

Program for Leading Graduate Schools

Bouquet

Newsletter

Fostering Long-Term Creativity and Innovation
with Science and Technology
Disciplines Based on Ochanomizu Spirit
"Migakazuba" in the Next Generation of
Global Leaders

Program for Leading
Graduate Schools



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Challenge yourself to the next stage!

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お茶の水女子大学
Ochanomizu University

Challenge yourself to the next stage!

Message from Program Director — Turn your studies into your career

Introductory greeting on newly appointed director

Trustee, Vice President for Research and Innovation
Director of Ochanomizu University's Program for Leading Graduate Schools

Ikuo Morita



I was appointed as the Vice President of Ochanomizu University starting April 2017, and by request of the President, also simultaneously appointed as director of the university's Program for Leading Graduate Schools.

Before this appointment, I served as Vice President and Research Director at Tokyo Medical and Dental University since 2009. I also served as the President of the Industry-Academia Collaboration Initiative Nonprofit Organization and the Director of the Research Promotion Group since 2011. The objective of the Program for Leading Graduate Schools is to nurture female global leaders in the field of the sciences, who will immediately be considered as an asset when they begin working in companies. I have had the opportunity over the years to work with many business people from industry, and have also been involved in the operation of numerous educational projects. I would like to make use of these experiences and strive to further develop this program.

The Program for Leading Graduate Schools at our university was launched when the program was adopted by the Ministry of Education, Culture, Sports, Science and Technology in the 2013 academic year. At the medium-term evaluation that was given this March, our program was evaluated high with a grade A, and was rated as being an initiative that is proceeding according to plan, and that is expected to achieve its goals if it continues with the current level of effort. There are now less than three years remaining from this seven-year program, and what is most important now is to remember our initial motivation and continue with our current efforts.

Among these efforts, we are planning to focus on two issues.

One is to strengthen our partnership with the business world so that our graduates will be able to serve in society as leaders in industrial, government and academic fields. Specifically, we will work toward increasing opportunities for students to have exchanges with people in industry, including through internships (Global Internships), and to enhance our activities in supporting students' entry into a career after graduation.

Secondly, an important issue is creating a roadmap to make this program into one of the key activities of this university even after we stop receiving financial assistance from the Ministry of Education, Culture, Sports, Science and Technology. In particular Project Based Team Study (PBTS), the core of our program, which is a project where students in different fields work together as a team and conduct research on a theme that they have decided by themselves, is well-matched with the needs of society, which is moving even faster toward the active implementation of an innovation ecosystem. Thus, I believe that one of the important issues for us is to further develop and establish such initiatives within our university.

Finally, I would like to express my appreciation to the many people in various fields of industry, government and academia for their support extended to this program. And, since the first batch of students is expected to complete this program and launch themselves out into the world in April 2018, I would greatly appreciate your continued support.



In becoming a fourth class student

Professor, Graduate School of Humanities and Sciences
Head of the Leading Graduate School Program Promotion Center

Hiroaki Yoshida

I was appointed as Head of the Leading Graduate School Program Promotion Center since January 2016.

This program welcomed the fourth class of students this past April, and the number of students now exceeds 30. The students come from diverse backgrounds, including those who are experienced and working in a professional capacity, as well as non-Japanese students from outside of Japan. Our center hopes to support the growth of these students by providing advancement opportunities in a way that matches the needs of each student and in accordance with each individual's characteristics and aspirations regarding a future career.

This program inherits the following essence of education that this university has continued to strive to provide its students with: liberal arts education, global education, and leadership education. But the program also takes on new challenges with the creation of a minor course consisting of classes in the English language. In order to bring success to this challenge, Professor Morita, who is responsible for this program, together with all other persons involved from both in and outside the university, as well as non-Japanese faculty who support the provision of a global education, are working together as one in our determination to deliver to society female doctoral graduates that will serve as global leaders in the sciences field.

International Symposium "Corporate Expectations for Women PhDs"



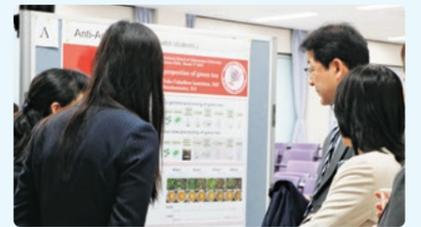
The second large-scale public symposium, held since the Program for Leading Graduate Schools was launched, was held on March 7, 2017, and was attended by approximately 170 visitors from industry, government and academia. We received many heartwarming remarks on the program's students, who are working every day toward becoming doctoral graduates in the sciences fields to answer the needs of not only the industry but the society as well.

Participants working on the frontlines of different companies spoke at keynote lectures and panel discussions to express their ideas on what type of doctorate holders would be successful when working in companies in these times of continuous change. The program's coordinator also gave a presentation and introduced some of the achievements of the program. All students held poster sessions, and selected students had short talks and panel discussions introducing their achievements in their PBTS (a research

project conducted by students from different fields of study, the core of the Program for Leading Graduate Schools), and through their Global Internships (internships in Japan and overseas).

After the symposium, students and participants exchanged information and networked in a friendly atmosphere.

According to a survey conducted on this symposium, about 60% of respondents replied that their image of female doctoral graduates had changed, while around 98% responded that they were able to gain an understanding about Ochanomizu University's Program for Leading Graduate Schools. The symposium also succeeded in generating continued contact with participants even after the event. We plan on continuing to utilize diverse methods to disseminate information on the activities and achievements of our program.



[Guest greeting] Mutsuko Inoue, Director of the University Promotion Division, Ministry of Education, Culture, Sports, Science and Technology



[Keynote lecture] Zane Zumbahlen, Vice President, IBM Japan



[Keynote lecture] Kumi Arakane, Board Director (responsible for quality assurance and product design), Kose Corporation



[Opening remarks] Kimiko Murofushi, President, Ochanomizu University



[Program introduction] Hazuki Furukawa, Program Coordinator, Program for Leading Graduate Schools, Ochanomizu University



[Panel discussion facilitator] Kayoko Yamamoto, Editorial Writer and Editor, The Nikkan Kogyo Shimbun, LTD.



We welcomed nine new students this academic year, and P BTS begun anew and diverse perspectives!



New Student

MANABE Yuuka

Course: Chemistry and Biochemistry, Division of Advanced Sciences

- ▶ Hometown: Tokyo, Japan
- ▶ Hobbies: Playing the drums

Major research topic

I research structures and reaction mechanisms of ruthenium complexes and internal alkynes.

What I would like to do in this program, and my future goals

I would like to improve my communication skills in English and my study skills as a member of a team. I want to work actively for society.



New Student

ODA Mutsumi

Course: Biological Sciences, Division of Life Sciences

- ▶ Hometown: Tokyo, Japan
- ▶ Hobbies: Watching musicals and listening to music

Major research topic

Investigation of P-element invasion in the Japanese natural *Drosophila simulans* population.

What I would like to do in this program, and my future goals

I would like to be able to communicate with people in various fields through this program and to think about things from a new perspective. I also want to raise my English skill!



New Student

KOIKE Yuri

Course: Chemistry and Biochemistry, Division of Advanced Sciences

- ▶ Hometown: Kanagawa, Japan
- ▶ Hobbies: Watching foreign TV series

Major research topic

I am studying the adsorption mechanisms of adsorbents to remove odorous substances via computational chemistry.

What I would like to do in this program, and my future goals

I would like to gain a wide range of knowledge and communication skills through involvement with people in other fields.



New Student

MIKI Haruka

Course: Chemistry and Biochemistry, Division of Advanced Sciences

- ▶ Hometown: Saitama, Japan
- ▶ Hobbies: Handcraft

Major research topic

I study organic metal complexes with iridium theoretically using computers.

What I would like to do in this program, and my future goals

I want to improve my English speaking and listening ability through classes. In the future, I hope to work on complex tasks as part of a team.



New Student

REN Dian

Course: Human Environmental Sciences, Division of Life Sciences

- ▶ Hometown: Liaoning Sheng, China
- ▶ Hobbies: Tourism

Major research topic

I am trying to make a machine learning system to classify data from experiments based on a foot pressure device. Aging societies require engineers to pay attention to human health and lifestyle. Such research on foot pressure could be applied to prevent falls in the elderly population.

What I would like to do in this program, and my future goals

Environmental issues, educational issues and human rights crises remain rampant throughout the world. We have the responsibility of fighting for a better future for our children. I would like to work on human care, using my knowledge of mechanical engineering with researchers from other fields to reduce the carbon footprint or stop food waste. During this process, I would like to conduct several experiments and try to become a well-respected researcher step by step.



New Student

NAKAYAMA Yuri

Course: Human Environmental Sciences, Division of Life Sciences

- ▶ Hometown: Hiroshima, Japan
- ▶ Hobbies: Visiting museums

Major research topic

I research programs to classify cognitive function level based on cognitive function test results in order to support elderly individuals with dementia.

What I would like to do in this program, and my future goals

As specializing in welfare engineering and ergonomics, I would like to deal with themes related to human well-being and living. By engaging people in different fields and different languages, I want to be a scientist who demonstrates flexible thinking and profound expertise, and who contributes to society, especially in the field of welfare.



New Student

MATSUNAGA Reika

Course: Mathematics, Division of Advanced Sciences

- ▶ Hometown: Saitama, Japan
- ▶ Hobbies: Kendo

Major research topic

My major is functional analysis and partial differential equations. Presently, I study functional analysis. I learn the properties of functions through proofs of theorems and propositions.

What I would like to do in this program, and my future goals

I want to do collaborative studies with people in other fields and improve my English ability. In the future, I would like to adopt a flexible way of thinking and a broad perspective, and be a person who can conduct useful studies for society.



New Student

DO Thi Thuy Quyen

Course: Human Environmental Sciences, Division of Life Sciences

- ▶ Hometown: Ho Chi Minh City, Vietnam
- ▶ Hobbies: Tourism, Playing the ukulele

Major research topic

Recycling wastewater from washing machines for non-potable purposes such as toilet flushing and irrigation towards sustainable water resources.

What I would like to do in this program, and my future goals

I would like to enhance my leadership with the spirit of "Action to realize the vision." In the future, I want to contribute to turn Ho Chi Minh city to an eco-smart city and inspire people to live in harmony with the environment.



New Student

PHAM Thuy Linh

Course: Biological Sciences, Division of Life Sciences

- ▶ Hometown: Hanoi City, Vietnam
- ▶ Hobbies: Reading, manga books

Major research topic

I'm interested with human health issues. Now, I'm researching the impact of some specific sections of the brain stem to hypertensive disease. The Program for Leading Graduate Schools opens opportunities to expand my knowledge about sciences and engineering.

What I would like to do in this program, and my future goals

Moreover, one of the program's purposes is connecting different scientific fields to improve the negative effects in global issues. Being the program's student, I could learn new fields and enhance my skills as well as background when participated with other students in teamwork.



Minor Course of Science and Technology for Global Leaders begins AY2017

Diverse lectures for students to succeed in the world as female leaders in science

Minor Course of Science and Technology for Global Leaders is scheduled to offer the following lectures and laboratory courses for the 2017 academic year (planned and implemented by Leading Graduate School Promotion Center).

Students study not only the courses listed below and other courses required for their major, but also participate in PBTs (Project Based Team Study), established for the purpose of strengthening team-building capabilities by having students from different fields of study come together to tackle a research theme that the students decide on by themselves, in addition to medium to long-term laboratory rotations called "Global Internships" where students become interns in research groups at industrial, governmental or academic organizations both within and outside Japan.



I. Courses to strengthen foundational knowledge

1. Innovation Creation Courses

This course gives students the foundational knowledge and applied skills for studying mathematics, physics, computer science, chemistry, bioinformatics, engineering and technology in the English language at the graduate school level. Students are required to acquire credits in courses on mathematics, physics, and computer science.

I : Foundational course, II : Applied course

Lecture title	Lecturer	Starting period
Essential Physics for Global Leaders I	Edward Foley	2nd Semester
Essential Mathematics for Global Leaders I	Xavier Dahan	1st Semester
Essential Mathematics for Global Leaders II	Xavier Dahan	2nd Semester
Essential Computer Science for Global Leaders I	Khayrul Bashar	1st Semester
Essential Computer Science for Global Leaders II	Khayrul Bashar	2nd Semester
Essential Chemistry for Global Leaders II	Gary Richards	1st Semester
Essential Bioinformatics for Global Leaders I	Sabine Gouraud	2nd Semester
Essential Engineering and Technology for Global Leaders I	Julien Tripette	2nd Semester
Essential Engineering and Technology for Global Leaders II	Julien Tripette	1st Semester

Note: 1st Semester (April - August), 2nd Semester (October - February)

2. Special Practice in Global Science & Technology

In these courses, students are able to work with cutting edge equipment, and are also able to experience using equipment not related to their major.

Practice class title	Period
Special Practice in Global Science & Technology I (Computer Science Course)	August to September
Special Practice in Global Science & Technology II (Physics Course)	
Special Practice in Global Science & Technology III (Chemistry Course)	
Special Practice in Global Science & Technology IV (Biology Course)	August to September
Special Practice in Global Science & Technology V (Food and Nutritional Sciences Course)	
Special Practice in Global Science & Technology VI (Human Environmental Sciences Course)	

II. Courses to strengthen abilities as global leaders

1. English Language Education

These courses aim to enhance English language skills in reading, writing, and presentation abilities, with a focus on the field of science.

Lecture title	Lecturer	Period
Scientific Reading	Ghourabi Fadoua	September
Scientific Writing	Ghourabi Fadoua	To be scheduled in 2nd Semester as an intensive course

2. Doctoral Program Liberal Arts Education

These courses provide students with social perspectives and diverse ways of thinking that are outside of their field of expertise, and also provide a globalized educational foundation.

Lecture title	Lecture	Period
Essential History for Global Leaders	Midori Nishiura	October - February
Special Lecture in Global Science & Technology III (Peace Education)	Roxanna Yamamoto - Ravenor	April - May
Special Lecture in Global Science & Technology IV (Global Studies -- A Field Worker's View of Contemporary Asia, Africa, and Oceania)	Akari Konya	June - July

3. MOT and social sciences courses

These courses provide students who wish to become leaders within companies with practical knowledge on business organizations.

Lecture title	Lecture	Period
Special Lecture in Global Science & Technology I (Introduction to Corporate Management Strategy with Technology)	Tatsuya Matsushita	June - July
Special Lecture in Global Science & Technology V (Industry Tour ①)	Toshihiro Kondo	September
Special Lecture in Global Science & Technology VI (Industry Tour ②)	Toshihiro Kondo	to be held in January or March

Note: Other courses, such as on career education, female leadership, and IT technologies, will also be offered (some courses are offered once every year).

Continuing to offer joint workshops with students from Leading Graduate Schools Programs at other universities.

Thinking about self production and career designing

The 3rd and 4th joint workshops were held with students in Leading Graduate Schools Programs from the following universities: Waseda University's Leading Graduate Program in Science and Engineering, Waseda University's Graduate Program for Embodiment Informatics, Keio's Program for Leading Graduate School, and Tokyo University's Global Leader Program for Social Design and Management. Having continuous opportunities to exchange opinions with students from other universities provides students with an invaluable experience that they would not be able to get through daily studies at their laboratories.



[3rd workshop] Date: March 20, 2017

Continuing from the 2nd workshop, the 3rd workshop was held again by Seiji Tagami (Representative of Field Up / Executive Coach). The theme this time was "self-production." Mr. Tanoue talked on the theme of becoming an attractive person that draws others near, reflecting on not just making oneself look good, but also gaining deep self-knowledge and



making maximum use of one's strengths. At the same time, active discussions were held among the students on how to communicate with people around you and on how to proceed smoothly with research and other projects.

[4th workshop] Date: June 3-4, 2017

This was the first time an overnight workshop was held over the weekend. This workshop was attended by many new students who had just joined in April. After a lecture on career design for doctoral graduates of Leading Graduate Schools Programs offered by Professor Hiroshi Ohki (affiliate professor at Hiroshima University), students were divided into groups and held discussions and gave presentations on themes that they had decided on themselves. Some students were unsure of themselves at the beginning since it was their first experience having discussions in English and participating in group work, but everyone worked together and gave outstanding presentations. The students as well as the participating professors and staff deepened their interactions with one another through barbecues and other activities that were offered after the workshop, and the event ended in a pleasant atmosphere.

Career support seminars regularly offered

Enhancing our activities to help students with their career

Starting this academic year, we will finally send graduates from our program into the world. Thus, we are strengthening the support that we provide in helping students to develop their career paths. As a part of such activities, we will continue to offer career support seminars for students on a regular basis.

The first seminar (held on April 21) was given by Tomonori Fukasawa, who gave guidance on what it means to search for jobs as a doctoral graduate in science. Through his company, he has helped many doctorate holders with their job search. He also has first-hand knowledge of the actual situation within different companies. Thus, he spoke about what is expected of doctoral holders from the perspective of those hiring and how hiring is conducted based on the realities of the employment situation.



This provided students with the opportunity of gaining an understanding not only of basic information such as job seeking schedules, but also to deepen their thinking on designing their careers to become doctorate holders that are sought after by

different companies.

The second seminar (held on June 23) presented two guest speakers who gave talks on the theme of "careers for female doctoral graduates, the past and the future." The guests gave students specific examples concerning their career paths as they spoke about their different fields of work (information/bioscience) and their experiences (development of conversational robots / regenerative medicine development), among other topics.

After the lecture, the students had time to interact with the guests, allowing them to ask questions and voice their individual concerns. The



lecturers answered each question with attentive care, adding anecdotes about their experiences and their own thoughts. This seminar gave students an excellent opportunity to imagine in detail what it would be like to work in a company as a doctoral holder.

▶ Lecturer Kanako Onishi (Ph.D in science) Research Specialist, Data-driven Intelligent System Research Center, Universal Communication Research Institute, National Institute of Information and Communications Technology (NICT), National Research and Development Agency (on temporary assignment from NTT DOCOMO Inc.)

▶ Tomonori Fukasawa / President & CEO of Emerging Technologies Corporation, part-time lecturer at Ochanomizu University's Leading Graduate School Promotion Center, Chief Coordinator at Waseda University's Doctoral Career Center (part-time)

▶ Lecturer Waka Rin (Ph.D in bioscience) Chief Researcher, Biofabrication Group, Biomedical Research Center, Ricoh Institute of Future technology, Ricoh Company Ltd.

[Ochanomizu University's Program for Leading Graduate Schools]
Fostering Long-Term Creativity and Innovation with Science and Technology Disciplines Based on Ochanomizu Spirit "Migakazuba" in the Next Generation of Global Leaders

October 2017 term

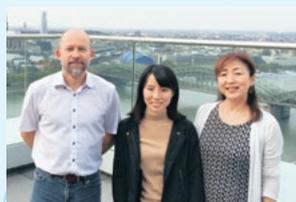
Minor Course of Science and Technology for Global Leaders

Accepting applications from prospective students



Scholarships

Scholarships can be received until March 2020. Since students will be provided with the same amount as the Doctoral Course Students (DC) of the Japan Society for the Promotion of Science, recipients are able to concentrate on their research or internship without having to work part time.



Internships both in and outside of Japan

Internship opportunities will be facilitated in companies, universities and other organizations both in and outside Japan. There is also a broad range of support systems for overseas internships to provide grants.



International student experience while at your home institution

We offer classes held by non-Japanese professors and project works supported by Study Commons teachers. These programs give students the opportunity to naturally improve their English ability while staying on campus.



Providing support for students achieve balance with their major

We offer a support structure that enables students to balance their studies with their major without over-exerting themselves, such as incorporating a credit approval system (a maximum of 10 credits from minor courses are accepted as credits for major courses) and offering exemptions from having to write a Master's thesis.

Entrance examination date for AY2017 (October term)

■ Application period: September 11 -22 (must be received by this date)

■ Entrance examination: September 27

■ Eligibility: Students who entered this university's Master's program (majoring in the Division of Life Sciences or Advanced Sciences) on April 2017, or who are scheduled to enter in October 2017.

Visit the website for more details!



The first practical operations promotion meeting was held for the 2017 academic year.

JUNE 8, 2017

The Program for Leading Graduate Schools regularly hosts a gathering of persons working on the program and professors of courses in which the students major, from both within and outside our university. These meetings for promoting practical operation of the program are held in order to exchange opinions and share information on the program's activities.

At the first meeting for the 2017 academic year, which was held on June 8, 2017, there was a lively exchange of opinions on the results of AY2016, and on the activities policies proposal for AY2017. In particular, program members from outside the university representing industry and academia*, who had joined the meeting despite their busy schedules, gave invaluable advice on various future activities for not only AY2017 but also

from a medium-term perspective. There was also time for free talk among the attendees after the meeting. This program will be considering the

direction to take for its future development based on the results of the medium-term evaluation in March, and the opinions received during this meeting will be reflected toward such considerations.



*Persons participating in the program from outside the university who attended this meeting (name and affiliation only, in Japanese phonetic alphabetical order)Mina Aoyama (Bridgestone Corporation), Hiroshi Eisaki (National Institute of Advanced Industrial Science and Technology, National Research and Development Agency), Yasuhiro Okada (High Energy Accelerator Research Organization, Inter-University Research Institute Corporation), Miyoko Kojima (Hitachi Solutions, Ltd.), Yoko Kobayashi (NTT Communications Corporation), Yoshiyasu Tamura (Research Organization of Information and Systems), Kifumi Numata (IBM Japan, Ltd.), Yoshiyuki Yamamoto (Panasonic Corporation)

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Leading Graduate School Promotion Center,
Ochanomizu University

Graduate School of Humanities & Science Building, Room No. 601
2-1-1 Otsuka, Bunkyo-ku, Tokyo112-8610, Japan

E-mail: leading-ocha@cc.ocha.ac.jp

TEL: 03-5978-5775

<http://leading.dc.ocha.ac.jp/leading/en/>

