nagoya Univ: **Prof. Yasumasa Ito**

Affiliation at Nagoya Univ.: **Statistical Fluid Engineering, Dept. Mechanical Systems Engineering**



Studying in Japan is always one of my goals. Fortunately, I was given an opportunity to do research in Japan in Summer 2022 by participating NUPACE. Initially, I got accepted to NUPACE program but thanks to my advisor, Prof. Yasumasa Ito, to give me the information about JUACEP.

This was a great experience for me to live aboard even though it was only for a short period time. I have been interested in Japanese work culture for a very long time because at some point I want to work for Japanese company. I slightly got insight about work culture from my lab mates and based how I felt when I was doing my research. Doing research in Japan was very rough for me. It was not because the research topic I chose, but because I also had to do my thesis research for graduation from my home university. The research I was doing was quite interesting. I am familiar with the topic, but the tools are new. This research is also helpful for me because I also got so many insights for my thesis.

First time I came to Japan, I was shocked especially for the food. Since, I am a Muslim, I found it difficult to find halal food especially in Nagoya. But my friend who already lived in Japan to work was always helping me to show me which store is selling halal food. Because of that, I always made my own food with halal ingredient. Apparently, he is one of my close friends from my home university, so I did not hesitate to ask any help from him.

I like the subway system in Nagoya because in Indonesia especially in my city we do not have that. It is easy (for me at least) to go anywhere. I happened to be in Japan at the right time since most of Matsuri I like to travel by walk and train and find any interesting place by myself. Apparently, I did not have time much to travel but I only took a short trip to Kyoto and Osaka before I am leaving Japan. It was a unique experience, being a foreigner in Japan with only a little knowledge about Japanese language and travelling quite far all by myself.

I almost forgot about the excursion. We, JUACEP group went to Inuyama Castle, Aichi Museum of Flight, and Toyota Commemorative Museum. Honestly, I am not the type who like historical places (I prefer going to park, forest, mountain, etc.) but at least since we visited the Museum of Flight, I was slightly enjoying the tour. But overall, it is nice to know that how the Nagoya before was, the aerospace history in Japan, and how Toyota company was.

In the and, I would like to thank you to all JUACEP committee not only to provide me a scholarship (of course) but also providing me with a very great experience in its research program, field trip, the workshop, etc.