

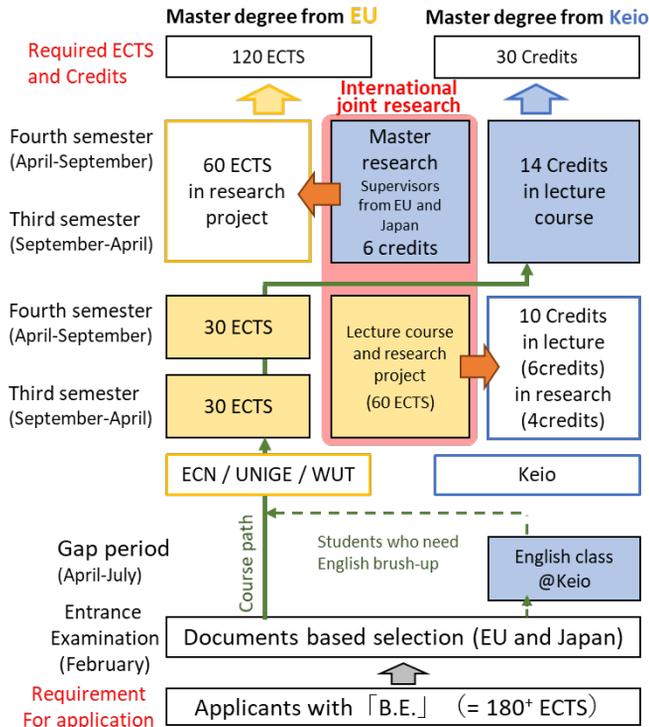
# FY2019 Inter-University Exchange Project Keio University

EU-Japan Joint Master Program

【Name of project】(Adopted year: FY2019)

Japan-Europe Master on Advanced Robotics – JEMARO

【Summary of Inter-University Exchange Projects】



JEMARO Consortium

Regular meeting

- Selection of applicants at joint meetings
- Planning and presentation of international joint research topics
- Information exchange and update of mutually complementary lecture lists
- Consider new recruitment strategies for the world
- International joint research progress presentation by registered students
- Exchange of opinions with registered students and feedback to the program

【Summary of Exchange program】

Robotics is a key technology for future development of industry field and social infrastructure in Europe and Japan. Moreover, it is expected that robotics technology is applicable to important fields such as smart cities, smart homes, automated driving, medical robots, entertainment, rescue, human support, and transhumanism. There is no doubt that the development of human resources in advanced robotics fields will be required worldwide. Therefore, in the proposed JEMARO program, three European universities and one Japanese university, that is, Ecole Centrale de Nantes in France, University of Genoa in Italy, Warsaw University of Technology in Poland and Keio University in Japan provide their respective resources for excellent education program, which is not possible individually in each university. The purpose of JEMARO is to develop next-generation of advanced robotics engineers and to produce people useful for not only industry but also future society by creating an educational research system and collaborating with partner companies in each country.

【Global Human Resource on the project】

- Global engineers who understand the background of different cultures and play an important role in international joint projects
- Engineering manager with advanced expertise to understand the field comprehensively

【Feature on the project】

The JEMARO program has the following remarkable features.

- International joint research oriented curriculum
- Provision of interdisciplinary fundamental subjects (compulsory) and highly specialized subjects (elective) on robotics
- Provision of research topics, lectures, internships, and career paths after completion by partner companies
- One year stay in at least one European country and Japan

【Exchange number】

	2019	2020	2021	2022	2023
Outbound	0	2	4	4	8
Inbound	0	0	14	12	12

# 1. FY2019 Progress

【Name of project】(Adopted year: FY2019)

## Japan-Europe Master on Advanced Robotics - JEMARO

### ■ Exchange Programs



The program was adopted in September 2019 and various systems are under construction to prepare for the full-scale dispatch and acceptance of students from the 2020 academic year.

After a rigorous screening process, 14 candidates were selected out of 433 at a joint selection meeting with EU partner universities in March. The JEMARO Students Exchange Laboratory for the participants of this program has been set up in the university, and facilities are being upgraded to enable students to communicate and conduct research from the next academic year, as well as to conduct web conferencing freely at any time.

〈inside of the JEMARO Student Exchange Laboratory〉

### Student-Mobility

#### ○ Outbound

No outbound student. Fiscal year 2019 is a preparation period for the program and the first outbound student will be sent in September, 2020.

#### ○ Inbound

No inbound student. Fiscal year 2019 is a preparation period for the program and furthermore in the first year as they will be enrolled in one of the three European universities.

	2019	
	Plan	Results
Outbound	0	0
Inbound	0	0

### ■ Forming the University Network with Quality Assurance

The aim of the program is to establish a joint research system based on research activities of the three EU universities and the Graduate School of Science and Technology, Keio University, with the aim of fostering researchers who can co-author dissertations. The selection process is based on an entrance examination for the International Graduate Program on Advanced Science and Technology.

The quality of students from European universities is also guaranteed by improving and implementing the selection process of the EMARO (European Master on Advanced Robotics), in which Keio University has participated as an associate partner. Finally, accepting JEMARO students are determined according to the common screening criteria established by the JEMARO consortium. A joint web conference was held on March 6, 2020 to decide on the students to be accepted and to discuss policies for implementing the program while maintaining the quality of education affected by COVID-19.



〈The subject of the Joint Web Conference on March 6, 2020〉

### ■ Promotion of Student-Mobility Environment

For international students, we introduce them dormitories and housing, provide them with information on living conditions, and have a support system of TAs so that they can concentrate on their studies in Japan. For outbound students, we work closely with the host university to provide information about the institution and basic information on the host country so that they can concentrate on their studies in the host country.

### ■ Internationalization of the university, Information disclosure and Publication of outcome

We released a brand-new website for JEMARO (in Japanese <https://jemaro.st.keio.ac.jp/>) and swap links with the English site at ECN (<https://jemaro.ec-nantes.fr/>) and enhance the disclosure of information mutually. Keio University has been selected as a platform-building university among one of the three Inter-University Exchange Project and there are plans to hold meetings and symposia to exchange opinions among the selected universities.

### ■ Good Practices

Monthly web meetings of JEMARO Consortium members have been held to minimize program changes due to the COVID-19 infection and to share information. In addition, a consortium Web meeting was held on March 6, 2020, which is planned to be held in March and July of each year.

## 2. FY2020 Progress

【Name of project】(Adopted year: FY2019)

### Japan-Europe Master on Advanced Robotics - JEMARO

#### ■ Exchange Programs



〈The first JEMARO students from overseas arrived in ECN (France)〉

The student exchange program began in 2020; however, due to the spread of the COVID-19 (coronavirus disease), students in Japan were not able to travel to Europe in the 2020 academic year. For Japanese students, all lectures and research activities, and for students in the EU, portions of lectures and research activities, were implemented online.

Even under such circumstances, the number of applicants for the entire program increased by nearly 100 people from the previous year, and a joint selection committee with EU partner universities was held in March. Eighteen candidates were selected out of 527 applicants (including 2 Japanese students) through a rigorous screening process.

Based on the knowledge gained from the exchange program during the COVID-19 pandemic, a symposium was held in March for a wide target audience beyond just the selected universities.

#### Student-Mobility

##### ○ Outbound

Initially, five students were selected to join the program from September 2020, but two declined due to the coronavirus pandemic. The remaining three students (one enrolled at a university in France and two enrolled at university in Italy) took part in the program online from Japan.

##### ○ Inbound

The first year of the two-year program is conducted at one of three European universities and Keio did not host any international students in 2020 as originally planned. In September 2021, Keio will receive nine EU students.

	2020	
	Plan	Results
Outbound	2	3
Inbound	0	0

#### ■ Forming the University Network with Quality Assurance

From the very beginning of the selection process, we place a high value on the students' motivation and interest in research topics, selecting their academic advisors in Japan before their departure. We have established a system that allows students to engage in research under the supervision of both Japanese and European academic advisors even before arriving in Japan. Based on cooperation with our EU partner universities, we have assigned Japanese instructors for both the first (12 students including 3 Japanese nationals) and second cohorts (18 students including 2 Japanese nationals), ensuring that students have a clear indication of the joint supervision system that will be in place.



JEMARO video (English version)

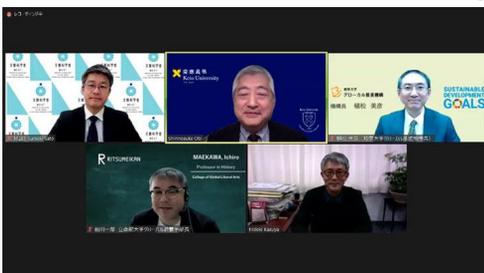
〈JEMARO video (English version)  
<https://www.youtube.com/watch?v=T1laXpe5ByQ>〉

#### ■ Promotion of Student-Mobility Environment

The "Guide for Before Departure and Upon Arrival 2021" was distributed online to international students coming to Japan for the first time. This guide covers essential information regarding dormitories, visa procedures, living information, etc., and helps students to prepare both for their trip and settling into a new environment.

In addition, for Japanese students who could only join the program online, we designed and conducted the "JEMARO Program Specialized Academic Skills English Training" to help them improve their discussion and presentation skills in English.

#### ■ Internationalization of the university, Information disclosure and Publication of outcome



〈From the first part of the symposium "Toward the Establishment of the Joint Degree Program Council"〉

As the platform-building university among the three universities selected for the Inter-University Exchange Project (EU), we held liaison meetings for the selected universities (the first meeting was held in July and the second in March) as well as hosting several meetings to share information on handling student mobility.

In March, Keio also hosted a two-part online symposium titled "Toward the Establishment of the 'Council for Joint Degree Programs'" (in Japanese) and "The realities of managing international programs during the coronavirus pandemic" (in English).

(<https://www.global-sdgs.keio.ac.jp/sdgs/iuep-eu-symposium/>)  
Two JEMARO introductory videos, one in Japanese and one in English, were produced and widely publicized on the EU and Japanese JEMARO websites.

#### ■ Good Practices

At the same time as establishing a research and education guidance system, we focused on producing public relations materials (enhancement of introductory videos and websites) for student recruitment. As a result, the number of applicants increased by nearly 100 people, and the number of JEMARO search hits on Google reached 141,000 (as of June 28, 2021), which is a credit to the increased publicity.