



Japan Society of Civil Engineers

International Activities Center

IAC News No.88

The 4th Excursion to the Construction Site and Joint Company Information Session in Civil Engineering for International Students in Kansai

The International Student Network Group holds the event to help international students studying in Japan to get acquainted with Japanese cutting-edge civil engineering technologies and to provide them with information about civil engineering-related companies. In the Kansai area, that group holds Construction Site Excursion and Company Information Session every two years since 2014, and this is the fourth time holding in the Kansai area. The event was held in the cooperation with KITA-OSAKA KYUKO RAILWAY CO., LTD. Taisei Corporation kindly let us use the room of the site office. Four companies joined the Company Information Session, which was held at a conference room in the project site office. 12 international students attended the event.



In Front of the Construction Site

《International Student Affiliated Schools》

- Kyoto University, Osaka City University, Kansai University

《Excursion Destinations》

- Kita-Osaka Kyuko Line Extension Project

《Companies in Attendance at the Company Information Session》

- Taisei Corporation, OBAYASHI CORPORATION, Kumagai Gumi Co., Ltd., PACIFIC CONSULTANTS CO., LTD.

The construction site visited on the excursion was Kita-Osaka Kyuko Line Extension Project, which extends the line from Senri-Chuo station to the north by 2km. In the conference room in the project site office, Kita-Osaka Kyuko Line staff outlined their company and the construction site.

Then, the students observed the construction site and listened to explanations from the company staff. This construction site was composed of three sections: elevated section, open-cut section, and shield tunnel section. They learned various civil engineering technologies at each section. Therefore, the excursion was a satisfying experience for them. The



Students Learned about the Viaduct

students made various questions, not only basic technology, but also advanced ones, and every joint venture staff member kindly and politely answered those questions.

The Company Information Session was consisted of two parts: the first part, the four companies made presentations, including their business activities, major projects, overseas projects, and others. In the second part, the students were divided into four groups; each group had a meeting with the company staff for 10 minutes. The students made questions about the construction projects including the one they visited earlier and job opportunities. They showed a strong interest in the construction projects and the Japanese construction industry; at the same time, they appreciated the benefits of the event in which they could gain the important information.

Strengthening in cooperation with the universities which have international students, the International Student Network Group continues to hold this kind of event, providing international students with the opportunities to study Japanese civil engineering technology and to obtain information about the Japanese construction industry.

Mr. Kamiya Shohei of Kita-Osaka Kyuko Line and all of them who worked to carry out this event, I would like to express my appreciation for their effort, support, and cooperation.



Students Talk with Company Staff at the Booth Session

【Reported by Jun Saito, International Student Network Group, IAC (Kyoto University)】

The Activities of the Concrete Committee

The Concrete Committee is a long-established standing committee that was set up in the Japan Society of Civil Engineers (JSCE) and deals with concrete technology. The Committee is composed of engineers and researchers from universities, businesses, and private companies. Its key role is to prepare and publish the Standard Specifications for Concrete Structures (hereinafter “Specifications”) that set standards for design, construction, and maintenance technologies of concrete structures in the field of civil engineering in Japan. These Specifications have been revised by the Committee on a regular basis since their first publication in 1931 to incorporate advances in technology and in response to the trends of the time. Carrying on this tradition, the Concrete Committee seeks to eliminate the barriers among academia, government, and the public sector in engaging in technical and academic activities to create better concrete structures (Quoted from the remarks made by Chairman Takumi Shimomura in 2019 and 2020).



Yoshitaka Kato
(Secretary-General,
Concrete Committee)

Outline of Activities

Since 1995, the subcommittees have been divided into three types according to their respective purpose: Type 1

Committee, Type 2 Committee, and Type 3 Committee. Each committee conducts activities by setting a clear mission, target, and activity period. To contribute to ensuring the quality and performance of social infrastructure facilities, the Committee actively works on commissions received from outside and improving the guidelines in line with the basic policy of the Specifications (Concrete Library No. 155 is the latest edition as of December 2019).

The Type 1 Committee has a highly public purpose, whereas the Type 2 Committee is expected to contribute to society through helping the JSCE develop. Subcommittees working on revising the Specifications are categorized as Type 1, and commissioned researches as Type 2 in principle. Activities include providing findings and proposing technical measures to address social issues related to concrete engineering (disaster, maintenance, environmental issues, etc.) from a neutral position within a target period of one year, and to publicize those issues worldwide through publications and lectures. These activities are included in the Type 1 Committee activities. The Type 3 Committee is a subcommittee that is proposal-based, open recruitment, and temporary. It has a system for improving the skills of Society members in a flexible and agile manner. Based on the principle of self-support accounting, the Type 3 Committee presents its achievements to society through publications such as the Concrete Technology series and symposia (The above is an excerpt from the JSCE Magazine Civil Engineering Vol.98, No.1, p.43, 2013).

As of December 2019, in the Type 1 Committee, a steering group of the Specifications Revision Subcommittee started working on revising the Specifications, while the Standard-related Subcommittee is continuing its activities. The Type 2 Committee includes the following subcommittees: the Concrete Education Research Subcommittee focusing on education for young engineers; the Specifications Liaison and Coordination Subcommittee, in which young engineers play the main role in the future revision of the Specification; the Research Subcommittee, which was selected as the JSCE priority research project; and the subcommittees dealing with the four commissioned researches (coal ash admixture material, anchoring and coupling of reinforcement, precast concrete, and electrochemical anticorrosive construction method). The Type 3 Committee has subcommittees specialized in ensuring the quality of structures, methods for evaluating the design and continuous molding performance, evaluating the performance of existing structures, design and verification of the details of members, high-flow concrete requiring compacting, ensuring frost damage resistance, and application of concrete made of blast furnace fine slag and geopolymers technologies. All of the subcommittees are actively engaged in their roles.

【Reported by Yoshitake Kato, Concrete Committee (Tokyo University of Science)】

- Concrete Committee, International Sub-committee -
The Joint Seminar of Concrete Materials and Its Quality
Issues in Japan and Mongolia

The joint seminar of Mongolian Concrete Association (MCA) and Japan Society of Civil Engineers (JSCE) was held at ibis Styles Ulaanbaatar, Mongolia on September 19, 2019. This seminar entitled “The Joint Seminar of Concrete Materials and Its Quality Issue in Mongolia and Japan (Япон болон Монгол орны бетоны чанарын асуудалуудын тухай хамтарсан семинар)” was second time of holding since 2017 as a one of the activities of International sub-committee of JSCE.

This seminar was held to discuss the concrete materials and its quality issue which will be diversified more and more. The themes of the seminar were “concrete materials and its quality issue: for example, chemical admixtures, recycled aggregate, by-products” and “deterioration of concrete members or the materials and its repairing issue.”

The conference agenda is shown in Figure 1. There were seven presenters from Japan and Mongolia. From Japan, Dr. Fumoto (Kindai University), Mr. L. Batnasan (Aizawa Mongolia LLC) and Dr. Yamada (Member of International sub-committee of JSCE, Nihon University) were attended. In the opening remarks, Dr. Batmunkh Narantuya (Mongolian University of Science and Technology) and Dr. Yamada introduced the overview of this seminar, and activities of the International sub-committee was introduced based on “Newsletter.”

Figure 1

Topic	Speaker	Time
Opening Remarks	B. Narantuya (MCA) Yuta Yamada (JSCE)	10:00-10:10
Fundamental Study on Simplified Evaluation Methods for Quality of Concrete Based on Water Contents and Brightness	Yuta Yamada (Assistant Prof. Nihon University)	10:00-10:50
Issues in Cold Weather Concrete in Mongolia	L. Batnasan (Engineer, Aisawa Mongolia LLC)	10:50-11:10
Introduction of JSCE Standard Specifications for Concrete Structures, and Quality Control in Japan	Takayuki Fumoto (Associate Prof. Kindai University)	11:10-12:10
Lunch		12:10-13:30
Digital Revolution in Construction Industry	T. Oyunbaatar (Chief, Premium Building Materials, LLC)	13:30-13:55
Special Cement Types Its Advantages	E. Bolormaa (Director, Associate Prof., New Mongolia School of Technology)	13:55-14:20
Concrete Quality and Substances in Mongolia	Ch. Dendevdorj (Prof. MUST)	14:20-14:45
Research on Study the Characteristics Recycles Aggregate Concrete	P. Sergelen (Ph.D. MUST)	14:45-15:15
Discussion		15:15-15:50
Closing, Photo Session		15:50-16:00

The speech content was follows: “the concrete is one of industrial materials, meanwhile the quality is remarkably affected by property of the local materials. Therefore, it is difficult to maintain and to control the quality. And there are a lot of issues regarding to this. So, there is no almighty solution, and that one of important things is to make continuously discussion such as this seminar for the improvement of the concrete technology.” In the morning session, simplified estimating method of concrete quality by using water spraying, quality control of cold weather concreting, and introduction to the JSCE Standard Specifications for Concrete Structures and quality control in Japan were presented. In the afternoon session, digital revolution in construction industry, special cement types and its advantages, concrete quality and substances in Mongolia, and characteristics of recycled aggregate concrete were presented.

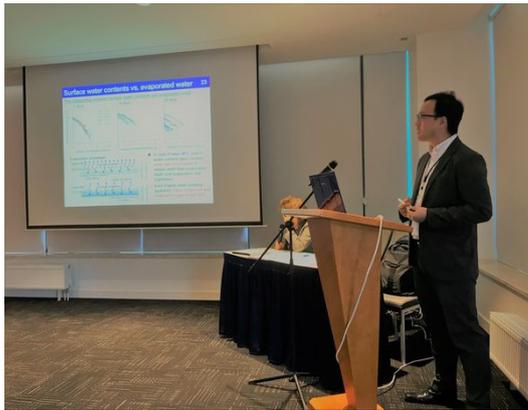
In the discussion session, participants asked a lot of questions regarding to quality control of materials. In particular, for the Japanese presenters, they asked details of simplified estimating method of concrete quality and way to treat a concrete of lower strength than the design strength in the JSCE standards. We hope that this joint seminar will be a chance and a clue to solve these issues, and will be fruitful and helpful for the improving the concrete technology.



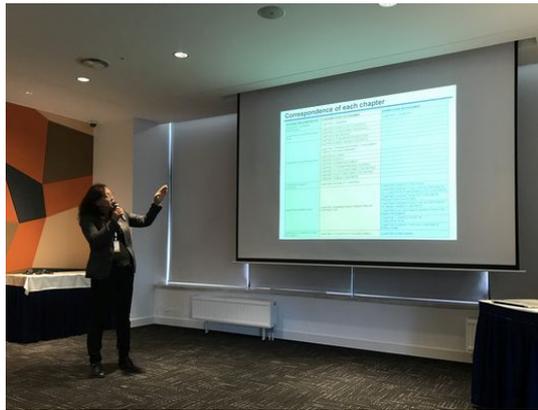
Dr. T. Fumoto



Mr. L. Batnasan



Dr. Yamada



Dr. Batmunkh Narantuya

【Reported by Yoshinobu Oshima and Yuta Yamada, International Sub-committee, Concrete Committee】

The 2nd Japan–Myanmar Joint Symposium on Civil Engineering

In Myanmar, its economy has grown rapidly since democratization in 2012, and civil engineering projects to construct infrastructure have progressed. Japan considers that Myanmar is an important country needing support and infrastructure, and has provided relevant technologies and technical cooperation. Against this backdrop, the Myanmar Group of International Activities Center is strengthening the technical relationship between Myanmar and Japan while promoting industry-government-academia partnerships in Myanmar to apply Japanese civil engineering technologies in the country and to help train engineers. This is why the Group continues to hold the Joint Symposium.



Thi Ha (Myanmar Group Sub-leader, ICCG, IAC)

Like the 1st Japan-Myanmar Joint Symposium on Civil Engineering, in the 2nd Symposium, held from June 29 to 30, 2019 in Yangon, Myanmar, MES (industry), which plays the central role in the civil engineering industry in Myanmar, MOC (government), YTU and MTU (academia), and JSCE cooperated with each other, and the Embassy of Japan in Myanmar (EOJ) and JICA Myanmar Office offered

support. In the opening ceremony on June 29, Professor Dr. Nyi Hla Nge (President of YTU) declared the opening, and H.E. Mr. Kyaw Linn (Vice Minister of MOC), as a representative of Myanmar, and Counsellor Kazuyuki Takimi (EOJ), as a representative of Japan, made remarks. There were then seven sessions on the themes of disaster prevention, urban design, traffic, infrastructure construction and maintenance, and young engineers. Thirty-three participants made presentations, including the keynote speech, and active discussions were held.

Over 450 Myanmar and Japanese engineers participated in this large two-day Joint Symposium. From Myanmar's perspective, the scale of the event was rare, with engineers from industry, government, and academia gathered together to hear about issues at construction sites, acquire new technologies and knowledge, and exchange opinions. It was a significant meeting, and was a particularly good opportunity for company engineers in Japan to collect information about infrastructure construction in various fields implemented by administrative agencies and about future plans, and to establish networks with governmental agencies and experts in universities. For the young engineers and researchers in Myanmar, it was a valuable opportunity to receive opinions and advice from engineers of foreign government agencies, companies, and universities whom they rarely meet in daily life, and to cultivate personal contacts. JSCE's activities in Myanmar were well received by both governments, and the participants requested that another symposium be held in the future. This symposium was held with financial assistance from the JSCE International Scientific Exchange Fund Charitable Trust.

【Reported by Thi Ha, Myanmar Group Sub-leader, Int'l Communication & Collaboration Group】

“Untold Heritage”

*This essay is contributed by a subscriber.

Japan started to establish today's civilized society from the end of the Tokugawa shogunate to the middle of the Meiji Era (from the middle to the end of the 19th century) by introducing the knowledge of developed countries in the West. What can we leave to this country, which takes for granted a civilized society that is rich in both material and spiritual terms?

The Japan Society of Civil Engineers (JSCE) certifies facilities that have had a great impact on industrial and cultural development as Civil Engineering Heritages. As of September 2019, there are 422 certified facilities. Here in Sagami City there is a Civil Engineering Heritage as well, located 15 minutes from Hashimoto Station by bus. The Heritage is Ogura-bashi, the oldest bridge spanning the Sagami River. I rushed to check the bridge the day after Typhoon Hagibis struck, but the bridge remained strong even in the muddy flow.

The usual road you use for commuting. Picture it. Punctual buses and trains, traffic signals that control the traffic flow, and bridges, ports, and airports that connect one city with another. Those ordinary landscapes are the achievements of civil engineers who have built the civilized society of Japan.

I am involved in supporting international students studying civil engineering. Three years ago, I was a total stranger to civil engineering and did not even know that the study of civil engineering existed. However, when I knew I would become involved, I decided to try to understand their aims. I arranged opportunities to talk to each and every international student and joined the construction site tours whenever possible. There is one thing I always ask international students: “How do you manage when you face problems?” Every student, regardless

of nationality, answers in the same way: “I think about the people in my country who sent me”. They act with a sense of responsibility that what they learn will lead to the development of their own countries. For me, they were like people from the past who ask me about the path Japan has walked along. We need to protect our lives and our country. I wonder to what extent this sense of ownership remains in us who live in the contemporary world.

Japan is a country that is often struck by disasters. Civil Engineering Heritage shows us not only the path of civilization of this country, but also the trial and error of our ancestors who confronted the marvels of nature. We only realize the existence of dams and levees when we feel our lives are threatened, such as during earthquakes, landslides, tsunamis, volcanic eruptions, and other natural disasters. Our everyday lives are protected by the knowledge of our ancestors. At times, new knowledge that surpasses the knowledge we inherited, is challenged.

Last July, I met Shogo Matsunaga, who tells children about the roles and importance of civil engineering. Being an engineer and doctor of engineering, Dr. Matsunaga says, “I am attracted to civil engineering, because it can turn our affection for people and society into a ‘form’, that is to say, infrastructure.” The ‘affection’ of civilized society is embodied in infrastructure. This is the vision of the public future, which goes beyond your own life. It means that you realize that you are a member of society and the natural environment and that you think about the city without you, where people of future generations can live safely.

Civil engineering is always accompanied by danger. Many engineers have lost their lives due to accidents during construction. According to a report of the Japan Construction Occupational Safety and Health Association, during Japan’s period of rapid economic growth, there were industrial disasters every year in which more than 100,000 casualties and 2,400 people died. Behind the Civil Engineering Heritage we find today, there are surely many untold lives. Each one of us must realize the value of what we take for granted but which actually exists, and our responsibility to pass on the heritage. Just like international students, try to achieve what we take for granted.

When I visited Bangladesh last September, a local person said, “We have not developed yet.” His words were poignant. However, a society that has no goal will remain undeveloped forever. Public work projects made possible by tax are the Civil Engineering Heritage of the future. We indirectly play key roles in creating cities where the next generation of people will live. It is us, not the country or general contractors, who protect people’s lives from frequent natural disasters.

As Typhoon Hagibis approached, we heard the phrase “Act to protect your life!” throughout the country. On that day, many international students asked me where they should go or what they could do. How concrete was our vision for “acting to protect our lives”? Fixing the furniture, knowing more than one transport route, and checking which information is correct. These daily efforts are part of how we can try to protect our lives.

Few of us can leave something with form. But always remember that our actions and decisions will eventually protect and support the lives of the next generation, just like Civil Engineering Heritage does. This city, where we live safely, is the culmination of the untold efforts of our ancestors. The strength of us who live today will become the heritage of Japan in the future.

【Reported by Yu Arima, Yokohama National University】

Updates

◆Up-coming Events

- ◆ **Japanese Civil Engineers the Global Leaders Symposium Series No.15 (February 5, 2020)**
<http://committees.jsce.or.jp/kokusai/node/157>

- ◆ A Half Day Workshop on Maintenance of Concrete Structures –Durability Assessment, New NDT Method Introduction, AI & i-Construction Application in Japan
(14:00-17:30, March 5, 2020@Nanyang Technological University, Singapore)
<https://www.facebook.com/JSCE.en/posts/3193826163980080>

- ◆ One Day Seminar on Assessment of Thermal Cracking in Mass-Concrete
(9:00-17:40, March 6, 2020@Nanyang Technological University, Singapore)
<https://www.facebook.com/JSCE.en/posts/3193843887311641>

- ◆ International Students Seminar on
“Achieving SDGs and realizing a sustainable society through regional development”
http://committees.jsce.or.jp/opcet_sip/node/17

- ◆ IABSE-JSCE 4th Joint Conference, Advances in Bridge Engineering
<http://www.iabse-bd.org/2020/>

- ◆ jhappy - JICA's Grant Aid Cooperation -
Facebook: <https://www.facebook.com/jhappy20161110/>
Twitter: https://twitter.com/jhappy_official

- ◆ The International Infrastructure Archives
– A Compilation of Japan's Greatest Projects in Transfer of Civil
Engineering Technology in Service –
<http://www.jsce.or.jp/e/archive/>

- ◆ IAC “News Pick Up!!” on the JSCE Japanese website
<http://committees.jsce.or.jp/kokusai/node/118>

- ◆ Summary of featured articles in JSCE Magazine Vol. 105, No.2, February
2020
<http://www.jsce-int.org/pub/magazine>

- ◆ Journal of JSCE
<https://www.jstage.jst.go.jp/browse/journalofjsce>



IABSE-JSCE 4th
Joint Conference
Advances in Bridge
Engineering

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