

Top Global University Project (Type A) Kyoto University

1. Outline

【 Name of project 】

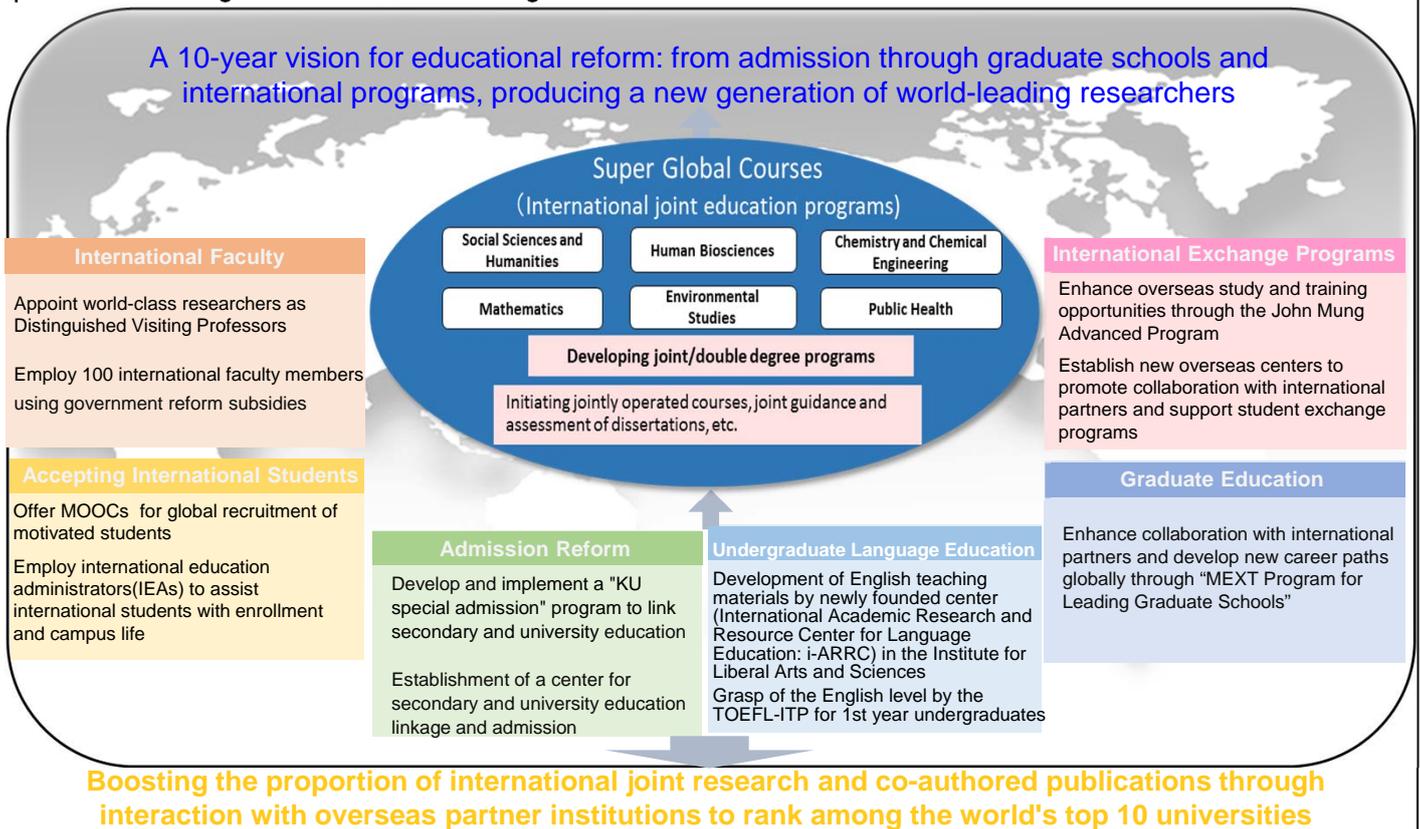
Japan Gateway: Kyoto University Top Global Program

【 Future vision of the university planned in TGU project 】

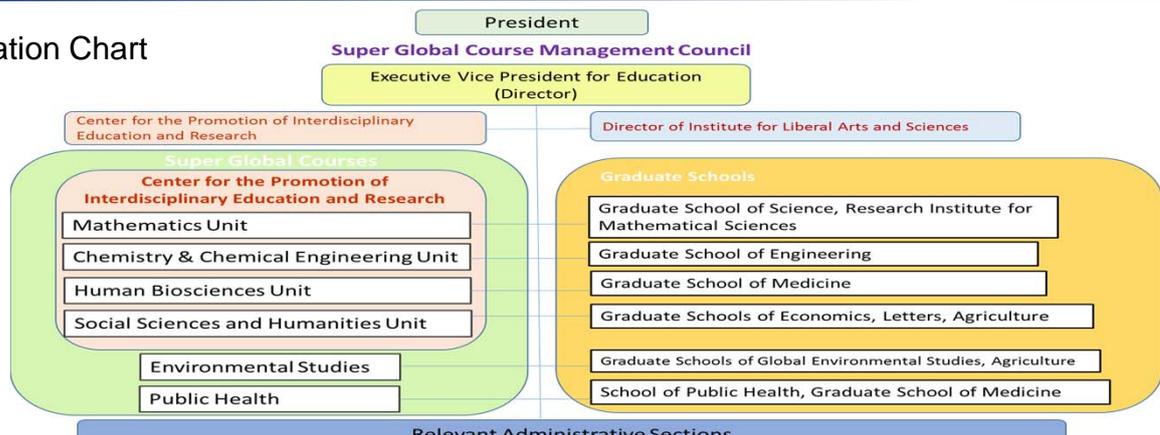
- Education reform from admission to graduate schools with a 10-year vision in tandem with internationalization to produce the next generation of world-leading researchers
- Boosting the proportion of international joint research/internationally co-authored publications through interaction with overseas partner institutions to rank among the world's top 10 universities

【 Summary of Project 】

The project will establish international joint education programs called “Super Global Courses” at graduate schools covering research areas in which KU has significant international competitiveness, which will be implemented in partnership with universities that are world leaders in their respective fields. As well as initiating courses that are jointly operated with partner institutions and providing joint guidance and assessments of dissertations under “Super Global Courses” in the respective research areas, we will develop “joint/double degree programs.” Through the synergetic effects of internationalization of graduate education arising out of these initiatives and from internationalization of various aspects of undergraduate education including admission reform, promotion of employment of non-Japanese faculty members, increasing inbound and outbound student mobility, and offering more courses in English, the project is aimed at further reinforcing the university's strengths in research and education to produce the next generation of world-leading researchers.



Organization Chart



【Summary of the 10-year plan】

[AY2014] Phase 1- Year 1: Partnership agreements and preparation for joint education programs

- Entered into partnership agreements with the world's leading universities for the introduction of international joint education and degree programs
- Forged a system to enable employment of world-class, non-Japanese faculty members with flexible status/compensation

[AY2015] Phase1- Year 2: Involvement of more disciplines, introduction of jointly operated courses and employment of IEAs

- Launch jointly operated courses with a view toward facilitating the introduction of international joint education and degree programs with the world's leading universities
- Employ international education administrators who will investigate system issues for the purpose of launching the new programs. They also assist in the process for accepting students from international partners as well as helping KU students studying abroad

[AY2016] Phase 1- Year 3: Application for approval of establishment of international joint curriculum

- Build infrastructure with overseas partner institutions including infrastructure for distance guidance in research
- Introduce international joint education programs called "Super Global Programs" in which core curricula are offered jointly with international partners

[AY2017] Phase 1- Year 4: Starting up joint degree programs

- Start up international joint/double degree programs
- "Super Global Programs" will accept enrollment as sub-major subjects and enrollment as extension studies

[AY2018] Phase 2- year 1: Review for further development based on the interim evaluation

- Check the status of infrastructure development for internationalization (employment of non-Japanese faculty members, development of lodging facilities, development of overseas bases, etc.)
- Check the progress of the development of quality-assured education systems and programs with international standing

[AY2019] Phase 2- Year 2: Increasing mobility and diversity

- Check the status of the strategic acceptance of high-quality international students and utilization of international bases
- Carry out checks on the development of talented young researchers and increase the ratio of internationally co-authored papers

[AY2020] Phase 2- Year 3: Raising Kyoto University's position in the World University Rankings

- Identify points for improvement and strengthen initiatives with the aim of being ranked among the top 10 in the World University Rankings

[AY2021] Phase 2- Year 4: Review for further development based on the 2nd interim evaluation

- Strengthen initiatives for the improvements required to ensure quality-assured education systems of high international standing

[AY2022] Phase 2- Year 5: Establish an organization for industry-government-academia open innovation education

[AY2023] Phase 2- Year 6: Activities for the continuation and development of the project

【Featured initiatives (Internationalization, University reform, Education reform)】

Undergraduate Education

- Development of English teaching materials by foundation of the International Academic Research and Resource Center for Language Education(i-ARRC) in the Institute for Liberal Arts and Sciences
- Grasp of the English level by the TOEFL-ITP for 1st year undergraduates
- Undergraduate International Course Program of Global Engineering, Faculty of Engineering (wholly in English)

Graduate Education

- "MEXT Program for Leading Graduate Schools," including the Graduate School of Advanced Integrated Studies in Human Survivability (five projects adopted as of AY2014)
- "Re-Inventing Japan Project," such as study abroad programs for Japanese students and strategic acceptance of foreign students (three projects adopted as of AY2014)

Accepting International Students

- Employing International Education Administrators(IEAs) to assist international students
- MOOCs (Massive Open Online Courses) to attract high-potential students from around the world
- "Kyoto University International Education Program (KUINEP)"

Recruiting international faculty members

- Recruiting world-class researchers as Distinguished Visiting Professors
- Systematic and strategic promotion of recruitment of international superior faculty members under the initiative to double the number of international faculty members (Employing 100 international faculty members through "subsidy for supporting national university reform")

International Strategy

- "2x by 2020": real internationalization supported by achievement of numerical targets (doubling indices of internationalization by 2020)
- Aspiring to place Kyoto University among the top 10 in world university rankings

【Measures for the promotion of collaboration with foreign universities】

- Employ International Education Administrators who will promote partnerships with overseas universities. They will also be in charge of assistance and planning for KU students studying abroad and the acceptance of international students
- Sending more students and researchers abroad under the John Mung Advanced Program
- Increasing the number of Kyoto University offices outside of Japan for interaction with partner institutions and support for in-bound and out-bound study abroad students
- Medium-long term work experience under "International Internship" programs, in partnership with overseas research institutions and corporations

2. FY2014 Progress

■ Common indicators and targets

I. Internationalization

(1) Flexible and attractive employment systems for non-Japanese faculty members

We revised the internal rules and regulations including employment rules to increase faculty staff mobility and enable flexible employment of world-class, non-Japanese faculty members.

(2) Expansion of academic exchange and cooperation with the world's leading universities

[Memorandum of Understanding (MOU) for inter-university academic exchange]

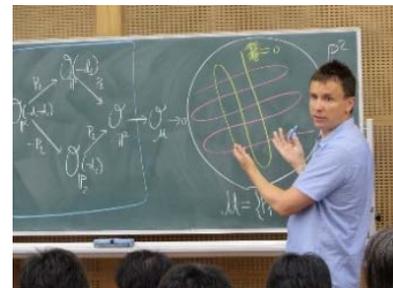
Massachusetts Institute of Technology (MIT) and McGill University

[Basic agreement]

Copenhagen Business School, Wageningen University and University of Glasgow

(3) Enhancement of attractive educational environment for global mindset by lectures in English

Special lectures/lecture meetings and research guidance for graduate students provided by distinguished visiting professors and guest lecturers including Fields Medal awardees enabled students to learn about the world's leading-edge research areas in a high-quality education and research environment. This gave them even greater motivation to ultimately play their part on the international stage.



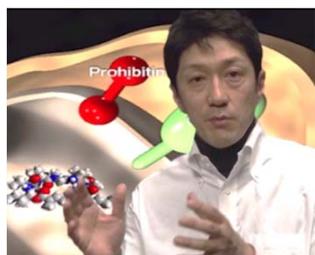
< Special lecture by a Fields Medal awardee >

(4) Expansion of faculty and student mobility to/from overseas partner institutions

By sending faculty members and students to partner institutions, reciprocal interactions were enhanced and ties were reinforced with a view to facilitating the introduction of international joint education and degree programs.

(5) Promotion of university-wide internationalization by employment of IEA

To propel the university-wide drive towards internationalization, we established a new "International Education Administration Office" within the Organization for the Promotion of International Relations. In order to more effectively and professionally in our approach, we laid out a framework for employing International Education Administrators who will perform such tasks as assistance and planning for KU students studying abroad and the acceptance of international students. IEAs have been employed since April 2015 (one senior IEA and two IEAs took up their positions from April 1, 2015).



< MOOCs offered by KU faculty members >

(6) MOOCs (Massive Open Online Courses) service

We prepared course information and syllabuses for offering MOOCs in the 2015 academic year via edX, which Kyoto University has joined as a charter member. The MOOCs service related to this program will enable us to attract highly motivated students of great potential from around the world by publicizing the content of KU's Super Global Programs and other programs both inside and outside Japan.

II. University reform

(1) Introduction of an annual salary system

For the introduction of the annual salary system, after a decision was made on the age and job categories to be covered (at a Deans and Directors Meeting in November 2014), rules and regulations on salary systems, evaluation systems, retirement pay, etc. were established or revised (a decision by the Board of Executive Directors in February 2015), and 101 staff members whose status changed from civil servant to national university corporation staff in 2004 were transitioned into the annual salary system that started on March 1, 2015 as the first group at Kyoto University to work under the new system. We plan to increase the number of staff covered by the system in the future, starting mainly with non-Japanese faculty members, the group we are now strategically targeting in our recruiting.

Regarding the cross appointment system, the "Kyoto University Regulations Regarding Implementation of Cross-Appointment of Faculty Members" came into force on March 1, 2015.

(2) Establishment of Office for the Promotion of Institutional Research

Having built its Data Warehouse (DWH) in 2013, Kyoto University has worked to improve its infrastructure for IR functions.

To further enhance and strengthen its IR functions, the Office for the Promotion of Institutional Research was established in April 2015 within the Planning and Information Management Department.

III. Education reform

○ Institute for Liberal Arts and Sciences

To measure the basic English ability of students, we required all first year students to take TOEFL-ITP, the results of which were examined by the Council for Liberal Arts and Sciences and Committee for Planning and Evaluation. The results were then utilized in discussions on plans for English courses and courses conducted in English in and after AY2016.

Furthermore, to further cultivate an international mindset, it has been decided to employ, on a provisional and short-term basis, faculty staff who have positions at overseas universities starting from 2015. These staff will give intensive lectures in English for time periods outside regular semesters (August to September and February to March). As a result of our efforts to increase courses in English, in the 2014 academic year, a total of 101 courses conducted in English including 21 KUINEP courses and 80 liberal arts and general education courses by the Institute for Liberal Arts and Sciences were available for students accepted under the KUINEP (Kyoto University International Education Program), dramatically expanding the range of choices open to these students (in 2013, a total of 36 such courses were available including 26 KUINEP courses and 10 liberal arts and general education courses by the Institute for Liberal Arts and Sciences). The number of courses in foreign languages (primarily English) offered by faculties and graduate schools also dramatically increased to a total of 677 (641 in English) in the 2014 academic year (from 564 courses in 2013, 531 of which were in English).

■ University's own indicators and targets

(1) Internationally co-authored papers by students

In the 2014 academic year, we continued to encourage and support students going abroad or presenting papers at international conferences (193 in 2013 => 512 in 2014). In future, we intend to increase the number of internationally co-authored papers through the introduction of joint curricula and joint degree programs.

(2) Number of students dispatched overseas under the John Mung Program

With the extra support given to students under the "John Mung Program" which provides motivated students of great potential with the opportunity to study abroad, the number of students studying abroad has been steadily increasing. (107 in 2013 => 132 in 2014)

■ Initiatives for the enhancement of international reputation

○ Organizing international symposiums and workshops

By organizing international symposiums and workshops, we promoted our endeavors under this project to partner institutions and accelerated reciprocal exchanges. These activities have created a track record that will improve our international reputation.

December: -2014 Kyoto University & National Taiwan University workshop on business analysis

January: -The first international workshop on "Micro/Flow Chemistry & Engineering" (four faculty members and four postdoctoral fellows were invited from partner institutions)

February: -International workshop on agricultural policy research (a faculty member from the University of Arkansas was invited to attend)

-"University of Glasgow/Kyoto University Joint Student Workshop" held at the University of Glasgow

March: -The Kyoto University International Symposium cosponsored by the University of California, San Diego, for research collaboration and researcher interaction

-"The Third Kyoto Course and Symposium on Bioinformatics for Next Generation Sequencing with Applications in Human Genetics"

-"SGU Mathematics Kickoff Meeting" (six faculty members from partner institutions were invited)

-Joint Workshop on East Asian Studies organized by the National Institute for Advanced Humanistic Studies at Fudan University and Graduate School of Letters, Kyoto University (two postdoctoral fellows were invited from Heidelberg University)

-Seminar for graduate students on how to give presentations in English (a faculty member was invited from the University of Stavanger, Norway)

-International workshop on family farming (three faculty members and five postdoctoral fellows were invited from Agropolis International)

-"Kickoff Meeting for Kyoto-ASEAN Forum 2015" for the expansion of research and education activities in the ASEAN region (the plenary session to be held in the 2016 academic year)

-"Wageningen/Kyoto Joint Student Workshop" held at Wageningen University

-"2015 Business Analysis and Accounting Workshop" held at National Taiwan University

【 Results for the promotion of collaboration with foreign universities 】

[Distinguished Visiting Professor](8)

-Columbia University(1) (Jul.)

-University of Michigan(1) (Sep.~ Dec.)

-Vanderbilt University(1) (Oct.~ Nov.)

-University of Zurich(1) (Feb.~ Mar.)

-Texas A&M University(1), McGill University(3) (Mar.~)

[Visiting lecturers, etc. (lectures, research presentations etc.)](42)

Massachusetts Institute of Technology(6), Washington State University(1), University of Oregon (1), University of Exeter(1),

University of Graz(1), Yale-NUS College(1), Tsinghua University(1), University of Wageningen(1),

Copenhagen Business School(2), Yale-NUS College(1), Erasmus University Rotterdam(1), Harvard University(1),

Columbia University(1), University of Oxford(1), McGill University(2), University of Hamburg(1),

Friedrich-Alexander University Erlangen-Nürnberg(1), Hungarian Academy of Sciences(1), University of Pavia(1),

max planck institute for physics(1), University of Bonn(1), University-of-Mainz(1), University of Goettingen(1),

Institute of Pasteur(1), University of Pittsburgh(1), University of the Pacific(1), University of Glasgow(1),

University of Wageningen(2), French National Institute for Agricultural Research(1), Agricultural Research for Development(2),

Swiss Federal Institute of Technology in Zurich(1), University of Freiburg(1), University of Greifswald(1)

[Dispatch of faculty members (investigation of academic calendars and education systems, joint teaching, discussion on interdepartmental agreement on student exchange, etc.)](28)

Massachusetts Institute of Technology(2), Development Academy of the Philippines(1),

Stockholm School of Economics(1), University of Lethbridge(1), University of Glasgow(3), Thammasat University(3),

Rutgers University(1), Imperial College London(1), University of Heidelberg· Strasbourg University(1),

University of Wageningen(6), National Taiwan University(2), Agropolis International(2), The University of Sheffield(1),

University of Paris-Sud(1), Kazakh National Agricultural University(1), Tsinghua University(1)

[Invitation (discussion on exchange agreements for program start etc.)](24)

Strasbourg University(2), NUS(2), Chulalongkorn University(2), Vietnam Academy of Social Sciences(1),

Seoul National University(1), University of Stavanger(1), Strasbourg University(1), University of Heidelberg(1),

Technical University Munich(1), University of Bonn(1), University of Utah(1), Louisiana State University(1),

Nanjing University(1), University of Heidelberg· Strasbourg University(1), University of the Pacific(1),

Renmin University of China(2), Stony Brook University(1), Olin College of Engineering(3)

[Dispatch of graduate students (paid for by the university)](13)

University of Bonn, University of Amsterdam, Imperial College London, Brown University,

University of British Columbia, NUS(7), Massachusetts Institute of Technology(6)

3. FY2015 Progress

■ Common indicators and targets

I. Internationalization

(1) Expansion of academic exchange and cooperation with the world's leading universities

Interdepartmental exchange agreements entered into in AY 2015 (*concerning the six areas of the Super Global Courses)

- Grad. School of Economics-University of Wageningen (Netherlands), July, 2015 Student Exchange Agreement
- Grad. School of Economics-Katholieke Universiteit Leuven (Belgium), March 2016, Academic Exchange Agreement and Student Exchange Agreement
- Grad. School of Letters-Heidelberg University (Germany), December 2015, Letter of Intent on Establishing a Joint Degree Program
- Grad. School of Agriculture-University of Göttingen (Germany), April 2016, Student Exchange Agreement
- Grad. School of Engineering-Massachusetts Institute of Technology (USA), February 2016, Student Exchange Agreement
- Grad. School of Global Environmental Studies—University of Lorraine (France), July 2015, Academic Exchange Agreement and Student Exchange Agreement
- School of Public Health-National Taiwan University (Taiwan), December 2015, Letter of Agreement for double degree program
- School of Public Health-Mahidol University (Thailand), December 2015, Letter of Agreement for double degree program

(2) Improving the educational environment which enhances students' international mindset by offering more lectures conducted in English

We provided special lectures and courses conducted in English by distinguished visiting professors and visiting guest lecturers, including Fields Medal awardees, and strengthened the lineup of liberal arts and general education courses conducted in English offered by the Institute for Liberal Arts and Sciences. As a result, a total of 885 courses conducted in foreign languages were provided in AY 2015 (including 854 in English).

(3) Expansion of faculty and student mobility to/from overseas partner institutions

By sending faculty members and students to partner institutions, reciprocal interactions were enhanced and ties were reinforced with a view to facilitating the introduction of international joint education and degree programs.

(4) Introducing a GPA system

We introduced a GPA (grade point average) system for undergraduate students studying under a curriculum applicable to entrants in April 2016 or later, with the aim of promoting students' independent study and facilitating guidance for students' study.

(5) Strengthening the university-wide organization for promoting internationalization by employing international education administrators (IEAs)

We newly employed three international education administrators. As for inbound mobility, we accepted fifty doctoral program students from inside and outside Japan, primarily from the six HeKKSaGOn universities (Heidelberg University, the University of Göttingen, and the Karlsruhe Institute of Technology from Germany as well as Osaka University, Tohoku University, and Kyoto University), who were provided with lectures and off-campus programs for understanding the culture of Japan and Kyoto. In terms of outbound programs, we administered communication skill training programs abroad, grouped by students' language fluency, in partnership with the University of New South Wales from Australia and the University of Auckland from New Zealand, in which a total of sixty undergraduate and master's program students from Kyoto University participated. In addition, we analyzed students' scholarship applications and assisted students preparing application forms, which doubled the success rate in AY 2015 from the previous year. During the second phase of the ASEAN Foundation, we negotiated with AUN member institutions regarding inbound and outbound student programs and acquired external funds.



(6) Offering MOOCs (Massive Open Online Courses)

We created four MOOCs in fields within the scope of Super Global Courses and offered them via edX. These courses attracted many learners, helping us to publicize this program worldwide. Moreover, the process provided a stimulus for our graduate students involved in offering these courses as staff members (such as TAs), giving them opportunities to interact with overseas students by not only asking and answering questions but also participating in discussions among learners.

II. University reform

(1) Introduction of an annual salary system

As of March 2015, an annual salary system was applied to 101 staff members. Following that, the scope of the annual salary system was expanded in the period from April to July 2015, which shifted another 189 staff members into the annual salary system within AY 2015.

(2) Strengthening and improving IR functions

In April 2015, we established the Office for the Promotion of Institutional Research within the Planning and Information Management Department. In addition to that, we established the Office for the Educational IR under the Executive Vice-President for Education in April 2016, in order to centrally collect and manage educational affairs information to support the development of admission strategies, decision making for improving education, quality assurance of education, etc.

III. Education reform

(1) Introduction of KU Special Admission Programs

To attract students with great potential, we introduced the "KU special admission" programs, starting with the admission of entrants in April 2016, to screen applicants based on the comprehensive evaluation of their learning abilities developed in the years leading up to high school and abilities essential for receiving undergraduate education at respective faculties as well as their ambitions. In the first year of this admission system, 81 out of 616 applicants were admitted under the "KU special admission" programs.

■ University's own indicators and targets

(1) Internationally co-authored papers by students

We continued to encourage and support students going abroad or presenting papers at international conferences (646 papers in AY 2015). In future, we intend to increase the number of internationally co-authored papers through the introduction of joint curricula and joint degree programs.

(2) Number of students dispatched overseas under the John Mung Program

With the extra support given to students under the "John Mung Program" which provides motivated students of great potential with the opportunity to study abroad, the number of students studying abroad has been steadily increasing. (138 in AY 2015)

■ Initiatives for the enhancement of international reputation

○ Organizing international symposiums and workshops

By organizing international symposiums and workshops, we promoted our endeavors under this project to partner institutions and accelerated reciprocal exchanges. These activities have created a track record that will improve our international reputation.

Symposiums sponsored by Kyoto University as a whole institution

- Kyoto-Bordeaux Symposium2015 (May 2015)
- Bristol-Heidelberg-Kyoto joint symposium (November 2015)
- UCL-Kyoto Grand Challenges Symposium 2015 (December 2015)
- UC San Diego-Kyoto University Joint Symposium (March 2016)

Symposiums, workshops, etc. held by departments offering the Super Global Courses

[Social Sciences and Humanities] •Kyoto Graduate Seminar (September 2015)

- International Workshop "Theoretical Framework for Comparative Analysis on Family Farming" (March 2016)

[Human Biosciences] •1st Joint Symposium of International Partners (October 2015)

[Chemistry and Chemical Engineering] Joint Workshop with U.S. and German Institutions (December 2015)

[Mathematics] •KTGU Mathematics Workshop for Young Researchers (February 2016)

- KTGU-IMU Mathematics Colloquia & Seminars (March 2016)

[Environmental Studies]

- International Symposium and International Workshop (December 2015)
- JGP-GSGES International Spring School at Kyoto 2016 (February-March 2016)

[Public Health] •2015 Kyoto Global Conference for Rising Public Health Researchers (December 2015)



【 Results for the promotion of collaboration with foreign universities 】

[Social Sciences and Humanities]

In December 2015, the Graduate School of Letters entered into a basic agreement with Heidelberg University (Germany), aiming to establish a joint degree (JD) program within AY 2017. Preceding that, a credit transfer system was introduced starting in October 2015. The school offers more than ten courses in Asian and Transcultural Studies for the JD program.

[Human Biosciences]

We organize a training course and symposium every year based on research collaboration between Kyoto University, McGill University (Canada), and Imperial College London (UK). Aside from that, we are designing systems toward introducing a joint degree program with McGill University (Canada). Other activities include international research collaboration with the University of Bordeaux (France) and the establishment of a collaborative research unit in January 2016 with the Pasteur Institute (France).

[Chemistry and Chemical Engineering]

We invited world-class researchers from such institutions as the Massachusetts Institute of Technology (MIT) in the US, who provided students with lectures, seminars, and research guidance, while sending Kyoto University students to laboratories at these researchers' home institutions for research internship programs. In AY 2015, we entered into an agreement concerning student exchange with MIT, where two of our students participated in a long-term research internship program.

[Mathematics]

Partnership activities undertaken thus far include employing or inviting researchers from Columbia University, the University of Michigan, Vanderbilt University, the University of Utah, and UCLA (USA), the University of Zurich (Switzerland), Imperial College London (UK), the University of Bonn and Johannes Gutenberg University Mainz (Germany), as well as commissioning researchers from these institutions to act as vice supervisors for our graduate students. In AY 2015, three of our graduate students earned degrees under the guidance of researchers from UCLA, the University of Bonn, and Rutgers University, respectively, who served as their vice supervisors. Certificates were issued to those students.

[Environmental Studies]

We offer double degree programs with Gadjah Mada University and Kasetsart University. Discussions are going on toward establishing double degree programs with Mahidol University and Bogor Agricultural University.

[Public Health]

We offer double degree programs with Chulalongkorn University and the University of Malaya. Furthermore, in December 2015, we signed the Letter of Agreement toward the establishment of double degree programs with National Taiwan University (Taiwan) and Mahidol University (Thailand).

