To: Nakatani Foundation

Nakatani RIES 2026 Final Report

Your name: Alexandra Yuan

Your university: Kyoto University

Host lab in Japan: Shintaku (LiMe Nanobioengineering) Lab

Research mentor(s): Junichi Murai, Nozaki Keiji, and Misa Minegishi

Meaning and Impact of the Nakatani RIES Fellowship: How would you describe the meaning and impact of the Nakatani RIES Fellowship on you?

To me, the Nakatani RIES Fellowship was a once-in-a-lifetime opportunity that I made friends and had experiences that I will cherish. Going into the program, I had heard many great things from upperclassmen alumni who had done Nakatani. However, I think experiencing everything firsthand surpassed my expectations. I had an incredible time in my lab, traveling with friends, and most of all, hanging out with the Japanese fellows in Kyoto. This program is something that I can't wait to share with other students, and I will encourage them to apply.

Please complete the following sentences with potential applicants to the Nakatani RIES Fellowship as the intended audience.

- My favorite experience in Japan was...
    - The last day of presentations because I got to see what all of my friends had been researching, and we all celebrated with dinner and karaoke afterward. Everyone I had met was at the closing session, so it all felt full circle.
- Before I left for Japan, I wish I had...
    - Brought more gifts for my lab. I had brought some chocolates from home for my lab, but after they threw me a Takoyaki party, I wish I had brought more unique American cultural snacks for them.
- While I was in Japan, I wish I had...
    - Spent more time with the Japanese fellows. Because I studied a lot during the week, I didn't have as much time to spend getting dinner with people every day after lab.

Research Internship Overview: Provide an overview of your research project and your experience during the internship. How did the project relate to your current or future academic interests? What was it like to work in an international research setting?

What did you learn from your research experience this summer, and how has it influenced, or how do you expect it to influence, your future academic path or research interests?

My research project was originally focused on using an automated Hybridization-based in situ sequencing (HyBISS) system my lab members built to generate data on gene profiling for cells under competition. However, halfway through the program, I was put on another project that was in a more early stage. I worked on developing a HyBISS compatibility protocol for triple-negative breast cancer cells. In both projects, I developed a lot of new skills, especially in relation to wet lab techniques. I also learned how to use new functions in ImageJ for

quantification.

In terms of my interests, I definitely see both research and international experiences as an essential component of my future career. I would like to pursue a career in healthcare, especially learning about the different healthcare systems internationally. In the future, I also foresee myself applying for more international research fellowships, and I would attribute this to Nakatani.

Lab Environment Overview: Describe the lab environment and the personality and working style of your research group. What was it like to work with your research mentor(s)? How would you describe the overall group dynamic in the lab?

The lab environment and personality of lab were incredibly supportive and inspiring. There were so many times when I was unsure what to do next or had made a mistake, and nobody ever seemed upset or frustrated with me. In terms of working with my research mentors, they were very friendly and excited to converse with me about things outside of research as well. The overall dynamic of my lab was very collaborative, but generally, each project had around 3-4 people working on it. However, I definitely spoke with and got to know everyone.

Daily Life in Japan: Describe your daily life in Japan. You may include the people you interacted with outside the lab, food, your housing and living experience, travel around Japan, challenges you faced, and rewarding experiences you had over the summer.

My daily life in Japan varied a lot day to day. Typically, I would wake up around 6am to study for my Dental Admission Test for graduate school admissions. After getting breakfast and studying, I would head to lab at 8:30am to start my experiments. For lunch, I would typically get food with lab mates; we got a variety of foods from Japanese curry to Indian food. Normally, I would finish lab around 5-6pm, when I would take the bus to Sanjo area to get dinner with friends. After dinner, I would continue studying in a café until 11pm. However, on the weekends I didn't study at all, so I would travel with Nakatani friends. One of the most rewarding experiences I had over the summer was climbing Mt. Fuji. Although it took me around 6 hours to get to Mt. Fuji from my lab, the overall climb and summit made it worth it.

Experiences with Japanese Culture: Describe your most meaningful experiences with Japanese culture. These could include program activities, interactions with people in your lab, or experiences from daily life that you feel illustrate aspects of Japanese culture or values. What did these experiences teach you about Japan? What did they teach you about yourself?

One of the most meaningful experiences for me was when my lab threw me a Takoyaki welcome party. All the students went shopping for the ingredients together, and they taught me how to cook the Takoyaki. This not only taught me a little bit about the food culture of Japan, but also the welcoming culture of the people. In general, I think the cultural values of being on time and clean taught me a lot about myself. I am generally someone who is always early, and in the US, most of my friends are always late. I really enjoyed this aspect of Japanese culture.

Returning to Japan: Do you plan or hope to return to Japan in the future? If so, what would you like to do? What would you need to make that happen?

Yes, I would definitely love to return to Japan in the future. The Nakatani RIES program was the second time that I traveled to Japan, and I deeply enjoyed my experience. My family is from China, so every time I fly to my hometown, I either have a layover in Seoul or Tokyo. I plan to return to

Japan either this winter or next summer for a week before I visit family.