

Science and Technology in Japan 2016 Program Report

School of Science and Technology (SST) carried out Short Term Program “Science and Technology in Japan (STJ)” from 6th to 14th of July. This program is designed especially for Science/Engineering undergraduate students of the second grade or higher and exclusively open to Meiji University’s oversea partner institutions. The maximum acceptable number of the students was limited to be five. Four students made applications and two actually participated.

The objectives of this program are to study industry and culture in Japan, the biggest economic and technical center in Far East, and to achieve participants’ better understanding. It will greatly strengthen the technical ability of the science/engineering students who hope to play an important role in the global society to deepen the understanding over the society, industry, and the underlying culture in Japan, which has different philosophy and is widely recognized to be difficult to understand. Not only lectures but also field trips are included in the program, where participants can visit related companies and institutions to hear friendly voice from the employees. STJ2016 mainly focused on fields of electrical engineering, mechanical engineering, applied chemistry, and information technology with studies of Japanese language and culture as well.

The lectures were mainly conducted by full-time faculties in SST. The very first lecture “Introduction to Japanese language and culture” was given from Senior Assistant Prof. Yohei Yamamoto, General and Cultural Studies. (Photo 1) The characteristics of Japanese science and technology were formed by the peculiar culture and customs born in this Far East insularity. Conversation oriented class successfully enhanced participants’ understanding on this aspect.



(Photo1)

Following this important introduction, five professors, Prof. Tomoaki Watanabe and Senior Assistant Prof. Hajime Wagata from Department of Applied Chemistry (photo2), Associate Prof. Masato Inoue and Associate Prof. Taichi Matsuoka from Department of Mechanical Engineering Informatics (photo3-4), Prof. Teruhisa Kumano from Department of Electronics and Bioinformatics (photo5), and Prof. Hisao Tamaki from Department of Computer Science (photo6), gave lectures on various fields of science and technology in Japan. More precisely, photo catalyst, design and manufacturing system in automotive industry, railway system, and software production were main themes and the advanced Japanese technology in these regions were explained clearly and plainly. These lectures were given in combination with related field trips done after the lectures, which fostered participants’ better understanding. Furthermore, administrative section gave

guidance on the longer term study and job hunting in Japan entitled as "Study in Japan/Meiji" and "Work in Japan".



(photo2)



(photo3)



(photo4)



(photo5)



(photo6)

Following is a list of companies and institutions which participants visited from Day 3 (Photo 7-8).



(photo7)



(photo8)

* The University of Tokyo: is doing top-runner research in Japan, the leading company in the field of photo catalysts. The participants took a close look at relating experimental equipment. (photo7)

- * Nissan: engine production lines were closely observed. Technical discussion with the employees gave a strong impression on the participants concerning so called "Suriawase." (photo8)
- * JR East: The strong activities in the non-transportation business such as large scale commercial complex were impressive but the conventional power supply technology was also interesting.
- * Anritsu Infivis: The reality of the food inspection system, which is a key to realize our safe society, was experienced and the importance of software production was also understood.

In the afternoon of Day 2, campus tour was done by departments which did not have lectures during the program. Prof. Kazushige Nagashima, Department of Physics, showed ice/snow crystallization experiment (photo9). Prof. Yoji Kuroda, Department of Mechanical Engineering, gave demonstration of autonomous mobile robots (photo10). Associate Prof. Yumie Ono gave a chance to the participants to attend experiment class together with the experiment of bio electric signal processing (photo11). Associate Prof. Riichi Kajiwara showed how his team is conducting research on brain science field by using mice and other living tissues/organs. Prof. Tomoaki Tanaka and Senior Assistant Prof. Tomohiko Kumagai gave kind and detailed explanation on the structural engineering test bed and design studio (photo12). After this campus tour, welcome party was held. Together with the farewell party held in the evening of Day 7, it became a good occasion for the students exchange between the participants and the host students (Photo 13).



(photo9)



(photo10)



(photo11)



(photo12)



(photo13)



(photo14)

In order to enhance the efficiency of the study, so called active learning classes were also adopted, which were discussions between the participants and professors. The final presentation (Photo 14) was so successful that we ourselves learned a lot from the participants' suggestions on how Japan can continue to be a leading technical country in the world, in which historical and sociological viewpoints are also included and very convincing and reasonable.



(photo15)



Last but not least, we would like to express our sincere appreciation towards the visited companies and all faculties and staffs cooperating on this program for their kind understanding and cooperation.

International Collaboration Committee
School of Science and Technology
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