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【Alumni of DOBOKU Series】
"My Time in Japan – a Life-altering Experience!"

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Ioan Nistor

I still remember every little detail of my first day in Japan as a Monbusho Doctoral student: having left my native country, Romania, on a crisp-cold sunny October morning, I landed, one day later, in a rainy, humid (mushi-atsui) and intriguing country, Japan! I vividly recall my quiet Japanese tutor, Mr. Oyama, a Master student, waiting for me at the airport terminal and leading me to my first meeting (the very same day – so Japanese!) with my academic advisor, Prof. Tomoya Shibayama, in the Department of Civil Engineering at Yokohama National University, with whom I had my very first scientific consultation that very afternoon. I clearly remember my feelings of excitement for the work which was unfolding in front of me while feeling at the same time overwhelmed by the anxiety: will I be able to raise at the expectations of my professor?

Having travelled and worked in several countries around the world ever since, I have come to realize that those fantastic three years profoundly influenced upon my life, career and the way I understand today's world! I also vividly recall my departure day from Japan in September 1998: as my flight headed west of Tokyo, I remember seeing through my window an amazing view of the Mount Fuji and then asking myself: Will I ever come back to Japan, a place that I felt had become my other homeland?

My path towards tsunami research

Over the next several years I worked as a young researcher throughout Europe and, in 2001, following an AUF research fellowship at the University of Moncton in Canada, professional opportunities brought me to AECOM-TECSULT, one the world's largest civil engineering consulting companies: for the next few years, I had the chance to work, as a consulting engineer, on various hydropower and water-related projects in Africa – it was there, again, when I periodically worked together with Japanese engineers who, under JICA's umbrella, were providing assistance to many of the developing countries on that continent. I remember being again impressed by the outstanding quality of the reports of the Japanese engineers – some of the best I've read! Following my years in consulting, in the summer of 2004, I became a new academic in the Department of Civil Engineering at the University of Ottawa, Canada – it was the very same year that a massive tsunami has terribly struck several countries around the Indian Ocean. With the lessons I had learned in Japan, I initiated and developed a comprehensive research program focusing on the impact and effects of tsunamis on infrastructure covering four

distinct elements: (1) post-tsunami forensic engineering surveys; (2) experimental modeling of tsunami effects on structures; (3) numerical modeling of hydrodynamic and debris loading on structures and (4) development of new design guidelines and standards for tsunami resistant building.

Port of Penco, Chile, during the 2010 Tsunami Forensic Engineering Survey

And, in all these years, my cooperation with my academic advisor, Professor Tomoya Shibayama, now at Waseda University in Tokyo, has extended to include yearly exchanges of Canadian, Japanese and other international graduate students between the University of Ottawa and Waseda University. Following the devastating March 11, 2011 Tohoku Tsunami event, I was invited to become a member of the first team of the American Society of Civil Engineers (ASCE) who, together with a JSCE team led by Prof. Shibayama, conducted an extensive survey of the coastal areas of Japan affected by this destructive event. While I conducted several similar surveys in 2004 (Indonesia, Thailand and Sri Lanka) and in 2010 in Chile, the one I participated in Japan struck deep at my emotional code: I felt that, indeed, the disaster had hit my other homeland! The memories of those twelve days of witnessing the path of death and destruction haunted me for many months after my return to Canada… I often wondered of how we could change the way we protect and mitigate such disasters: hence, naturally, when receiving the invitation to become a Member of the ASCE 7 Tsunami Effects and Loads Committee, I wholeheartedly immersed myself into what I was sure that was a worthy cause for humankind! Six years later, the world's first such standard, written in mandatory, prescriptive language, Chapter 6 "Tsunami Loads and Effects" was developed and adopted in the ASCE 7-16 Standard - Minimum Design Loads for Buildings and Other Structures. The experience of the aftermath of the 2011 Tohoku Tsunami was indeed a strong catalyst for the development of this novel document.

Collaborations with Japanese researchers

During my sabbatical year in 2014, as a Kajima Foundation Fellow, I was fortunate to work again in a new Tsunami Basin at Waseda University with my former supervisor Prof. Tomoya Shibayama in the doctoral program – though being a full professor now, I felt amazing to feel like to be a student in Japan again! It was again an extraordinary opportunity to conduct research works on validating some of the less validated prescriptions of the ASCE7 Chapter 6 using some new, state-of-the-art facilities at Waseda University. Several of my Canadian graduate students as well as Japanese graduate students continue to work and travel between the two countries – one of them, Mr. Jacob Stolle a doctoral student is supported by JSPS-MITACS, a new funding initiative for the exchange of exceptional research students between Canada and Japan.

Additionally, over these past years, I continued to expand my collaborations with colleagues at other universities in Japan: for example, I teach every summer a section of a graduate course of Coastal and Environmental Engineering in the Department of Civil Engineering at Hiroshima University in collaboration with Dr. Kiyoshi Kawanishi.

Over all these years that I have come to realize what Japan means to me – the most transformative force of my life, both on a personal and professional level. As such, almost two decades after my having left Japan after my doctoral studies, every time I fly out of Tokyo, I always sit next to the plane's window, with the hope of spotting a glimpse of Mt. Fuji: I do have now the answer to my question from twenty years ago – I will always come

back to Japan, my other homeland!

Profile: Dr. Ioan NISTOR is a Professor Vice-Dean Faculty of Engineering University of Ottawa, who works on hazards associated with extreme hydrodynamic and debris loading on infrastructure. He is a Voting Member of ASCE7 Tsunami Effects and Loads Committee.
He completed a diploma in engineering in Technical University of Iasi, Romania and earned a doctoral degree from Yokohama National University, and has spent several years with AECOM-TECSULT.

《**Column**》 Tomoya Shibayama, Professor, Waseda University

From our laboratory, more than 30 students graduated with their doctoral degrees. Around 80% of them are teaching in universities in and outside of Japan. Prof. Ioan Nistor is one of the top alumni among them. I vividly remember the day when he first visited my office twenty three years ago. He had no experience to study coastal engineering, but I already set his dissertation theme as turbulence motion and sand transport in the surf zone. I started to talk about the research theme 2 minutes after he entered my office, and he was very surprised to hear a new topic. But after 3 months, he started to talk with me about very advanced surf zone mechanics. After graduation, his activities were very impressive; he got an excellent reputation among peers. He is now a professor and vice-dean of the faculty and also the leader of Canadian coastal engineering. He continues to love Japan very much and is very honest in research activities.

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

Report on Japanese Civil Engineers the Global Leaders Symposium Series No. 9
- The Project for Flood Mitigation in Ormoc City, the Philippines -

Daisuke Fujita
Member of ACECC TC 21
(CTI Engineering International Co., Ltd.)

On May 16, 2017, at the auditorium of the Japan Society of Civil Engineers Headquartes, “Japanese Civil Engineers the Global Leaders Symposium Series No. 9” was held. As one of the speakers in the symposium, I presented the outline of the “Project for Flood Mitigation in Ormoc City, the Philippines” and what I learned from the project, as summarized below.

On November 5, 1991, Typhoon Uring struck the City of Ormoc on the Island of Leyte, the Philippines, causing tremendous damage by floods. About 8,000 people were dead and missing and about 14,000 houses affected. After the survey conducted by the Japan International Cooperation Agency (JICA), the “Project for Flood Mitigation in Ormoc City” started under the Grant Aid scheme of the Japanese government.

In the project, carried out from February 1998 to August 2001 were the installation of slit dams to stop driftwood coming down from the mountainous area, causing the expansion of flood damage. Additionally, implemented were the improvement of two rivers flowing in Ormoc City, construction of bridges due to the widening of river channels, and the installation of sluiceway and pipes for inland drainage improvement.

In July 2003, after the completion of the project, a flood of the same scale as the flood in 1991 occurred in Ormoc City due to Typhoon Guilas, but the installed structural countermeasures demonstrated their effect and greatly

suppressed the damage. In particular, the countermeasures had a very great effect that no human casualty occurred. As a remarkable point, since the effects of countermeasures in the project were visible shortly after project completion and the stakeholders recognized their importance, the mechanism of operation and maintenance has been functioning well long after the completion of the Project for Flood Mitigation in Ormoc City.


Participants viewing video messages from DPWH at the Symposium

During the project implementation period, the Flood Mitigation Committee (FMC), with the incumbent Mayor of Ormoc City as the head, was established for the first time in the Philippines. Consisting of city government staff, engineers of the government, particularly, the Department of Public Works and Highways (DPWH) and heads of barangays, the FMC serves as the mechanism to discuss and coordinate river management issues. The FMC continues to carry out the removal of illegal occupants, repair of structural damage, proper maintenance of drainage channels, patrols and other activities. The Project for Flood Mitigation in Ormoc City is thus an epoch making example in the point that a cross-sectional management system for river management was established and it has been effectively functioning up to the present.

Analyzing successful cases and obtaining lessons from such projects is very important in considering disaster risk reduction (DRR) in the future. In the Technical Committee 21 of the Asian Civil Engineering Coordinating Council (ACECC TC21), good practices of DRR like the Project for Flood Mitigation in Ormoc City and other projects in Asian countries are gathered and analyzed, especially, in terms of cross-sectoral collaboration (Transdisciplinary Approach) and involvement of scientific knowledge in the decision making process. It is required of us, especially the young engineers, to make use of the existing cases as teaching materials and to utilize the knowledge gained from them in solving problems in future social development.

Introduction to the Activities of the Committee on Global Environment


Prof. Akira Kawamura
Chair of the Committee on Global Environment
(Tokyo Metropolitan Univ.)

The Committee on Global Environment was inaugurated in 1992, acting as a point of contact to the Japan Society of Civil Engineers for global environmental issues. Whilst maintaining close cooperation with various committees, that committee has proposed, evaluated and researched policies and concrete methods contributing to the resolution of global environmental issues through research and technology across a wide range of fields in civil engineering.

The “Global Environment Symposium” and the “Climate Change Impact Mitigation and Adaptation Policy” Subcommittee are introduced below as examples of its recent activities.

The “Global Environment Symposium”

Since its inception in 1993, research results from many researchers, engineers and students have been presented

at the annual “Global Environment Symposium.” Papers summarizing these results are then published annually as Special Issue (Global Environment) in “Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research).” At the same symposium, a public symposium hosted by the Policy Research Subcommittee “Civil Engineering Contributions to the Construction of New Energy Systems” has been held since 2013, and a public symposium co-hosted with the Japan Society of Hydrology and Water Resources has been held since 2014, with lecturers from various fields (e.g. fisheries, flood disasters, renewable energy, etc.) giving presentations, and with lively discussions taking place. The symposium for 2017 is scheduled to be held from September 6 to 8 at Kobe University.

The “Climate Change Impact Mitigation and Adaptation Policy” Subcommittee

The Committee on Global Environment established the “Climate Change Impact Mitigation and Adaptation Policy” Subcommittee in 2013, and three working groups (the Impact WG, the Adaptation Measures WG and the Mitigation Measures WG) conducted investigations relating to their respective subjects. The results were compiled in a final report in 2015, and excerpts used to produce the booklet, “Adaptation and Mitigation Measures for Climate Change (Challenges in Civil Engineering Technology for the Realization of a Safe and Secure Society)”. In addition, the results compiled by the Mitigation Measures WG were published as “Civil Engineering for a Low Carbon Society” in 2016, with translated version scheduled to be distributed in Taiwan.

A Public Symposium at the 2016 Global Environment Symposium

Closing Ceremony at the 2016 Global Environment Symposium

Report of the 2nd JSCE-CICHE Joint Workshop

Asst. Prof. Hiromasa Iwai
(Nagoya Inst. of Technology)

The 2nd JSCE-CICHE Joint Workshop was held at JSCE Headquarters in Tokyo on May 18th - May 19th 2017.

The workshop started with a welcome speech by Dr. Tamiharu Tashiro, the JSCE president, and an opening speech by Dr. Lian-Jenq Leu, who is the president of Chinese Institute of Civil and Hydraulic Engineering. After that, we invited two keynote speakers: Dr. Hikaru Nakamura of Nagoya University and Dr. Lian-Jenq Leu again, and they gave us the interesting presentations.

The second session in the morning on May 18th was a group work session conducted by “Young Civil Engineer Power-Up Sub-committee.”

In the second JSCE-CICHE Joint WS, we mainly invited young civil engineers from both Taiwan and Japan to participate in it because there was the message from the 1st workshop that was to provide young civil engineers an opportunity to get to know each other. In addition, in order to encourage young civil engineers in industry, government and academia to network with each other and to enhance the JSCE activities, the Young Civil Engineer Power-Up Sub-committee has made an effort to develop collaborations among civil engineers in both

domestic and overseas. That is one of the reason why this session for the young engineers was organized.

At first, all the participants were divided into four groups, and we played trivia relating to Taiwan and Japan for ice breaking. It was of course important to share basic information about Taiwan and Japan with each other while the most important thing was to overcome embarrassment and hesitation due to their first encounter and to enhance their conversations and discussions.

Second, we conducted a survey on which technologies, infrastructures, foods, and cultures were the civil engineers in Taiwan interested in. According to their answers, they were interested in metropolitan transportation systems, technologies for disaster prevention as well as Japanese food and local cultures.

Last, we had a group discussion time under the theme "What can the collaboration among us, young civil engineers produce or change?" The participants engaged in discussions without embarrassment and hesitation. As an example, they was interested in establishing a platform where they would exchange the information of civil engineers and share our research data or that of infrastructures. That must be a key item in the internet-oriented world.

The group discussion was fruitful because we could exchange our ideas and opinions, even though the session time was not enough. It was also a greatly valuable experience for not only the delegates of this WS, but also the Young Civil Engineers Sub-Committee to have such kind of session we provided. We would like to extend the network with foreign civil engineers in future.

Participants of the 2nd JSCE-CICHE Joint Workshop

Updates

◆Summary of feature articles in JSCE Magazine Vol. 102, No. 9, September 2017 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 has started on August 1st.
http://www.cecar8.jp/

◆Concrete Committee International Newsletter No. 50
http://www.jsce.or.jp/committee/concrete/e/newsletter/newsletter50/index.html

◆IAC Students and Alumni Network
http://www.jsce-int.org/IAC_network

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