

ELyT School in Lyon 2011

The International Associated Laboratory ELYT-lab was created in 2008. It has contributed to the promotion of scientific collaboration between laboratories in Lyon and Tohoku University. This has culminated in scientific projects, publications, workshops, and joint PhD thesis. In parallel with these activities the ELYT lab wanted, from the very beginning, to add a significant educational component to its field of action, with help from academic exchange programs, such as Master level double degrees from Tohoku University and INSA Lyon or the Ecole Centrale de Lyon (ECL). One of the keys to developing a long-term partnership between France and Japan is to attract students and convince them to spend long periods in the partner country (18 months for the Master double degree, and 1.5 / 3 years for a doctoral thesis). Typically, students start off with no prior knowledge of the country. For this reason, it was decided to expand the collaboration within ELYT-Lab between Lyon and Tohoku, to the organisation of short-term scientific schools dedicated to engineering and PhD students. The project aims to provide an opportunity for young Japanese and French students to take part in the scientific activities of the ELYT-Lab, but also to have a first contact with the partner country.

"ELyT School" is held alternately in Japan and France with the support of the founding institutions of ELYT Lab, as well as the Rhone Alpes region, the Ministry of Higher Education and Research in France, and the Global Centers of Excellence of the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). The first two schools, held in September 2009 in Lyon and in October 2010 in Sendai, were very successful. Each time a group of twenty students, accompanied by some faculty members, go to the partner country for ten days.



Visit to the City Hall

The third edition of the ELYT School was held from the 4th to the 14th of September 2011 in Lyon with the visit of 30 students (20 PhD and 10 Master students) accompanied by four professors from Tohoku University. These students came from disciplines such as mechanics, physics, materials, geology, biomedicine, aerospace, environment, and electronics. For most of them, it was their first experience in Europe and France. In addition to the Japanese students, eight students from INSA Lyon were selected for the first time to participate in ELYT School. This greatly enhanced the interaction between students from both countries during these 10 days. In addition to fully participating in the programme, the students from Lyon helped with the logistics of organising the school. They will be future ambassadors for ELYT School, and are highly motivated to participate in academic exchange programmes as well as a future edition of the programme in Sendai.

This programme of 10 days was devoted to both scientific and cultural aspects, including also the participation of some of the laboratories on the campus. Most of ELYT School was based on presentations made by French or Japanese professors (13 in total). Their themes were chosen in order to cover the broad spectrum of origin of the students. For example, "New Materials and Their Processes" (Prof. Takashi Goto), "3D Nanoelectronics: from technology to heterogeneous information technology" (Prof. Kader Souif). In addition, two conferences related to the drama of Fukushima particularly interested the students; "Future Energy Strategy and Fukushima Events" (Prof. Tetsuo Shoji) and "Accidents and Countermeasures for Fukushima Dai-ichi Nuclear Power Plants" (Pr. Shigeano Maruyama).



Scientific presentation at ECL

The students visited some of the laboratories involved in ELYT-Lab at INSA Lyon and ECL: MATEIS, INL, LAMCOS. It was an opportunity, in addition to seeing some experiments and discussing specific themes with French PhD students, to discover the organisation of the life

in a French laboratory, very different from what it is like in Japan. Also, during the first 2 days, ELYT School was co-organised with the Leeds-Lyon Summer School, linked to the "38th Leeds Lyon Symposium on Tribology." This collaboration opened the door for the students to participate in a prestigious international conference.

A visit to CERN in Geneva was organised at the request of Japanese teachers, to discover the world's largest particle physics laboratory, but also - again according to our Japanese partners - to restore a positive image of nuclear research after the Fukushima accident. The visit lasted half a day, and consisted of a lecture given by an experienced physician, the showing of a film and visits of experiment facilities in small groups. This excursion took place on Monday, coupled with sightseeing in Chamonix on Sunday, with a night in between at a youth hostel in Geneva.



Visit to CERN in Geneva

A substantial social program was set up, with the assistance of the student organisations "Asian Week (Semaine Asiatique)" and "BEST Lyon" from INSA Lyon, and the "Japanese Club" of the ECL, as well as French students participating in ELYT School. Several parties were held with games, wine tasting and discovery of French cuisine, dance and music. Students also participated in a visiting tour of Fourvière and the Lyon's old town, and they discovered the association and language centre "Espace Lyon Japon" at Charpennes. Two French teachers from INSA Lyon accompanied them to the "Halles de Bocuse" to practice the new phrases they had learned during the French lessons. The schedule also included a visit to the City Hall and a typical Lyonnais restaurant. In addition, the contact established between the Japanese and the French students lead to several activities that were not initially planned, like a trip to Cremieu during their free day and a night out to try French "crêpes".



Barbecue organised by the INSA Lyon student association “Asian Week”

Evaluation/assessment:

Students from both countries expressed and revealed a real desire to participate later on in the various programmes: double degree, academic exchange, joint thesis...

The ElyT School can be a very good way to attract PhD students for the future, and strengthen the special bond that has been built between Sendai and Lyon. Such short thematic programmes, beyond the synergy they create between education and research, may also contribute to give a lift to Japanese student mobility, still at an early stage.

The originality of the project lies in the synergy of four key factors:

- A comprehensive and durable relationship with a partner, essential for collaborations across borders
- An adapted response to the complex issue of Japanese student mobility, integrated into a very active research collaboration
- A programme that integrates the triptych education / research / industry
- A mutual concept (one year in France, one year in Japan)

Contacts:

Jean-Yves Cavaille, Professor, INSA-Lyon, co-director ELYT-Lab, jean-yves.cavaille@insa-lyon.fr

Philippe Kapsa, Professor, ECL, co-director ELYT-Lab, Philippe.Kapsa@ec-lyon.fr

Tetsuo Shoji, Professor, Tohoku University, co-director ELYT-Lab, tshoji@rift.mech.tohoku.ac.jp

Naoto Wada, Professor, Tohoku University, Coordinator ELYT School, wada@rpip.tohoku.ac.jp

Alain Fave, Associate Professor, INSA-Lyon: 04 72 43 84 64, alain.fave@insa-lyon.fr

Nina Arnesen, Asian projects manager INSA Lyon-DRI: 04 72 43 89 99, nina.arnesen@insa-lyon.fr