REPORT

ON PARTICIPATION IN STUDY TOUR GRANT PROGRAM 2026

Japan Society of Civil Engineers (JSCE)

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Sapporo, Hokkaido, Japan
August 30 – September 4, 2026

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1. INTRODUCTION

1.1 About JSCE

Founded in 1914, the Japan Society of Civil Engineers (JSCE) is a professional body dedicated to advancing civil engineering as both a scientific discipline and a public service. Beyond publishing research and organizing technical exchange among its members, the Society plays an active role in shaping how infrastructure is planned, evaluated, and communicated to the public across Japan. Membership has expanded enormously since the Society's founding — from just a few hundred members in 1914 to close to 40,000 today — and JSCE now maintains partnerships with sister engineering societies throughout Asia and beyond, of which the Study Tour Grant is one expression.

Four themes guide JSCE's long-term direction, adopted as the Society entered the 21st century: contributing civil engineers' own vision to the future of social infrastructure; earning and maintaining the public's trust; conducting research openly and transparently; and judging public works objectively, on their technical and social merits rather than on narrow interests.

1.2 About Study Tour Grant (STG)

The Study Tour Grant (STG) was created in 1992 as a way to put JSCE's International Scientific Exchange Fund (ISEF) to direct use, by giving young engineers from partner countries a firsthand look at Japanese civil engineering in practice rather than only reading about it. Each year, national engineering societies with a cooperation agreement with JSCE — currently Fed. MES (Myanmar), IEB and BUET (Bangladesh), MACE (Mongolia), PICE (the Philippines), the JSCE Turkey Section/TCCE, and VFCEA (Vietnam) — nominate a candidate to take part in the roughly week-long program, timed to coincide with the JSCE Annual Meeting.

Over the course of the week, participants tour active project sites and research facilities, meet Japanese engineers and academics working at the forefront of their fields, and present their own research at the International Summer Symposium held alongside the Annual Meeting. On returning home, each participant is expected to write up their experience for their national society, so that the knowledge gained benefits colleagues who were not able to travel.

1.3 About STG 2026

This year's program ran from August 30 to September 4, 2026, and was based in Sapporo, Hokkaido — the first time STG has been hosted on Hokkaido, timed to the 2026 JSCE Annual Meeting, which was organized by the JSCE Hokkaido Branch. The Annual Meeting's guiding theme, “Infrastructure in the Hands of Citizens — the Future of Infrastructure Opened through Co-creation”, set the tone for much of what we saw during the week: not just engineering achievements

in isolation, but efforts to explain and connect those achievements to the communities that rely on them.

Five young engineers took part in STG 2026, each nominated by their national society:

1. **Mr. Lin Htin**—Fed. MES — Ph.D. Student, Asian Institute of Technology (AIT) — Myanmar
2. Ms. Selin Bazancir— JSCE Turkey Section & TCCE — Ph.D. Student, Istanbul Technical University— Turkey
3. Mr. Md. Imran Hossain— BUET — Lecturer, Dept. of Civil Engineering, Bangladesh University of Engineering and Technology— Bangladesh
4. Mr. Haris Balalang Ukat— PICE — Doctoral Student, Mindanao State University— Philippines
5. Ms. Khulan Baasansuren— MACE —Undergraduate, Mongolian University of Science and Technology (MUST), Civil Engineering—Mongolia

Because the program was hosted in Hokkaido, the technical visits leaned heavily toward the engineering challenges specific to a cold, snowy, and coastally exposed region — a focus that felt especially relevant given the winter conditions Mongolia itself experiences, even without the ocean.

2. STG 2026 ACTIVITIES

2.1 Itinerary

The following itinerary was provided by JSCE for the participants of the Study Tour Grant 2026. The program lasted six days and five nights, from August 30 to September 4, 2026, based at the Premier Hotel CABIN Sapporo.

Table 1. Itinerary of STG2026

DAY0	Aug. 30th(Sun)			
	Time	Event	Transportation	Memo
・Myanmar				
	8:30	Arrive	Airplane(TG670)	
	10:11	Move	Highway bus / Trai	Bus stop is "Minami3jo-susukino"
	11:30	Arrive at Hotel		
・Bangladesh				
	8:30	Arrive	Airplane(TG670)	
	10:11	Move	Highway bus / Trai	Bus stop is "Minami3jo-susukino"
	11:30	Arrive at Hotel		
・Mongolia				
	11:50	Arrive	Airplane(OZ174)	
	13:46	Move	Highway bus / Trai	Bus stop is "Minami3jo-susukino"
	15:00	Arrive at Hotel		
・The Philippines				
	19:35	Arrive	Airplane(NH2155)	
	20:31	Move	Highway bus / Trai	Bus stop is "Minami3jo-susukino"
	21:50	Arrive at Hotel		
・Turkey				
	19:35	Arrive	Airplane(NH2155)	
	20:31	Move	Highway bus / Trai	Bus stop is "Minami3jo-susukino"
	21:50	Arrive at Hotel		
DAY1(Aug 31th)				
	Time	Event	Transportation	Memo
	10:50	Meet at hotel meeting room		Seiya
	11:00	STG Orientation		
	12:00	Lunch at hotel		
	13:00	Meet at hotel lobby		
	13:10	Move	Chartered bus	
	13:50	Arrive at CERI		
	14:00	Orientation	Meeting room	
	14:30	Visit each faculty		
	15:55	Q&A session, Group Photo		
	16:30	Move	Chartered bus	
	17:00	Finish, Freetime		
DAY2(Sep 1st)				
	Time	Event	Transportation	Memo
	9:20	Meet at hotel lobby		
	9:30	Move	Chartered bus	
	10:30	Arrive at Otaru City Center		
		Lunch + Freetime		
	12:30	Meet at Otaru Bay Cruise		
	12:40	Move	Chartered bus	
	12:50	Arrive at Otaru Port Museum		
	14:30	Depart Otaru Port Museum		
	14:55	Arrive at Otaru Bay Cruise		
	16:10	Drpart Otaru Bay Cruise	Chartered bus	
	18:00	Arrive at hotel, Freetime		

DAY3(Sep 2nd)			
Time	Event	Transportation	Memo
9:20	Meet at hotel lobby		Guide: Mr.Mori
9:30	Move	Walk	
10:20	IAC Discussion start		Sapporo Culture and Education Hall
12:00	IAC Discussion end		
12:20	Meet in front of the hall		
12:30	Move	Chartered bus	
13:10	Arrive at Moere-numa Park		Free time + Lunch box
14:15	Meet at Park Entrance		
	Move	Chartered bus	
14:50	Arrive at River Disaster Prevention Museum		
15:40	Depart River Disaster Prevention Museum		
	Move	Chartered bus	
16:30	Arrive at Hotel Gracery		
16:45	Arrive at Premier Hotel		
17:30	Pick up at Premier Hotel		
17:45	Pick up at Hotel Gracery		
18:00	Arrive at Sapporo Garden Palace		
18:30	Welcome reception start		Sapporo Garden Palace
20:00	Welcome reception end		

DAY4(Sep 3rd)			
Time	Event	Transportation	Memo
9:00	Global Civil Engineer Workshop start		Hokkai School of Commerce Build.2 Lounge
12:30	Global Civil Engineer Workshop end		
9:20	Summer Symposium start(Free till core time)		Hokkai School of Commerce Build.2 Room.2404
18:10	Summer Symposium end		
17:50	Move	Walk	
18:30	Networking Reception start		Hokkai Gakuen Hall 1F G`Café
19:30	Networking Reception end		

2.2 Day 0 (August 30th, Sunday) — Departure and Arrival in Sapporo

My trip to Japan started just after midnight, when I boarded a flight out of Chinggis Khaan International Airport in Ulaanbaatar bound for Seoul Incheon. The layover in Incheon stretched to nearly six hours before my connecting flight, so rather than simply waiting at the gate, I wandered through the transit area's Korean food stalls and small cultural displays, trying a few local snacks along the way.

My second flight touched down at New Chitose Airport at around 13:30, and from there I boarded an Airport Limousine Bus for the roughly ninety-minute ride into central Sapporo. I reached the Premier Hotel CABIN Sapporo at about 17:30, where our guide, Mr. Mori, and the JSCE staff coordinating the trip, Ms. Ashida and Mr. Okuda, were waiting to welcome us and walk us through the schedule for the coming week. Once I had checked into my room, I went back out to walk along the streets near the hotel, taking in my first impressions of a city I would come to know quite well over the following days.

What stood out to me most on that first evening was how much unseen planning was already visible in ordinary things — the punctual bus, the clearly marked stops, the calm flow of people through the station — well before I had set foot inside a single laboratory or project site.

2.3 Day 1 (August 31st, Monday) — Orientation and CERI Technical Tour

After breakfast at the hotel, we gathered at 11:00 for the STG Orientation Meeting, where the JSCE team walked us through the structure of the program, introduced the Society, and answered practical questions before the site visits began in earnest. Following a boxed lunch, we assembled in the lobby at 13:00 and set off by chartered bus for our first technical visit of the week: the Civil Engineering Research Institute for Cold Region, known within JSCE circles simply as CERI.

CERI traces its current form to a 2006 reorganization, when the Hokkaido Development Bureau's own civil engineering research arm was folded into the Public Works Research Institute as a dedicated cold-region branch. Its mandate is narrow but important: to solve the engineering problems that only arise, or arise in far more severe form, where winters are long, snowfall is heavy, and much of the ground is soft peatland rather than solid soil. The tour took us through several of the Institute's specialized research teams and their facilities:

- Cold Coastal Region Team — a large, multi-directional wave-generating basin together with a separate two-dimensional wave flume, both used to recreate ocean waves and tsunami-like surges at reduced scale. Researchers here can watch, in a controlled setting, exactly how a scaled model of a breakwater or harbor mouth responds to wave forces long before any concrete is poured at full size in the sea.
- Cold Region River Team — an indoor hydraulic flume roughly 25 meters long, capable of driving water at velocities up to about 4 meters per second, used to study how riverbeds erode and how sediment moves during flood conditions.
- Bridge Deck Durability Experimental Facility — valuates the long-term structural endurance and deterioration of bridge decks under real-world traffic and harsh environmental conditions. Equipped with advanced wheel-load testing systems, it simulates repeated vehicular loads and freeze-thaw cycles to help develop more resilient infrastructure for cold regions.

The visit closed with a question-and-answer session with CERI's researchers and a group photograph, after which we returned to Sapporo by 16:30 with the rest of the evening left free.

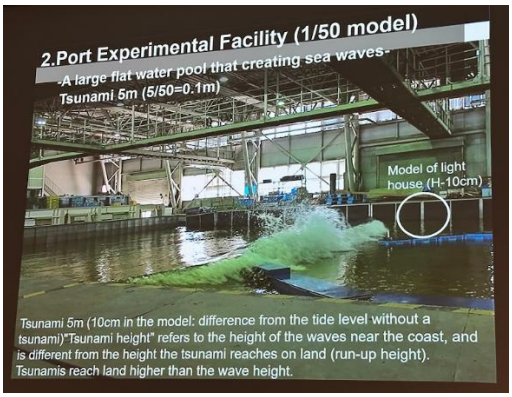


Figure 1. Explanation before experiment



Figure 2. Tidal simulation test rig

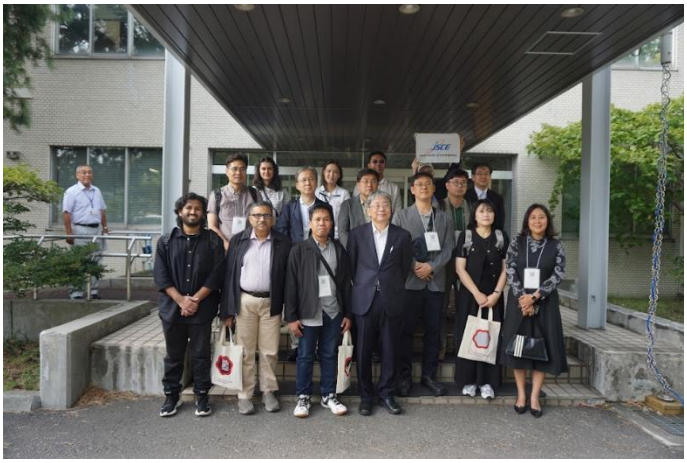


Figure 3. Group photo at CERI



Figure 4. Blizzard-ready vehicle

What I took away most from CERI was that cold-region engineering is not simply ordinary engineering done in colder weather — it requires purpose-built facilities and decades of dedicated study to even define the problems correctly, let alone solve them.

2.4 Day 2 (September 1st, Tuesday) — Otaru Port Museum and Breakwater

Coming from a landlocked country, I had never actually stood at the edge of an open ocean before, so this day stayed with me more than almost any other. We left the hotel at 9:30 and rode about forty minutes to Otaru, a port town whose canal district and old warehouses still carry the atmosphere of its early twentieth-century heyday. Before the scheduled program began, we spent some free time browsing the glasswork shops that Otaru is famous for.

The afternoon's focus was the Otaru Port Breakwater, and we started at the Otaru Port Museum to understand what we were about to see from the water. Construction of the North Breakwater ran from 1897 to 1908, under the direction of Dr. Isami Hiroi, an engineer who had trained in the United States and Germany before returning to a professorship at Tokyo Imperial University. At the time, there was real doubt in Japan about whether a genuinely modern, large-scale harbor structure was within domestic engineering capability at all — Otaru's breakwater was, in fact, the country's first true ocean breakwater. Hiroi derived his own formula for estimating wave force and used it to size interlocking concrete blocks of 14 to 24 tons, set into place along the sloping face of the structure by a massive overhanging crane the workers nicknamed “Taitan.” Concrete durability in seawater was still poorly understood in Japan at that time, so before finalizing his mix, Hiroi ran an extraordinary series of roughly 60,000 mortar test specimens, eventually finding that blending in volcanic ash noticeably improved long-term durability. A second stage of construction, the South and Island Breakwaters, followed from 1908 to 1921 under similar engineering principles.

More than a century on, the North Breakwater still shields Otaru from the open sea, and Hiroi's wave-force formula remained a standard reference for breakwater designers worldwide as late as

the 1980s. It was recognized by JSCE as a Selected Civil Engineering Heritage Site in 2000 and designated a Hokkaido Heritage structure the following year.

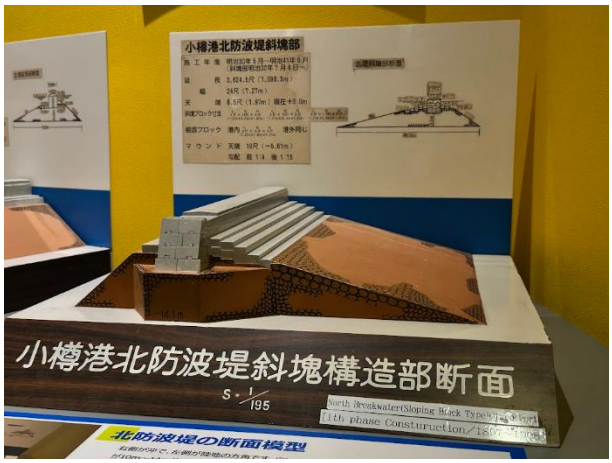


Figure 5. Model of the diagonally stacked blocks method

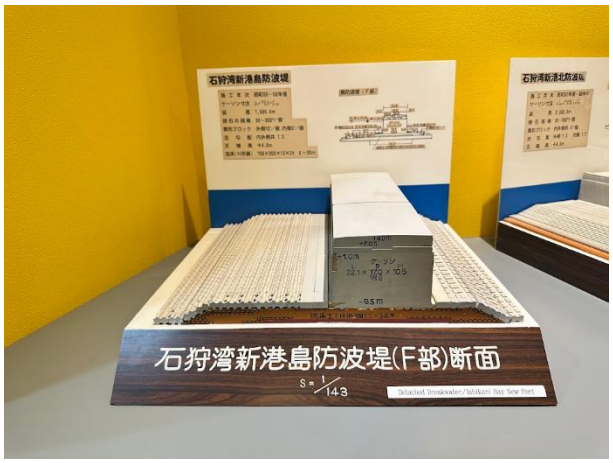


Figure 6. Model of the caisson construction method

From the museum, we boarded the Otaru Bay Cruise, which took us out along the breakwater itself, so that the history we had just learned about suddenly had a physical shape in front of us. What struck me most was how ordinary it all looked from the water — local fishermen simply standing along the breakwater, casting lines, going about their day on top of more than 125 years of engineering history. We headed back to Sapporo by bus at around 16:30.



Figure 7. A full-scale one stacked block



Figure 8. Full-scale caissons installed at ocean

It struck me that Hiroi's real achievement was not just the finished breakwater but his willingness to test and fail thousands of times in the open, an approach to engineering built on patience that I would like to bring into my own research.

2.5 Day 3 (September 2nd, Wednesday) — JSCE Annual Meeting, Moere-numa Park, and River Disaster Prevention Museum

Rain had been forecast for the morning, but it never actually arrived, so we simply walked from the hotel to the Sapporo Education and Culture Hall for the 2026 JSCE Annual Meeting's International Special Lecture, “Engineers Bringing Japanese Civil Engineering Expertise to International Projects — Challenges and Knowledge Transfer for the Future.” The session itself was conducted in Japanese, but a live synchronized translation ran on screen throughout, which made it possible for those of us who don't speak the language to follow the discussion without missing a beat.



Figure 9. Discussion speakers

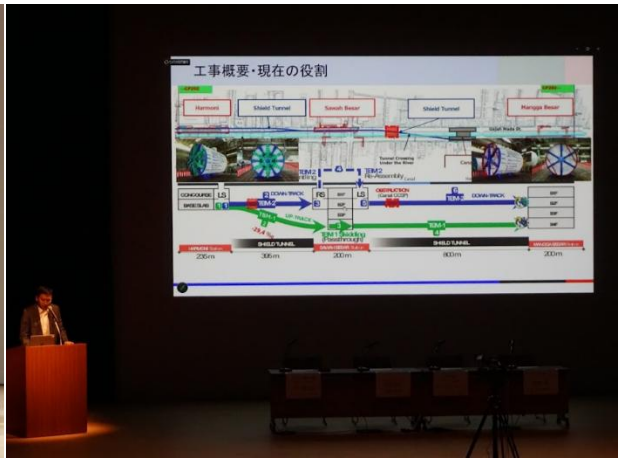


Figure 10. In the middle of the presentation

From the lecture hall we boarded a chartered bus for Moere-numa Park, eating our boxed lunches on the way. The park turned out to be a far more engineering-heavy site than its name suggested. The roughly 189-hectare grounds began life in the late 1970s as a municipal waste reclamation site, part of Sapporo's plan to ring the city with greenbelt land; the sculptor Isamu Noguchi took over the design only in 1988, finishing his master plan for the park just weeks before he died that December. Construction of the landforms continued through the 1990s, and the park was not fully opened until 2005. One detail that struck me, as someone who had just come from a research institute studying Hokkaido's cold climate, was that the glass pyramid at the park's center, nicknamed Hidamari, is cooled in summer using snow collected and stored on-site during the previous winter — a small but elegant example of designing with the climate rather than purely against it.



Figure 11. Group photo outside Hidamari



Figure 12. Interior of Hidamari

From Moere-numa Park we went on to the Ishikari River Disaster Prevention Museum. The Ishikari is the longest river in Hokkaido and the third longest in Japan, and for the early settlers of the Ishikari plain it was as much a threat as a resource, flooding the surrounding lowlands almost every time heavy rain or spring snowmelt raised its level. Major floods struck in 1975 and, most severely, in 1981, when roughly 61,000 hectares of land and 22,500 households were inundated — the worst flood damage on record for the river. The dedicated Ishikari Floodway near the river mouth, which had been under construction since 1972, was rushed into emergency operation during that very flood in 1981, a decade before its planned completion, and is credited with limiting the damage that would otherwise have occurred. Standing in front of the museum's models, it was sobering to realize that the calm, well-behaved river we had seen from the bus that morning was tamed only within living memory.



Figure 13. River course change



Figure 14. Flooding caused by the Ishikari River

We were back at the hotel by 17:00 and, half an hour later, set out again for the Welcome Reception of the 2026 JSCE Annual Meeting at Sapporo Garden Palace. Kazumasa Ozawa, who had taken

office as JSCE's 114th President earlier that summer, addressed the gathering, and the hall was full of engineers and academics from across Japan, several of whom came over to ask us about our own countries and research over the course of the evening. A few of us extended the evening afterward with a visit to the Sapporo TV Tower, taking in the city lit up at night from about fifty meters up — a striking contrast to the flood maps and century-old breakwater photographs we had spent the day looking at.



Fig 15. STG and foreign participants at JSCE annual meeting



Figure 16. STG 2026 participants

Between the museum's flood records and Noguchi's transformed landfill, this day taught me that some of the most consequential engineering work is never about building something new from empty ground, but about redesigning what is already broken or discarded into something safe or even beautiful.

2.6 Day 4 (September 3rd, Thursday) — Presentation Day

This was the day the whole week had been building toward. The morning began with the 28th International Summer Symposium, held at the Hokkai School of Commerce as part of the Annual Meeting, running well into the evening.

My own contribution was a presentation titled “Investigation of Crack Formation in RC Basement Walls Due to Differential Foundation Settlement,” delivered as part of an English-language session alongside fellow international engineers from Myanmar, Turkey, the Philippines, and Bangladesh. Delivering my talk and fielding questions afterward turned out to be far more useful than I had expected — Japanese students and professors in the audience asked precise, sometimes quite unexpected questions that pushed me to think about my own results from angles I hadn't fully considered before. Sitting through the other presentations in the room and seeing what everyone else had brought was just as valuable: the range of problems being worked on, from earthquake retrofitting to flood modeling to construction materials, was a good reminder of how broad our shared field actually is, even when each of us is focused on a fairly narrow slice of it back home.

The evening closed with the IAC Networking Reception at Hokkai Gakuen University, a more relaxed setting where conversations that had started at the presentation earlier in the day could continue over dinner with fellow participants, ambassadors, and JSCE members from around the world.



Figure 17. During my presentation



Figure 18. Post-networking group photo

Presenting my own work here made clear to me that a result only really becomes useful once it can survive being questioned by someone who has never seen it before, which is a much higher bar than simply finishing the analysis at home.

2.7 Day 5 (September 4th, Friday) — Return to Mongolia

The last morning started early with the bus ride out to New Chitose Airport, where I had a little time before my 14:20 departure to pick up a few souvenirs for family back home. A roughly three-hour connection at Incheon International Airport followed, and I finally landed back in Ulaanbaatar at around 23:00 — tired, but already thinking about how much I wanted to share with colleagues about what I had seen.

3. GRATITUDE AND ACCOMPLISHMENT

Looking back on the week, what stayed with me most was not any single site but the pattern running through all of them: engineers in Hokkaido have spent well over a century building, testing, and rebuilding solutions to problems that Mongolia also faces in its own way — brutal winters, soft and shifting ground, rivers that turn destructive without warning. Seeing those solutions up close, rather than reading about them, changed how I think about several of the problems I encounter in my own studies.

My thanks go first to JSCE for funding and organizing the Study Tour Grant and for choosing me as this year's representative from Mongolia. I am equally grateful to MACE for nominating me for the program, and to my advisor, Mr. Purevdorj Sosorburam, whose advice before the trip helped me know what to pay attention to once I arrived.

Ms. Ashida and Mr. Okuda kept the entire week running smoothly despite a packed schedule, and our guide, Mr. Mori, made sure that none of us ever felt lost or unwelcome in an unfamiliar city. I want to thank them, along with everyone else at JSCE who helped arrange access to CERI, the Otaru Port Museum, Moere-numa Park, and the many other sites we visited, for the trust it must take to hand a research institute's doors over to a group of visiting students for an afternoon.

Finally, I owe a great deal to my fellow participants from Myanmar, Turkey, the Philippines, and Bangladesh, whose questions, comparisons to their own countries, and simple company over long bus rides made the week far richer than any single site visit could have on its own. I return to Mongolia with a much clearer picture of what cold-region civil engineering can look like when it is given the time, funding, and institutional memory to mature over generations, and I hope to carry some of that thinking into my own work.

Sincerely,
Khulan Baasansuren