

Reports Submitted by Japanese Students

Safety Engineering and Uncertainty of Earthquake

Date of submission: March 11th, 2016

Name: Minoru Matsubara

Affiliation: Department of Architecture, Faculty of Engineering, the University of Tokyo

Grade: Master course, second year

Duration of visit: February 21th – February 28th

What I gained through activities during the program

1. My Presentation, Poster Session

In 2nd day, February 22th, I gave a presentation about my study at ITU campus. After the presentation, I got some precious from professors and students in a poster session. So I summarized them below.

In Japan, there are many earthquakes which are thought to perhaps occur in future. Each prefectural governments selects some earthquake scenarios in order to make a regional seismic disaster prevention plan. The selection of scenarios is based on a discussion of experts. But their way of the selection is not clear and quantitative.

In my study, the quantitative way of selecting scenarios based on their occurrence probabilities and impacts (losses) is proposed. From comments I got in the poster session, I think one of the biggest problem is a deficiency of record about earthquake activities. We must make a decision considering not only uncertainty of earthquake activities defined by a model, but also uncertainty of the model itself. This is the subject for all studies about earthquake engineering, I think.

2. Symposium

In 3rd day, I attended a symposium. I was very excited to hear lectures about studies conducted in Turkey. Especially, the study about vibration characteristics of Aya Sofia is very interesting. In Japan, all people who major in architecture know Aya Sofia due to its beauty and revolutionary structural design.

3. Field Work

We visited an undersea tunnel in 4th day, and AFAD Disaster Management Center in 5th day. Both are very important structures for Istanbul or Turkey, so special seismic counter measures are conducted for them. For example, the center have enough resources to survive several days without exterior help. I was very excited because I'm interested in how Turkish engineers consider uncertainties of earthquake activities. In Japan, especially after 2011 Tohoku earthquake, it

matters how we should consider scenarios beyond design, I think.

I went to the company ERSEL which make machines (ball mill, etc.) in 4th day, too. I saw a mixing machine grinding like a human hip. I was surprised to hear that due to the move and an isolation rubber, a vibration of the machine didn't travel to a floor.

In other days, we went sightseeing. Turkish students kindly guided us, so I enjoyed Istanbul very much. On the other hand, I experienced a traffic jam when we took the bus. I learned firsthand the importance of the undersea tunnel.

Due to everyone of Turkey, I was able to have a precious experience.

I really appreciate their kindness.



An undersea tunnel under construction

Suggestion for improvement / any other comments

1. If Japanese students have given some idea about the plan of this trip before departure, conductors would have been able to use the opinions as reference.
2. I think work with Turkish students (like a group discussion) is good experience for us.

What I gained in Turkey

Date of submission: March 11th, 2016

Name: Sangwon Lee

Affiliation: Department of Architecture, Faculty of Engineering, University of Tokyo

Grade: Master 1

Duration of visit:

What I gained through activities during the program

It was my first time that I visit Turkey. I think that Turkey has a lot of special characteristics. First of all, in terms of geography, it belongs both Asia and Europe. There are a large number of Byzantine style buildings, while the religion of Turkey is largely influenced by Islam. Most of Turkish believe that they came over Central Asia. For me who had gotten away from East Asia for the first time, everything in Turkey was fresh and novel. Their appearance, culture, architecture were so amazing and impressive that i could break stereotypes of Turkey I have had so far. Especially, nowadays it is often said that Turkey is dangerous because it belongs to Islamic country. On the contrary to this, my experience was totally different. I found it was only a prejudice derived from a very small minority of strange people. Turkish are absolutely kind and humorous.

When I made up my mind going to Turkey, English is a big challenge for me. I needed to prepare the presentation and poster about my research using English not Japanese. Moreover, It is necessary that communicating with students and professors from a broad variety of countries. I found it tiring to begin with, but i soon got used to it and gained confidence.

A schedule in Turkey was mainly workshop in ITU. The representatives of each laboratory had a presentation about their research. I believe that it is very rare and priceless experience. There are some of laboratories having similar research title, and the others had completely different ones. However, I took notice that we all used similar method based on engineering department, and it helped us to take communication each other.

Next, it was priceless experience that I listened to lecture of professors taking active in variable areas. Although some of the lectures were quit far from my major area, it was absolutely interesting and valuable. I think if it had been a little bit longer and had contained a wider variety, I would have had a chance to ask questions to the professors and to have far more helpful time.

The most rewarding thing that I had was to have confidence that I can study abroad. Especially, in terms of my major, although I was not fully capable of English speaking, I could have good communications with the students and professors just using some of main technical terms and

graphs. Before going to Turkey, I had thought it is impossible for me to go study abroad. This experience changed my mind, and I came to believe that listening to the lecture in English and researching would be possible thanks to the nature of Engineering.

Suggestion for improvement / any other comments

First of all, I think that much longer lectures by the professors could help student to understand thoroughly. Having a lecture only a 10minutes felt too short to discuss about it. Also, it would be much better to have a chance to ask questions to the professors in person. Only students participating in poster section could ask and answer questions each other. Moreover, in addition to the Workshop, I believe that listening to the actual lectures Turkish students taking would be far more interesting and helpful. It may be possible to have study and take lectures in Turkey for one semester as far as they have same major area.

Taken as a whole, the schedule in Turkey felt little bit long only for workshop, and too short for taking lecture and making progress for our research. If we can stay longer and can get a unit of graduation in Turkey, this experience will be a much more attractive chance for japanese students.

Short Summary of Staying in Turkey

Date of submission: March 8th, 2016

Name: Takanari Hamada

Affiliation: The University of Tokyo

Grade: 1st grade of master's student

Duration of visit: February 21th – February 28th

What I gained through activities during the program

I went to Istanbul that is a big economic city in Turkey in order to attend a project, Japan-Turkey Cooperative Education Program on Resilience Engineering for Energy and Urban Systems, from February 21th – February 28th.

Presentation and Poster Session

When I gave my research presentation in English in front of Japanese and Turkish students who had various backgrounds, respectively, I keenly realized importance and difficulty of being understood by the others. In the later poster session, I received some questions and opinions from professors and students. These discussions were very useful and exciting for me to perform more complex and valuable study.

Ersel Heavy Machinery

I was able to notice the difference between Turkish company and Japanese company which we visited when some Turkish students had come to Japan, from the view of their culture, policy, and procedure. In addition, we could see the large machine made by the Japanese company in the manufacturing process of the factory and were impressed.

The Eurasia Tunnel Construction Site

The Eurasia Tunnel is a road tunnel under construction in Istanbul, Turkey, crossing the Bosphorus strait undersea. The project's completion is expected by October 2016. The 5.4km double-deck tunnel will connect Kazlıçeşme on the European and Güztepe on the Asian part of Istanbul on a 14.6km route. It will cross the Bosphorus beneath the seabed, with the aim to alleviate Istanbul's traffic jam.

Through a visit to the tunnel construction, we could see the place which we usually could not visit. And we could understand how to construct the tunnel beneath the strait, various techniques and methods of construction.

I felt that this tunnel could alleviate the heavy traffic jam. I found the rapid growth of Turkish economy. Taisei Construction Company, one of top construction company in Japan, had already

constructed the tunnel under the Bosphorus strait for the subway. This tunnel tells us the relationship based on not only history but also from government level to person level.

AFAD Disaster Management Center Technical Facilities

Turkey ranks third in the world in terms of earthquake-related casualties and eighth with regard to the total number of people affected. Every year, Turkey experiences at least one 5+ magnitude earthquake.

The Disaster and Emergency Management Presidency of Turkey was established in 2009 to take necessary measures for effective emergency management and civil protection nationwide in Turkey. The presidency conducts pre-incident work, such as preparedness, mitigation and risk management, during-incident work such as response, and post-incident work such as recovery.

This facility looks very new and is similar with Japanese counterpart.

Energy Institute Civil Engineering

In the Istanbul Technical University of engineering, we observed a strength examination of the concrete and the vibration experiment of the building, and the small research reactor. We were told the summary of the study carefully in Civil Engineering and observed the height of the level of the study.

Suggestion for improvement / any other comments

The interchanges between Japanese and Turkish students were able to be satisfied very much. Despite we had many gaps, for example culture and religion, I thought that we could appropriate mutual understanding.

Because of the current situation in Turkey, we have to obey the limitation with own activities. That was regrettable for me.

The places that we visited through this project gave us very interesting and careful explanation. I thought that discussion between Japanese and Turkish students should be conducted in order to mutual understanding more.

I want a choice to stay in the Turkish family if possible. Because this choice can enhance the mutual understanding in terms of Turkish family.

Without Ms.Harada's guidance and persistent help staying in Turkey, this safe and interesting visit would not have been possible.

I would also like to express my gratitude to everyone related to this project for their all support.

What I felt though this program in Turkey

Date of submission: March 8th, 2016

Name: Yuki Iita

Affiliation: The University of Tokyo

Grade: 1st grade of masters student

Duration of visit: February 21th – February 28th

What I gained through activities during the program

From February 22 to 26, 2016, I attended the workshop organized by Istanbul Technical University. In this workshop, deep discussion between Japanese and Turkish students and professors could lead me to wider range of research activities. In addition, I got new knowledge through discussion with researchers on earthquake engineering from the University of Tokyo or Tokyo Institute of Technology, and I found the future challenges of my study. Since the workshop was held in Istanbul Technical University, we were guided some of the facilities in the university. I felt that a library was the most impressive among those. The library of the Istanbul Technical University is opened for 24 hours, and students can be available for their own time. There are few universities which provide the library for 24 hours in Japan. However, I found that a lot of universities whose library was opened for 24 hours existed abroad. I assumed that the library had been made a decision that it is difficult to run for 24 hours due to the running cost. I found the students were strongly trusted by each foreign university including Istanbul Technical University.

After the meeting at ITU, we visited Ersel Heavy Machinery-Manufacturing Plant-Gebze, Eurasia Tunnel Construction Site, AFAD(Afet ve Acil Durum) Disaster Management Center Technical Facilities and Laboratories at ITU, and we were able to observe the work place which is different from Japan. The risk measures were considered to be enough in all sites, and some design base of disaster was beyond Japan. It was the most impressive that AFAD Disaster Management Center Technical Facilities can function 15 days without help from the outside. I noticed that each department was responsible for their actions in the case of huge disaster.

I thought that risk mitigation was managed enough in case of assumed disaster, but risk identification is seemingly limited. I thought that continuous improvement supported various countermeasures. I will make use of the knowledge that I got in Turkey

Suggestion for improvement / any other comments

I noticed two improvements through this workshop. First, this program could not afford the time schedule. All students who would present poster performed short presentation in the plan,

however only some students performed short presentation due to lack of time. I would like to give my presentation. I felt that it should be given extra time when there are many presenters.

Second, Venue of the Poster Session had no spatial margin. I felt a venue of the poster session small because there were a lot of poster presenter, students and professors. Therefore It was difficult watching a poster and to explain it. I consider that other room should have been prepared.

Finally I would like to mention the point that I felt enough to in this program. Having relationship with many Turkish students was the best experience in this program. I was able to have relationship not only Turkish students who had come to University of Tokyo before but also Turkish students who had come to Tokyo Institute of Technology and any other Istanbul Technical University students. It was grateful to be provided a lot of time to interact with many Turkish students. In addition, Turkish language & Culture lecture of Professor Tekmen of Ankara University was a chance to be strongly interested in Turkish culture. I want next program to be such a valuable time.

International exchange with Turkey

Date of submission: March 8th, 2016

Name: Ryohei Tanaka

Affiliation: Department of Nuclear Engineering and Management, Graduate School of Engineering, The University of Tokyo

Grade: master 1

Duration of visit: 2/20-2/29 2016

What I gained through activities during the program

I found the real fun of international exchange through this event. When I met Turkish students for the first time in Japan, there were few conversations because we felt tense and awkward. However, in the days of the end of this program, we said a joke each other and built the reliable relationship. In Turkey, I was pleased that I could reencounter with Turkish student who I met in Japan through this program. They warmly welcomed us. They answered in everything and helped us when we experienced some trouble or something that we did not understand. Although each other's countries are different, far distantly, and we speak different language, our heart led.

On the first day in Turkey, we went fieldwork before the main program. In fieldwork, we got into a ship and went through Bosphorus strait at first. The scenery to watch from a ship was very beautiful and the ship passed under two big bridges. It was cold outside but I stayed outside on a ship and looked at outside scenery. I was able to feel the history by watching the scenery. The scenery was very fresh and this stimulated me into strong impression. Then, we had dinner in Istanbul Technical University and met some Turkish students who had a fun time with us in Japan. We were cordially received. I was happy to get reacquainted with them. We celebrated our reunion.

On the second day, we attended to workshop. We introduced ourselves to each other and I listened to some presentation. Some student gave presentation about their research. I also performed presentation about the interchange with the Turkish students in Japan. Mr. Hamada made the presentation slide and I performed. I was happy that audience laughed at my joke. Though my English is poor, I was able to convey what I wanted to explain. In a reception after workshop, I stood next to my poster about my research and introduced my study to some students and professor. It was difficult to explain my research in English. Moreover, I asked some students about their research and discussed on it.

On the third day, I listened to some lectures. We learned a lot especially about nuclear power plant and an earthquake. These were very interesting.

On the fourth day, we visited some companies. In the morning we had an opportunity to visit ERSEL which is one of the biggest heavy manufacturer company in Turkey. We saw some large

machines in ERSEL. After that, we moved back to the Bosphorus to see construction site of undersea tunnel(Eurasia Tunnel). In construction site, I was surprised at it because it was considerably large. This was the first time that I entered the construction site. This undersea tunnel is expected to resolve the extremely heavy traffic jam in Istanbul. I hope that life of local people in Istanbul becomes more comfortable by this project. Right after the tour of undersea tunnel in Bosphorus, unfortunately, we got news from Japanese Consulate general and it noticed that kind of terrorism might be planned in Istanbul. I was invited to go to the house of Turkish students, but the terrorism notice made it impossible. Since they had prepared a lot for us, I was very sad that I couldn't to go. If I go to Turkey next time, I definitely go to his house to share dinner and talk with them. We came back to our hotel safely by bus without encountering terrorism.

On the fifth day, we went to Disaster Management Center Technical Facilities(AFAD) and see some laboratories in Istanbul Technical University. In AFAD, we observed the inside of facilities and listened to their presentation. In Istanbul Technical University, we visited nuclear plant and laboratory of civil engineering department. The laboratory was fresh for me. Some students and professors told us about facilities or their researches carefully.

On the sixth and seventh day, we visited some tourist spots. We watched famous sightseeing spots such as Blue Mosque from a bus. Because the fear of terrorism, we were not able to get off a bus neither see famous tourist attractions. Still we went to the Buyukada island where is much safer than crowded area. The island is very beautiful and we got into a carriage.

Throughout this program in Turkey, the good point is that every dish was delicious and I think Istanbul is a city that lets us feel the eternal history. Above all, I was really touched by warm heart of Turkish people.

Suggestion for improvement / any other comments

Although I of course understand that there was a limitation for our activities to keep distance from terrorism, I'd like to suggest for some improvement. I think it is better to make more free time for each student so as she or he can spent their own time in places where they wants to go. Moreover, I wanted more chance to interact with the Turkish students such like the buffet style reception after the workshop, since it was great opportunity to talk and make deepen exchanges with them.

I would like to sincerely thank all of you who participated in this program and am mostly grateful to the warm hospitality of the Istanbul citizen.

Report on Japan-Turkey Cooperative Education Program

Date of submission: March 4th, 2016

Name: Ryota Higashi

Affiliation: Coastal Engineering Laboratory, the Department of Civil Engineering

Grade: Master 1st

Duration of visit: 20th ~29th February

What I gained through activities during the program

Doing research and my future work

In this time, I did presentation and had the poster session on my bachelor thesis theme, shoreline change problems relating to the resilience of city, which theme does not relate to earthquakes and tsunami other researchers are interested in. However, as long shorelines are located in Turkey, these slow and severe problems appear before long and thinking about it is important when significant facilities, for example, nuclear power plant and other resorts, are constructed. That is why I did and get many feedbacks. And while I'm talking about tsunami inundation area estimation model I have been doing research, many researchers gave me advises from the earthquake point of view, too. Through this discussion, I could realize my both researches are constructed satisfactorily and show useful results for actual current society, and should have confidence in my own abilities.

In addition, a lot of people asked me whether I will go to the university the doctoral course or not, because my current thesis target area is a little bit large and I don't know the difference and detail of doctoral course system between Japan and other countries, like Turkey. These advices enable me to develop my philosophy of life and way of thinking.

Field work

Though I could visit many places in field work, I was especially impressed by Bosphorus automobile road tunnel construction field, AFAD Istanbul (disaster management center) and laboratory of the department of Civil Engineering. The former one is next tunnel to the Bosphorus railway tunnel made by Taisei Corporation, a 150 year-old dream has finally been realized. Though I asked the officer that the traffic jam must occur due to the V-shape of longitudinal section, there are many examples in Japan, he was stubbornly insistent on theory without regard for practicality or suitability. Perhaps, as I think my English skill could not make him understand my assertion, I should improve my skill better. Latter both two have rooms and materials on a large scale. AFAD is similar to MLIT in Japan (Ministry of Land, Infrastructure, Transport and Tourism), but its backup system and the area of control rooms are entirely different and excellent. The laboratory in the university has similar small machineries but enables members to make large

scale models and set up their experiment. Though I heard that Turkey and Japan have different research system for infrastructure, the improvement of Japanese environment is greatly desired because this environmental difference enlarges the difference of the ability to respond promptly and research level between Turkish workers and students and Japanese soon. In addition, through Bosporus Strait cruise, I could see both Asia and Europe cities at Istanbul have rich history and directly experience bridges scale. These chances are very rare and precious because it is important for researchers of civil engineering to inspect the real scene in other areas.

Suggestion for improvement / any other comments

Suggestion for improvement

I would like to decide the poster size in view of space put up posters in advance. I felt the space was a little bit small in view of the number of participants.

I couldn't decide whether presentation contents is finished research or prototype (ongoing) one. I wanted the recommendation or the advice about it.

Any other comments

Thanks to Turkish professors and friends, I have enjoyed all field works in Istanbul. I really appreciate their kindness. Some Japanese participants are sometimes selfish to visit places having not exercised discretion beforehand, I think.

Anyway, this program was a good chance for me to realize the importance of research and broaden my knowledge. Thank you very much, everyone.

After staying in Istanbul

Date of submission: March 8th, 2016

Name: Matsuba Yoshinao

Affiliation: Department of Civil Engineering, Faculty of Engineering, University of Tokyo

Grade: bachelor 4

Duration of visit: February 21th – February 28th

What I gained through activities during the program

What I did in Istanbul at first was cruising through Bosphorus. While cruising, I could see landscape and understand overview of Istanbul. Especially, by watching heavy traffic on two bridges across over Bosphorus, I really understood how it is important to make road to connect the European side and the Asian side. Moreover, some of Turkish students joyfully explained us that one of the bridges was constructed by Japanese company. I felt happy to know contribution of Japan to other countries and good relationship between Turkey and Japan.

In 2nd day and 3rd day, workshop was held. In that workshop, I listened about Japanese and Turkish young researchers' research topic. Because it was first time to listen to presentations about topics which is different with my own, it was very interesting and I got inspired. After the presentation, we did poster session. I got a lot of opinions from a lot of researchers who major in other discipline. That experience was so fresh that I got more motivation to make advance in my research.

In 4th day, we went to a large manufacturing company and construction site of a tunnel through Bosphorus. At the company I saw large scale machines for mining. It was first time to see the places like that, and I got excited. At the construction site, because I major in civil engineering, it was very interesting. It was really large scale construction and it was very important road for Istanbul. I felt development of Turkey and I got big motivation to work in the future as civil engineer to construct such important structure for a lot of people.

In 5th day, we went AFAD Disaster Management Center Technical Facilities. I was surprised at its abundant equipment. I got a lot of knowledge about how the management part deals with emergency situation. After that, we visited a nuclear reactor laboratory and a vibration generator in ITU. I was so surprised at that both of equipment are larger than ours. After some explanation, I really understood the differences in sizes and concepts of experiment between Japanese universities and Turkish universities. I felt that Turkish universities play a much larger and much more important role in technological development in its country than Japanese universities.

In 6th day and 7th day, we visit some sightseeing spots. In each spot, I felt differences in culture and history. Especially, when we went to an Island, there are so many houses along

shoreline, and the port was very simple. That situation was not usual in Japan, especially area facing the Pacific Ocean because there is risk of tidal wave.

Through all of this program, I got a lot of knowledge about characters of other nation, Turkey, and got large motivation to make progress in my research by interacting with other students and professors. Moreover, because I had not have enough experiences to interact with foreign students, this program gave me a fresh experience. This experience will be helpful in my future.

Suggestion for improvement / any other comments

It is true that, through this program, I got a lot of experiences to know about Turkey and other discipline. However, as more opportunities, for example, attending some lectures in ITU or doing experiments together may improve our mutual understanding. Moreover, in this program, the size of group was so big that there were no so much opportunities to interact with Turkish students. So, I felt more smaller group may be much better for interaction between Turkish students and Japanese students.

Through this program, I got wonderful experiences and made good friendship. I'm eternally grateful for everyone's support. Especially, professors and students in ITU helped us a lot. Then, professors and the staff of UT also supported us. I really appreciate it. If next program starts, I want to apply for it.

Workshop in Istanbul

Date of submission: March 9th, 2016

Name: Erdal Ozdemir

Affiliation: The University of Tokyo

Grade: PhD 1

Duration of visit: February 20th -29th

What I gained through activities during the program

This activity was a great chance for me to visit my hometown again. First day I attend the cruise tour in the Bosphorus and try to explain the historical monuments of Istanbul to my Japanese colloquies. It was also interesting to see the reactions and listen the thoughts of the people in the cruise tour. I believe this kind of activity strengthens the bounds between Japanese and Turkish people.

Second day the opening address was given in Istanbul Technical University (ITU) and each participant introduced themselves. It was a good moment for everyone to know each other. Later on each participating university introduce themselves. Then short presentations given by students and young researchers.

After the second day due to my health condition I couldn't attend much of the fieldtrips but I believe they had been fruitful for the participants. I could attend laboratory visits in Energy Institute and Civil Engineering department. We visited research reactor located in Energy Institute and some laboratories related with earthquake engineering in civil engineering department.

In my opinion this kind of activity is very important for Turkish and Japanese people to create bound and understand each other more closely. Moreover, it is very important to share knowledge and creating a teamwork for future projects.

Suggestion for improvement / any other comments

I believe this kind of activity is very important for future collaboration between Turkey and Japan. Involving more departments such as mechanical engineering, chemical engineering and so on can increase number of people that interacts with each other and reinforce the relations. More teamwork based activities with mixed groups may enhance the information exchange. All in all, I would like to thank all the people who spend time to prepare and carry out the workshop. I believe it is a very important step to enhance the relationship between Turkey and Japan.

Shogo's Wonderful Experience in Turkey

Date of submission: March 11th, 2016

Name: Shogo Shimizu

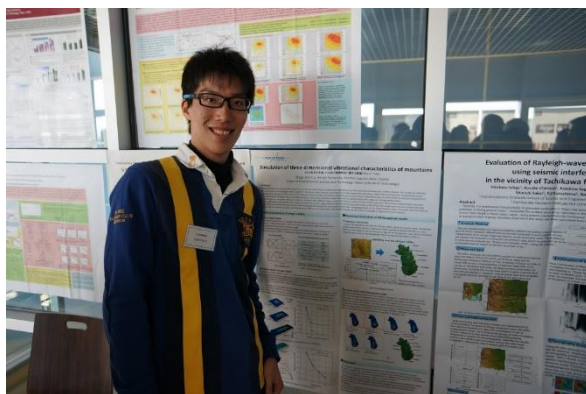
Affiliation: Department of Environmental Science and Technology
Tokyo Institute of Technology

Grade: 1st year of Master course

Duration of visit: Feb. 20 – Feb. 29, 2016

What I gained through activities during the program

In this program, I learned and experienced a lot of things in Turkey.



In the poster presentation at Istanbul Technical University (ITU), I was able to touch the people who study other field, and also I could communicate them in English. It was a little hard to explain my research in English, but ITU students heard and were interested in my research. Thank you very much.

In ITU, we have a lesson about Turkish. They taught us Turkish culture and language in Japanese. I was studying Turkish language a little in advance, and I could understand more deeply in this class.

After that, I tried to communicate Turkish people in ITU campus and a street. I was able to make conversations to Turkish people.



In Site Visit: Ersel Heavy Machinery, They explained to me about the Ball Mill and Tumbler screen and so on. Because I had never seen such a huge apparatus in Japan, It was very interesting. And it was also impressive for me that some Device has a Turkish charm called “Nazar boncuğu”.

In Site Visit: Eurasia Tunnel, I visited the site of the undersea tunnel currently under construction. The tunnel has been constructing for heavy traffic jam, which is a problem in Istanbul.

I saw the scene that they were making this tunnel in actual, I felt it was a very huge and important program in Turkey.



We also participated in Bosphorus cruise tour and enjoyed many kind of Turkish cuisine. And I was surprised at the amount of meals. Compared to Japan, I remember one meal has more amount than Japan. So, I was always “Doydum”. Doydum means I am full in Turkish.

Our friends of Turkey guided us to many place in Turkey and we were able to touch the culture of Turkey. I am very satisfied and appreciate them.

And some of our Turkish friends were willing to study Japanese. Basically we used English, but also we communicated in Japanese sometimes. I was very happy that they have been trying to learn and speak Japanese. During stay period, they also taught me Turkish, so I could also try to speak in Turkish. The next time to meet with them, I think that we can communicate more with each other.

Thanks to a lot of people who have supported this program, I could learn many things and enjoy in Turkey. I am very glad that I had a chance to participate in this program.

Thank you very much. Çok teşekkür ederim.

Suggestion for improvement / any other comments

Usually, we were having a conversation in English, but I thought it was very interesting to speak in Turkish and Japanese. So I think that if possible in this program in the future, it will be better to increase the opportunities we learn Turkish and they learn Japanese.

Report of Japan-Turkey Cooperative Program on Resilience Engineering for Engineering for Energy and Urban Systems

Date of submission: March 7th, 2016

Name: Chanipa Netrattana,
Affiliation: Tokyo Institute of Technology

Representatives of Tokyo Institute of Technology, University of Tokyo, Istanbul Technical University shared basic information on each university. Students and researchers of three previous universities and also Boğaziçi University gave the short presentation about their research such as Structural Health Monitoring Systems, Axial Behavior of Prismatic HPRCC Externally Confined by CFRP Sheets, Risk Management against External Events and Nuclear Power Plant Project in Turkey.

On February 24 2016: Site visit to ERSEL Heavy Machinery Plant and Eurasia Tunnel Construction site.

ERSEL Heavy Machinery-Manufacturing Plant is capable to research and develop, design and produce heavy machines, equipment and also install equipment in plants in various fields especially Cement, Mining, Defence, Ship Building, Work Machines and Wood Industries. In work processes,

1. ERSEL engineer designs machines according to requirement of customer and regulation or standard and also produce method.
2. Casting process is modelled by computer program to simulate the real casting process and find the defect in product. If defect is found, produce method will be revised.
3. Actual produce
4. Before sending machines to customer, product quality is checked by non destructive testing.



Mill



Producing Process

Eurasia Tunnel is constructed pass under Bosphorus strait to save time crossing between Europe side and Asian side. Group participants visited tunnel construction site in Kadikoy which is located on Asian side. TBM is used for excavation under the sea. Diameter excavation is 13.7



Project Plan



Cross section of tunnel

meters, while inner diameter is 12 meters. Tunnel consists of two roadways, emergency passages and rooms at every 300 meters and emergency lane. For safety, electronic monitoring of air quality, CCTV, emergency communication, fire detect system, fire fighting system and intelligent light system are applied to the tunnel. Due to probable earthquake, special connection provide elastic movement up to 70 mm. Total investment cost of this project is 1,237 millions US dollars.

On February 25 2016: Technical visit to AFAD Disaster Management Center, Energy and Civil Engineering Laboratories at ITU.

AFAD (Disaster and Emergency Management Authority), the organization working to prevent disasters, reduce disaster damaged and plan & coordinate after disasters. In case of disaster occur, related authorities will gather in the main meeting room to response the disaster, especially Istanbul mayor, AFAD director. This room provide essential communication system and equipment. AFAD center provide electricity, water and food by itself for 15 days and can stand severe earthquake with minor damage. Last disaster which AFAD worked on is snow in Istanbul. Truck is used to access where disaster occur and designed for travelling in trouble circumstances.



Meeting room



Rescued truck

Energy institute, the laboratory work on research about nuclear energy. This laboratory model nuclear power plant structure. Due to prevention of radiation, containment structure is constructed by special high density concrete by adding heavy material in concrete mix. Reactor sinks under water because water reduces radiation. The first hierarchy in work this laboratory is safety. SRAM button will be pressed in emergency case to shut down everything in laboratory and power plant.

Civil engineering laboratory provides sufficient tested equipment for civil engineering work. For example, remarkable equipment are standing wall with hydraulic jack and small shake table. There are some recent completed project such as testing rectangular RC column with and without FRP, short column with FRP and testing main computer container structure on shaking table.



Rectangular RC column with FRP



Short column with FRP

Japan-Turkey Cooperative Education Program on Resilience Engineering for Energy and Urban Systems

Date of submission: March 11th, 2016

Name: H. A. D. Samith Buddika

Affiliation: Tokyo Institute of Technology

Grade: D3

Duration of visit: February 21, 2016-March 02, 2016

What I gained through activities during the program

- Research activities with Professor Erdal Safak at Kandilli Observatory and Earthquake Research Institute (KOERI), Bogazici University, Istanbul.

Discussions with Professor Erdal Safak and his students helped me to understand earthquake related problems particular to Turkey. Moreover, the visit to KOERI allowed me to experience how the earthquake observatory center operates in real-time.

- Symposium and student/young researchers poster session and presentation at ITU.

Could establish new contacts with Turkish students and Professors.

Exposed to nuclear safety and earthquake engineering related issues faced by both Japan and Turkey.

During poster session, I shared my research with Turkish students and Professors. The useful discussions will help me to carry out my future research.

- Lecture on Turkish language and culture

The basic Turkish language helped me a lot during the rest of my stay in Turkey.

- Technical tours

- Ersel Heavy Machinery-Manufacturing plant, Istanbul

It gave me an idea how a typical Turkish manufacturing plant operates.

- Eurasia tunnel construction site, Istanbul

Issues related to planning, construction and safety management in tunnel construction were discussed.

- AFAD Disaster Management Center Technical Facility, Istanbul

It was my first time to visit such a state-of-the-art disaster management center. I

was able to understand the complex processes involved behind post-disaster management and its importance.

- Laboratory visit at ITU

Could compare the type of research activities and lab environment at TIT with ITU.

Moreover, visit to nuclear reactor at ITU allowed me to understand how a nuclear reactor operates and the importance of nuclear safety.

- Cultural visits

Cultural visits were helpful to understand the history and the culture of Turkish people. Moreover, I could visit some famous places in Istanbul together with Turkish students.

Suggestion for improvement / any other comments

- Project work for Japanese and Turkish students would be helpful to share knowledge and experience.
- The time spent with the host professor should be adequate enough to carry out some joint research.
- A certificate can be issued to the students as a motivation.
- The scale of the symposium can be extended: more students participation from host country.
- More lectures on resilience engineering will be helpful.
- Visit universities other than ITU can be useful to expand the networking with Turkish students.

Flying to Istanbul from Japan -2016-

Date of submission: March 8th, 2016

Name: Fujishita Kazuhiro

Affiliation: Tokyo Institute of Technology, Architectural and Building Engineering

Grade: D2

Duration of visit: 20 February – 28 February

Out-line of the program

Turkey is very close country for me because I stayed in Turkey for 6 months (From 1. September, 2014 to 28. February, 2015), and I tried experimental research in Istanbul Technical University. Turkish security was not so good nowadays, therefore, I was afraid a little to visit Turkey on this workshop before visiting. However, the condition of city was not so different compare with condition on the previous staying time, and Turkish people was so energetic.

21. February: Bosphorus cruise and Walking around Ortakoy

From Bosphorus, I saw the detail of the shape of buildings along the Bosphorus. The buildings along the Bosphorus had windows mainly of Bosphorus side, therefore, maybe these buildings have eccentricity on their plan and we should care about that if we plan structural retrofit of these buildings. I considered like that things on the deck of reserved ship.

22. February: Poster Session and Workshop

I attended lecture on workshop. I belong to structural engineering of architecture therefore, the presentation about nuclear engineering is very impressive for me and it expanded my perspective. And I thought that the research field integrating nuclear engineering and architecture is interesting, because the cost-effective and safe construction or deconstruction method of nuclear power plant is necessity both Japan and Turkey. In the poster session, I could exchange opinions with Turkish students and professor belonging to other department or university and it was very exciting time for me.

23. February: Workshop and Learning Turkish

From yesterday on, the lectures were held on the workshop. There were discussion time At the last of workshop, there are some discussion about collaboration between Japan and Turkey. I had carried out collaborative research between Tokyo Tech and Istanbul Technical University and the chairman of the discussion was Prof. Oguz C. Celik who is principal investigator of the collaborative research. Therefore, he designated me as a speaker on the spot. However, my speech was faltering. I should practice English more to train the instantaneous power of speaking my opinion in English. On the Turkish lesson, it was very fun to communicate with other students and I was moved the fluent Japanese spoken by Turkish teacher.

24. February: Site Visit: Ersel Heavy Machinery-Manufacturing Plant – Gebze and Eurasia Tunnel Construction Site – Kadikoy

Seeing the Eurasia Tunnel Construction Site was most amazing part for me. This is meaningful national project because there are only two bridges between Asian side and European side of Istanbul as by-pass of cars and it causes traffic congestion everyday. On the observation, we entered to tunnel from the entrance of Asian side. The diameter of shield tunnel is about 14m which is almost same as the diameter of tunnel of Aqua line of Tokyo bay and the depth is 100m and the construction is challenging. I felt strong power of developing country of Turkey.

25. 26. February: Visiting Laboratory of ITU

I had a meeting with Prof. Celik, Assist. Prof. Fatih, Kurtulus and Ahmet on Laboratory of ITU and we were able to proceed collaboration study continuing from the previous internship.

27. February: Visiting Princes Islands

Princes islands were calm place that carriages ran on the road and I enjoyed the atmosphere of this place was very different with the downtown of Istanbul. It was interesting that there are starbucks on the rural scenery and I felt the strength of foreign-owned enterprise. I thought that it's a kind of resort place for people living in Istanbul or some other city.

What I gained through activities during the program

I learned from that internship about the importance of leadership. Host students of Turkey including our host student Kurtulus kindly guided us from morning to night during our staying in Istanbul with considering our limited range of activity. Their attitude was looked like very matured and self-confidence compare with me and their decision was very quick and it also had the flexibility by considering our condition. Thanks to them, our staying in Turkey became very enrich days. It is difficult for me to quickly decide or select something like Turkish students still now, that's because my leadership based on the self-confidence is still not enough. I considered such kinds of things through the exchanging activity with Turkish students and I thought I would like to offer hospitality to Turkish students like that on next time and to maintain the friendship with Turkish students from now on.

Suggestion for improvement / any other comments

Thank you so much for giving such a great exchange opportunity with Istanbul Technical University. I think the maintenance of the friendship between Japan and Turkey is very important issue from the aspect of diplomacy and economy because Turkey is developing country. I hope that Japanese people will get deeper the understanding against the Turkish culture and Islamic region though today's a little difficult condition and the collaboration field of the two country will expand to wider range in the future workshop.

Report of short visit to Turkey

Date of submission: March 11th, 2016

Name: Hirokazu Ishige

Affiliation: Yamanaka Lab., Dept. of Environmental Science and Technology, Graduate School of Science and Engineering, Tokyo Institute of Technology

Grade: 1st year Master

Duration of visit: 9 days, Feb 20th, 2016 ~ Feb 28th, 2016

Site visit

First, we observed various type of large machines including mills and crushers at ERSEL Heavy Machinery INC. I did nothing but be overwhelmed by those which exceed the size of a person by single gear because I had never seen such a thing before.

In the next visit of Istanbul Straight Road Tube Crossing Project, we had a precious rare experience that going down into the tunnel under construction. I felt it was huge even the mills we saw in ERSEL's factory which were approximately 8 meters in diameter at the most, but the Tunnel Boring Machine used in this project was 13.6 meters in diameter and 120 meters in length including supporting unit connected with rear part. Knowing this, I mused in a great deal of labor and technology required to excavate undersea 5.4km using this size of machine.

We can infer from the scale of this project how Turkish people in Istanbul are annoyed with the daily traffic jam and recognize as an important problem to be solved. We were actually caught in this terrible situation because we choose to charter a bus as the most of our means of transportation during the stay, considering the threat of the terrorism which had occurred just before our passage.

With increase of transportation means connecting the European side and Asian side of Istanbul (for example Marmaray which was opened by cooperation with Japan in 2013), it can be expected that this problem should be solved. Eurasia tunnel also seems to be opened in October 2016, this means that those who participate in this exchange program after the next will not be able to experience this traffic jam which marks Istanbul.

What I gained through activities during the program

Communication skills were always required during this program. I think I could make a certain level of understanding of each other and good relationship with many Turkish participants, even my not sufficient English. However, in the workshop, experiencing the difficulties in telling technical subject to others comprehensibly, I had come to re-recognized the lack of my language ability.

Besides, getting the ability to speak in English fluently not only improve the communication in English but can help us learning their native language.

Other than language skills, it is necessary to gain the skills to perfectly understand what the cooperator thinks and express what you think, to become an academician or an engineer who can be successful overseas as a leading personnel. To do so, deep insight of one's field of expertise, of course, wide variety of knowledge are required because the importance of integration between different fields is emphasized recently. In addition, it is essential to understand other cultures especially for Japanese who don't want to talk politics or religion often in daily life.

My harvests of this exchange program are that I could confirm essentials to be obtained in the future by myself, deepen my understanding of Turkey's culture, and gain little self-confidence of communication in English. And needless to say, it is the treasure that we could encounter good Turkish friends.

Suggestion for improvement / any other comments

If the condition of public safety will be getting better, duration of stay should be lengthen because our visit was so busy that we could do not all of things what we want to do. I hope all of this program end in success.