

Inter-University Exchange Project

—アジアの大学間連携による持続的社会基盤整備を支えるグローバル人材育成事業—

Asia Intercollegiate Cooperative Project for Nurturing Global Leaders in Sustainable
Infrastructure Development

Implementation Report for Academic Year 2021・2022

March 2023

Graduate School of Engineering, Nagasaki University

Preface

The “Inter-University Exchange Project” (“CAMPUS Asia”) which is a funding project supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), is a student exchange program framework established jointly by the governments of Japan, China, and Korea. It aims to promote inter-university exchange and nurture future leaders who will play an active role in the region as well as in the wider global community.

In the academic year 2010, The Graduate School of Engineering was selected as one of the core centers of CAMPUS Asia with the program: “Japan-China-Korea Intercollegiate Cooperative Project to Foster Leading Water Environment Engineers _ Development of Technologies to Preserve the Water Environment and Support Its Sustainable Use in Asian Countries”. Furthermore, in academic year 2016, “Japan-China-Korea Intercollegiate Cooperative Project for Nurturing Leading Infrastructure Engineers” (“Mode 2”) was adopted. In this Mode 2 project, education and research on technology for the development and sustainable use of infrastructure in the Asian region, with a focus on Japan, China, and Korea, was undertaken and successful results were achieved. To date, a total of 224 students have been exchanged. Based on such results, exchange experiences and achievements, the project was adopted in its “Mode 3” as a successor project to be further developed by adding Nanyang Technological University from Singapore and National University of Laos to the Japanese, Chinese and Korean universities. This project aims to activate inter-university exchange with quality assurance throughout Asia under the “Asia for All” philosophy, which means regional community. Over the five years of the project, we are implementing:

- 1) “Double Degree Program” for master’s and doctoral degrees among Japan, China, and Korea,
- 2) “Hybrid Short-Term Academic Exchange Program” that combines online and in-person study abroad, including universities in ASEAN countries, and
- 3) establishment of “International Collaboration Lab” that will foster young researchers and serve as a center for cutting-edge research.

Two years have passed since “Mode 3” of this project was adopted, along with the worldwide spread of COVID-19 pandemic since 2019. While it has been difficult to study abroad, through trial and error among the five universities, more than 60 students have been able to participate in this project over the past two years. We strongly hope that these international activities of Nagasaki University will be widely recognized and appreciated, and that this will eventually lead to appropriate and sustainable mutually beneficial relations among Japan, China, South Korea, and ASEAN countries. We are pleased to present our

implementation report for academic years 2021 and 2022. For details about the report, please refer to the following reference materials.

March 2023

Dean of Graduate School of Engineering, Hiroshi MATSUDA

Executive Committee Chairperson, Yujing JIANG

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1. Project Outline

○Project Name :

アジアの大学間連携による持続的社會基盤整備を支えるグローバル人材育成事業
Asia Intercollegiate Cooperative Project for Nurturing Global Leaders in Sustainable
Infrastructure Development

○Chief Project Director : Dean of Graduate School of Engineering, Hiroshi MATSUDA

○Concerned Departments : Graduate School of Engineering [Master and Doctoral courses]

○Overseas Partner Universities : Shandong University, Sungkyunkwan University, Nanyang
Technological University, National University of Laos

○Background / Objectives :

The project of Graduate School of Engineering: “Japan-China-Korea (J-C-K) Intercollegiate Cooperative Project for Nurturing Leading Infrastructure Engineers”, was selected in 2016 as a “Inter-University Exchange Project (Mode 2)”. In this project, education and research on technology for the development and sustainable use of infrastructure in the Asian region, with a focus on Japan, China, and Korea, was undertaken and successful results were achieved. Under the "Asia for All" philosophy, which means a regional community, this initiative is intended to be expanded to other Asian countries and regions, especially ASEAN countries, in order to stimulate inter-university exchange with quality assurance throughout Asia.

○Expected Outcomes / Expected Capabilities of The Nurtured Human Resources :

- Capability to support sustainable development and maintenance of infrastructure and facilities which meet the needs of each country in Asia.
- Capability to incorporate latest technology and a way of thinking flexibly and can play a leading role in contributing to the advancement of infrastructure technology.
- Capability to understand other ethnicities and different cultures and can jointly plan and implement an international project.
- Capability to take a voluntary and sustainable approach to develop the human network

and communities formed through the CAMPUS Asia project.

○Main Programs in the Project (Figure 1.1) :

- ① Double Degree Programs for Master's and Doctoral Courses among Japan, China, and Korea.
- ② Hybrid Short-Term Academic Exchange Program that combines online and in-person study abroad for three months, including universities in Japan, China, Korea, and ASEAN countries.
- ③ ASEAN Expanded Short-Term Exchange Program between one of the Japanese, Chinese, and Korean universities from one side, and a university from ASEAN country.
- ④ Continuous promotion of joint research, international co-authored publication, and human resource development projects through the establishment of the “International Collaboration Laboratory”

○Planned student exchange numbers (Table 1.1) :

Table 1.1

Exchange Program	Academic Year	2021	2022	2023	2024	2025	TOTAL
J-C-K Double Degree	Outbound	0	3	2	3	2	10
	Inbound	1	4	5	4	5	19
Hybrid Short-Term	Outbound	0	5	8	8	8	29
	Inbound	0	12	20	20	20	72
ASEAN Expanded	Outbound	0	0	0	1	2	3
	Inbound	0	0	0	1	2	3
TOTAL	Outbound	0	8	10	12	12	42
	Inbound	1	16	25	25	27	94

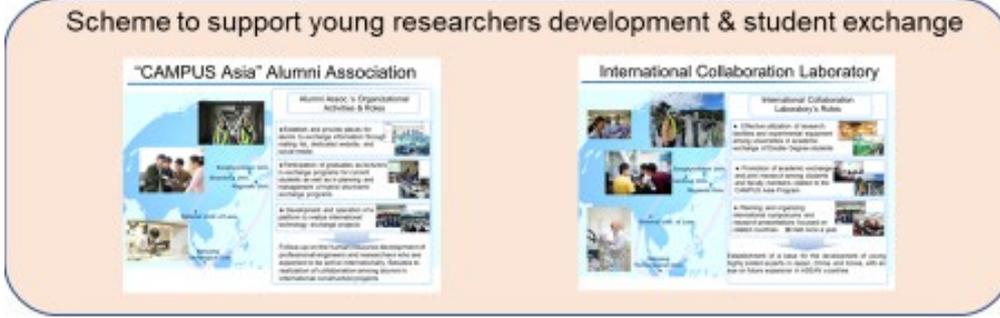


Figure 1.1 Conceptual Diagram of the Project

2. Project Implementation Organization

This project is a consortium of Nagasaki University (Japan), Shandong University (China), Sungkyunkwan University (Korea), National University of Laos (Laos), and Nanyang Technological University (Singapore). The consortium is developing human resources through three programs: Double Degree (DD) program, Hybrid Short-Term Exchange program, and ASEAN Expanded Short-Term Exchange program. As shown in Figure 2.1, the “Consortium Steering Committee” was formed. In this organization, “Double Degree Program Review Subcommittee”, “Hybrid Short-Term Exchange Program Review Subcommittee”, and “ASEAN Expanded Short-Term Exchange Program Review Subcommittee” are planning and managing each exchange program. The “Education Quality Assurance Committee” supervises the proper management of the exchange programs and assurance of education quality.

As shown in Figure 2.2, the consortium meeting of the “Consortium Steering Committee” is held annually. On March 24, 2022, the consortium meeting was held online, and on February 27, 2023, Nagasaki University hosted the consortium meeting in a hybrid format (online and in-person). At the first consortium meeting, a Memorandum Of Understanding (MOU) and “Student Exchange Agreement” were signed. In addition, "Round Table Meeting (RTM)" for working-level personnel of partner universities are held regularly (two to three times a year). Moreover, staff from concerned universities met and had discussions for total of four times in academic year 2021 and total of eight times in academic year 2022.

Project Implementation Organization

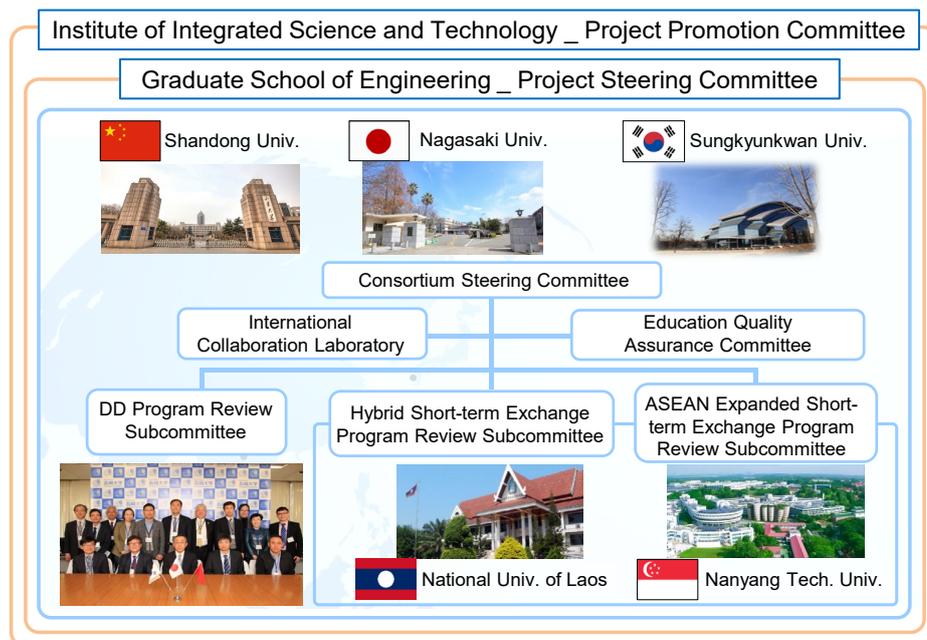


Figure 2.1 Implementation System and Organization Chart

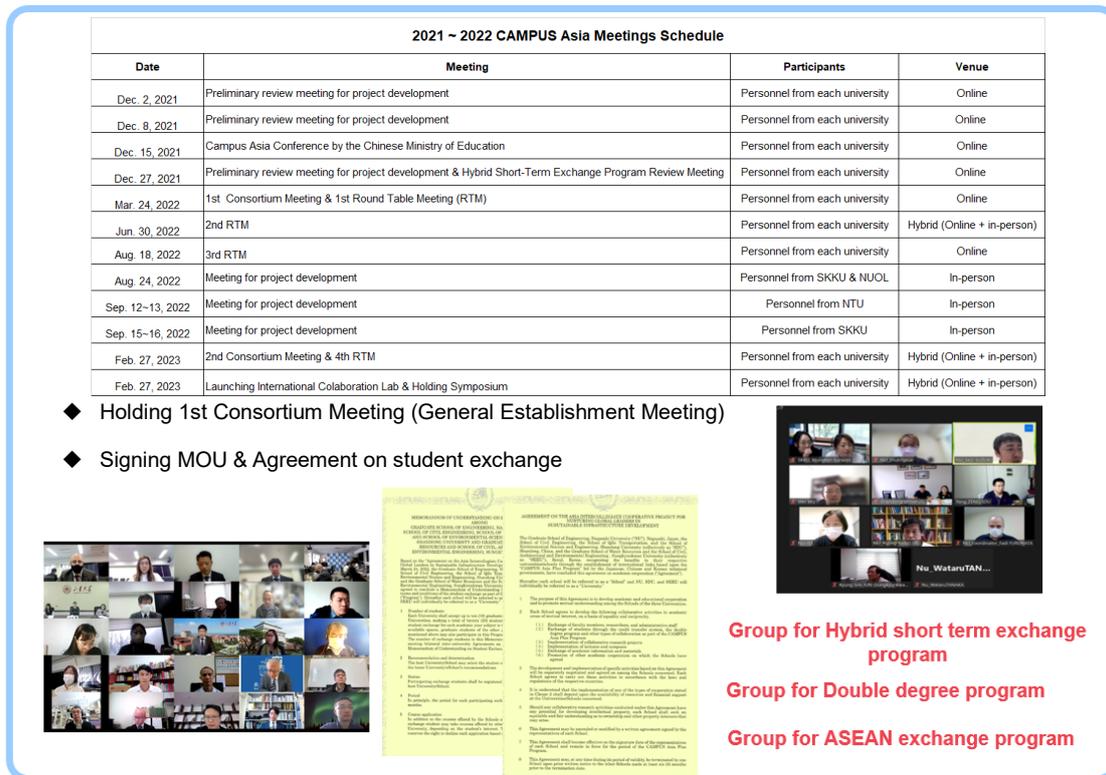


Figure 2.2 Meetings Schedule for 2022 and 2023

3. Student Exchange Programs

After the adoption of this project in December 2021, a cooperative framework was established among the five universities. At the first and second "Consortium Meetings", "Academic Exchange Agreement" and a Memorandum Of Understanding (MOU) for student exchange, a Memorandum Of Understanding for the Double Degree Program (doctoral course), and Implementation Guidelines were signed respectively. Based on this, the foundation for three student exchange programs was established.

In February 2021, the "Japan-China-Korea Online Student Exchange Program" was implemented on a trial basis the three universities in Japan, China and Korea. Subsequently, the "Japan-China-Korea Double Degree Program" and "Hybrid Short-Term Academic Exchange Program" were launched on a full-scale basis in April 2022. To date, a total of more than 60 students have participated in the exchange programs.

3.1 Japan-China-Korea Double Degree Program

In the second mode of this project, a total of 22 students have been exchanged for "Long-Term Academic Exchange Based on Double Degree System" for master's course. In the

process, it was found that the Double Degree system is the most effective way to develop internationally active human resources who can support sustainable infrastructure development that matches the needs of Asian countries. Moreover, according to a survey conducted by the participating student, we also found that the needs for the Double Degree system are higher than those for short-term exchange programs based on the credit transfer system. In the third mode, the main programs are long-term exchange programs based on the Double Degree program for the Doctoral course in addition to the Master's course. The Japan-China-Korea Double Degree Program for Master's Course is a two-year program (one year in home country and one year in host country) established in the second mode, and the Double Degree Program for Doctoral Course is a five-year program (three years in home country and two years in host country). The details of the programs are deliberated by the "Double Degree Program Review Subcommittee" under the "Consortium Steering Committee" and implemented under the agreement of the three universities.

In academic year 2021, one DD student from Shandong University, China was accepted. In academic year 2022, three graduate students from Shandong University were accepted as regular students in Department of Advanced Engineering, Master's Course at the Graduate School of Engineering from the beginning of September 2022. In addition, one graduate student from Sungkyunkwan University, Korea was accepted as a special auditing student at the Graduate School of Engineering under the Short-Term Academic Exchange program. As part of September pre-entry education program for accepted international students, and for international students accepted in the Double Degree program, we organized field trip to infrastructure sites in Kumamoto and Oita Prefectures in December. The reports of participating students on their impressions and feedback about the program confirmed that it was a valuable experience (Photo 3.1). In particular, we believe that through such experiences, which can only be experienced in Japan, foreign exchange students were able to learn a great deal about their interests and background of their research fields and deepen their knowledge about infrastructure development. At Nagasaki University, we opened application for the Double Degree Program (Master's Course). Although there were students who wished to study abroad, we were unable to dispatch students from Nagasaki University due to concerns about infections of Coronavirus disease by students' families. Since long-term study abroad became difficult during the Coronavirus pandemic, we held discussions among universities to find alternatives and solutions. As a result, we were able to send two graduate students from the Structural Engineering Program and the Civil and Environmental Engineering Program at the Graduate School of Engineering, Nagasaki University, Sungkyunkwan University in Short-Term Exchange Program. Upon their return to Japan, credits earned at Sungkyunkwan University were approved as Nagasaki University

credits. Table 3.1 shows the number of students scheduled to be exchanged under the Japan-China-Korea Double Degree Program during the project period, as well as the actual numbers of exchanges achieved in the academic years 2021 and 2022.

Program Schedule		Category	Country	Academic Year							total	
				2021		2022		2023	2024	2025		
				planned	actual	planned	actual	planned	planned	planned	planned	
Double Degree Program	Master	Inbound	SDU			2	3	2	2	2	11	20
			SKKU			2	1	2	2	2	9	
		Outbound	SDU			1		1	1	1	4	10
			SKKU			1	2	1	1	1	6	
	Doctor	Inbound	SDU	1	1					1	3	4
			SKKU					1			1	
		Outbound	SDU						1		1	2
			SKKU			1					1	

Total: planned 7 / actual 6

Table 3.1 Number of J-C-K DD Program Student Exchanges (Nagasaki University)



Photo 3.1 J-C-K DD Program Activities

3.2 Hybrid Short-Term Academic Exchange Program

Aiming to develop human resources with a global perspective who can understand the social background and culture of Asian countries, the program is designed as a hybrid three-month short-term exchange program that combines online and in-person study abroad, including three universities in Japan, China, and Korea, as well as universities in ASEAN countries. The program will last for a total of three months: one month for online learning and exchanges before travelling, one month for actual study abroad (Japan: 1 week, China: 1 week, Korea: 1 week, ASEAN countries: 1 week), and lastly, one month for online exchanges after the trip.

The program is characterized by a problem-solving PBL format to enable students to understand the cultural and social backgrounds of each country and to address issues related to the infrastructure of each country. In the pre-departure online exchanges, lectures are given on the cultural and social backgrounds of each country, the language, and various issues related to the infrastructure of each country. During the actual study abroad period, the exchange program is planned and managed by the participating students and Campus Asia alumni, in addition to faculty members at each host university from Japan, China, Korea and ASEAN countries. Therefore, participating students can directly experience the culture and society of each country and deepen their understanding of the background of infrastructure issues in each country. During the online exchange sessions after the study abroad trip, participants will be divided into groups to conduct research and analysis on various infrastructure-related issues presented by each country and propose solutions to these issues in a PBL format.

In academic year 2021, the "Japan-China-Korea Online Exchange Program" was implemented by Shandong University, Sungkyunkwan University, and Nagasaki University for 10 days from February 8 to 28, 2022 as a trial or pilot program for the "Hybrid Short-Term Exchange Program," with a total of 29 students participating. Due to the ban on entry into Japan due to the spread of Coronavirus disease, this trial program was held entirely in an online format. From the lessons learned by this trial, the issues related to online exchange programs to be held in the next academic year, were identified.

The "Hybrid Short-Term Academic Exchange Program" was implemented by Nagasaki University, Shandong University, Sungkyunkwan University, National University of Laos, and Nanyang Technological University over a three-month period from August to October of academic year 2022, with a total of 30 students participating and a total of 34 lectures given. While keeping an eye on the continuously changing Coronavirus disease spread situation and related restrictions and rules in each country, a total of 15 students were able to participate in the actual trips to Japan, South Korea, and Singapore.

The contents of the program consisted of 1) online lectures and seminars on "specialized subjects related to infrastructure", 2) online liberal arts lectures and seminars on "culture, history and language of each country", and 3) site visits through actual travel.

As a feature of the program, two alumni of Mode 2 Campus Asia participated and collaborated with current participating students from Nagasaki University in the planning and organization of the actual trip details in a participatory style. Nagasaki University hosted six students, five faculty members, and two students and one faculty member from Sungkyunkwan University, and National University of Laos, respectively.

For outbound exchange students from Nagasaki University, four students and three students were dispatched to Nanyang Technological University in Singapore, and to Sungkyunkwan University in Korea, respectively (Photo 3.2). Presentations of study results and takeaways from the program were given by participating students. Moreover, feedback reports were collected and surveys were conducted. Certificates of Participation and Presentation Excellence were also issued jointly among the five universities.

One of the students who participated in the Hybrid Short-Term Exchange Program from Nagasaki University decided to study at Sungkyunkwan University in the Double Degree Program. As a result, this hybrid short-term program has served as an opportunity to motivate students to participate in long-term exchange program. Also, it can be said that the goal of developing global human resources who can understand social backgrounds and cultures of other countries, has been achieved. This program also had a positive impact on future programs, such as learned lessons and identified issues related to online exchange programs to be held in following years. Table 3.2 shows the planned number of participants in the hybrid credit transfer program during the project period and the actual number of participants in the academic years 2021 and 2022.

Program Schedule	Category	Country	Academic Year							total	
			2021		2022		2023	2024	2025		
			planned	actual	planned	actual	planned	planned	planned	planned	
Hybrid Short-term Academic Exchange Program	Inbound	SDU		17	5	12	8	8	8	58	117
		SKKU		6	5	7	8	8	8	42	
		NTU			2	1	2	2	2	9	
		NUOL				2	2	2	2	8	
	Outbound	SDU		6	5	8	8	8	8	43	123
		SKKU		6	5	8	8	8	8	43	
		NTU			5	8		8		21	
		NUOL					8		8	16	

Total: planned 27 / actual 81

Table 3.2 Number of Student Exchanges in Hybrid Credit Transfer Programs



Exchange Activities at NU (Japan)



Exchange Activities at SKKU (Korea)



Exchange Activities at NTU (Singapore)



Online Lectures

Photo 3.2 Exchange through the Hybrid Credit Transfer Program

3.3 International Collaboration Lab

The "International Collaboration Lab" was established to promote academic exchange for Double Degree program students and joint research among faculty members. Also it aims to foster highly specialized human resources and leaders who will serve as bridges between countries, with a view to strengthening ties between Japan and other Asian countries in the future. The plan is to hold laboratory tours, international symposiums, and research presentations, while combining online and in-person exchanges.

In academic year 2021, a room dedicated to the "International Collaboration Lab" was opened on the campus of Nagasaki University. As part of the "International Collaboration Lab", the first international symposium was held in February 2023, with a total of over 60 participants (Photo 3.3). Participants in the symposium presented their research in two styles: oral live presentations and poster presentations. For the oral live presentations, 23 students divided into two presentation rooms and presented their research results either in-person or online. Poster presentations were also held at the same time, and videos of 10 students' research results were available online to all participants to watch on a special webpage. This international symposium was planned and managed in cooperation with current students and alumni at Nagasaki University. Graduate students and faculty members from the five universities participated in the symposium. It was a good opportunity to introduce the project contents, several programs and activities besides presenting various research results, which allowed the symposium to take on a global perspective. In the future, it is expected that this project will continue to be developed through promoting joint research and information sharing. Furthermore, we actively shared announcement about the symposium and widely disseminated information not only within the university but also to the selected other selected universities in "Inter-University Exchange Project" ("CAMPUS Asia").



Photo 3.3 1st International Symposium

3.4 Student Support System

Each university has fully prepared the environment for dispatching students and hosting foreign students. Information on overseas destinations and lectures to prepare students and improve destination countries' language skills are provided to students planning to study abroad. Advisors and tutors are assigned to hosted students, who were able to deal with any problems that arose in the host countries without difficulty.

In particular, for outbound students from Nagasaki University, we held several on-campus briefing sessions for students planning to study abroad, enabling them to understand and confirm in advance the details about the study abroad schedule, application documents, financial support (scholarships, housing), etc. This enabled students to make the decision about study abroad with confidence and peace of mind. In addition, assistance with visa application procedures, pre-departure orientation, and beginner-level language training in Chinese and Korean were provided by the international coordinator. All dispatched students are required to take the TOEIC English language test, but test fee is covered by university. Moreover, "English Skills Improvement Courses" are held throughout the year to improve students' English skills and prepare them for study abroad. While studying abroad, international coordinators and academic advisors provide a 24-hour consultation and support

system to students. All students are required to enroll in the Overseas Student Safety Management Assistance (OSSMA).

On the other hand, for the inbound foreign students hosted at Nagasaki University, in addition to fee exemption for entrance examination, entrance, and other tuition fees waived based on the academic exchange agreement, an appropriate support system has also been established for them. Such system includes support services before and after arrival at Nagasaki University. For instance, we support inbound international students in arranging and providing accommodation, obtaining status of residency in Japan, and assignment to a laboratory, academic advisor and tutor before they come to Japan. After arriving in Japan, international students attend Japanese language classes, receive 24-hour support by international coordinators for all aspects of their daily lives in Japan. When they finish their study at Nagasaki University and before returning to their home countries, their make presentations about their achievements and a program completion certificate awarding ceremony is held. Additionally, in September, before the start of the semester, a pre-education program and a visit to Japanese infrastructure construction sites were offered to inbound students. Hence, we were able to prepare the students and give them an early grasp of the system of Japanese universities and reduce the concerns they may have in their daily lives in Japan. By learning together with Japanese students and understanding the current situation and issues related to infrastructure development, international students are able to feel and experience globalization in both their research related to master's thesis and their daily lives.

4. Public Relations

In order to widely spread the information and results of this project both inside and outside the university, a dedicated website for this project has been established since the second mode. Another dedicated website for the third mode was created, and the project has been widely publicized through the creation of an introductory video, social media platforms, and printed pamphlets (Figure 4.1).

Public Relations & Information Dissemination Dissemminating information via HP, Facebook, YouTube, etc.

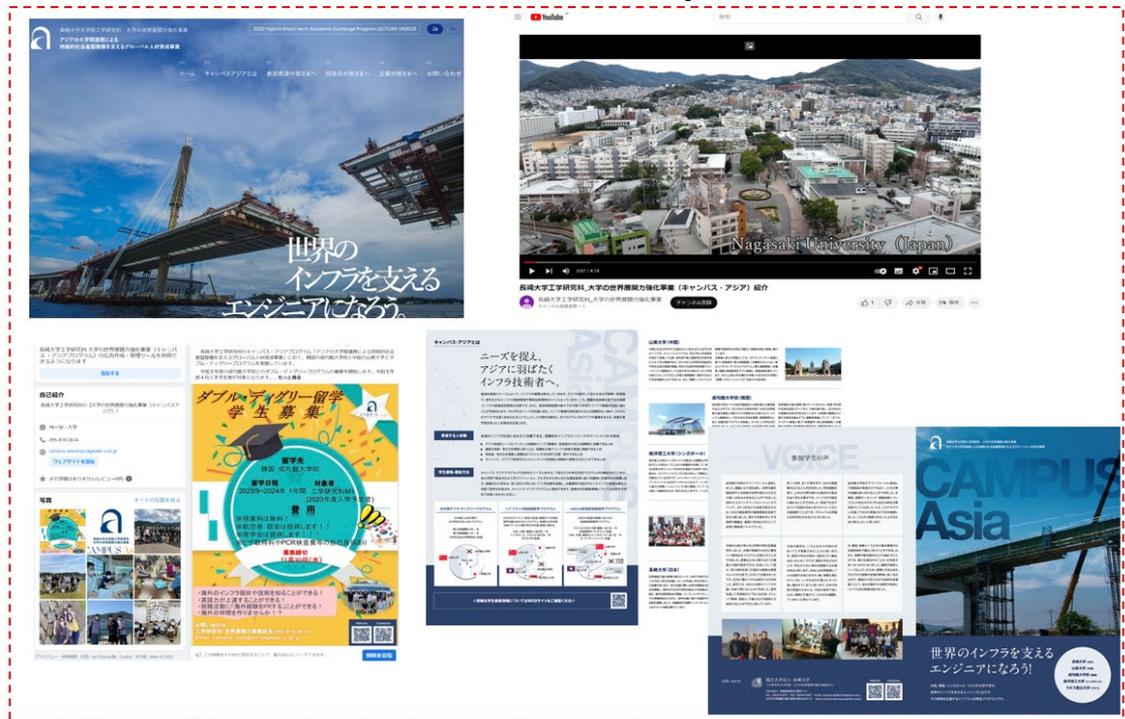


Figure 4.1 Public Relation & Information Dissemination

5. Alumni Association

The CAMPUS Asia Alumni Association, established in the second mode of the "Inter-University Exchange Project", currently has about 100 members, and information is sent to the association members several times a year. During the period of this project, we encourage new students who have participated in the programs of this project to join the alumni association, promote exchanges among alumni, and build a platform for conducting international projects among alumni. This association also serves as a liaison for calling alumni to participate, give lectures in exchange programs and collaborate in planning and management of Hybrid Short-Term Academic Exchange Program. So far, two alumni have participated in the planning and organization of the Hybrid Short-Term Academic Exchange Program, and eight alumni have participated in the first international symposium (Photo 5.1).



Photo 5.1 Alumni Association Activities

6. Future Developments

Academic year 2023 will be the turnaround year for this project. The impact of the Coronavirus disease is expected to decrease, and we plan to implement the exchange programs that we have been discussing and building up to now in full spec. Specifically, we plan to begin full-scale implementation of the International Collaboration Lab and launch the ASEAN Expanded Short-Term Exchange Program one year ahead of schedule. We also plan to streamline processes in a systematic manner to enable smooth operation of the project organization and work toward achieving sustainable self-funded continuation of established exchange programs after the completion of this project.

List of Documents

- Project Grant Application Form
- Agreement & Memorandum of Understanding for Student Exchange
- Minutes of Consortium Meetings
- Minutes of Round Table Meetings
- Conference Handbook of the 1st International Symposium
- Project Pamphlet
- Exchange Programs Survey Results
- Student Feedback Reports