

Tokyo Institute of Technology International Education Program for Research Advancement: Conceptual Overview

Name of project (Type B-1)

Global Science and Engineering Leader Development Collaborative Network

Project Overview

The project provides start-to-finish education for internationally-oriented students, from university admission to graduation and employment, to become future global science and engineering leaders. Through an established international collaborative network with world-leading science and engineering universities in Europe, the US and Asia, the project offers a research experience-oriented overseas education program for undergraduate students and a group guidance-oriented exchange program for graduate students, a new model of exchange for science and engineering students.

Program objectives and model for developing human resources

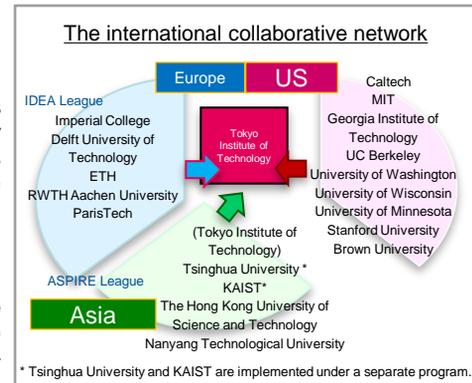
Construction of a world-class cooperative network and development of global elite human resources

Based on the results of collaboration with major universities in Asia and Europe, the project has constructed a systematic cooperative network with major US universities which have traditionally pursued exchanges individually, and is working toward developing global elite human resources – researchers, technicians, businesspersons, international institution staff, and others – who are active on the world stage.

Content of the initiative

Initiatives to foster internationality in Tokyo Institute of Technology students

As initiatives that spans the course from university admission to the awarding of a degree, the project engages in (1) activities to enhance awareness among high school students; (2) development of an international liberal arts education program; (3) development of a research-oriented summer program ; (4) development of the Joint Educational program (group guidance-oriented exchange program); and (5) development of a support system for international careers.



Summer program-focused educational program and graduate school group guidance program

The above (3) research-oriented summer program consists of short-term research projects, lecture-based coursework on common themes, and coursework in specialty fields in English under the name Tokyo Tech International Research Opportunity Program (TiROP), with undergraduate and Master's course students joining a laboratory for the summer and fall terms onward. The above (4) Joint Educational Program consists of research activities in partner universities for a fixed period, on research themes jointly set by the Tokyo Institute of Technology and partner universities.

Formation of a framework for inter-university exchange with assurance of quality

Basic approach to the assurance of quality

The basic approach of the project is to construct a system for certification that allows participating students to effectively achieve satisfying results in coursework, with partner universities maintaining each other's respective quality assurance systems.

Guidance and advice through Study and Research Plans

For each student, academic advisors in universities on both sides maintain communication and, by exchanging Study and Research Plans/Record, provide guidance and advice regarding curriculum studies and research both before and during study abroad period, and after returning to the home university.

Summer Program student presentation



Making educational content visible and communicating results

Web-based provision of information and development of outstanding human resources

In the implementation of the program, the Institute has established a unique website associated with the existing Tokyo Institute of Technology English website and partner universities' websites, providing information to a wide demographic community extending beyond participating students. Moreover, the use of Study and Research Plans/Record, as well as grade management with strong commonality, are presented in a form that can be referenced by other universities.

Preparations to support the exchange of outgoing Japanese and incoming foreign students

Preparations to support the outgoing exchange of Japanese students

The project has established an English prep course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at the partner universities. During study abroad period, the project offers consultation on studies and everyday living through means such as email, and offers advice through career advisors.

Support structure for the incoming exchange of foreign students

In addition to posting program content on its website, the project is working toward the smooth acceptance of foreign students through close communication with partner universities. During students' studies in Japan, the project appoints Tokyo Institute of Technology students in related fields as tutors, and provides advice from career advisors and 24-hour counseling.

Student mobility in exchange programs

Outgoing Japanese students

The project sent 11 students to several of the 16 partner universities in 2012 and plans to annually send one student to each partner university from 2013 onwards, under the framework of either the summer program or the Joint Educational Program.

Incoming foreign students

The project accepted 17 students in 2012 and will continue to annually accept one student from each of the 16 partner universities, under the framework of either the summer program or the Joint Educational Program.

	2011	2012	2013	2014	2015
Outgoing students	n/a	11	17	17	17
Incoming students	n/a	17	17	17	17

2012 : Actual number exchanged / 2013 onward: Projected number

Project Name: Global Science and Engineering Leader Development Collaborative Network

Year Adopted: FY2011, Type B-1

Summary:
This project provides start-to-finish education for internationally-oriented students, from university admission to graduation and employment, with the aim of developing future global science and engineering leaders. Through an established international collaborative network with world-leading science and engineering universities in Europe, the US and Asia, the project offers a research-oriented overseas education program for undergraduate and graduate students for a summer or a period of up to one year. Both constitute a new model of exchange for science and engineering students.

■ Project Aim and Global Human Resource Ideals

○ Construction of a world-class cooperative network and development of elite global human resources

Based on the results of collaboration with major universities in Asia and Europe, the project has constructed a systematic cooperative network with major US universities which have traditionally pursued exchanges individually with the Institute and strives to develop elite global human resources in academia, research, industry, international organizations and in other sectors who will make global contributions to society.

■ Content of the Programs

○ Initiatives to foster international-mindedness in Tokyo Institute of Technology students

This project supports students from university admission to graduation and, engages in (1) activities to engage high school students in science and engineering; (2) the development of an international liberal arts education program; (3) the development of a research-oriented Summer Program; (4) the development of the Joint Educational Program (for graduate students for a summer or a period of up to one year); and (5) the development of an international career advice and support system.

○ Summer Program focused on Research and Education / Joint Educational Graduate Program

The research-oriented Summer Program, number three above, consists of short-term research projects, lecture-based coursework on common themes, and coursework in specialty fields in English under the name Tokyo Tech International Research Opportunity Program (TIROP), in which undergraduate and master's students join a laboratory for the summer and possibly the fall term. The Joint Educational Program, number four above, consists of research activities at partner universities for a fixed period on research themes jointly set by Tokyo Institute of Technology and partner universities.

■ Forming a University Network with Quality Assurance

○ Basic approach to the assurance of quality

The basic approach of the project is to construct a system for the certification of quality assurance recognized by partner universities that allows participating students to effectively achieve satisfying results in their coursework at partner universities.

○ Guidance and advice through Study and Research Plans

For each student, academic advisors at both the home and host university maintain communication and through the utilization of a Study and Research Plan/Record provide guidance and advice regarding course choices and research before, during and after study abroad.

■ Making Educational Content Visible

○ Web-based provision of information and development of outstanding human resources

In implementing the program, the Institute has established a unique website associated with the existing Tokyo Institute of Technology English website and partner universities' websites, providing information to a wide demographic community extending beyond participating students. Moreover, to assist partner universities with the possibility of credit transfers, the Institute uses a Study and Research Plan/Record as well as a grade management system showing strong commonalities between partner universities.



Summer Program student discussion

■ Promotion of a Student-Friendly Environment for International Exchange

○ Preparations to support outgoing Japanese students

The project has established an English intensive course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at each partner university. While studying abroad, the project offers academic consultation and advice by email on everyday living, as well as advice by career advisors.

○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. While in Japan, international students are provided with Tokyo Institute of Technology tutors (students in related fields), advice from career advisors, and 24-hour counseling.

■ Student Mobility

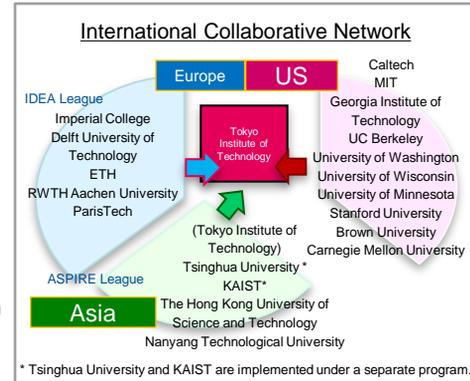
○ Outgoing Japanese students

The project sent 12 students to several of the 16 partner universities in 2013 and plans to annually send one student to each of the 17 partner universities from 2014 onward, under the framework of either the Summer Program or the Joint Educational Program.

○ Incoming international students

The project accepted 25 students in 2013 and will continue to annually accept one student from each of the 17 partner universities, under the framework of either the Summer Program or the Joint Educational Program.

	2011	2012	2013	2014	2015
Outgoing students	n/a	11	12	17	17
Incoming students	n/a	17	25	17	17



【Name of project】(Adopted year: FY2011, Type B-1)
Global Science and Engineering Leader Development Collaborative Network

【Aim of project, Ideals of Global Human Resource on the project】

Based on the results of collaboration with major universities in Asia and Europe, the project has constructed a systematic cooperative network with major US universities which have traditionally pursued exchanges individually with the Institute. The project strives to develop elite global human resources in academia, research, industry, international organizations, and in other sectors who will make global contributions to society.

【Summary of project】

This project provides start-to-finish education for internationally-oriented students, from university admission to graduation and employment, with the aim of developing future global science and engineering leaders. Through an established international collaborative network with world-leading science and engineering universities in Europe, the US, and Asia, the project offers a research-oriented overseas education program for undergraduate and graduate students for a summer or a period of up to one year. Both constitute a new model of exchange for science and engineering students.

■ Content of the Programs, Preparation for the Start of the Programs

○ Initiatives to foster international-mindedness in Tokyo Institute of Technology students

This project supports students from university admission to graduation and engages in (1) activities to engage high school students in science and engineering; (2) the development of an international liberal arts education program; (3) the development of a research-oriented Summer Program; (4) the development of the Joint Educational Program (for graduate students for a summer or a period of up to one year); and (5) the development of an international career advice and support system.

○ Summer Program focused on Research and Education / Joint Educational Graduate Program

The research-oriented Summer Program, (3) above, consists of short-term research projects, lecture-based coursework on common themes, and coursework in specialty fields in English under the name Tokyo Tech International Research Opportunity Program (TiROP), in which undergraduate and master's students join a laboratory for the summer and possibly the fall term. The Joint Educational Program, (4) above, consists of research activities at partner universities for a fixed period on research themes jointly set by Tokyo Institute of Technology and partner universities.

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The basic approach of the project is to construct a system for the certification of quality assurance recognized by partner universities that allows participating students to effectively achieve satisfying results in their coursework at partner universities.

○ Guidance and advice through Study and Research Plans

For each student, academic advisors at both the home and host university maintain communication and through the utilization of a Study and Research Plan/Record provide guidance and advice regarding course choices and research before, during, and after study abroad.

■ Internationalization of the university, Information disclosure and publication of outcomes



Summer Program student

○ Internationalization of the university

Currently, 12% of the students are from overseas. Tokyo Tech has already initiated its administrative reforms through organizational changes, streamlining of its human resources, and innovation of its education and research systems.

○ Web-based provision of information

In implementing the program, the Institute has established a Facebook page and a unique website associated with the existing Tokyo Institute of Technology English website and partner universities' websites, providing information to a wide demographic community extending beyond participating students.

■ Promotion of Student Mobility Environment

○ Preparations to support outgoing Japanese students

The project has established an English intensive course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at each partner university. While studying abroad, the project offers academic consultation and advice by email on everyday living, as well as advice by career advisors.

○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. While in Japan, international students are provided with Tokyo Institute of Technology tutors (students in related fields), advice from career advisors, and 24-hour counseling.

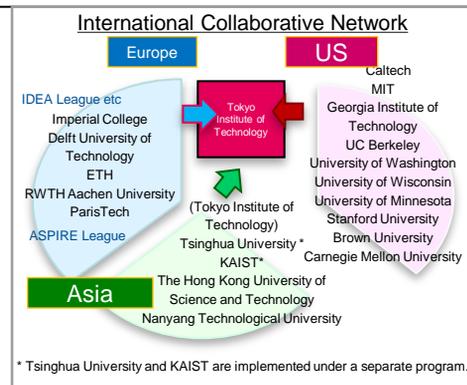
■ Student Mobility

○ Outgoing Japanese students

The project sent 14 students to several of the 17 partner universities in 2014 and plans to annually send one student to each of the 17 partner universities from 2015 onward, under the framework of either the Summer Program, the Joint Educational Program or the Short-term Visitor Program.

○ Incoming international students

The project accepted 29 students in 2014 and will continue to annually accept one student from each of the 17 partner universities, under the framework of either the Summer Program or the Joint Educational Program.



	2011	2012	2013	2014	2015
Outgoing students	n/a	22	20	14	17
Incoming students	n/a	17	25	29	17

Re-Inventing Japan Project Tokyo Institute of Technology in FY2015

【Name of project】(Adopted year: FY2011, Type B-1)

Global Science and Engineering Leader Development Collaborative Network

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The basic approach of the project is to construct a system for the certification of quality assurance recognized by partner universities that allows participating students to effectively achieve satisfying results in their coursework at partner universities.

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For each student, academic advisors at both the home and host university maintain communication and through the utilization of a Study and Research Plan/Record provide guidance and advice regarding course choices and research before, during, and after study abroad.

■ Content of the Programs, Preparation for the Start of the Programs

○ Initiatives to foster international-mindedness in Tokyo Tech students

This project supports students from university admission to graduation and engages in (1) activities to engage high school students in science and engineering; (2) the development of an international liberal arts education program; (3) the development of a research-oriented Summer Program; (4) the development of the Joint Educational Program (for graduate students for a summer or a period of up to one year); and (5) the development of an international career advice and support system.



TiROP students and faculty members

■ Student Mobility

○ Outgoing Japanese students

The project sent 27 students to several of the 17 partner universities in fiscal year 2015 under the framework of either the Summer Program, the Joint Educational Program or the Short-term Visitor Program.

○ Incoming international students

The project accepted 23 students in fiscal year 2015 under the framework of either the Summer Program or the Joint Educational Program.

■ Promotion of Student Mobility Environment

○ Preparations to support outgoing Japanese students

The project has established an English intensive course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at each partner university. While studying abroad, the project offers academic consultation and advice by email on everyday living, as well as advice by career advisors.

○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. While in Japan, international students are provided with Tokyo Institute of Technology tutors (students in related fields), advice from career advisors, and 24-hour counseling.

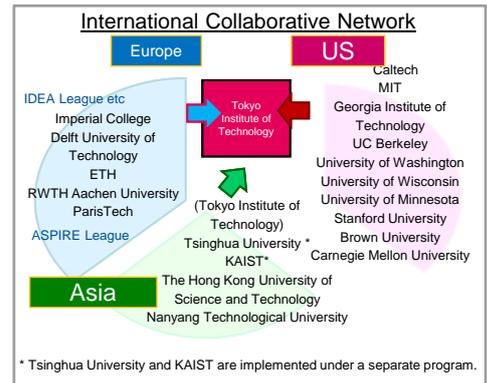
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Currently, 12% of the students are from overseas. Tokyo Tech has already initiated its administrative reforms through organizational changes, streamlining of its human resources, and innovation of its education and research systems.

○ Web-based provision of information

In implementing the program, the Institute has established a Facebook page and a unique website associated with the existing Tokyo Institute of Technology English website and partner universities' websites, providing information to a wide demographic community extending beyond participating students.



	2011	2012	2013	2014	2015
Outgoing students	n/a	22	20	14	27
Incoming students	n/a	17	25	29	23