



International Vet Exchange Program [IVEP] The University of Edinburgh



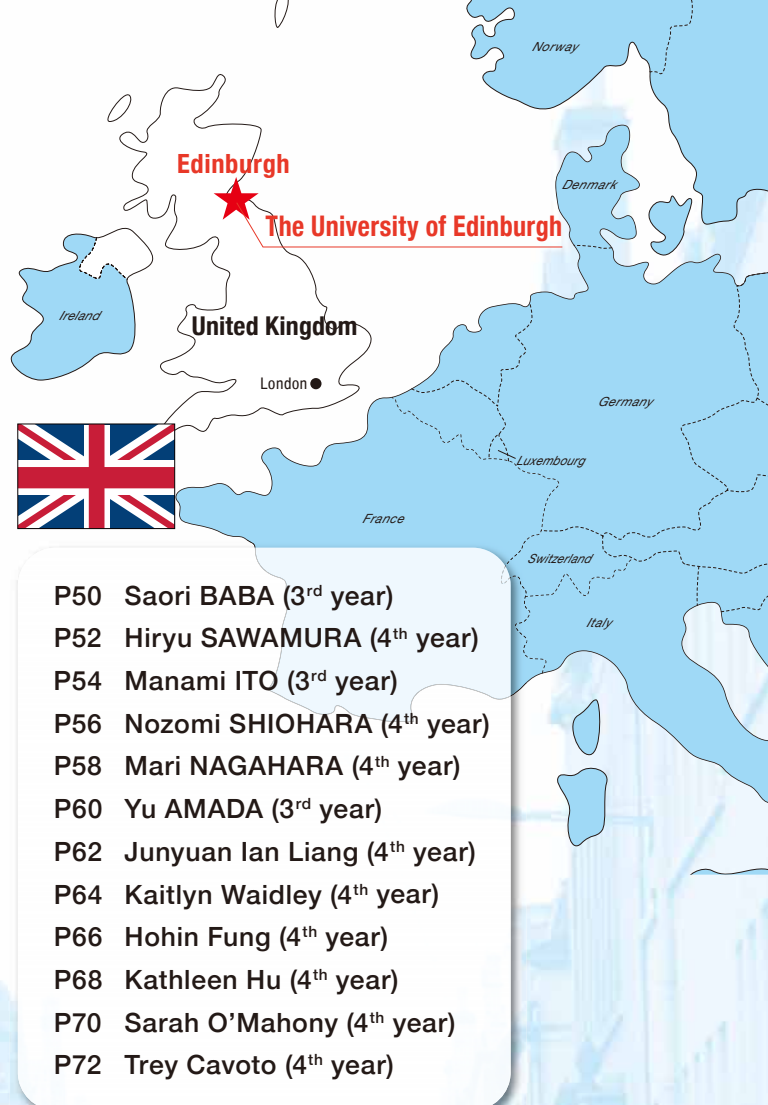
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■ Overview of Activities of The University of Edinburgh

In FY2019, 6 students from the vet school of Hokkaido University were sent to the University of Edinburgh. At the University of Edinburgh, students received an introduction to research at the Roslin Institute, and some lectures and practices on breeding and husbandry of industrial animals at the university facilities and on clinical veterinary medicine for horses and small animals at the university teaching animal hospitals. Outside the university, they attended clinicopathological training at Glasgow University, and lectures on fish pathology and reproduction at Stirling University. In addition, they experienced the field of wildlife management and conservation activities at the National Park and Wildlife Park. On the other hand, 6 students from vet school of the University of Edinburgh were accepted at Hokkaido University, and they were given lectures and practical training both inside and outside the university, as well as attending and presenting at a symposium. In all cases, students from Hokkaido University were able to improve their English proficiency through exchanges with undergraduate students of the University of Edinburgh and both groups of students could experience different culture and customs between Hokkaido and Scotland.

Student Exchange Program with The University of Edinburgh

Based on inter-university and inter-department exchange agreements, we are promoting educational and research exchanges, mainly student exchanges between the vet schools of Hokkaido University (HU) and the University of Edinburgh (UE), and students practice lectures and training of veterinary medicine and conservation medicine through this program of veterinary education at each university. The goal is to foster undergraduate students with effective experiences through such a unique international veterinary education programme. In particular, it is a great advantage for HU students to experience the global standard-setting veterinary education practiced at the University of Edinburgh with international veterinary education accreditation by both Europe and the United States. Although HU and UE students have been dispatched and accepted every other year until 2017, this programme has been bilateral every year since 2018.



To The University of Edinburgh, from September 17 to September 27, 2019
 From The University of Edinburgh, from August 18 to August 27, 2019

At UE, HU students have experienced advanced and world-class veterinary education, as well as cross-cultural understanding through interaction with UE students, and English language improvement through conversation training. Specifically, clinic for exotic animals that are rarely touched in Japan, and clinical veterinary medicine and animal welfare studies of horses that differ greatly in the number of cases between Europe and Japan are a feature of this educational programme. This also includes husbandry management, animal welfare, wildlife conservation and management, as well as clinical pathology lectures and practice at the University of Glasgow, and lectures and practical training on fish farming and management at Stirling University.

On the other hand, at HU, students from vet school of UE have opportunities to learn ecology, management and conservation of wildlife that inhabit the rich natural environment of Hokkaido, and control of infectious diseases at nearby facilities. Specifically, clinical studies and husbandry management at Asahiya Zoo, ecological survey and wildlife management and conservation for brown bears,

deer, sea animals, raptors, and more in the field at Shiretoko Peninsula and Kushiro Shitsugen (wetland) Wildlife Center, and lectures and practical training of large animal clinics and husbandry management at Obihiro University of Agriculture and Veterinary Medicine and Japan Racing Association (JRA) Hidaka Farm. In addition, a symposium including research presentations by experts and young researchers is held over a day during the training period, and a student session is also provided for student presentations.

This program targets 3rd- to 5th-year students of HU vet school and 3rd- to 5th-year students of UE, and dispatches 6 students every year. The program is held at HU for 10 days at the end of August and at UE for 10 days at the end of September. "Advanced Seminar in Applied Veterinary Medicine" (elective, 1 credit) will be given to 5th-year students of HU, and "Long Term/Short Term Field Practice" (elective/mandatory, 2/1 credits) will be given to the 4th-year students of HU. This programme is also positioned as "Department-Specific Short Term Study Abroad" for Nitobe College students.

To The University of Edinburgh ①

Saori BABA (3rd year)

I want to report about the training in Edinburgh, which is one of IVEP(International Vet Exchange Program-Achieving Global Standards of Excellence in Veterinary Education-). Much of the training took place in Edinburgh, the capital of Scotland. I spent a fulfilling day to visit not only Edinburgh University but also Glasgow University, Stirling University, and highland on weekend.

The University of Edinburgh's veterinary school was 4-50 minutes away by bus from the city of Edinburgh. I was surprised to see a lot of facilities which aren't seen at Hokkaido University.

I practiced each day at Small animal hospital and equine hospital. Small animal hospital was much larger than that at Hokkaido University. Hospital rooms were subdivided into animal species such as dogs, cats, rabbits, and exotic animals. Cats and rabbits are about the same number there.

There are a lot of large cage because people in Scotland have not small dogs but large dogs. During the stay in Edinburgh, we often talk about dog species in our own countries. There are a lot of small dogs such as chihuahua and toy poodle in Japan. In contrast to, there are a lot of large dogs such as Labrador. I'm interested in the difference of pet dogs between countries. Certainly, I saw large dogs many times at small animal hospital in Edinburgh and Glasgow.

I visited Internal Medicine in the morning and Neurology in the afternoon. At first, I visited the round that final year students (5th grade) were doing. The first case I visited was a dog with a runny nose. The second case was a dog with about 3 centimeters of foreign body inside (surely in duodenum) . I watched an echo examination. After medical treatment and instruction to students, the teacher said to us "Would you like to try it?" I did echo examination for the first time in my life. It was too difficult for me to handle as expected, but it was so interesting. Everything I saw at small animal hospital was new and exiting to me.



Equine clinic

Equine clinic is a horse-specific facility. There are good facilities for horses. In the morning, final year students talked about their own horse's symptoms and what kind of treatment they had given. Teachers and students were shared that information. After that, I observed dental treatment. Final year students were practicing. They shaved equine's teeth to prevent him from hitting the cheeks and tongue. About 5 students in the final year were treating one horse, so there was enough time for one to actually treat the horse's teeth. When one was over, another one was brought in and the student's face changed. I felt envious that I could get a full-time training specializing in horses.

I visited Highland on the weekend. I did a bat demonstration at night. I used a bat detector to pick up the ultrasonic waves emitted by the bats and looked for bats around them. Even when I walked about 5 minutes from the facility where I stayed, the bat detector reacted and I could feel the location of the bat. However, the bats were not confirmed, so when they moved by car and went to an unpopular river, the bat detector reacted violently, confirming that several bats were flying.



Japanese monkeys and enrichment

In addition, we visited RZSS Highland Wildlife park and had a workshop to create enrichment. Enrichment helps animals live healthy lives, both mentally and physically, without getting tired of monotonous zoo life. The enrichment we made is intended for monkeys, and many of them were presented as ingredients. However, in order to prevent monkeys from accidentally eating, I couldn't use plastic or other artificial materials so that they can be digested when they are eaten. I was confused more than I expected. I was able to deepen my knowledge about the significance and importance of enrichment at this workshop.

There are a lot of things that I felt during this training, but the most memorable ones were the final year students I met on many occasions. It remains in my mind that everyone is speaking with confidence. For example, a student who speaks actively during the round of hospital visit, a student who explains to us what to do with the skull during dental treatment at equine clinic, and so on.

Although It was only 8 days of training, I could feel a lot of things that I could not experience in Japan, and every day was exciting. At the same time, I felt a lack of my English and expertise, which is enough to motivate my future studies. I would like to continue my studies with this regret.

Finally, I would like to thank all those involved in this training. I'm really thankful to you.

To The University of Edinburgh ②

Hiryu SAWAMURA (4th year)

This dispatch program to the University of Edinburgh mainly consists of 1) small animal and large animal clinical practice at RSVS, 2) wild animal science practice at Cairngorms, and highland, 3) small animal and large animal clinical practice at Glasgow Vet School, 4) aquaculture at Stirling University. Everything was a valuable experience, and it was a very important experience to understand what role veterinary medicine has for me and society. In this essay, I would like to write about small animal clinical practice at RSVS, and large animal clinical practice at Glasgow which were especially impressive for me.

RSVS small animal hospital was a large two-story building with rooms of many departments such as ICU, dermatology, oncology, surgery, neurology, cardiology, and imaging. Compared to the Animal Hospital of Hokkaido University which they perform blood sampling, TPR, etc. at the same place for both the internal medicine and surgery then take CT or echo or MRI at next room and go back to the first room to put in the cage so the flow line is centered around the central room, It was very different in RSVS small animal hospital. The clinical department is divided from the beginning, and they move long distance to go to a different department of a large two-story building. Not only the number of medical departments but also the number of workers was very large, and I felt that the

number of jobs per veterinarian was less than that of Hokkaido University, which may be better for education. There were also departments for exotic animals such as ferrets and rabbits which we don't have in the hospital. I participated dermatology practice in the morning and ICU practice afternoon. In dermatology, I saw a medical examination mixed with a hospital training for RSVS students. The examinations from the patients were basically performed by the students, and the



CT in RSVS



Department of exotic animals in RSVS

teachers assisted in the back. After completing the examination, teachers returned to the department and listened to the students' opinions about the case. Because there was enough time, practice went along teaching students slowly over each cases. After the clinic was over, there was a lesson about teacher's specialization, discussing with the students about the case, and this was the most difficult to follow in English.

Even if you can speak English at a reasonable speed and have enough English skills, you will not be able to keep up with what they talk unless you are familiar with the terminology that comes up from time to time. I realized a little bit of the difficulties I would face when trying to study veterinary medicine overseas. However, I felt that it was possible to overcome the problem by studying vocabulary and a positive attitude and it seems much easier to ask about anything you did not understand.

In the wildlife science practice at Cairngorms, we observed wildlife in Highland, cruised down the Spey river in a canoe, observed bat ecology, and toured the Highland wildlife park. Highland wildlife park is a zoo, but it was different from any zoo I've seen so far. The Highland life park was primarily concerned with breeding wildlife in need of protection



Wild cat in Highland wildlife park

in environments similar to the wild, with the aim of returning to the wild. While they just put animals in a narrow cage that animals cannot behave as they do in wildlife in Japanese zoo, they put a proper number of pairs or groups together on a proper space, which is too large to walk around and devised not to make animals stressful as wildlife as much as possible. For animals that originally live in the wild, their majority of life is for gaining food. The zoo does not need this. They just will be provided with appropriate food by just waiting. This makes the animals bored and being as bored as is stressful for animals as same as human is. As a result of the accumulation of such stress, it sometimes becomes abnormal behavior, such as occasionally at Japanese zoos, meaninglessly going back and forth in front of the fence, and it is difficult to cure it. In the Highland wildlife park, which aims to return to the wild, the way of feeding is devised, and they set the enrichment of some tools that animals can play with to avoid that. For example, in the python area, there is a button on the feeding area and when you press it, food comes out. In the polar bear area, there are both shade and water, so if they can select when in need to regulate body temperature.

In Glasgow, we examined the calf in the morning and slaughtered and pathologically dissected the same calf in the afternoon. A large number of calves and cattle judged to be unusable for production were collected from many farms and used for such practice. I thought that the experience of performing pathological dissection using animals that I had examined myself was extremely valuable. The calves examined had respiratory symptoms such as cough and discussed possible illnesses and treatments for students and teachers. As a result of pathological anatomy, a large infected lesion was found in the lung. In addition, I was able to see several organs immediately after pathological anatomy such as organs parasitized with pneumonia and liver fluke, necrotic organs, pathological anatomy of wild animals (birds) that died unnaturally.

Through this training, many students and teachers from RSVS, Glasgow, Stirling, and Hokkaido Univ. helped me and gave me a lot of experiences that I could never do in Japan. Thank you very much.

To The University of Edinburgh ③

Manami ITO (3rd year)

1, Outline of the tour

<Visit to the University of Edinburgh>

On the next day after arriving in Edinburgh, and on the afternoon of the day before leaving the UK, we visited the practical facilities, research facilities used at the University of Edinburgh, small animal and equine animal hospitals, and cattle farms. Unlike the facilities at Hokkaido University, it was impressive that there were many educational materials that could be picked up and used for self-study, and that handling skills were more important. The laboratory was



Part of learning materials in the self-study room

different from that in Japan, and I was surprised that all laboratories were shared. At the animal hospital, I felt that each student was actively participating in the treatment, in addition, that it was wonderful to be able to participate in one treatment over time rather than superficially. Overall, because the emphasis is different or more important than Japanese veterinary universities, I strongly felt that the facilities of the university were greatly different, and the students' awareness was also different accordingly.

<Practice on wildlife and zoo animals in Highland>

For three days from September 21, in Highland, further north of Edinburgh, we observed wildlife, learned



Monkeys playing with the created enrichment

about conservation activities, animal welfare in zoo, and created enrichments for zoo animals, and so on. In this tour, we could not observe wild animals very much, but I was very impressed with the natural scenery different from Japan. On the second night in Highland, we went to look for bats using a machine that senses ultrasound, and every night, we set up a camera with a sensor to try to take pictures of wild animals. It was a very fresh experience because I had never experienced it when I was in Japan. We also had a lecture about

Scottish Wildcat at RZSS Highland Wildlife Park. There were many things that I hadn't known so far, such as the difficulty of small felines conservation activity and the problems faced by Scottish Wildcat. In the lecture on animal welfare, my recognition was changed dramatically. I strongly felt that they didn't hesitate to spend time and effort and to change their behavior for animals and environment. That attitude will be clearly different from Japanese one.

<Visit to Glasgow University>

The day after we returned to Edinburgh from Highland, we went to Glasgow University, visited a small animal and equine hospital, and practical facilities of large animals. And we actually touched the cow and cabs and examined them, and we also observed the pathological anatomy of the cab diagnosed with the disease. At the small animal hospital, the rehabilitation facilities seemed to be substantial. The practice usually conducted at practical facilities of large animals was that students could actually observe the symptoms of sick large animals while caring for them. At Hokkaido University there were few practices using large animals, so I felt that it was a very good environment. In addition to the cab, the pathological anatomy was also performed for wild foxes and birds.

<Visit to Stirling University>

At the end of the tour, we visited Stirling University, had a lecture on Aquaculture, and toured the facilities. Japanese veterinarians are not expected to see fish, so we have never learned about fish and aquaculture so much. Because of that, many things were interesting for me.

2, Summery

There were two big impressions throughout the tour.

First, the facilities at the University of Edinburgh were excellent. There are a lot of self-study materials available to students, and I think it is great advantage that one university has practical training facilities and learning materials for both small and large animals. I also felt that these facilities and materials were one of the factors that motivated students to study. In Japan, it may be difficult to improve practical training facilities, but I think we can still improve learning materials.

Second, the consciousness of animals may be fundamentally different. I think that handling is important in class because they think the stress of animals at the time of medical care should be reduced as much as possible. I also think that they are very concerned about enrichment because they have the consciousness that it won't be a reason for animals to feel somewhat boring and suffering just because it takes time and effort. In Japan, I think we should think more about how to interact with animals in Japanese culture.

Also, from this experience, I realized that there are many things I still have to learn. I felt that the students of every university I visited made every effort to get the best from one class. I haven't been able to do so active in my daily lesson, so I think I would have to work hard every day. Not only that, I think I have to think more deeply about what happiness is for animals, and I have to learn, think, and act what kind of actions I should take for many people to think about that.

Lastly, the teachers and clerks who planned this very valuable experience this time, those who gave financial support, and the teachers who led the tour to be safe. I would like to express my sincere gratitude to you. Thank you very much.

To The University of Edinburgh ④

Nozomi SHIOHARA (4th year)

Day 1

On the first day, in the morning, we learned about the summary and history of the University of Edinburgh Veterinary Medicine and visited the campus. Regarding the facility, I was impressed by the extensive educational facilities that students can learn independently, such as Skills Lab. In the afternoon, we visited a pig and cow farm at the university. Both farms were large-scale and I was impressed with special attention to animal welfare.



At the veterinary school entrance

Day 2

On the second day, we visited a small animal hospital. My group toured internal medicine in the morning and neurology in the afternoon. The hospital was very specialized and there are many residents in each department, so the number of teachers was very substantial. After the resident went through the echo test, students also received guidance from the resident while doing the echo test themselves. It was very impressive that an education system was established so that students could participate in each examination.

Day 3

On the third day, we visited a equine hospital. Since there was no surgery on that day, we visited a case of dental disease and joint. In all cases, students were actively participating in the examination and treatment with the resident in charge, as in the case of the small animal hospital. After that, a clinical conference was held. The cases that each student was in charge of were announced, and all the students shared the cases. On the evening of the day, Edinburgh University's students held a welcome party and we could experience Scottish traditional dance, Ceilidh.

Day 4

On the fourth day, we moved to Highland. After that, we took a walk around the highland wildlife. There are many wild animals in the highland, and it was said that there are many wild animals such as deer, raptors, squirrels.

Day 5

On the fifth day, we experienced canoeing down the Spey River. While going down the river, I was able to meet many wild animals such as ospreys and pheasants. On this night we observed the wild bat ecosystem. We could actually listen to the bat's ultrasound using a device capable of receiving their ultrasonics. When we visited the river, we could see several bats capturing insects.



Canoeing in the Spey river

Day 6

Day 6 was the final day of Highland, and we went to Highland Wildlife Park. First, we learned about the Scottish Wildcat. This cat is a wild native species, but the population is currently decreasing. In this park, artificial breeding was used to prevent extinction, and we could see a lot of cats. In addition, many rare animals such as polar bears and bison were bred in an extremely close to wild environment, which was much larger than the zoo in Japan. This park also considered animal welfare and enrichment, and it was impressive that this park was trying to create an ideal environment for animals.

Day 7

On the seventh day we visited Glasgow University. We observed cows that were scheduled for pathological dissection. On this day, there were two calves with pneumonia and a cow with gastrointestinal disease, and we experienced physical examinations. In the afternoon, a pathological dissection of a calf was performed. Fibrosis occurred in the lungs, and it was confirmed that the color of some lungs changed clearly. Because we can learn from the state of the living body to the anatomical results in a series of steps, I felt that it was a very clinically meaningful educational system for learning the pathophysiology and clinical signs of the disease.

Day 8

8th day, we visited Stirling University. We learned mainly about fishing industry, aquaculture and fisheries research in Scotland. Currently, the demand for aquaculture is increasing on a global scale, and the role of veterinarians specializing in fish is important for fish health and research. On that night, students from Edinburgh University who came to Hokkaido University held a home party for us. It was a very good experience.

Throughout the program

Through this program, I was able to gain many valuable experiences that I could not get in Japan, such as communication in English, cross-cultural exchange, developed clinical veterinary medicine, wild zoology. Because I am interested in small animal clinics, the experience at the small animal hospital was particularly impressive. I would like to make use of this experience in my future student life.

Finally, I would like to thank all the people who helped this program, including the teachers who led us, local teachers such as Edinburgh University, and students from Edinburgh University who supported us every day...Thank you very much.



Interaction with Edinburgh University students

To The University of Edinburgh ⑤

Mari NAGAHARA (4th year)

My initial interest in the educational and research systems of world-standard veterinary departments peaked when I was able to witness the excellence through this program.

What impressed me the most was the engagement and the vocalness of the students in lectures at Edinburgh. Over the few times that I was given the chances to observe, I realized that every single student voiced their ideas in class, which contributed to the atmosphere of active communication. In one class where the topic was castration, students were to discuss the answer to the question presented by the professor. All students spoke freely without stopping to raise their hands, so there was a sense of unity that everyone in the class was participating. Because of my English level, I was not always able to understand what was being said, but it seemed that the professor's responses to the answers given by the students were humorous, which in turn encouraged positivity in class. One student told me that preparation was necessary to be able to answer questions for this style of lecture, and I felt that discussion classes are effective in solidifying knowledge among students. In addition to interactive classes such as these, there are classroom lectures just like I take in Hokkaido University, but the lectures are recorded and students can take them online without physically going to school. Although this system does look easy and convenient, it is workable only because the students at Edinburgh are responsible enough to become actively involved on their own. As for me, I have never been that driven, always concerned only about the tests I am about to take so that the purpose of studying is the short-term goal of getting through for the time being, so my attitude has always tended to be passive. The positiveness of the students at Edinburgh has encouraged me to take the initiative to study more actively in future.

Both the University of Edinburgh and the University of Glasgow place great emphasis on clinical education. I was able to visit the surprisingly well-developed veterinary facilities where students are able to observe real-time medical practice.

At the Edinburgh Vet School Equine Hospital, they had equipment such as MRI machines for the sole purpose of examining equine legs, bone scintigraphy machines to examine bone tumors and inflammation, and CT machines. They also had grounds for checking for lameness and an operating theatre that was a two-story structure, allowing surgeries to be performed on the first floor as onlookers observed from the second floor and communicated through a microphone. I had planned to observe one



Operating theatre for large animals

operation of a horse that had a damaged ligament on the forelimb, but unfortunately, the horse's condition worsened unexpectedly after anesthetics, so the owner requested euthanasia. I heard that this is very uncommon. The small animal hospital facility was just as large as the equine hospital and

provided everything from general care such as immunization to advanced medical care. About 80% of patients have insurance, so they can be inspected and treated without the owners worrying too much about money. The size of the hospital was not a problem, since flow was well-controlled, such as having two doors in opposite directions to allow staff to come and go smoothly. They also had places where patients could exercise outside, quarantine exercise areas for infected animals, and special areas for exotic animals. I thought this was all good for animal welfare.

At the University of Glasgow, we conducted a medical examination on three cows (one adult cow and two calves), provided for the purpose of necropsy by a general farmer. The cows were carefully observed to see if there were any abnormalities, body temperature was taken, body condition scores were assigned, and dehydration level was examined. Then, we checked breathing, heartbeat, and intervals between the rumen stirring the contents. I had never auscultated a cow, but the Glasgow students told me where to auscultate and informed me of normal values. The adult had diarrhea and wasting, and the calves' coughing led us to suspect pneumonia, but when the professor asked the possible causes of diarrhea and treatment for pneumonia, I was not able to answer and felt I had a lot of reviewing to do. The autopsy of the calves revealed that one calf's lung had many white egg-shaped caseous necrosis of about 5mm in diameter, which is a typical finding for mycoplasma pneumonia. I had done autopsies for pathology practice before, but this was my first autopsy after examining a live patient, so it was a refreshing experience.

The University of Edinburgh has a wide range of research facilities, so students who want to conduct research in addition to clinical training can utilize the Roslin Institute famous for Dolly the sheep. The Roslin Institute conducts research on genetics and infectious disease control. I was fortunate to be shown chickens actually glowing under black light, because they were introduced with GFP through the CRISPER system. This technology of genome editing seemed very fascinating.



The Roslin Institute

In addition to all of this, I visited the Edinburgh University facilities for pigs, dairy cows, and beef cattle, and at Highland learned about Scottish wildcat conservation activities and enrichment at zoos. I was given the opportunity to use an ultrasonic measuring device to look for bats, and ride a canoe on the Spey River which gave me the chance to enjoy Scotland's beautiful nature. At the University of Stirling, I heard about the current state of Scottish aquaculture and fisheries research.

Through this program, I learned about vet school environments within the UK and the attitudes of students who study there, and also realized that gaining new information requires English skills. I would like to use this knowledge that I acquired to further my education in the future.

Lastly but not least, I would like to thank the professors who allowed me to attend their lectures, my professors from Hokkaido University who introduced me to the program, my Edinburgh friends who took me out to dinner and sightseeing every day after school, and all others who participated in the program for this to become a success.

To The University of Edinburgh ⑥

Yu AMADA (3rd year)

I had never been abroad before going to Edinburgh for this study abroad. In other words, this program is the first overseas experience. At first, I had some uneasy feelings, but I applied for this program because I wanted to experience overseas life and environment, want to see the education and atmosphere of the veterinary school abroad, and to feel something different from Japan. As a result, after conducting English classes and a symposium with people from The University of Edinburgh.

At Edinburgh, I visited various places such as pig and cattle farms, small animal veterinary clinics, clinical practice of small animals, and equine veterinary clinics. In addition to Edinburgh, I went to Aviemore on weekends, played canoeing, and observed bats. And I went to Cairngorms National Park and made Japanese monkey playground equipment at Highland Wildlife Park. In addition, they explained the animal hospitals and farms at Glasgow University and explained about aquaculture in Scotland at Stirling University. Through these exercises, I was impressed with various things, but I would like to mention three of them that left a strong impression.

The first is the extensive facilities and education at the university. When I visited the campus, there was a rich library and a self-study space where I could see and touch skeletal specimens and feed. In addition, there are foot specimens with large animal disease on the farms, and I left that they were devised to make it easier for students to imagine. Also, on the educational side, I was surprised that classes that could not be taken because of illness or personal reasons can be seen on the video. In



Learning materials in The University of Edinburgh



Japanese macaques in Highland Wildlife Park

today's Japanese education, attendance is important, and if you are unable to attend, you will not be able to attend the class. Of course, it would be good if I could attend classes, but I felt that it was different from Japan in that it has a system that can complement it even if students don't attend, and respects independence.

Second, the idea of animal welfare is rooted. I once visited a company farms during my practice training and received

explanations about Animal Welfare. However, the farm tour in Edinburgh had more facilities for animal welfare. Highland Wildlife Park also used vast spaces and enrichment, which was considered for animal welfare. What impressed me was that there were shades and ponds in the polar bear area, and they gave the bear the option to lower their body temperature. Unlike the Japanese macaque area in Japan, there were lawns and a pond, and enrichment such as playground equipment was considered. Although I think there are advantages such as vast land in Scotland, I was able to realize that it is developing in terms of animal welfare rather than Japan.

The third is a class in which students and professor exchange opinions with each other at the university. In Japan, classes that are unilaterally explained by students and listened to by students, are common. However, in classes at The University of Edinburgh and Glasgow University, teachers asked questions and students answered. It was taught in the same way in the practical training. The contents of the lectures were technical and there were many parts that I could not understand, but it was very impressive that the classes progressed happily. In addition, it was a form of class that could not be done without knowledge, so I was able to feel strongly that the knowledge was in the students.

Through this training, I was able to learn about the living environment and education overseas in a short time. In addition, I was able to have a lot of experiences that I could not do in Japan. What's more, I was able to feel strongly what I lacked. For example, there is a lack of academic awareness, communication skills and English skills. This is my first time studying abroad, and I feel that it was very valuable to be able to have this experience as a student. At the same time, it was a good opportunity to recognize what is missing for me. So, I want to be aware of overcoming this in the future. I also gained more interest in overseas, so I would like to make use of this experience when I go abroad in the future.



Group photo

Lastly, I was very grateful for the students of Edinburgh who shared information, sightseeing, and meals with us during our study abroad, as well as the teachers who supported us while we were studying abroad, especially Neil and Rob. Everyone who supported us, was kind enough to have a great time. I wouldn't have been such a fun and fulfilling study abroad without your help. It was a short period of 10 days, but thank you very much for giving me this opportunity.

From The University of Edinburgh ⑦

Junyuan Ian Liang (4th year)

Being a huge fan of Japanese food, I was very excited when I found out I was offered a place for the 1-week exchange programme in Hokkaido University. It meant I could eat all the Japanese food I wanted, from sea urchin to tuna belly – the list goes on! I had previously been to Japan before, but only to Honshu island, never to Hokkaido, which was why I was excited.

More importantly, I had always wanted to know how studying in other vet schools were like, especially in a vet school outside of the UK. I was curious to see if there were any differences, whether the curriculum was similar, the facilities, the life of the students there. The first thing I noticed was the difference in male to female ratios in the UK and Japan. In the UK, male students were a rare breed – 90% of the students were girls. Whereas in Japan, there seemed to be more male students, which was very intriguing. However, one thing still remained the same – the insane workload every vet student has!

Upon our arrival, we were treated to a warm welcome party by the students and staff, and were fed platters of delicious sushi and got to take part in the Nagashi Somen. It was so much fun, I never knew you could eat and have so much fun at the same time. It was at the party that we also got to meet a lot of the students and staff of Hokkaido University. Speaking to them, I learnt that while the Undergraduate course was conducted in Japanese, the Graduate vet course was conducted in English and there were international students from all over the world who joined. I liked that as it meant that students could still come to Hokkaido University to become a vet even if they didn't understand Japanese. Had I known about this, perhaps I would have considered coming to Hokkaido University – great veterinary facilities, amazing food, friendly staff and students, sounds great!

Throughout the course of the next few days, Dr Toshio and our Japanese friends brought us about Hokkaido and gave us a glimpse into the life of vets in the different industries – farm animals, exotic animals, small animals, horses. It was eye-opening, to see how different Hokkaido was like compared to the UK. We were given a tour of the small animal hospital and also the Research Centre for Zoonosis Control and I was particularly impressed by the Research Centre for Zoonosis Control as well as the ongoing projects being conducted. The level of biosecurity and cleanliness was also something I felt was very impressive. We almost always had to change our shoes into slippers for most of the buildings we went into, sometimes even two times, to an even cleaner pair of slippers. That is definitely a good practice we can learn from.

We also got the chance to visit the Kushiro Institute for Raptor Biomedicine and were able to see the rehabilitation of injured raptors and also to learn about the different initiatives to reduce raptor injuries by traffic. The highlight of that visit had to be Chibi, the superstar Blakiston's Fish Owl – just look at his adorable face!

We were very happy and lucky to have been able to visit the different institutes and to learn about what they do – the JRA Hidaka Training and Research Centre and its research in race horses, the Shiretoko National Park and its bear and deer management, Obihiro University and its farm animal facilities. I have honestly learnt so much from this trip, and had the opportunity to peek into the

different veterinary industries of Hokkaido – all thanks to our hosts for bringing us around.



Chibi, a young Blakiston's fish owl in Kushiro-Shitsugen Wildlife Conservation center

I enjoyed myself so much this trip, we had delicious food and drinks every single night, comfortable hotels to stay in, onsens to pamper ourselves in. We have honestly been very spoilt and Hokkaido University has set the bar high for us. I can't express enough my gratitude to Hokkaido University, Dr Toshio Tsubota, Dr Ryo Nakao, my newfound friends Yuki Fukuda, Manami Ito, Mari Nagahara and Fumiya Koza, for bringing us about Hokkaido. I look forward to bringing you guys around when you visit Edinburgh!



A group photo of HU, UE and Shiretoko Nature Foundation members in Shiretoko National Park

From The University of Edinburgh ⑧

Kaitlyn Waidley (4th year)

I am so thankful that I was able to participate in the Hokkaido/Edinburgh 2019 exchange. During my experience I meet so many new people and learned a lot about Japanese culture and veterinary medicine about different species around Hokkaido. At Hokkaido University, I was really impressed with the small animal hospital. It was great to get a tour of the facilities, learn about what treatment the hospital offers, and get a little lesson the micro bubbles used for determining malignant and benign masses via x-ray. I learned a lot about the different departments and research being conducted at the CZC. It was great to hear that the CZC is working on a cheap test for TB in humans to help with diagnosis and early treatment.

The conference on the second day was a really nice way to learn more about Japanese culture and research. I liked how the conference was centered on large animal medicine because I learned a lot about multiple efforts to improve animal and human health in Japan and Africa. One of my favorite experiences was learning about the bear and deer population in Hokkaido. It was really interesting to learn about how rangers work really hard to not only educate the public about the brown bear, but also do a lot to protect them. It was great to learn about the overpopulation of deer in Hokkaido the extinction of the wolf has really had an impact in the disruption in the natural balance.

I enjoyed the day where we got to necropsy a deer. It was great run through a necropsy and learned more about what hunters are looking for when they are inspecting the carcass for human consumption. It was nice to practice my skills when it comes to post mortems since it is a skill that is required of vets to perform in general. I appreciate having this opportunity since we have a lecture on post mortems in Edinburgh, but do not really get to perform one until our final year. So it was nice to run through a necropsy before final year and now I have more confidence in my abilities.

It was nice to see and get a tour of the Obihiro University of Agriculture and Veterinary Medicine. I really liked how the university lecture theater allows for large animals to enter the room in order to learn about anatomy. I also thought that the viewing platform for surgeries being apart of the lecture theater was a great idea. I enjoyed viewing the large animal hospital along with touring the dairy farm. I originally thought that the dairy industry would be slightly different in Japan, but in reality the housing system and general organization of the farm is very similar to the United Kingdom.

Overall, I had a great time on the exchange. Hokkaido University in general is a nice school and I like how there is corporation between the CZC and Obihiro University. All the students was more than welcoming and I enjoyed learning about what being a student in Japan involved. I learned so much on this exchange like new and ongoing research, skills and techniques, wildlife conservation, culture, and much more that I hope to take with me moving forward in my veterinary career.

The study tour for Edinburgh vet students in 2019

Date	Content
18-Aug	Arriving at Sapporo
19-Aug	9:00 Guidance, 10:00 CZC & 14:00 Animal Hospital visit
20-Aug	10:00 Conference: Bovine medecine, 17:30 Welcome party
21-Aug	12:00-15:30 Asahiyama zoo visit
22-Aug	13:30-16:30 Study on bear and deer management
23-Aug	14:00-17:00 Marine mammals and birds watching 9:00-12:00, Hunting & Necropsy
24-Aug	13:00-15:00 Kushiro Wildlife Conservation Center visit
25-Aug	9:00-12:00 Large animal clinic practice in Obihiro University
26-Aug	9:00-12:00 JRA Race Horse Farm: Horse clinic practice
27-Aug	Leaving Sapporo



From The University of Edinburgh

⑨

Hohin Fung (4th year)

I'd have always heard about this annual exchange programme between Hokkaido University and The University of Edinburgh since I have started my veterinary studies back in 2017. My friend Aimee took part in the exchange last year and I heard a lot of good things from her. This year, I was lucky enough to be one of the six Dick Vets to take part in the exchange. Needless to say I have really enjoyed my time in Sapporo and the exchange totally lived up to my expectations, if not more impressive than what I was expecting!

The exchange started off with a tour around the Veterinary Teaching Hospital, as one would



A group photo of HU and UE members in front of the Animal Teaching Hospital, Hokkaido University

anticipate from a veterinary exchange! We were all very impressed by the sleek design of the Hospital. We also spent some time at the Research Centre for Zoonosis Control to learn about the mission and current research that are taking place at the institute. I am glad to have visited the CZC as the concept of One Health is getting more important than ever, but it is constantly being overlooked by us undergraduate vet students.



A group of HU members during cruising for marine animal watching

The conference that took place on the second day of the exchange was stimulating. It was interesting to learn from Hirohisa and Rob's presentation that Japan and Cameroon are facing very different challenges with controlling infectious diseases in cattle. There was a great mix of presentation topics amongst the students too, ranging from Kathleen's life as an international student at the Dick Vet, to Nozomi telling us about Japanese dog breeds. The conference would not have been so enjoyable without the freedom on presentation topic selection. I also really enjoyed speaking in a relaxed atmosphere. We were joking that now we all have international speaking experience!

As much as I have enjoyed the academic aspects, needless to say our time going around Hokkaido learning about Japanese wildlife and livestock was the real highlight of the exchange! It is hard to pick a favorite, but if I really have to, our visit to the Shiretoko Nature Foundation would be it! It was impressive to learn how dedicated they are at educating the public on keeping wildlife wild. Though it was a shame that I could not spot the bear while we were on the cruise. Can you believe it? Everybody saw it but me!

The itinerary was really well scheduled with some awesome activities, but the Japanese culture and the people that were involved were what really made the trip. The Japanese cuisine has always been my favorite. The food we had not only did it not disappoint - it totally took it to the next level! The Japanese students also taught me a lot about Japanese cuisine that I did not know of before. I also love how snacks were so wildly available from convenient stores and they were very affordable. I am holding onto the last few matcha KitKat as I am writing this and questioning myself why did I even move to Scotland... There isn't anything nice to eat here...

Hokkaido is a popular holiday destination. However, I certainly would not have been able to experience any of the above if I were to visit Hokkaido myself. Thank you so much to Hokkaido University for the top-class hospitality while we were in Japan. It was a pleasure to be involved in such a precious and unforgettable experience. We hope that you have enjoyed your time in Scotland too and we hope to see everyone again!



From The University of Edinburgh

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Kathleen Hu (4th year)

This summer, I took part in the exchange program with Hokkaido University School of Veterinary Medicine as a student from the University of Edinburgh. This is a 8 day learning trip across the area of Hokkaido, Japan, covering topics including veterinary medicine in Japan, as well as the environmental and conservational aspects of the beautiful prefecture.

In the first three days, we based mainly in Sapporo and the vet school in the university itself. We were given a tour over the small animal hospital and the research center of zoonosis control. The part I liked the most was Dr. Morishita's clinical research topic on the usage of microbubbles in contrast enhanced ultrasonography for the diagnosing of malignant hepatic masses. I thought the accuracy of this method is very promising, thus giving it great potential in future developments, which I think is not limited to diagnostic applications.

We were also invited to a welcome party held by the students themselves, it was so much fun! They introduced us warmly to some amazing Japanese cultures, including very tasty food, and other cool activities like nagashi soumen, suika wari and hanabi! I have always wanted to try out these things, and everything turned out even better with all the good people around me.

For the rest of the journey, we travelled in a coach bus around the main nature attractions through the island of Hokkaido. I feel that if I were to come to Hokkaido and travel on my own, I would never have been able to do what we did. Hokkaido is a very big place, and it would be extremely hard to get around without driving on your own. Thus, this is such an amazing opportunity and I feel very lucky to be a part of it.



Visiting the horse surgery theater at Obihiro University

Places we visited include the very famous Asahiyama zoo, Shiretoko Nature Foundation, Shibetsu and Rausu town, and Kushiro wildlife center. We also had a chance to go see the JRA horse farm and clinic, as well as Obihiro University, which is very strong with large animals and agriculture.

We had experts teach us about the conservation and management of bears and deer, as well as salmon and aquaculture, raptors and racing horses. We were given a very holistic guide through the wildlife environment in Hokkaido. The part that I was most interested about is the conservation and rescuing of the bears. The concept of a wildlife vet is very different from those of companion animals. Not only do they have to understand the physiology and anatomy of the animals, but a comprehensive



Oceanic sunset at the seashores of Shiretoko

knowledge base of the ecosystem is also needed, alongside with the cross interaction of the species with human activities. From my understanding, education is a very important and irreplaceable responsibility of a veterinarian, and I feel that is especially so in the role of a wildlife vet.



Everyone at Shiretoko Rensan mountains
Photo credit: Professor Toshio Tsubota

The best part about this trip is for sure the people who we were with for the whole time. Professor Tsubota and Professor Nakao lead the trip and organized the scheduling, as well as answering all of our questions regarding the things we saw and learned. Our fellow students from the Hokkaido University was the greatest! They were with us for the entire trip and guided us to experience Hokkaido in its best. We have had so much fun and we really cannot do without their effort! Thanks to all the people who took part in making this visit such an unforgettable experience.

Sarah O'Mahony (4th year)

During the Hokkaido exchange, I learnt a great deal about veterinary medicine in Japan. On a tour of the small animal hospital, we learnt about research involving contrast-enhanced ultrasonography in the diagnosis of canine hepatic disorders. We also discovered the difference in caseload between the UK and Japan. In Japan for instance, most clients own small dog breeds; the most popular breeds include corgis, dachshunds, Shiba's and toy poodles. The conditions these breeds are predisposed to (for example, intervertebral disk disease in dachshunds) make up most of the cases seen at the hospital. On our third day we visited Asahiyama Zoo and met one of the zoo's veterinarians. He explained how they have begun training certain animals to undergo health checks and receive treatment, to avoid sedating or anaesthetizing the animals where possible. We also discussed the difficulties of keeping large wildlife species in captivity; for example, the giraffes are housed in a concrete building since it is very easy to clean, however the concrete floor has led to the development of foot problems in these animals.

During our visit to Shiretoko Peninsula, we learnt about the complexities of bear and deer management in the national park. I was surprised to discover the similarities in deer management between Scotland and Hokkaido. Both regions are dealing with an overpopulation of deer, however



Cruising for marine animal watching

they use contrasting techniques to tackle the problem. In Hokkaido, deer are captured at the edge of the national park. The animals are then transported to a farm nearby, where they are kept in a large group, before being slaughtered for venison. In contrast, deer management in Scotland consists of: population counts; team culling; stalking and deer fencing. The park rangers also taught us about bear management in the park, which involved dealing with potential human-bear conflict.

For instance, the park installed an electric fence around the perimeter of the nearest town. The fence stops the bears accessing human food and prevents the bears from attacking humans. The park department has also implemented a no-littering, no-feeding campaign, the goal of which is to avoid bears eating any human food. If they eat human food, the bears develop a taste for more, which risks them encountering and attacking humans, so rangers must cull any bears seen eating human foods.

On the fifth day, we visited a salmon museum where we observed a salmon dissection. I was surprised to discover the size of the male's reproductive organs, which were much bigger than I expected. It was also interesting to learn about endangered aquatic species in Hokkaido, such as the sturgeon. Later in the day, we also got involved in a deer necropsy. This was my first experience

carrying out a post mortem, and it was great to practice on such a large species. We identified the organs of the gastrointestinal system and studied the carcass for any signs of gross pathology.

The following day, we visited the Kushiro-Shitsugen Wildlife Center, which specializes in raptor rehabilitation. I learnt a great deal here, especially about threats to the conservation of three principal raptor species at the center: Steller's sea eagle, White-tailed eagle and Blackiston's fish owl. We learnt that the primarily threat to these birds is collision with vehicles or trains. Alongside rehabilitating injured birds, the wildlife center plays a significant role in tackling these threats. For example, they have developed poles to be placed along busy roads and bridges to prevent raptors accessing the road where they often scavenge on roadkill. We also learnt that the rehabilitation process at the center consists of several stages, each featuring a different enclosure. This program is designed to teach the birds to hunt for live prey and develop their musculature to enable them to fly for a sustained period. This is crucial for release, since the birds must be able to complete the migration between Hokkaido and the southern tip of Russia.



A souvenir photo on a seal picture board

Throughout our trip, we saw many different parts of Hokkaido: vibrant cities Sapporo and Obihiro; beautiful national parks and coastal communities in and around Shiretoko Peninsula; wetland areas in Kushiro; and finally, mountainous landscapes along the southern coast. My impression of Hokkaido University was overwhelmingly positive due to the friendly and hospitable staff and students, and the excellent, purpose-built facilities. I also appreciated the university's dedication to collaboration: both within the university and with schools nationally and internationally. With regards to the veterinary school and veterinary education, I was surprised to learn that there is no exotic species or wildlife teaching included in the curriculum, so if students are interested in these topics they must study in their own time or attend extracurricular activities. Overall, I had a great time exploring Hokkaido, learning about the fascinating wildlife of the island, and experiencing brilliant Japanese culture. I would love to return in the future, and experience more that the people and the island have to offer!

From The University of Edinburgh

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Trey Cavoto (4th year)

During my time with Hokkaido university I was pleasantly surprised to find a mixture of both familiar and foreign ideas and experiences. I was exposed to new foods, new places, and new ways of dealing with familiar problems, and some problems that were not so familiar. Some of my favorite events from the exchange were the student/staff conference, the salmon museum visit, the traditional Japanese meals, the convenience stores, and our time spent on the Shiretoko Peninsula, as well as of course all the time spent getting to know our new Japanese friends.

At the beginning of our exchange we all got to take part in the staff student conference. Each member of the conference prepared a presentation on a topic of their choice and shared their thoughts with the rest of those in attendance. Some presentations that stood out to me were the talks on Japanese animation culture, Japanese dog breeds, Japanese wildlife, and the upcoming Japanese hosted Olympics. The information that stood out to me the most was the origin of the name Someity. I thought it was a very clever and meaningful name given to the mascot for the Paralympics. I also thought it was interesting to learn that the Japanese native horse is one of the only animals on earth to naturally amble as a form of locomotion, and I thought it was funny to learn about the “shiba scream”. Also, after learning that spirited away was the highest grossing anime film of all time, I decided I had to watch it. It was very enjoyable.

As a passionate fisherman, I took a great interest in the salmon museum. There we got to take a guided tour by the museums manager and see many living specimens of different species of salmon and trout at different stages of their life cycle. All of which were living happily in their large well decorated tanks. There were not only salmon, but different species of freshwater fish such as sturgeon and catfish as well. At one point in our visit we were treated to a salmon dissection in which a specimen was quickly and skillfully dismembered so that we could examine the different parts of the anatomy. The most interesting lessons here for me where being able to hold the lens of a salmon’s eye and being shown that the strip of red gelatinous material running along the salmon’s spine, between the abdominal cavity and the body wall, is actually the salmon’s kidney. In my experience as a fisherman I always believed this to simply be congealed blood. Of course, it was also novel to have the opportunity to touch and examine living sturgeon as they swam around their tank.

Each night during the exchange we were treated to the most delicious traditional Japanese meals. Each containing many small portions of different seafoods, rice, and vegetables. Perhaps the most foreign to me was the concept of raw shrimp. I had never had a raw shrimp until my visit to Hokkaido and I found its texture to be interesting. Once dipped in soy sauce and the head and tail are removed, they are delicious. I was also shocked at the extreme sour flavor of the pickled plum. This was just as sour, if not more so, than any sour candy I have had. It was definitely something to eat in small bites. Of course, the sushi and sashimi that we were treated to at each meal were delicious as well, those are my favorites. Lastly, I very much enjoyed the night where we got to cook our own tempura. I have never had this opportunity before and I enjoyed seeing the consistency of the batter that is used to make this delicious treat.

Some time into the exchange we made our way to the Shiretoko peninsula where we enjoyed a talk

on bear and deer management, received a guided walk through the bear reserve, and were shown a functioning sika deer trap. I found it both interesting and menacing to learn that the entire town situated on the peninsula is surrounded by an electric fence. The purpose of this fence is to keep out the massive number of bears that live in the area. If I remember correctly, the park has the highest population density of brown bears on earth. There are so many bears that we were lucky enough to see one on the shore as we took a boat cruise around the peninsula. There were also numerous deer that could readily be spotted from the bus at the side of most roads. This finding made it apparent as to why the deer traps are necessary. The deer on the peninsula are overpopulated and their numbers must be managed.

Compared to the convenience stores in Scotland, the Japanese convenience stores seem like a utopia. I must have spent 30 minutes in the first Lawsons that I entered in Sapporo. There were so many new things lining every corner and wall. The prepared meals were very unique compared to the ones you can find in Scotland. In my opinion the options are much more flavorful, diverse, and numerous. The chip sections were also full of new flavors that I have never tried, some of which being instant noodle flavored rice crackers, pizza, cheeseburger, and wasabi flavored potato chips, and dried squid strips that were covered in fried batter. The squid strips were my favorite. Overall however, my favorite convenience store item in Japan, without question, was the Oi Ocha roasted green tea. This was such a new and amazing flavor to me that I instantly became addicted to it. Since returning to Scotland I now keep roasted green tea bags in my home.

It also goes without saying that this trip would have been nowhere near as enjoyable if it had not been for the amazing generosity and hospitality of our hosts and travel companions. Mari, Fumiya, Manami, Yuki, and Toshio took world class care of us during our visit acting as translators and coordinators, and by the end of the trip I am happy to be able to call each of them my friend. Not only did they teach us about life as a Japanese vet student but they taught us about life in Japan in general. To me this was the most valuable part of the exchange. Getting to see a small glimpse of a very different part of the world through the eyes of someone living in it in a similar situation to my own. For this I cannot thank them enough.

