Report

Scientific Trip
11.07.10-18.07.10

École polytechnique fédérale de Lausanne
School of Life sciences and Technology
Bachelor trip
The purpose of this trip was to gain insight into educational and scientific opportunities in Japan and to discover new cultural and societal values. Japan is a world leader in biomedicine, biotechnology and scientific research in the life sciences. This destination therefore gave us the opportunity to visit top scientific research institutes in our field. Furthermore, the FSV-student international trip provided unique opportunities to present Switzerland to Japan. In planning and executing this trip, the students provided a representation of the next generation of Swiss scientists and entrepreneurs, as well as a window onto the scientific landscape in Switzerland.

In addition to providing the EPFL (Ecole Polytechnique Fédérale de Lausanne) students with cultural, scientific and professional experiences, the interactions and the exchange of information and ideas that took place among the Japanese and Swiss students significantly contributed towards enhancing the cultural and educational relationships between Switzerland and Japan.

During this trip, the students visited leading academic institutions and research centers, and also met scientists and business leaders of various bio-industries. Meetings with students from the host country were organized around activities that aimed to facilitate and stimulate discussions on topics of mutual interest to all students.

At each visit, EPFL professors or students delivered brief presentations on the Swiss educational experience and some of their research activities. The entire class of 2010, without exception, demonstrated strong commitment and dedication in the planning, organization and fundraising activities. A realistic plan was developed and our fundraising campaign was initiated in May 2009. In addition, we were fortunate to have the full support of our faculty, the school, their networks and the Swiss Embassy in Tokyo. (See list of partners on p. 17)

These joint efforts and collaborations among the students, the faculty and the school reflect the team spirit of the class and our faculty and have been a source of empowerment, pride and inspiration for the entire class.

More than 60 students participated in the program. A committee was therefore set up to plan and organize all aspects of the trip including fundraising events and activities, hotel and airline reservations and program preparation. Members of the life sciences faculty supervised the organization, providing us with useful contacts and helping us with fundraising. Scientific counselors and members of the Swiss Embassy in Japan were also highly involved in making this trip a total success.
## Program overview

11.07.10 to 18.07.10

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After a first night in the metropolis and a Japanese breakfast, the whole class started the adventure in the Tokyo metro. One hour later, and with no one getting lost, the sixty-six people arrived at the Tokyo Institute of Technology. A warm welcome at the train station from a few Japanese students further enhanced our first impression of Japan as a country of kindness. A short walk, some interesting discussions and suddenly we were in the middle of the Campus. Huge skyscrapers lost in the middle of a forest: what an idyllic place to study.

We were then conducted to the Suzukakedai Hall for a typical Japanese lunch in boxes and had the opportunity to exchange our initial feelings with the Japanese students that came to meet us. About an hour later, we were gently conducted to a conference room for the welcoming remarks by the Dean. Afterwards, we were offered a very interesting presentation about the Tokyo Institute of Technology and its different faculties. The EPFL team then took over, with the presentation of the school by Dr. Sidjanski.

We then moved to a more relaxed atmosphere and started the students’ presentations. Our Japanese counterparts initiated the dialog on a very funny note. Indeed, the Japanese students shared their experiences of Switzerland and typical characteristics that they had experienced during their various internships in our country. We also had the opportunity to discover the point of view of a foreign student studying in Japan. We personally finished the presentations by exposing our work, motivation and expectations regarding our study trip. Finally, the Swiss group was split into eight smaller groups in order to make the visits more efficient and interactive. We had the chance to discover the Japanese facilities of different labs, the institute museum, as well as the breathtaking view from the top of the highest building.
On our third day in the country, half of the class had the opportunity to travel to the lovely city of Yokohama, in the southern part of Tokyo. We spent the afternoon in the Riken Yokohama Institute. Our visit started with a brief introduction of the Institute and its activities. We were then conducted through the bioinformatics and systems engineering division, where we had a very encouraging talk about the emergence and importance of bioinformatics in the field of Life Sciences. Shortly thereafter we were granted the chance to see some of the world’s largest NMR facilities. This last part of the visit was really the most striking for the students, as they were all very impressed by the incredible resources Japan has to offer in terms of scientific excellence.

This visit was also full of little amusing details such as being able to see some very famous plants, such as a direct descendant of the Darwin tree. After the visit, many of the students took the opportunity to discover the charm of the Yokohama port area as well as the largest Chinatown in Japan. Through these different activities, the underlying goal of the study trip was little by little achieved: Allowing the students to experience both a scientific and cultural change.
After a long metro trip, half of the class finally arrived in front of the Mitsubishi Chemical buildings, where the representatives were waiting for us. Then, the group was taken to the conference room, with the view of the beautiful green lawn around the facilities. The talk was based on the presentation of the industry and lasted about thirty minutes.

All the presenters were dressed in exactly the same way, which was amusing for the students and allowed them to experience a bit of Japanese rigor. Half of the class was then divided into smaller subgroups and taken through the six steps of the laboratory visit.

The highlight there was the exhibition of several new technologies that are currently being developed within Mitsubishi Chemical. Examples go from curved LED television to biodegradable plastic. The students were delighted to get an overview of technologies that were not necessarily to be applied to pharmaceutical sciences. Finally, everyone gathered around an amazing buffet, which enabled the students to meet with researchers from the company. The day was then closed with a feedback and comments session.
Early in the morning on the 15th of July, half of the students travelled on the Chuo and Chuo Sobu lines towards the Keio University School of Medicine. After a very kind welcome at the train station by three students, we were introduced to the university and the School of Medicine by the dean and attended presentations on traditional Japanese medicine (Kampo). This provided us with a brand new perspective on Science in Japan, which made a wonderful impression on the students. Shortly thereafter, we were given a talk about living and studying in Tokyo from an Austrian exchange student. Following a ten minute break we were then split into smaller groups to start the laboratory tours. We were introduced to current research in Human Metabolomic Systems Biology as well as in Stem-Cell Medicine. Therefore, the students were delighted to see a direct application of some of the courses they attended during their undergraduate education. The morning ended with a visit of the Hospital and its library. The highlight of this last part of the visit was the demonstration in the Clinical Simulation Lab, where we observed “live” operation simulation. After the visit, we attended a student gathering and had lunch. The Keio students were really open-minded and we exchanged our points of view on Switzerland, Japan, our studies and our lives.
Upon arriving at the university, the students were very impressed by the architecture and beauty of the University entrance. This feeling remained constant throughout the day as we cruised through the different buildings. The day started with some presentations, with a special focus on exchange students and the different programs that the university offers. The students had the chance to see one of what used to be the biggest type of microscope, different lab disposals, and also a breathtaking view of Tokyo from its highest building. This visit was of great interest for the students, since they were able to experience a more international campus and get a concrete view of the exchange possibilities that were available. This feeling was further enhanced by the meetings and interesting discussions we had with the Japanese students that guided us throughout the day.
At the end of the week, we attended our last visit. We were invited by Chugai to visit their facilities located in beautiful Kamakura. During our journey, we had the opportunity to use one of the famous Japanese monorails to the delight of the students. The Swiss teams as well as Dr. Felix Moesner, from the Science and Technology Office of the Swiss Embassy, were then escorted to the conference room for lunch. During the meal, different aspects of the company were presented to us by some of its finest researchers. Human resources and the position of Chugai among the Japanese pharmaceutical industry landscape were first discussed. We then covered many aspects of their current ongoing research, such as diabetes or oncology for instance. We concluded the meeting with very positive feedback from the Swiss students who were happy to get some insight into the industrial pharmaceutical world of Japan.
Located in the Wako area of the city, this Institute welcomed us in the morning of our very last day of visits. First, the Institute’s current research activities were presented to us with a concrete example of a computational neuron statistical model. Then the students were taken through the different doctoral students’ offices where they exchanged points of view concerning research in Japan.

Two hours later, we had lunch with some researchers. The afternoon was focused on discussions and interaction with different people from the Riken. The day ended with a visit of a small museum presenting optical illusions and the history of brain research. This allowed the students to finish their visit on a very amusing, interactive and teaching oriented note.
Reception at the Embassy
Friday 15th July

Following our morning and afternoon visits, the sixty-six people from the EPFL gathered at the Swiss Embassy Residence. The Chargée d’Affaires for Switzerland, Mrs. Gram, as well as the scientific officer, Dr. Moesner, kindly invited us to a sumptuous reception. After an impressive introduction by Mrs. Gram and Dr. Moesner, Prof. Lashuel along with three students gave a talk about the EPFL and the students’ feedback and impressions of their week in Tokyo. The students, all elegantly dressed, spent the evening discussing their impressions of the week and started to build a network with the Japanese representatives of the Universities, Institutes and Industries we visited. The feedback from both sides was very positive and encouraging, and it allowed us to end this intensive week on a very international and career oriented note.
Tokyo City

In addition to the scientific side of our week in Tokyo, we wanted to allow the students to experience a cultural and lifestyle change for a week by allocating them with free time to visit the city. Everyone had the chance to explore the megalopolis according to their desires, which took people to areas such as Ginza, Shinjuku, Shibuya, Uneno or to sights going from the early fish market to dinners at traditional restaurants. Everyone was able to fulfill both their scientific and personal interests, which was, in the end, the aim of this trip.
As the organized week came to an end, most of the students were planning their personal trips. As the week we organized was in the summer holidays, more than eighty per cent of the students decided to extend their stay in Japan for a few weeks more. Small groups of people or individual travelers then split up into various directions that led them towards Kyoto, Hiroshima, Sapporo or Mount Fuji among others. Many were impressed by the Japanese punctuality and hospitality, others felt relaxed when visiting the beauty of the many temples Japan has to offer and in the end, everyone came back to Switzerland with wonderful memories about the country where tradition meets modernity in a subtle and delightful way.
Au cœur de la culture nippone

DÉCOUVERTE : Pour la cinquième année consécutive, les 3e années de bachelors en Sciences et technologies du vivant ont organisé un voyage d’études dans le but d’élargir les horizons scientifiques et culturels. En voici le récit ...

Les volées précédentes ont choisi la Suède, l’Inde, la Chine ou encore Singapour. Cette année, le Japon a été désigné comme destination favorite.

En effet, l’excellence scientifique en matière de biotechnologie, bioingénierie et sciences du vivant, ainsi que le dépaysement culturel ont été des facteurs déterminants.

Un comité d’étudiants supervisé par le prof. Hilal Lashuel et le Dr Sacha Sidjanski (membres de la faculté SV) a permis de mettre sur pied ce projet dont l’organisation s’est étalée sur plus d’une année. Une collaboration avec l’Ambassade suisse au Japon, les affaires internationales et des professeurs de l’EPFL a permis d’établir des liens entre la Suisse et le Japon. Ainsi, ces démarches ont amené à dresser un programme comprenant des visites prévues sur 4 jours. Au programme : Tokyo Institute of Technology (TIT), Keio University, Tokyo University, Riken Yokohama, Riken Brain Science Institute, Mitsubishi Chemical et Chugai. Des domaines aussi variés que la biotechnologie, la bioingénierie, la neuroscience ou encore la médecine ont pu être découverts dans un cadre japonais. Des technologies de pointes, telles que le plus grand centre de résonance magnétique nucléaire (RMN) du monde au Riken Yokohama, le microscope électronique à haut voltage de Tokyo University, ainsi que le projet de plastique biodégradable présenté par Mitsubishi Chemical ont principalement marqué les visites. De plus, il a été possible de découvrir un nouvel aspect de la médecine traditionnelle – la médecine Kampo, basée sur les herbes – qui a été introduite lors de la visite à Keio.

Ce voyage a non seulement renforcé les liens entre l’EPFL et le monde académique et industriel japonais, mais a également permis de plonger au cœur de la culture nippone. L’extravagance de Tokyo mêlée au charme de Kyoto caractérise ce pays de contrastes. Pendant le temps libre, l’énergie des étudiants a été dépensée dans les quartiers fous de Tokyo - Shibuya, Shinjuku - débordants de vie ainsi que dans les visites de temples et jardins traditionnels. Certains, prolongeant leur voyage, se sont aventurez vers le nord sauvage dans la préfecture d’Hokkaido, d’autres ont préféré s’instruire sur l’histoire d’Hiroshima et les plus courageux se sont adonnés à la montée du Mont Fuji.

Quoi qu’il en soit, ce voyage a été très enrichissant tant au niveau scientifique que culturel et doit son succès à la motivation de chaque étudiant, ainsi qu’au grand engagement des superviseurs et collaborateurs.

Le flambeau est maintenant passé à la volée suivante qui aura la chance de découvrir un autre coin du monde...

Déborah Heintze,
Léonie Asboth,
SV-MA 1

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