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医療科学分野の大学生交流プログラム（ベトナム）

Kiong Ho、Vuong Cat Khanh、福田 綾、森川 一也、加藤 広介、藤野 三法、
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日本学生支援機構 (Jasso) の海外留学支援制度の一環として、医療科学類の 2 名がダナン大学工科大学およびベトナム国家大学ホーチミン市校自然科学大学での短期留学に参加しました。この留学支援の目的は、参加者が現地研究室での研究体験を通して日本では実感することができない現地の医科学関連の課題や医療事情、特有の取り組み等を学修することです。また、現地の学生や教員との交流を通して、医療科学類が教育目標の一つとして掲げる専門英語コミュニケーション能力を養うことも目的の一つです。この活動を通して、参加者には自らのキャリア計画に有意義な経験の機会を得ていただきたいと考えています。

参加者:

医療科学類 2 年　阿部 和花

医療科学類 3 年　神保 絹香

滞在先：

ダナン大学工科大学

University of Science and Technology, The University of Danang

ベトナム国家自然科学大学ホーチミン校

University of Science, Vietnam National University Ho Chi Minh City

日程：

2026 年 9 月 2 日～2026 年 10 月 3 日

＜9 月 2 日～9 月 20 日＞Infection Diagnosis Workshop

Division of Biotechnology での研究体験

(University of Science and Technology, Dr. Ngo Thai Bich Van)

＜9 月 21 日～10 月 2 日＞Laboratory of Molecular Biology での研究体験

(University of Science, Prof. Dang Thi Phuong Thao)

＜参加者の声＞

Workshop report in Vietnam

Nodoka Abe

I decided to participate in this program because I wanted to learn how research is conducted in countries other than Japan and experience a different research environment. As a second-year university student, I had not yet decided which laboratory I wanted to join. I felt that I lacked sufficient practical experience to make an informed decision about my research interests. Therefore, I wanted to gain more hands-on experience with experiments and develop a better understanding of scientific research before choosing a laboratory. I hoped that this opportunity would help me discover my interests and make a more informed decision about my future.

During this program, I stayed in Da Nang, Vietnam, from September 2 to 20. During my stay, I participated in an infection workshop with other Tsukuba University students and conducted research at the University of Danang, where I investigated the relationship between drug-resistant bacteria and essential oils. On September 20, I traveled to Ho Chi Minh City, where I joined an internship at the University of Science from September 21 to October 2. There, I learned basic experimental techniques, including HeLa cell counting and cell culture, and studied antibiotic resistance.

During my research in Da Nang, I investigated the antibacterial activity of essential oil (EO) extracted from fruit peels, including pomelo, against Staphylococcus aureus. First, I extracted the EO using a distillation apparatus. In the disk diffusion test, inhibition zones were observed for both EO and ampicillin. Their diameters, including the wells, were 1.7 cm and 1.9 cm, respectively. These results suggested that the EO inhibited bacterial growth, although their antibacterial activities could not be directly compared because of possible differences in concentration and diffusion.

Next, I performed a minimum inhibitory concentration (MIC) test using two-fold serial dilutions and resazurin to assess bacterial metabolic activity. In the bacteria-containing samples, the color changed from blue to pink at concentrations of 0.625% or lower in one replicate and 0.31% or lower in the other. This suggested that bacterial metabolic activity was detectable at these concentrations. Finally, I conducted a minimum bactericidal concentration (MBC) test. Bacterial growth was observed at both 1.25% and 2.5% EO, so the MBC could not be determined.

Overall, the EO showed potential antibacterial activity, but its bactericidal effect remained unclear. This research taught me the importance of distinguishing growth inhibition from bacterial killing and carefully interpreting experimental results.

After completing this research, I moved to Ho Chi Minh City, where I had the opportunity to explore a

different research topic involving plant extracts and human cells. During my research in Ho Chi Minh City, I investigated the effects of a plant extract derived from Spharocoryne affinis on HeLa cell viability using the MTT assay. First, I detached and collected the cells using trypsin and EDTA, counted them, and adjusted their concentration. I then seeded 300 μL of a cell suspension at 100,000 cells/mL into each well of a 96-well plate. Next, I prepared different concentrations of the plant extract using two-fold serial dilutions, with 200 μg/mL as the highest concentration. A 0.1% DMSO solution served as the vehicle control. After adding the solutions, I incubated the cells and performed the MTT assay to assess their metabolic activity.
The results showed cell viability of approximately 93–99% relative to the control, with no clear concentration-dependent effect. One possible reason was the short incubation period: only 22 hours were allowed, although 27–31 hours was considered optimal. Consequently, the extract's effects may not have been fully expressed. Further experiments using the optimal incubation time and additional replicates are needed to evaluate its effects more accurately.

As a second-year university student with limited laboratory experience, I learned a great deal through this research program. With the support of the teaching assistants and Miss. Jimbo, I experienced various experimental techniques and learned basic laboratory procedures, their underlying principles, important points to consider when conducting experiments, and how to interpret experimental results appropriately.
Although I had studied the theories and principles behind these experiments in class, it was fascinating to investigate them firsthand and confirm my theoretical knowledge through practical experiments. By performing the procedures myself, I was also able to deepen my understanding and reinforce the knowledge I had previously acquired. This experience helped me appreciate the importance of practical training in connecting theoretical knowledge with real scientific research.
These lessons also changed how I view my future, particularly the possibility of pursuing research as a career. Through this experience, I gained practical experimental skills and developed a deeper interest in scientific research. Before going to Vietnam, it was difficult for me to imagine what conducting research in a laboratory would actually be like, as I had not yet been assigned to one. However, by participating in experiments and learning from researchers, I was able to gain a more realistic understanding of research and what it means to pursue a career as a researcher. I also learned that research requires not only technical skills but also careful thinking and a willingness to learn from the results of experiments. Compared with before the program, I can now think about my future more concretely. I would like to use the knowledge, skills, and perspectives I gained in Vietnam to consider which research fields interest me most and what kind of career I want to pursue.

In addition to the academic experiences that shaped my view of research and my future, my time in Vietnam also gave me valuable opportunities to experience a different culture. Although we sometimes faced language barriers when communicating, the local people were kind and welcoming. We both made an effort to understand each other, which taught me that communication depends not only on language skills but also on a willingness to understand others.

I also enjoyed trying a variety of Vietnamese dishes. The food was one of my favorite parts of the experience, and I already miss it. In addition, I loved walking around the cities and observing everyday life. Compared with Japan, the streets, shops, traffic, and atmosphere felt completely different. Even ordinary scenes were fascinating because everything was new to me. Exploring the cities allowed me to discover Vietnamese culture naturally, beyond what I could learn in a laboratory or through textbooks.

These experiences helped me appreciate different ways of living and reminded me of the importance of remaining curious and open-minded when encountering unfamiliar environments.





Vietnam Short Term Exchange Program 2026

Kinuka Jimbo

Motivation:

I decided to participate in the Vietnam Short-Term Study Abroad Program because I wanted to deepen my knowledge of medical sciences through research activities conducted in English and gain experience working with students and researchers from different linguistic and cultural backgrounds.

In the future, I hope to pursue international research related to healthcare demand and public health. I believe that healthcare needs are influenced not only by medical and statistical factors, such as disease patterns and population dynamics, but also by the social and cultural backgrounds of each region. Therefore, I thought that studying in a different research environment and interacting with local students and researchers would be a valuable opportunity to broaden my perspective and explore new approaches to future research.

Although I am relatively comfortable communicating in English in everyday situations, I have often found it challenging to understand and discuss specialized scientific topics in English. Through this program, I hoped to improve my academic English skills by participating in actual research activities. I also wanted to develop my ability to collaborate with students and researchers who, like myself, speak English as a second language.

Experiences:

In the lab:

During my stay in Vietnam, I participated in the Infection Diagnosis Workshop organized by the University of Tsukuba at the Vietnam-UK Institute for Research and Executive Education (VNUK), University of Danang. I also had the opportunity to visit and participate in research activities at two different universities: the University of Science and Technology, University of Danang (DUT), and the University of Science, Vietnam National University Ho Chi Minh City (VNUHCM-US). Although each experience was valuable, I would particularly like to focus on what I learned through my research activities at these two universities.



Disscusion duiring the Workshop

At DUT, I learned about research investigating the effects of essential oils on methicillin-resistant Staphylococcus aureus (MRSA). MRSA is an antibiotic-resistant bacterium, and as I had also learned during the Infection Diagnosis Workshop at VNUK, controlling antibiotic-resistant bacteria is an important challenge in infectious disease prevention and treatment.

The research explored whether naturally derived compounds, such as essential oils, could be used as an alternative approach against bacteria that have become resistant to conventional antibiotics. Through this experience, I was able to see how the microbiology concepts I had previously studied at university could be applied to actual research questions. It also gave me an opportunity to learn how researchers identify important problems and develop research topics based on them.

At VNUHCM-US, I was introduced to research investigating the effects of certain extracts on cancer cells, as well as the development of oral vaccines for fish. Although these topics were not necessarily closely related to the subjects I had mainly studied before, they provided me with a valuable opportunity to explore a wider range of research fields related to medical sciences.



Preparing MTT assay

I found it particularly interesting that I could understand certain experimental concepts relatively quickly when they overlapped with something I had previously studied or encountered. In those situations, I was also able to come up with more questions about the research. This made me realize how important it is to connect knowledge gained from university courses with experiments and scientific discussions in different research fields.

Of course, there were also many situations in which I struggled to understand scientific terminology or experimental principles explained in English. Whenever this happened, I tried to deepen my understanding by reading relevant scientific papers and other materials, as well as asking questions to students and researchers who guided me through the experiments.

Another thing that left a strong impression on me was how knowledgeable and motivated the Vietnamese students and researchers were. Working alongside students who had studied in different academic environments made me more aware of the gaps in my own knowledge and encouraged me to become a more proactive learner.



Blood collection from fish to analyze Immune Response

Outside lab:

Outside of our research activities, interacting with local students and people in the community was another important part of my experience in Vietnam. These interactions taught me a great deal about communication across different languages and cultures.

Especially in Da Nang, there were situations in which communicating only in English was not enough to fully understand each other. When this happened, we tried different ways to communicate, such as using Google Translate or drawing pictures in a notebook. I also tried to learn Vietnamese words and expressions from local students and use simple Vietnamese phrases when interacting with people outside the university.

One particularly memorable experience was making origami together with local students. Seeing how much they enjoyed it made me realize that communication does not always have to depend on spoken language. Even simple activities can help people connect with each other, regardless of their linguistic backgrounds.

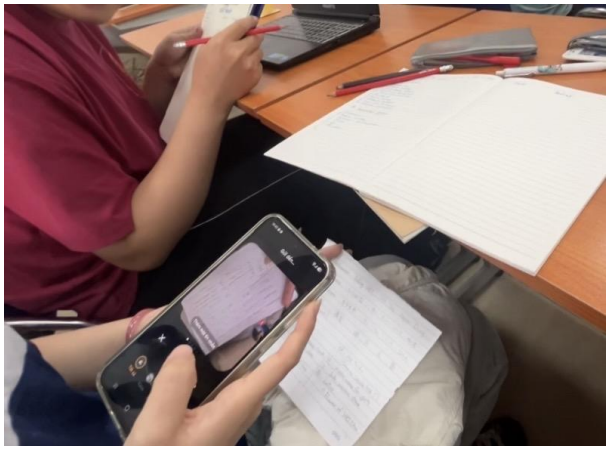
Before this program, I had mainly thought that English proficiency was the most important skill for working in an international environment. However, these experiences showed me that being interested in other people's languages and cultures, and being flexible in how we communicate, are just as important.

Another valuable aspect of my stay was the opportunity to experience life in both Da Nang and Ho Chi Minh City. Although both cities are in Vietnam, I noticed differences in language, food culture, and historical backgrounds.

In Ho Chi Minh City, local students kindly showed me around the city, giving me opportunities to learn more about its history. This experience reminded me of the importance of not viewing a country or its people through a single cultural perspective, but instead trying to understand the unique backgrounds of different communities.



Fun moment making Origami with new friends



Writing each other’s names in our own languages

Achievements

One of the most significant achievements of this program was that I became more confident in learning and discussing scientific topics in English.

Although I initially struggled with unfamiliar terminology and experimental principles, I gradually became more comfortable asking questions and expressing my thoughts during research activities. I realized that I do not need to understand everything from the beginning, and that actively seeking information is an essential part of learning. Interestingly, I also noticed a change in my attitude after returning to Japan. I became more willing to speak up during university classes and started participating in discussions more frequently than before. I believe this change was influenced by my experience in Vietnam, where I constantly challenged myself to communicate my ideas, even when I was not completely confident.

Another important achievement was developing a better understanding of what effective international collaboration requires. Through my interactions with Vietnamese students and researchers, I learned that communicating across different backgrounds involves not only expressing my own ideas clearly, but also listening carefully and trying to understand other people's perspectives.

At the same time, this program helped me recognize several areas in which I still need to improve.

In particular, I often felt that my scientific knowledge and research experience were not sufficient. When I encountered unfamiliar research topics, it sometimes took me a considerable amount of time to understand the background and experimental methods. As a result, I was not always able to discuss the findings in depth or engage in meaningful scientific discussions with local students and researchers.

I also realized that asking questions about things I do not understand is only the first step. As a researcher, it is equally important to identify new research questions independently and think critically about how to approach them.

This experience helped me recognize the difference between understanding research conducted by others and actively contributing to the research process. Developing the ability to think independently and participate in deeper scientific discussions has become one of my most important goals.

Future Plan:

After participating in this program, I became even more motivated to pursue a longer-term study abroad experience. Because this program was relatively short, much of my time was spent becoming familiar with new research topics and experimental methods. Although I learned a great deal, it was difficult to work continuously on a single research project and explore it in depth. In the future, I hope to participate in a longer-term research program where I can experience the entire research process, from developing a research

plan and conducting experiments to analyzing results and discussing their implications. Through such an experience, I would like to become more capable of conducting research independently.
Another important realization was how much conducting research in English can broaden my academic perspective. I came to understand that English is not simply a tool for accessing scientific information, but also a means of exchanging knowledge and exploring new ideas with researchers from different backgrounds. I was particularly inspired by the extensive knowledge and dedication of the Vietnamese students and researchers I met. Their enthusiasm for research motivated me to study harder and encouraged me to seek more opportunities to learn alongside researchers and students from around the world.

In the long term, I hope to pursue international research related to healthcare demand and public health. My experiences in Da Nang and Ho Chi Minh City strengthened my interest in understanding how regional history, culture, and social circumstances influence people's lives. I hope to apply this perspective to future research by considering not only medical and statistical data, but also the actual needs and circumstances of local communities.

Conclusion

My short term study abroad experience in Vietnam was an invaluable opportunity to explore a wide range of research fields related to medical sciences and interact with people from different linguistic and cultural backgrounds.
Although I often became aware of the limitations of my knowledge and experience, overcoming these challenges helped me develop greater confidence and a more proactive attitude toward learning.
Above all, this program encouraged me to think more seriously about the kind of researcher I want to become. I hope to build on the knowledge, perspectives, and experiences I gained in Vietnam and apply them to my future academic studies and international research activities.

Acknowledgements:

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I am also especially grateful to Mr. Đỗ Nguyễn Trọng Trí and Mr. Đặng Việt Tuấn for their patient guidance and kind assistance during my lab activities in Ho Chi Minh City.
I would also like to thank my fellow participant, Nodoka Abe, for her wonderful companionship and collaboration throughout the program.

Finally, I would like to thank all the professors, university staff, graduate students, local students, international participants and Tsukuba students of the workshop, who made this study abroad experience truly memorable and rewarding.



Dinner with Dr. Vân and her wonderful family



Picture with Professor Thảo, Mr. Trí and Mr. Tuấn

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