

Report on My Experience at Project Engine, Osaka University October 2024

From 3rd – 11th October 2024, I had the privilege of spending one week at Project Engine.

My background is in global health and tropical medicine and I am currently a surgical resident at Stavanger University Hospital in Norway. I studied and worked in the Netherlands, where I specialised in Global Health and Tropical Medicine, a 3-year specialisation focused on surgical fields and public health. I got to know professor Nakajima at a conference in South Africa: the 3rd International Congress in Innovations for Global Surgery. My visit to Project Engine was in order for me to get an insight into the work they do with regards to product development, advanced minimally invasive surgery, research and development and in the field of global surgery, as well as for knowledge exchange, with a focus on my experience in global health and global surgery.

Project Engine is an innovative hub at Osaka University founded by professor Nakajima. This unique initiative brings together the medical field, academic researchers, and industry partners to advance surgical techniques and medical device development. I learned a lot about the health system in Japan and the work culture when it comes to clinical work, research and product development. It was inspiring to see Professor Nakajima on one hand work towards medical advancement, and on the other making health care and surgery accessible to more people, including people in low- and middle income settings.

One of the highlights of my stay was talking with the doctors and engineers that were involved with Project Engine. It was really insightful to learn more about the health system in Japan and everyone was so open to share with me their professional and personal experiences of living and working there. I was impressed by their openness to sharing their insights. These conversations not only deepened my understanding of their work but also sparked ideas for potential collaborations and improvements in my own practice.

I was also lucky to visit at the same time as a yearly program was happening, where engineers from different companies visit Project Engine and Osaka University Hospital to learn about the medical field and see how things work on a day-to-day basis in the hospital. I got an extensive tour around the different surgical departments with them, including the theatre, the emergency room, the lab, the sterilisation area for the products and got to attend many surgeries, most robot-assisted. I left with a greater appreciation for the complexities of bringing medical innovations from concept to clinical application.

It was very interesting to attend surgeries, which I go to every day of my stay. It was nice to see the similarities and differences of how things are done compared to back home. The surgeons guiding me were always sharing a lot of information, and I felt very welcome.

Towards the end of my stay, I gave a presentation on Global Health and Global Surgery, and enjoyed sharing with everyone more about working in a low-resource setting. Everyone attending was eager to learn about the topic, and it was very rewarding to share my experience with people so genuinely interested in the field.

On my last day, I was privileged to get to visit Osaka International Cancer Institute. It was impressive to see the scale of the hospital, attend more robot-assisted surgeries and hear about working and doing research there.

Osaka is a great city to visit. During my visit, accommodation was arranged for me. I had a private room with my own bathroom, and it was located a 10-minute walk away from Project Engine and the hospital. Most days were from 8:30/9am until around 17pm. I was off to explore the city and surrounding area on the weekend and evenings. The area of the university and hospital is about 30 minutes from the center of Osaka by public transport. It was therefore possible to go into the city for the evening, but most evenings I stayed in the area. I always felt safe, and could easily explore and sightsee. The two last nights, professor Nakajima and Ayaka arranged for dinner with other members of the team, and I really enjoyed getting to spend more time with everyone outside of the hospital, as well as getting introduced to new foods and culture.

My week at Project Engine reinforced for me the importance of interdisciplinary collaboration in advancing healthcare. The synergy between academia, clinical practice, and industry was evident in every aspect of their work. This model not only accelerates the pace of innovation but also ensures that solutions are practical and patient-centered. I look forward to applying what I have learned to my practice at home.

I want to again thank professor Nakajima for inviting and hosting me, Ayaka for taking such good care of everything before, during and after my stay and everyone at Project Engine for welcoming me so warmly. I made new friends, it was a great way to network and several future plans have been made for visits and collaborations. I am grateful that I had the opportunity to visit Project Engine, and would highly recommend it to other residents and young surgeons interested in minimally invasive surgery, global surgery and product development, as well as wanting to learn about the health system in Japan.



Lunch at the hospital (unagi) with some of the surgical residents. Kusunoki Chikako



The surgical and research residents give regular presentations to prof. Nakajima, updating him on the progress of their projects.



Goodbye dinner with the faculty (Ayaka, Takashi, prof. Nakajima, Shoichiro, Yuuki)



I presented on Global health and global surgery for the faculty as well as for the team from the industries



Observing surgeries, together with many others eager to learn



A warm welcome, first meeting, with Ayaka and professor Nakajima



A tour of the trauma unit



With Dr.Yamamoto, Dr.Omori and Dr.Ushimaru



Visiting Osaka International Cancer Institute, and observing robot-assisted gastro-intestinal cancer surgery