

CONNECT

KYUSHU UNIVERSITY



President’s Message



Chiharu Kubo
President, Kyushu University

On its 100th anniversary in 2011, Kyushu University made a commitment to improving its standing in all fields of the world university rankings under the slogan “Joining the Best 100 to Lead the Next 100.” At Kyushu University, our basic philosophy is one of ongoing governance reform to become a world-leading center of excellence in education and research, a vibrant institution capable of addressing future challenges today. Our strength as a key academic and research institution lies in the ability of our researchers to conduct creative, basic research across a wide range of fields and go wherever their intellectual curiosity may take them.

Leap into the Next at Kyushu University

Unveiled by President Kubo at Academic Festival 2019, Kyushu University’s new slogan, “Leap into the Next,” was decided using input from students, faculty, staff, and alumni through a contest that received 752 entries. Continue reading to find out how you can leap into the next in research, education, and life at Kyushu University.

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Fast Facts

QS World University Rankings (WUR) 2020

#132

Mineral & Mining Engineering (WUR) by Subject

#28

102 countries and regions are represented at Kyushu University.

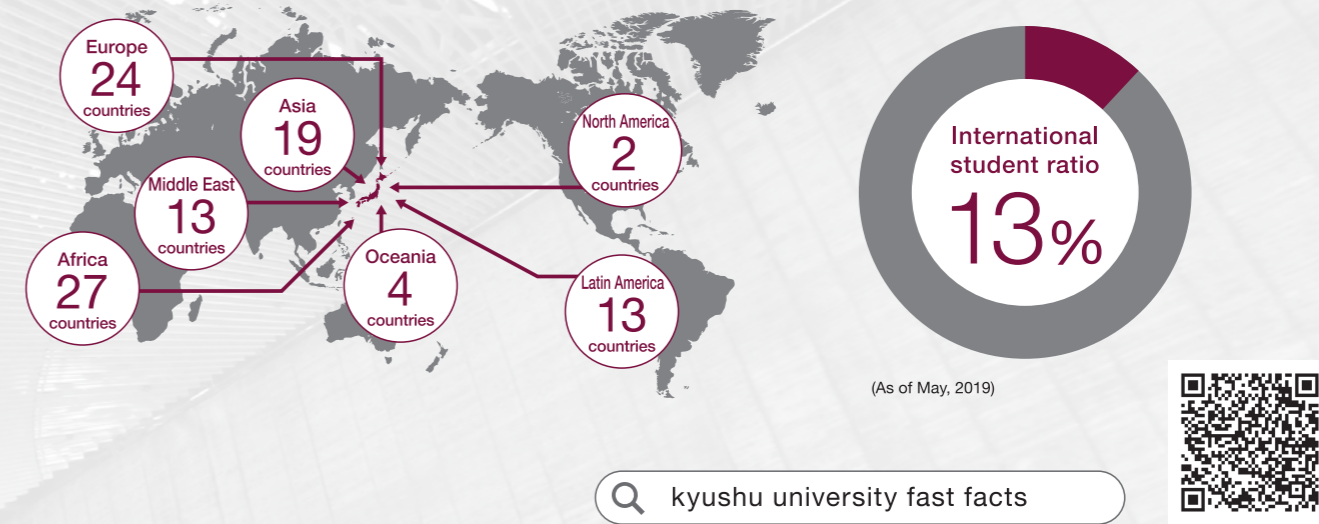
One out of every eight students is from overseas.

2,387

18,619

(total students)

Inbound



Location

Ranked 1st for Population Growth and Ratio of Population Ages 10-29
Reference data: Fukuoka Facts



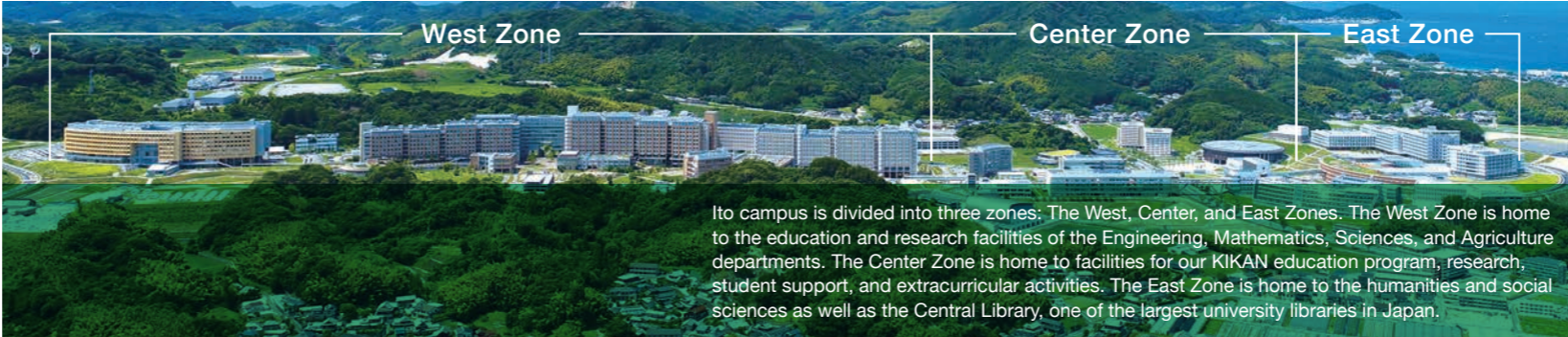
A New Home for a New Era



Ito Campus

Our move to Ito Campus began in 2005, but our work to create a cutting-edge campus for the 21st century started much earlier.

Wanting to build more than just a world-class research and education center, we put great thought into the design in order to create a beautiful, open campus that coexists with the natural environment and preserves much of the original landscape.



Ito campus is divided into three zones; The West, Center, and East Zones. The West Zone is home to the education and research facilities of the Engineering, Mathematics, Sciences, and Agriculture departments. The Center Zone is home to facilities for our KIKAN education program, research, student support, and extracurricular activities. The East Zone is home to the humanities and social sciences as well as the Central Library, one of the largest university libraries in Japan.

Five Campuses, Unlimited Possibilities

Hospital Campus



Da Vinci surgical system



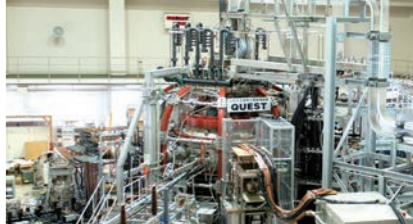
Home to Medicine, Dentistry and Pharmaceutical Sciences

Beppu Campus



Home to Internal Medicine, Surgery and Orthopedics

Chikushi Campus



Q-shu University Experiment with Steady-State Spherical Tokamak (QUEST)



Home to Engineering Sciences

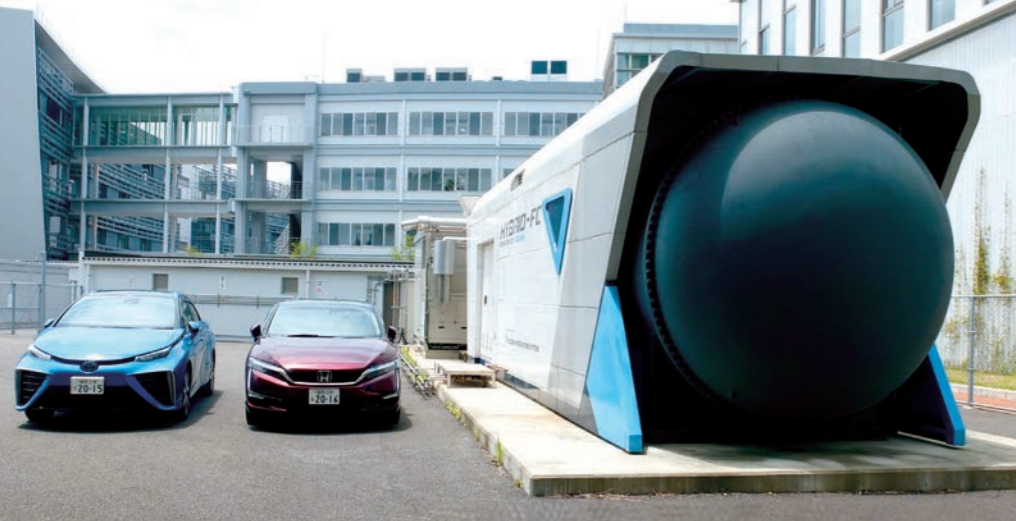
Ohashi Campus



"Sound Cask," a three-dimensional sound field reproduction and recording system



Home to Art and Design



The Future of Energy Is Here

Next-Generation Fuel Cell Research Center (NEXT-FC) conducts closely coordinated industry-academia-government collaborative research aimed at full-scale

dissemination of next-generation fuel cells. Pictured above are two fuel cell vehicles and a large 250kW-class solid oxide fuel cell (SOFC) power generation system.

A New Integrated Platform for a New Energy Paradigm

The Kyushu University Platform of Inter/Transdisciplinary Energy Research (Q-PIT) integrates researchers across different university departments to design a new concept for future energy systems and is working towards a paradigm shift in the way we think about energy for technology, industry, and society.

Experience the Cutting-Edge Firsthand



On-campus experiments and demonstrations of research findings show firsthand the advanced technologies that are shaping our future.

Robots Guide the Way

The guidance robot, developed by Kyushu University, Living Robot Inc., and NTT Docomo Inc., is the first outdoor service robot in Japan to use the centimeter-class positioning reinforcement service (CLAS) of the Quasi-Zenith Satellite System (QZSS), known as "Michibiki" for short. Using 5G and a mounted omnidirectional 4K camera, Kyushu University provides guidance robot services through advanced video retrieval and remote monitoring technologies.



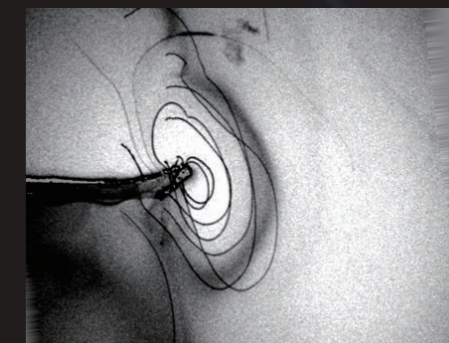
All Aboard the AI Bus

Aimo, a campus shuttle service at Kyushu University, is Japan's first attempt at an on-demand bus service that uses AI to predict optimal routes and calculate vehicle locations. It is also our first full-fledged example of social implementation since the university declared its plans to become a model campus for demonstration experiments.



Exploring the Miniature World in Big Detail

The Ultramicroscopy Research Center houses a sophisticated high-voltage electron microscope equipped with an in-column, omega-type energy filter and an SDD-type x-ray detector. It provides three-dimensional structural analysis of specimens thicker than 1 μm in both materials and biological sciences using electron tomography.



Transmission electron micrograph of crack tip dislocations (linear defects of atom positions) and their 3D image reconstructed by electron tomography in a Si single crystal (Masaki Tanaka, et al.)

It's Elementary: Discovering What Lies Beyond Nihonium

The Center for Accelerator and Beam Applied Science (CABAS) was established as a center for research into a wide range of fields that include the life sciences, energy engineering, and basic science as it relates to

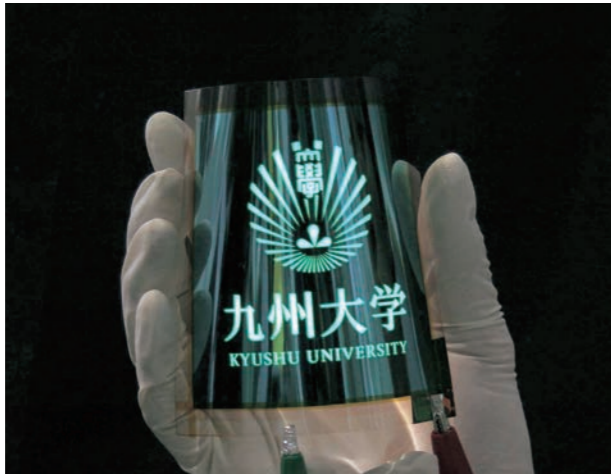
quantum beam and nuclear science. A tandem accelerator (pictured below) is expected to aid in the development of particle detectors and in the study of reaction mechanisms for discovering new elements beyond nihonium (Nh).



Faculty of Science Professor Kosuke Morita gave nihonium its name, the first time scientists from Asia have discovered a chemical element.

Groundbreaking organic materials and devices for future electronics

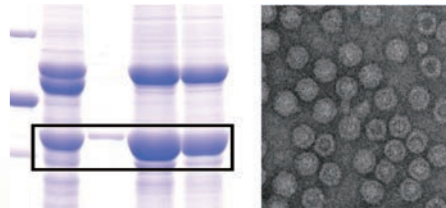
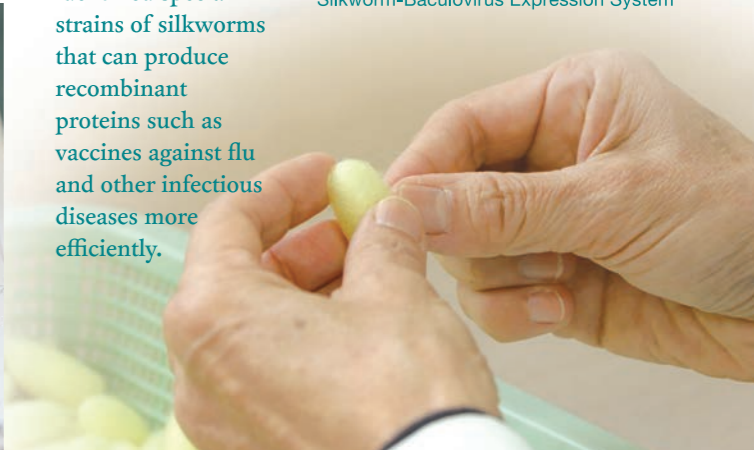
Highly efficient smartphone screens, roll-up televisions, and ultra-thin lighting panels. Carbon is making all these electronics possible, and at the forefront of basic research is the Center for Organic Photonics and Electronics Research. Bringing together experts in theory, chemistry, and physics, Distinguished Professor Chihaya Adachi's team is uncovering how to connect carbon and other atoms to create new organic molecules and electronics with unique properties for applications from organic LEDs and energy storage to lasers and biocompatible devices.



Giving back to society through 100 years of silkworm research

Silkworm research at Kyushu University stretches back more than 100 years, and the school maintains close to 500 lines of silkworm resources, the largest collection of its kind

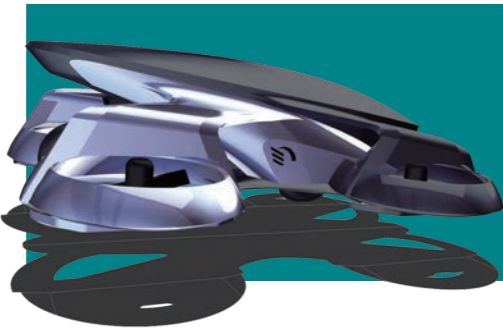
in the world. Each year in May, the university breeds over 200,000 silkworms at a time, creating one of the world's largest silkworm stocks. Professor Takahiro Kusakabe and his group have identified special strains of silkworms that can produce recombinant proteins such as vaccines against flu and other infectious diseases more efficiently.



Expression of VLPs using the Kyushu University Silkworm-Baculovirus Expression System

Research Institute of Advanced Electric Propulsion Aircrafts

This institute is researching and developing electric vehicles based on superconducting technology that combines superconducting motors and generators that enable only high power at the same time.



Flying car (IMAGE) CARTIVATOR / SkyDrive

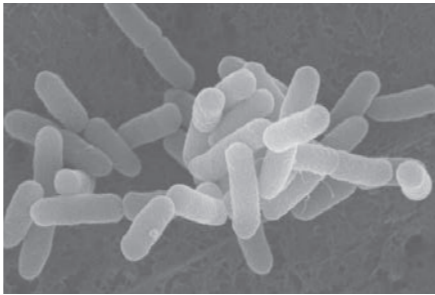
Research in Focus



Working together with communities to unveil the mechanism of disease

The Hisayama study is a population-based prospective cohort study of cardiovascular disease, dementia, and lifestyle-related diseases in the town of Hisayama in Fukuoka, Japan. For over 50 years since the study began in

1961, the study has conducted an epidemiological survey to observe all residents in Hisayama aged 40 years and over and has an 80% participation rate and over a 99% follow-up rate, producing long-lasting and highly accurate results.



Clarifying origins to improve preventive measures

Comparing bacteria from around the globe, Associate Professor Yoshitoshi Ogura of the Faculty of Medical Sciences and collaborators in Japan, France, Belgium, and the US found that *E. coli* bacteria may develop toxins to adapt to life in the gut of cattle, which have long been thought to be a main source of *E. coli* causing food poisoning.

Home to the some of the world's most mysterious insect specimens

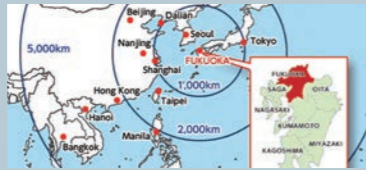
Kyushu University is at the heart of the study of insects in Japan and has produced numerous entomologists to date. The research that takes place at the Kyushu University Museum mainly focuses on finding out what different types of insects exist on Earth and identifying any new species. In this process, the museum has accumulated a huge number of insect specimens, and in its collection of approximately 7 million research materials, around 4 million are insect specimens. The collections cover various fossils, mammals, fishes, minerals, human bones, and natural medicines as well as valuable archives. Once a year, an extramural exhibition is organized at a regional museum in Fukuoka.



Solving Global Issues

Tackling the SDGs

The Kyushu University Institute for Asian and Oceanian Studies (Q-AOS), established in April 2019, is tackling the SDGs by creating a new academic field that will open the future and contribute to the resolution of



social issues in Asian and Oceanian countries, from the SDGs to issues expected to be faced tomorrow.



Design for SDGs: Creative Solutions to Sustainable Development

By actively collaborating with local communities, NPOs, industries, universities, and international organizations, the SDGs Design Unit of the Faculty of Design positions itself as a social platform pursuing “solutionary design” to social issues.

As a recent project, the unit has launched the SDGs Design International Awards 2019 to encourage students across the globe to apply their design skills to create new, bold, and innovative solutions.

Prototype of apparel that returns to nature by fusing nanotechnology with design ideas



Reading a picture book to promote the importance of safety and hygiene for children in India

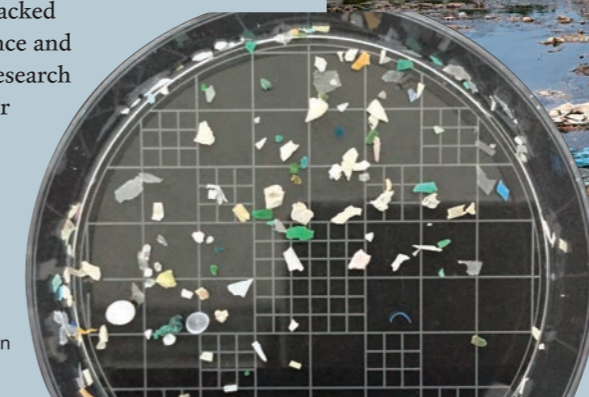
Protecting Cultural Heritage Around the World

Distinguished Professor Toshiyuki Kono of Kyushu University's Faculty of Law is the first Japanese president of the International Council on Monuments and Sites (ICOMOS), the largest global non-government organization dedicated to the conservation and protection of cultural heritage places around the world. Professor Kono joins a network of experts that benefits from the interdisciplinary exchange of its members, among which are architects, historians, archaeologists, art historians, geographers, anthropologists, engineers, and town planners.



Joining the Global Fight on Plastic Waste

Kyushu University represents an alliance for research on marine plastics pollution in Southeast Asia, namely Thailand, and is working together with seven other organizations including the Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA). The university has been selected for joint international science and technology cooperation for global issues as part of the government-backed initiative Science and Technology Research Partnership for Sustainable Development (SATREPS).*



Microplastics found in the ocean



Plastic waste piles up along a mountain path in Thailand

(*) <https://www.jica.go.jp/activities/schemes/science/index.html>

Disaster Prevention: Sights Set on Community-Led Disaster Recovery

In response to the torrential rainfall in Northern Kyushu in 2017, Kyushu University set up a cross-departmental support organization to provide disaster recovery assistance. As leader of the group, Professor Yasuhiro Mitani spearheaded support activities and made several visits to the most damaged areas in Fukuoka Prefecture. Using his background in civil engineering, Professor Mitani helped design the plans for reconstruction in affected areas and host public meetings for their residents.

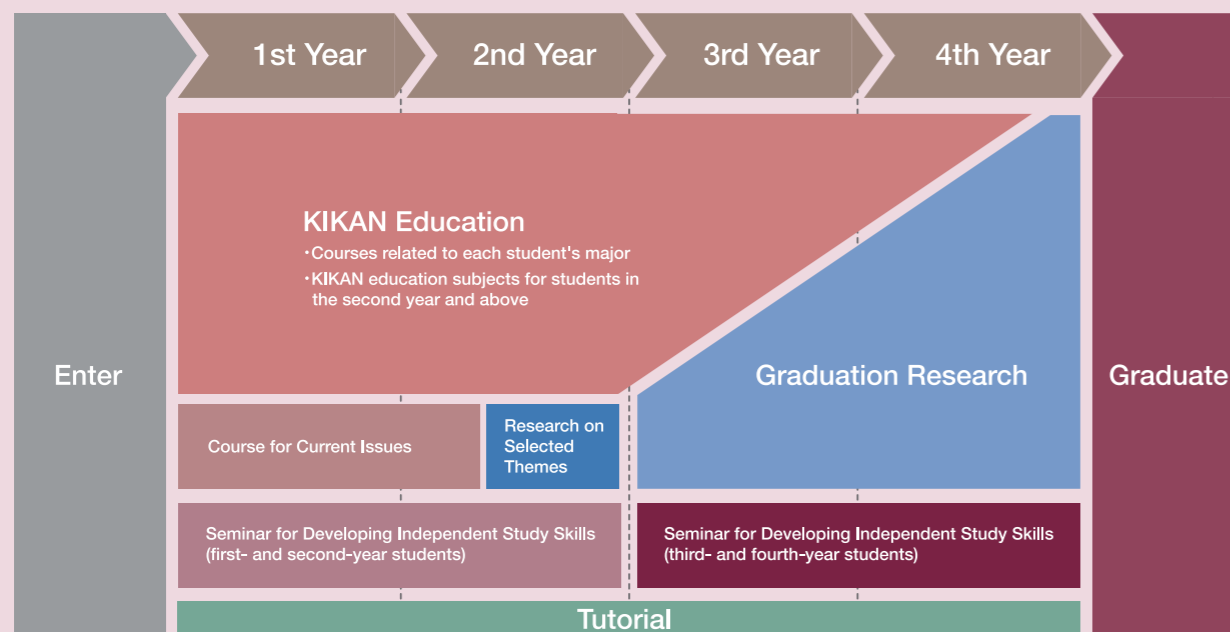


Fostering Global Leaders

Leveraging the depth and breadth of its disciplines, Kyushu University is advancing educational programs that cross the boundaries of majors, from the humanities to the sciences. This philosophy is highlighted by the restructuring of the educational system to connect all stages of a student's development, from the undergraduate core curriculum—called KIKAN education—and specialty courses to graduate studies, through the establishment of the Faculty of Arts and Science in 2011 on the 100th anniversary of Kyushu University's founding. In this same spirit, Kyushu University opened the School of Interdisciplinary Science and Innovation, its twelfth undergraduate school, in April 2018 based on a completely new model for undergraduate education in Japan.

KIKAN Education

Through the KIKAN education, students learn fundamental academic skills for new knowledge acquisition and problem solving, such as how to look, think, and learn critically. The KIKAN education combines general education subjects and departmental courses to train active learners for whom learning is at the core of their being. Active learners take initiative to challenge the status quo and aren't afraid to take on unprecedented problems and new situations. The KIKAN education is also unique as it provides excellent collaborative opportunities for learning and discussion among groups of students across the humanities and the sciences such as Interdisciplinary Collaborative Learning of Social Issues and KIKAN education seminars.



Q KIKAN education



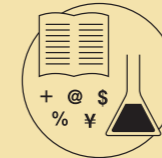
School of Interdisciplinary Science and Innovation

The school aims to cultivate a global mindset in students, who are expected to be capable of identifying issues for themselves and working with others to solve current issues facing humankind. At the School of Interdisciplinary Science and Innovation, students develop their own problem-solving curriculum, engage in hands-on collaborative learning, and are required to study abroad. This allows students to gain a deeper cultural appreciation, improve their English language proficiency and develop the broad worldview needed to consider problems in their larger context.

Distinctive Features

01 Curriculum blending the humanities with science

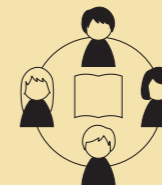
Cutting across the existing disciplines of the humanities, social sciences, and natural science, the curriculum will instill in students both humanities-based and scientific thinking, along with a diverse array of methodologies, and will feature learning based on practical challenges.



02 Collaborative learning (PBL/TBL*)

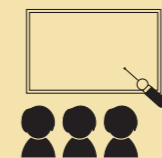
*PBL: Problem-Based Learning; TBL: Team-Based Learning

The curriculum will incorporate collaborative learning in which students discuss themes in groups and learn by working in partnership with others, thereby cultivating a broad outlook, flexible thinking, and multifaceted insight that will enable students to look at things from a variety of angles.

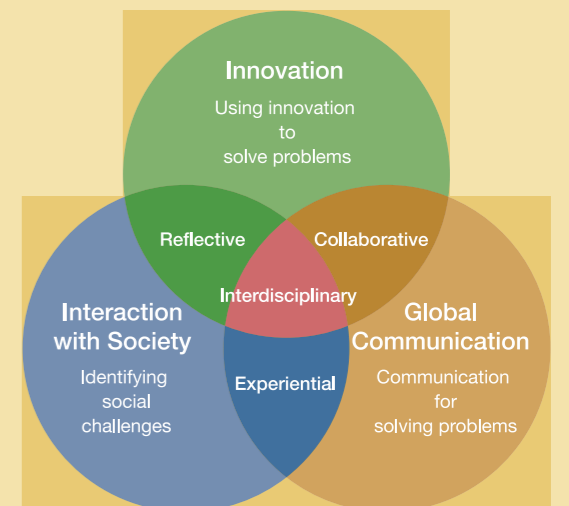


03 Classes in English and Japanese

The curriculum will provide classes in both English and Japanese. In addition, intensive language courses that are tailored to each student's proficiency level will be offered. Through this multilingual curriculum, students will be able to improve their language skills to a practical level.



Q interdisciplinary science and innovation



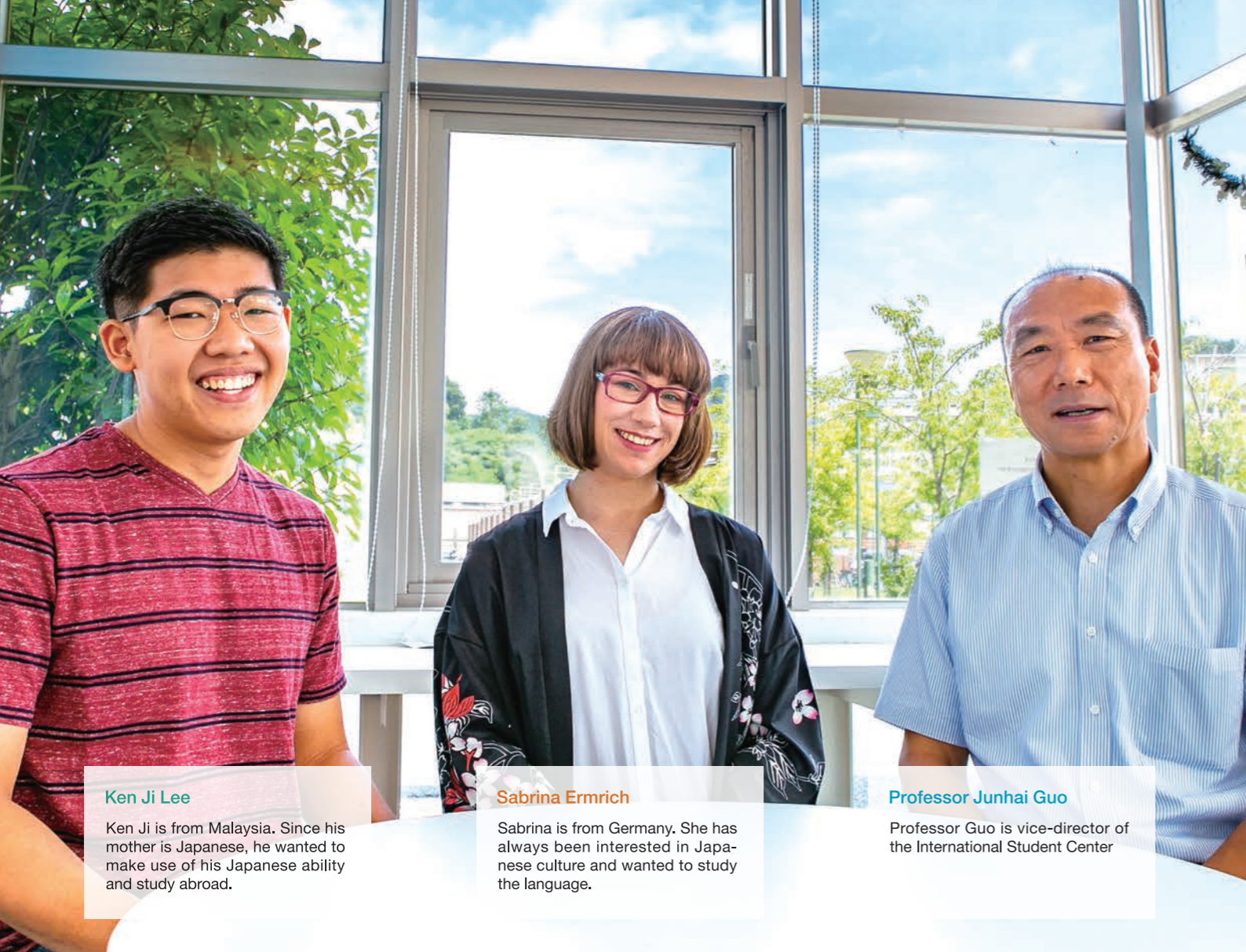
Study Abroad to Gain a Global Perspective

Kyushu University offers a variety of student exchange programs and degree programs taught solely in English, all offered in collaboration with international partners. Short-term study programs such as Japan in Today's World (JTW) and Japanese Language and Culture Course (JLCC) are also available for students from overseas.



Q kyushu university short term programs





Ken Ji Lee

Ken Ji is from Malaysia. Since his mother is Japanese, he wanted to make use of his Japanese ability and study abroad.

Sabrina Ermrigh

Sabrina is from Germany. She has always been interested in Japanese culture and wanted to study the language.

Professor Junhai Guo

Professor Guo is vice-director of the International Student Center

Unique Academic Opportunities & Support for International Students from Arrival to Graduation

Today we hear from two international students, Sabrina Ermrigh from a short-term program in the Japanese Language and Culture Course (JLCC) and Ken Ji Lee from the School of Interdisciplinary Science and Innovation. They sat down with Professor Guo to discuss what it's like to live and learn at Kyushu University.

Prof. Guo: What made you choose Kyushu University?

Ermrigh: When I started looking into living and studying in Japan, I was drawn to Kyushu University because of its high academic standards. I thought that I could get a proper education here.

Lee: For me, I was mainly drawn to the School of Interdisciplinary Science and

Innovation, which integrates the humanities and social sciences with the natural sciences. While doing research on the top universities in Japan, Kyushu University and the School of Interdisciplinary Science and Innovation really stood out. This kind of interdisciplinary faculty is something you don't see at other universities in Japan. I was attracted to the idea that I could

study a wide range of fields in both science and the humanities. Presentations, group work, and speeches play a large role in the required courses, which I think is different from other faculties as well. From year one, you get comfortable giving presentations and speeches, which is an important skill to have once you graduate and start working. I also feel close to my professors,

and the atmosphere is warm and friendly.

Ermrigh: I'm studying in the Japanese Language and Culture Course. Culture classes last for one year, which is a perfect length. That's what I like about this program—it's more than just learning a language. In some classes, we read Japanese novels. In others, we learn about diversity within the Japanese language. This has really helped my reading comprehension and made it much easier to read books and academic publications. There are also classes where we learn about libraries or make Japanese sweets, and once a week, there is a class where you get to interact with Japanese students. You also have the chance to visit lots of sightseeing spots and experience many different aspects of Japanese culture. When I first came to Kyushu University, I thought, "Wow, it's in the middle of nowhere!" But it has turned out to be a fantastic learning environment, and I've really been able to focus on my studies here.

Prof. Guo: So what kinds of topics do you tackle at the School of Interdisciplinary Science and Innovation?

Lee: Well, for our basic project for Interdisciplinary Science and Innovation, which changes its topics once every three weeks, we split into groups where we try to find solutions to real-world issues. For example, we hold a mock United Nations to debate international problems like Tonlé



Sap in Cambodia, the Gaza–Israel conflict, child labor, and work stress. These debates culminate in a final presentation in front of the class. This helps us build teamwork and presentation skills and requires us to have an understanding of both the scientific and humanitarian aspects behind the issues, so we learn a lot.

Prof. Guo: What is your impression of the students you study with?

Lee: The students at the School of Interdisciplinary Science and Innovation are all self-starters, which I think is impressive. Everyone is so unique. Since Kyushu University is one of Japan's best universities, I thought all students ever did here was study. But soon after I arrived, I was pleasantly surprised to find that Kyushu University students also actively participate in off-campus activities, internships, studying abroad and so on. Everyone is friendly, so it's a great environment.

Prof. Guo: What are your living situations like?

Lee: I'm staying in the Kyudai Buddha Blue Dormitory. Rent is affordable, and the dorm comes with two meals a day. Everyone gets along and chats with each other in the cafeteria every day.

Ermrigh: I live in a dormitory managed by the university. The resident manager and my fellow dorm mates are nice, and I get to interact with plenty of different people, so I never feel lonely. I have my own single room, too, which is nice and clean. There's a road where I go jogging and a gym with a pool where I go swimming almost every day.

Prof. Guo: How do you find the support for international students?

Ermrigh: The staff at the International Affairs Department is friendly and always eager to help students. When I first came

to Japan, I was worried whether I would be able to get a scholarship, but the International Affairs Department went out of their way to help me to find one. It's reassuring to know that I don't have to worry about doing everything by myself. I also appreciate the fact that there are International Student Support Team (*1) and shuttle services (*2) for international students. It gives me peace of mind knowing that I can always go ask for advice and talk with the tutors.

Prof. Guo: What are your plans after studying at Kyushu University?

Ermrigh: I want to work for a company with ties to Japan and save up enough money to come back and study at Kyushu University again. I want to continue studying geography at graduate school so I can get a job that helps build bridges between different countries.

Lee: My first choice would be getting a job. I speak five languages, so I would like to join a Japanese company where I can use my language skills once I graduate. I would really like to find a job that will allow me to travel around the world.



*1 International Student Support Team, which is organized in each department and consists of both Japanese students and international students who have already settled down in Fukuoka, assists new international students to start their new lives in Fukuoka smoothly.

*2 The shuttle bus service will be provided between "Fukuoka airport/Hakata port" and "Ito dormitory 1,2,3/Ito Harmony House" for newly enrolled international students.



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