



**Japan Society of Civil Engineers**

*International Activities Center*

## IAC News No.63

### New Year's Greetings

I hope the New Year finds you in excellent sprit and brings you and your family a fortune and happiness.

Last autumn, I attended the ASCE's 2017 Convention held in New Orleans, Mississippi and had an opportunity to meet three ASCE presidents, the incumbent and incoming presidents and the president-elect. All three were female engineers, that was a nice surprise for me.

It is important to strengthen the communication between ASCE and JSCE in order to more effectively respond to the challenges of aging infrastructures and the risks posed by violent, large-scale natural disasters, that I mentioned in my last essay in the IAC News. Considering that, I made two proposals to the three presidents. One was to put two heads together to examine and explore what civil engineering should be to mitigate disaster risks, and to review and re-define the efforts we make to achieve that. The other was to strengthen JSCE's and ASCE's efforts to address the common challenge of aging infrastructure, competing with each other in research and development.

Nippon Hoso Kyokai (NHK: Japan Broadcasting Corporation) has aired the programs featuring mega natural disasters several times recently. Those programs send pretty good messages to remind people what they should do to respond to the risks of large-scale natural disasters induced by climate change and extreme weather around the world.

I meanwhile am very disappointed in those programs. For, they have seldom mentioned the importance of strengthening risk reduction measures and social protection while have stressed on the significance of making accurate forecasts, planning and implementing disaster preparedness and emergency response.

Making accurate forecasts, planning and implementing disaster preparedness and emergency responses, and enhancing risk reduction measures and social protection must be emphasized equally and dealt with accordingly. I am convinced that it is vital to build collaborations among those countries which have conducted numerous studies and researches, gained various experiences and knowledge, and acquired a significant amount of data in order to unerringly achieve those actions.

Seeing the government's poor policies and schemes for infrastructure development and media's not-well-balanced opinions, I can't help but saying that it is absolutely necessary for civil engineers not to stay behind, but to step forward and say what to say, knowing that they share the common views of the governments and media. I therefore keep my hope up that you civil engineers working international projects in the civil



**OHISHI, Hisakazu**  
105th JSCE President

engineering field will make every effort to pursue your goals, pushing yourselves to excel while keeping good terms with your international counterparts.

## Report of JSCE Study Grant Tour 2017

Since 1992, with the support of the “JSCE International Scientific Exchange Fund,” the Study Tour Grant (STG) program has been inviting students of civil engineering or young engineers, who have been recommended as excellent by societies within the Agreement of Cooperation (AOC), to visit Japan. A single participant was accepted from each of the six countries of Myanmar, Vietnam, Mongolia, Turkey, the Philippines, and Thailand in 2017.



At the Erosion Control Construction Site in the Great Aso Bridge district

Spending a week in residence from September 10th to September 16th, and in accordance with a program planned by the International Scientific Exchange Fund

Committee, they gained knowledge of civil engineering technology in Japan and deepened their exchanges with Japanese civil engineers and researchers.

The program is constructed around three activities: visits to technical research facilities, inspections of construction sites, and presentations at the International Summer Symposium (International Program) held at 2017 JSCE Annual Meeting.

### List of Participants

Participant's name	Recommending organization
Mr. Mai Hoang Bao	VFCEA (Vietnam Federation of Civil Engineering Associations)
Mr. Ganzorig Tsevelsuren	MACE (Mongolian Association of Civil Engineers)
Mr. Pau Sian Muan	MES (Myanmar Engineering Society)
Ms. Tugce Ceran	JSCE Turkey Section
Mr. Al-Adzhar P. Usman	PICE (Philippine Institute of Civil Engineers)
Mr. Pornnarong Lueanpech	JSCE Thailand Section

On the 11th, for the first day of the JSCE Annual Meeting, after visiting Kajima Technical Research Institute's Nishi-Chofu Complex experimental site in Tokyo, they flew to Fukuoka Airport, then travelled to the Ito campus of Kyushu University, where they attended the networking reception organized by the International Activities Center.

On the following morning of the 12th, they attended the 19th International Summer Symposium (Annual Scientific Lecture Meeting/International Program) held at the same location and, together with many international students resident in Japan, made PowerPoint presentations of the papers they had prepared in their

home countries. In the afternoon, they departed Ito campus for the city of Kumamoto by charter bus. On the way, they inspected the Yabegawa Bridge on the Ariake Sea coastal road (a three-span continuous cable-stayed prestressed concrete bridge opened in 2009 which has the largest main tower separation for a concrete cable-stayed bridge in Japan) and the right bank of the Yabegawa embankments which ruptured due to the heavy rain in the northern Kyushu in 2012, and where maintenance is now underway at the river disaster prevention station. Next, they visited the remains of the Miyanohara Pit at the Miike Coal Mine located in Omuta City, which is one of the Modern Industrial Heritage Sites registered as World Cultural Heritage.



At the Right Bank of the Yabegawa Embankments

On the 13th, they inspected Kumamoto Castle which was damaged in the Kumamoto earthquakes of 2016, and observed the state of unmanned construction at the site of the large-scale landslides that the earthquakes caused in the Great Aso Bridge district. On the way, they stopped by the Tsujun Bridge, well-known for its stone arch construction (currently undergoing restoration work) and the Shirakawa Spring Source in Minami Aso, selected by the Ministry of the Environment as one of Japan's 100 best water sites, and where they were able to see the spring water itself at source. Afterwards, they returned by an evening flight from Kumamoto to Tokyo.

The 14th began with an inspection of the ongoing Tajiri construction work (Taisei JV) on the Tokyo Gaikan Expressway in Ichikawa City, Chiba Prefecture, before a visit to the Shimizu Institute of Technology Research Facilities in Tokyo, and the JR Tokyo Station north road area maintenance and construction site (Obayashi Corporation). The schedule was tight, with little free time, but on the evening of the 14th, there was an opportunity for members of the International Scientific Exchange Fund Committee and the STG participants to enjoy dinner together.



STG participants receive a lecture at the Shimizu Institute of Technology

On the day before their final departure, they took a water bus along the Sumida River from Hinode Pier to Asakusa, and walked around the Asakusa area before ascending the Tokyo Sky Tree to enjoy the view across Tokyo.

Thanks to all cooperative efforts involved, particularly those of the Kyushu Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, the program was concluded successfully and without incident. We express our gratitude and hope to receive your ongoing cooperation.

**【Reported by Committee on International Scientific Exchange Fund】**

## **[Alumni of DOBOKU Series]**

# **“Important roles of international collaboration between Japan and Vietnam in the development of civil engineering”**

**Nguyen Hoang Giang**

**Associate Professor / Director, International Cooperation Department / Director,  
Vietnam – Japan Institute for Advanced Technology (VJIAT),  
National University of Civil Engineering**

### **Understanding Culture, a Start of Cooperation**

In 2003, the year that I graduated from National University of Civil Engineering (NUCE) in Vietnam, the difference between constructions in Vietnam and those in developed countries especially in Japan was huge. A 20–stories building at the new town My Dinh was considered as a good achievement for Vietnamese civil engineers at that time. Now, we can have 81-Stories Building (Landmark 81) or beautiful Nhat Tan Bridge (Japan – Vietnam Bridge), Noi Bai airport, Metro Line 1 Ho Chi Minh... all of these have been happened thank to great and rapid international cooperation and contribution especially with Japanese partners.

The great opportunity came to me as I got a JICA long-term training scholarship and took a master’s degree at Toyohashi University of Technology from 2004 – 2006. After that, I got the Monbukagakusho scholarship for my PhD at Saitama University from 2007 – 2010. My research topic was about the seismic stability of damaged reinforced soil walls where I conducted various types of experiments including a series of centrifuge tests at Tokyo Institute of Technology. There during these times in Japan, I experienced not only academic, research environment, but also important and interesting cultures and networking. Throughout seminars, international conferences, site visits and student symposiums such as JSCE’s, I had established many fruitful relationships with colleagues and experts who later became important partners for my research activities and international collaborations.

### **Starting from Small Steps**

After completing my PhD in 2010, I returned to National University of Civil Engineering working as a lecturer in the areas of inspection and maintenance. From 2013, I became Director of International Cooperation Department and in 2016, an Associate Professor of NUCE. Besides my university work, I also deeply involved with industries cooperating with corporations in areas such as soil improvement, span piles, steel pipe piles, and monitoring. As Vietnam is in rapid development, I have had opportunities to be involved in many interesting projects: Nghi Son thermal power plant, Thai Binh thermal power plant, Discovery Complex. The Japanese companies are very popular and dominant players in Vietnam’s construction market, thus an alumnus like I could have the advantage of integrating in the industry with knowledge, culture that were gained during time in Japan. There, I could see that alumni of Japan are one of the key factors for connecting and supporting business between Japan and Vietnam.

As in NUCE, we have other alumni from Japan and other countries and we have been working together as a



**Nguyen Hoang Giang,**  
Associate Professor,  
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team to establish collaboration in research and education with the most important partner, Japan. Having started with small steps such as organizing technical joint seminars, we continue to this day and have developed important programs such as the Student Exchange programs with Japanese universities and companies, Joint Master Program with Saitama University, JSPS Core to Core project, S.I.P, SATREPS. Together with Japan Society of Civil Engineering (JSCE), in 2013, we established the Center for Promoting Vietnam - Japan Civil Engineers Collaboration (CJV) in our campus, and I am the chair of this center. We also have Dr. Phan Huu Duy Quoc from Shimizu Corporation as the co-chair of this center. Japanese construction companies and experts could request our support and assistance when they visit Vietnam. Every year, we organize 5-6 seminars and have a library that has Japanese codes, books and journals are available for public access.

In 2015, we established Vietnam – Japan Institute for Advanced Technology (VJIAT) in NUCE, which I am now working as a director. We have been working with Japanese partners such as JFE Steel Corp. for technology transfer, developing new structures, materials for Vietnam, market researches, establishing codes and technical guidelines and training excellent Vietnamese engineers with Japanese language and culture then supporting them to work for Japanese companies in Japan (Photo 1). With the fast growing market of Vietnam, we are very happy and proud that together with Japanese partners, we have achieved some encouraging results and positive contribution to societies.



Photo 1: Seminar with JFE Steel Corporation

### **A Typical International Cooperation Project: SATREPS**

Most recently, we just got the acceptance for a Science and Technology Research Partnership for Sustainable Development (SATREPS) supported by Japan International Cooperation Agency (JICA) and Japan Science Technology Agency (JST). The project’s title: “Establishment of Environmentally Sound Management of Construction and Demolition Waste and Its Wise Utilization for Environmental Pollution Control and for New Recycled Construction Materials in Vietnam” (Photo 2). Saitama University is the primary institute from Japan and National University of Civil Engineering is the primary institute from Vietnam.



Photo 2: Signing Ceremony on SATREPS Project

In this project, my role is as a project manager. The project involves other partners from both countries.

Japan:

- National Institute for Environmental Studies (NIES)
- Center for Environmental Science in Saitama (CESS),

Vietnam:

- Ministry of Construction (MOC)
- Hanoi Department of Construction (Hanoi DOC)
- Haiphong Department of Natural Resources and Environment (Haiphong Donre)
- Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), MONRE
- Hanoi University of Science and Technology (HUST)

Our research addresses the hot issues in construction demolition waste management in Vietnam. The solutions for the issues would probably change Vietnam's legislations and regulations, socio-economic sectors as well as environmental protection's attitude.

This kind of international joint research project is very important for Vietnam at this moment since it could utilize research results with government's policies and management to generate business models as to support the outputs of research. We really hope and believe that our project could greatly contribute to our society. We aim to become a reliable partner and gateway to Vietnam for Japanese universities, experts and enterprises.

Profile: Born in Hanoi, Vietnam in 1980. He pursued Master (Toyohashi University of Technology) & PhD (Saitama University) from 2004-2010. Currently, Associate Professor and Director, International Cooperation Department / Director, Vietnam – Japan Institute for Advanced Technology of NUCE.

《Column》 Jiro Kuwano, Professor, Saitama University



Dr. Giang was my first PhD student at Saitama University. His research topic was “seismic stability of damaged reinforced soil walls” for which he had to go to Tokyo Institute of technology, my previous workplace, for his centrifuge model tests as we did not have enough facilities at the time. Although TokyoTech is not close to Saitama-U, about an hour and a half, he seemed to be happy to go there and made new friends. When we went to Cape Town in

South Africa for a conference, Dr. Giang enjoyed a walk. “Giang, how was a walk?” “I was pursued at the beach by a gang of two young guys.” “What, could you get clear away from them?” “No, sir. I was caught up by them. But we are friends now!” Yes, it is indeed the goodness of Dr. Giang that he can be friends with anyone anywhere. I am quite happy that he successfully plays an active part in the international cooperation between Vietnam and Japan.



Prof. Kuwano and Dr. Giang at the Cape of Good Hope in Cape Town, South Africa (Sept. 2009)

※Alumni of DOBOKU Series is in collaboration with Editorial Committee of JSCE Magazine.

## 5th JSCE Taiwan Civil Engineering Heritage Visit Report

The JSCE Communications and Public Relations Center held the “5th JSCE Taiwan Civil Engineering Heritage Visit” over four days from 11th to 14th October, 2017. Of the 19 participants, 16 were civil engineers and 3 were ordinary members of the public, with around 70% on their first visit to Taiwan. Regular visitors are strongly encouraged – “You can only see and experience this on these programs!”

The basic theme of this program is for visitors to walk in footsteps of those Japanese engineers who devoted themselves to the development of Taiwan’s basic infrastructure over the 50-year period of Japanese rule. The irrigation projects of Yoichi Hatta, for which the people of the region continue to be grateful, are always included in the viewing program as examples representative of the work of the many Japanese engineers. On the visit to the Wushantou Dam Facility, Dr. Ko, Wu-Te, Secretary General of the JSCE Taiwan Section, together with four members of the Chia-Nan Irrigation Association attended and provided explanations. While walking

across the Wushantou Dam, we learned, amongst other things that, as the largest dam in Asia at that time, it had been designed by, and constructed under the supervision of Yoichi Hatta, and that it is valued for its contribution via irrigation to the transformation of the Chia-Nan plain into a major grain-producing region. The attendees were greatly impressed that Yoichi Hatta’s accomplishments in the irrigation of Chia-Nan served not only to create one of the world’s great dams at the time, but following the construction, also made important contributions to society, such as through the realization of a water supply for three-year crop rotation, thereby transforming and enriching the lives of 600,000 local farmers up until the present day.

While visiting the Taiwan Power Company Sun Moon Lake Hydroelectric Power Station (renamed to the Takuan Hydroelectric Power Station), the station manager explained that, though construction was suspended under the rule of Akashi Motojiro, governor-general of Taiwan in 1918, through the work of Kanichiro Matsuki, Yosuke Yamagata, Nagashige Kunihiro, and Massu Horimi, the



**Hideki Ogata**  
Director of Civil Engineering Literacy Promotion Group, JSCE Communications and Public Relations Center



Laying flowers at the bronze statue and grave of Yoichi Hatta near the Wushantou Dam



Takuan Hydroelectric Power Station at Sun Moon Lake, Central Taiwan, 748 m above sea level



damming of the lake and the power plant construction was eventually completed over 16 years. Following this explanation, we went on to inspect the facility in detail.

With comments such as “The times may change, but this provides an opportunity to feel pride in civil engineers and in Japanese,” many participants expressed a desire that these visits should continue.

## Report on 3rd Excursion to the Construction Sites and Joint Company Information Session in Civil Engineering for International Students held in Kyoto

The International Student Network Group holds its Construction Site Excursions and Company Information Sessions to educate international students studying in Japan about Japan’s cutting-edge civil engineering technology and to provide them with information about civil engineering-related companies. Focusing on the Kansai area, that group has been holding Construction Site Excursions in combination with Company Information Sessions since the first session in December 2014. A second session was held in January 2016, and the third and most recent session was held jointly with the Kansai branch of JSCE on November 24th, 2017 in the city of Kyoto.



Commemorative photograph taken in front of a large PR signboard for foreign tourists

For this year’s Construction Site Excursion, we were able to cooperate with the business owner, Kyoto National Highway Office within the Kinki Regional Development Bureau of Ministry of Land, Infrastructure, Transport and Tourism, as well as with the constructor, the Kyoto West Shield Branch Office of Nishimatsu Construction Co., Ltd. In addition, four companies, including Nishimatsu Construction, joined the Company Information Session, which was held in the hired conference room of Kyoto Research Park. The international student attendance was 16 for the Construction Site Excursion and 17 for the Company Information Session.

### International student affiliated schools

- Kyoto University, Ritsumeikan University, Setsunan University, Wakayama University, and National Institute of Technology, Akashi College

### Excursion destinations

- National Highway No. 9 Kyoto West Utility Tunnel Shield Construction

### Companies in attendance at the Company Information Session (Venue: Conference Room of Kyoto Research Park)

- Nishimatsu Construction Co., Ltd., Eight-Japan Engineering Consultants Inc., NEWJEC Inc., and Obayashi Corporation

In a conference room within the National Highway No. 9 Kyoto West Utility Tunnel Shield Construction Site, Nishimatsu Construction staff provided an outline explanation of the details of construction, including planar and vertical section alignment, geological conditions, the slurry shield machinery and slurry discharge systems used, etc. They also explained the diversified current status of shield machinery from the points of view of cross-sectional shapes, excavation lines and underground joining. Next, while observing various slurry treatment



equipment, participants moved to the start shaft opening, where they viewed the  $\phi$  5.32 m slurry shield machine which is due to begin its advance in the near future, and which has been set in place at the base of its approximately 40 m-deep shaft. On site, young engineers from Indonesia and Vietnam working for the company also participated.

Although the site visit was brief, there was time at a question and answer session for questions concerning the presence or absence of effects of shield excavation on ground surface subsidence, subsidence countermeasures, the involvement of consultants in project implementation and the respective uses of RC segments and steel segments. Finally, participants were able to see the central control room through a glass window partition in the wall of the neighboring room, from which they curiously viewed the monitor screens installed there.

The Company Information Session was divided into two halves, with the first half including ten minute presentations by staff from the four participating companies, with each company introducing their respective business operations and representative projects, as well as providing information regarding their overseas development etc. Following a change in setup, in the second half, the participating international students were divided into four groups of three to five people, with each group spending 10 minutes at a time in conversation with the staff from each of the four companies. Though starting 30 minutes earlier than scheduled, the session went on to run beyond its scheduled closing time.

As was the case for our previous excursion, it was possible to sense the high degree of interest the international students had in the construction sites and in Japanese industry. Aiming to collaborate with the international students' universities etc., and while improving how the meetings are held, the International Student Network Group plans to continue to hold these events, providing opportunities for international students to study Japanese civil engineering technology and to obtain information about the industry.

Finally, I express my appreciation for the generous cooperation received in holding this event from Naoki Matsuda, Deputy Director of the Kyoto National Highway Office, Tamio Horiuchi of Nishimatsu Construction Kyoto West Shield Branch, the Kansai Branch of the Japan Society of Civil Engineers and all other parties concerned.

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



International students are briefed by young foreign national engineers belonging to Nishimatsu Construction



Company Information Session with the groups separated by Screen Partitions

## ACECC TC21 Session at World BOSAI Forum was a Success!

World BOSAI Forum was held in Sendai, Japan from November 25 to 28, 2017. The purpose was to discuss efforts to put into practice the ideas of “Sendai Framework,” which was adopted at Third UN World Conference on Disaster Risk Reduction in March 2015. The participants were selected from BOSAI related professionals from industry, government, and academia worldwide. On November 27, JSCE hosted the session “Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters - Efforts towards Achieving the Goals of Sendai Framework.” (Figure 1)



Yoshihiro Katsuhama  
Secretariat of ACECC  
TC21 Support  
Committee, JSCE  
(Nippon Koei Co.,  
Ltd.)

This session was held as a part of TC21’s activities. TC21 was established as the 21st technical committee of Asian Civil Engineering Coordinating Council (ACECC) under Co-Chairs Dr. Kuniyoshi Takeuchi, Professor Emeritus at University of Yamanashi and Mr. Romeo S. Momo, Undersecretary of Department of Public Works and Highways from Government of the Philippines. ACECC TC21 Support Committee (Chair: Dr. Takeuchi), which was constituted to support TC21’s activities and collect, analyze, and offer the information regarding actual cases in Japan, prepared this session.

Following an outline of TC21 and the purpose of the session by the Chair, Dr. Takeuchi (Photo 1), Mr. Masaru Arakida explained past and current activities and plans of TC21, and Dr. Senro Kuraoka reported the areas of priority based on the field survey in the Philippines. Then, Dr. Masako Yoneda, Director of Japan Academic Network for Disaster Reduction (JANET-DR) and Special Research Professor at Keio University, gave a lecture on the efforts of TDA by JANET-DR. Following this, I, Katsuhama, gave a substitute lecture for Dr. Harkunti Rahayu, a TC21 member, and Mr. Ting-Chi Tsao, a TC21 member, introduced the practice of TDA in Indonesia and Taiwan. As the end of presentation, Dr. Takako Izumi, a TC21 member, who also serves as Secretariat of the World BOSAI Forum, explained the significance and aim of TC21’s activities to achieve the goals of Sendai Framework. After the presentations, there was a whole room discussion. (Photo 2)

As the conclusion of this session, the following recommendations were proposed toward a summary of the forum by a Chairperson of World BOSAI Forum Committee, Dr. Fumihiko Imamura, a professor at International Research Institute of Disaster Science, Tohoku University:



Figure 1: TC21 Session’s Flyer



Photo 1: Dr. Takeuchi outlines TC21 and the purpose of the Session

Achieve transparency in decision-making by transdisciplinary approach (TDA). That can make scientific knowledge-based decision-making possible, break down silos among stakeholders, and end corruption.



Photo 2: Main Participants of TC21 Session

## Updates

- ◆ Summary of feature articles in JSCE Magazine Vol. 103, No. 1, January 2018 is available on the JSCE website.  
<http://www.jsce-int.org/pub/magazine>
- ◆ Journal of JSCE  
The Journal of JSCE is the collection of research papers which can be viewed on the JSCE website.  
<https://www.jstage.jst.go.jp/browse/journalofjsce>
- ◆ CECAR8 Call for Abstract: August 1, 2017 – February 28, 2018  
<http://www.cecar8.jp/>
- ◆ Concrete Committee International Newsletter No. 51  
<http://www.jsce.or.jp/committee/concrete/e/newsletter/newsletter51/index.html>
- ◆ Asian Civil Engineering Coordinating Council (ACECC) International Newsletter archives  
<http://www.acecc-world.org/newsletter.html>
- ◆ 【A Live Stream at Osaka and Nagoya】 Japanese Civil Engineers the Global Leaders Symposium Series No.11  
“The Construction of Osman Gazi Bridge in Turkey – a suspension bridge with one of the world’s longest center span” will be held on January 24, 2018. The Symposium will be broadcasted on live streaming at Osaka and Nagoya venue.  
<http://committees.jsce.or.jp/kokusai/node/116> (in Japanese)
- ◆ IAC Students and Alumni Network  
[http://www.jsce-int.org/IAC\\_network](http://www.jsce-int.org/IAC_network)

### § IAC News Subscription §

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### § IAC Facebook §

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### Comments and Questions

Please send us your feedback and comments to help us improve the IAC news. We look forward to hearing from you.

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