2020. 11. 2

Japan Society of Civil Engineers

International Activities Center

IAC News No.97

The “Talking about 'working in the field of civil engineering in Japan' from various perspectives”(3/3)

This is the last part in this series. The previous parts in this series have introduced the profiles of the discussion members, their reasons for coming to Japan, and their experience of working as a civil engineer in Japan. This time, they will go one step further and talk about the culture, habits, and customs they have witnessed in Japanese society and workplaces, those cultures, habits, and customs they have experienced and can or cannot relate to, and things to improve and suggestions from the standpoint of someone who was born and raised overseas.

■ Characteristics of Japanese companies and the current state of education as seen from a foreign engineer’s perspective

– What is lacking in Japanese civil engineering and words of encouragement

Lee: Although it may be proof that Japanese society is perfect from a cultural stand point, today's Japanese students are less motivated to aim higher and do not want change. I would like to accept more international students to inspire the Japanese students.

Binh: It’s not that all students lack motivation. There may be a small number of students that do, but there are also students who say they want to work abroad in the future. I want to create an environment where students are able to imagine oneself after graduation from an early stage and better themselves to get closer to that vision.

When working in Japan, you will often work with Japanese companies, and conversations are done entirely in Japanese, which makes it a unique situation (environment). You cannot communicate with others without knowing Japanese culture and customs. On the other hand, many Japanese companies take the way of working in Japan for granted and are unable to adapt to how work is done overseas. For example, the thinking behind contracts is different. Overseas, matters and work that are not included in the contract are regarded as being out of the contract scope.

Students who study abroad in Japan from graduate school have a short time to get used to Japanese cultural customs before going out into society. What’s more, graduate school lectures are given in English and students are busy with research, meaning they have no time to accustom themselves to Japanese culture. It is difficult for students in such an environment to work in a Japanese company in the same way as Japanese natives. This point

will no doubt be a major obstacle for Japanese companies in making use of overseas individuals.

Lee: In order to work as a civil engineer in Japan, it is important to study abroad in Japan and acquire communication skills. For example, some large companies have a 'tutor system' that allows hired foreign engineers to learn about the Japanese language and culture with the help of a tutor. I'm sure it would be good thing if the government promoted the adoption of the tutor system for companies. For engineers from overseas, not only will it make the environment easier to work in, but Japan will be thought of as a country where people can work with peace of mind.

Ha: I think the issue with Japanese companies is that they set ambiguous goals. In many cases, I think maybe motivation does not improve because managers cannot properly evaluate junior staff and the junior staff members are not convinced by the results of their evaluation. Overseas companies evaluate each person's performance under the management of clear goals.

Binh: Japanese companies often carry out personnel evaluations in line with standard deviation, while overseas companies often carry out absolute performance evaluations independent of other personnel. With absolute performance evaluations, it is easier to advance your career because goals are set in a clear fashion.

Eakarat: It is difficult to suddenly just change the evaluation system that has been in operation for many years, but if we anticipate an increase in overseas employees, the personnel system will need to be looked at as well.

Another issue is how Japanese people work. Overseas, the focus is on what you produce by working efficiently in the limited time you have, while Japan tends to have long working hours and many meetings. A work environment that considers one's work-life balance' is essential. I look forward to seeing the effect of the 'work style reform' promoted by the Japanese government.

In order for engineers and researchers from overseas to work at Japanese companies, it is first necessary to review the company's Japanese language proficiency requirements in recruitment, the evaluation system, HR system, working styles, system and environment for accepting overseas engineers, etc. Many companies still have a lifetime employment policy, and there is little awareness toward the evaluation of performance based on ambiguous goal setting. Working overseas allows me to forge my own career path, gain experience while considering changing jobs, and work up the ladder while trying to improve my skills and abilities. It is time for Japanese companies to consider systems and environments that take advantage of the abilities of engineers from overseas.

Meanwhile, university education needs to be reviewed so that working abroad is an option for Japanese students. While Japanese culture focuses on 'educating after joining the work force', countries overseas emphasize the skills one possesses when one graduates.

■ Future acceptance of foreign individuals and the significance of diversity

Lee: Japanese society with its declining birthrate and aging population faces the challenge of securing a work force for years to come. The solution to this is to secure human resources from overseas. I hope that the number of people from overseas like me who are involved in Japanese education and research will increase.

What is required of foreign individuals and companies is acculturation and enculturation, flexibility, a mindset to take on new challenges and potential as an engineer, and the ability, attitude, and tools to take this to the next

level.
Japan needs to further open its doors to overseas engineers.

Binh: Although the performance of Japanese companies has been sluggish for the past decade or so, Tokyo has human resources and potential appeal as a city. There is a need to do a good job of promoting what makes Tokyo great and raise interest in Japan. For this, it will be necessary to improve social systems and frameworks and the living environment, as well as relax procedures for visas and permanent residence.

I would like university professors to encourage students to take an interest in foreign countries and nurture individuals who will 'serve as bridges to connect the world.'

Ha: I would like civil engineers to look overseas more regardless of how old they are.

Eakarat: The Japanese IT industry is actively hiring talented overseas engineers and at the same time is creating an environment where foreign individuals can work comfortably. The civil engineering industry is expected to follow a similar trend, and a flexible approach to this will be required. What is fundamental to this will be to understand each other and know one's role and what you can contribute.

The Japanese society, with its declining birthrate and aging population, is currently tackling the issue of securing human resources. One way of dealing with this is securing talented individuals from overseas. The Japanese government and companies are making efforts to improve the environment and system for taking on such individuals, but it is still a work in progress. I think it is important that the Japanese national government promotes the appeal of Japan to engineers from overseas and continues to establish a system for accepting them. For companies, I think it is important that they clarify the abilities, roles, and career paths required of engineers from overseas while presenting their company mission and vision, and to establish an attractive working environment and support system. Furthermore, within companies, rather than paying special attention to foreign individuals, it is important to raise awareness that they are a fellow colleague there to achieve the company's vision and that they are to be respected at the same time.

I hope that engineers from overseas will continue to fully show what they are capable of both within the Japanese society and Japanese companies. I also hope that they create awareness and an environment in the Japanese society that does not need to advocate diversity.

This series has seen us introduce the experiences and views of engineers from overseas who participated in our special discussion. This series has only been able to introduce just one side of these engineers. The International Activities Center will continue to promote communication and joint activities with engineers from overseas and create an environment where we can learn about and from one another.

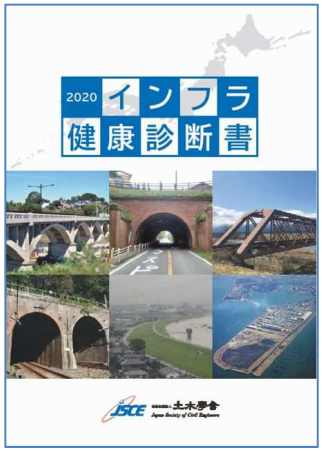
Ocean Engineering Committee

Kenichiro Shimosako
(The Chair of Ocean Engineering Committee)

The Ocean Engineering Committee was established in 1969 with the aim of conducting surveys and research on ocean development and conservation and propagating the results to wider society. Since then, for more than 40 years, the Ocean Engineering Committee has been engaged in its mission as a group of experts made up of civil engineers and researchers related to ocean development, and has contributed to the development of the ocean development field at the Japan Society of Civil Engineers. As part of this, the Ocean Engineering Committee holds the Ocean Development Symposium every year as an opportunity to present and discuss the latest findings related to ocean development, but this year it was canceled due to the impact of the COVID-19 pandemic.

This paper introduces the activities of two subcommittees as recent action taken by the Ocean Engineering Committee.

◆ Subcommittee for Drawing Up the Social Infrastructure Report Card (Port & Harbor Version)



2020 Infrastructure Report Card

Since 2016, the Japan Society of Civil Engineers has been assessing the status of Japanese infrastructure as a third-party organization, and in 2018, the Infrastructure Report Card (Trial Version) of the Port & Harbor category was published. In 2020, as two years had passed since the last announcement, the report card assessment was updated based on the latest inspection and diagnosis data. The main changes from the previous report card assessment are as follows:

- Last time, we assessed the grade level using the inspection and diagnosis data based on the survey results, but this time we used the inspection and diagnosis data which has been updated with data and the addition of work from a maintenance database owned by the Ministry of Land, Infrastructure, Transport and Tourism.
- In addition to the berthing facilities implemented last time, external facilities such as breakwaters has also been included as facilities subject to the report card assessment.

The '2020 Infrastructure Report Card' is available on the Japan Society of Civil Engineers website (http://committees.jsce.or.jp/reportcard/).

◆ Subcommittee for Examining the Use of Advanced Numerical Analysis Tools

In recent years, advanced numerical analysis tools have been used in the field of fluid dynamics, including the likes of OpenFOAM (Open source Field Operation And Manipulation), a three-dimensional computational fluid dynamics tool based on the VOF (Volume of Fluid) method, and SPHysics based on SPH (Smoothed Particle Hydrodynamics), which is one of the particle methods. However, as things currently stand, the roll out of advanced numerical analysis tools for the development and utilization of ocean space has not been sufficiently undertaken. The Subcommittee for Examining the Use of Advanced Numerical Analysis Tools has been active since 2016 with the main objectives of conducting research reviews on existing advanced numerical analysis tools and verifying the accuracy and examining the applicability of analysis tools. Some of the research results

were widely publicized and intensively discussed at a special session held at the 2019 Ocean Development Symposium. We are planning to hold another special session at the 2021 Ocean Development Symposium. In addition to disclosing such research results, we aim to examine and develop useful ways to publish information for using these tools.

【Reported by Kenichiro Shimosako, The Chair of Ocean Engineering Committee】

Report on the 22nd International Summer Symposium (The 75th JSCE Annual Meeting: International Session)

The JSCE Annual Meeting held in September 2020 was the first to be held online due to the spread of COVID-19. Unfortunately, due to holding the event online, the scheduled international events (International Round Table Meeting, International Young Engineer Workshop, and Networking Reception) were cancelled. However, the paper presentation, which is part of the International Summer Symposium, was held as the International Session of the 75th JSCE Annual Meeting in the form of discussions online.

The International Summer Symposium has been hosted by the International Student Network Group, International Activities Center since 2012, and this year marked the 22nd time it has been held. The purpose of the event is to provide opportunities for presentations in English for international students and Japanese students studying at Japanese universities. This year also saw a total of 45 papers submitted from across a range of fields such as geotechnical engineering, structural engineering, disaster mitigation, sensing, and materials, and each session was organized as shown in Table 1

Table 1: Sessions of the 22nd International Summer Symposium.

Session Name	No. of Presentations	Chairperson
Session (1) Geotechnical Engineering	10	Associate Professor Ying Cui, Yokohama National University
Session (2) Structural Engineering	9	Associate Professor Hiroshi Tamura, Yokohama National University
Session (3) Earthquake & Disaster Mitigation	10	Associate Professor Goit Chandra Shekhar, Saitama University
Session (4) Sensing, SHM, BIM, VR	8	Associate Professor Mayuko Nishio, University of Tsukuba
Session (5) Concrete Engineering	8	Assistant Professor Yuya Takahashi, The University of Tokyo
Total	45	

Our first attempt at holding discussions online this year saw submitted papers and presentation slides published on the website, and the chairperson and participants used the comment function to ask questions to the

presenters, which they then answered. Compared to regular presentations, there was a slight sense of distance between the presenter and the participants because it was not done face-to-face, but the online format proved to be an opportunity to delve deeper into the discussions as participants and presenters were able to take time in posting their questions and answers respectively

We would like to take this opportunity to express our sincerest thanks to the chairpersons who facilitated the event while enlivening the discussions, all the presenters, and everyone who participated in the discussions.

Turning our attention to a forthcoming activity of the International Student Network Group, the Company Information Session for International Students is scheduled to be held on Saturday, December 12 with the aim of providing information on Japanese civil engineering companies. This year is the first time the event will be held online, and we will call on companies and international students from all over the country to participate. For details, see the International Activities Center website. We thoroughly encourage you all to take part and look forward to your participation.

【Reported by Ji Dang, International Student Network Group, IAC (Saitama University)】

Updates

◆IAC YouTube Channel
https://youtube.com/channel/UCGIs6DHrzX_cGD-mHUrRlkA

◆ICHARM Webinar 2020 - Interaction with Students and Young Researchers – (December 9, 2020)
https://committees.jsce.or.jp/kokusai/node/193

◆17th World conference on Earthquake Engineering (17WCEE)
http://www.17wcee.jp/

◆The Second International Conference on Press-in Engineering (ICPE) 2021, Kochi: https://icpe-ipa.org/

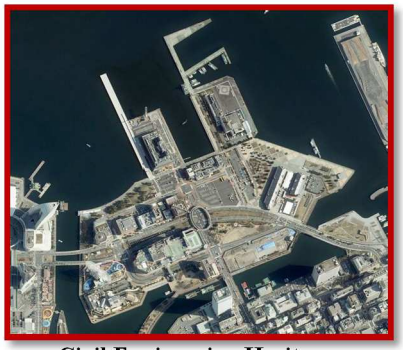
◆jhappy - JICA's Grant Aid Cooperation -
Facebook: https://www.facebook.com/jhappy20161110/
Twitter: https://twitter.com/jhappy_official

◆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/iac_dayori_2020

◆Summary of featured articles in JSCE Magazine Vol. 105, No.11, November 2020
http://www.jsce-int.org/pub/magazine

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



Civil Engineering Heritage:
The Port of Yokohama
https://committees.jsce.or.jp/heritage/list/2020

§ IAC News Subscription §
The IAC News is one of the communication tools to share information and ideas with the members. We would like to invite you, your friends and colleagues to join the communication and to subscribe the IAC News. Please register online: (http://www.jsce-int.org/node/150). We look forward to meeting you.

§ IAC Facebook §
Recent activity of International Activities Center is introduced on this Facebook. Please see this home page (https://www.facebook.com/JSCE.en).

Comments and Questions
Please send us your feedback and comments to help us improve the IAC news. We look forward to hearing from you.
JSCE IAC: iac-news@jsce.or.jp