



SCIENCE in KYUSHU UNIVERSITY

Faculty of Science

Graduate School of Science

Kyushu University

HISTORY

Kyushu University has over 100 years of history since 1911 and during this time has developed 16 faculties, 18 graduate schools and 12 undergraduate schools; covering a wide range of research fields including Humanities, Social Science, Natural Science, and Bio-medical Science. The Faculty of Science was established in 1939 and initially consisted of the Department of Physics, Chemistry and Geology. Two more departments were subsequently added, Mathematics in 1942 and Biology in 1949. In 1990, the Department of Geology and the geophysics laboratories of the Department of Physics were reorganized and expanded to become the Department of Earth and Planetary Sciences. In 2015, the Faculty of Science was moved to the Ito-campus, our new main campus for further progress in research and education.



CITY OF FUKUOKA

Kyushu University is located in Fukuoka, one of the largest cities in Japan, having a population of more than 1.5 million. Fukuoka is known as an accessible city, just 10 minutes by subway between the city center and Fukuoka airport where there

are flights not only to Japanese cities but also to Asian countries, Europe (Finland), and the US (Guam and Hawaii). As a result, approximately 3 million people have travelled to Fukuoka from overseas countries in 2017. Fukuoka has numerous mountains in the south and a beautiful coastline to the north. Thanks to this diverse and beautiful environment, a large range of mouth-watering local cuisine made with a variety of fresh fish, fruits, and vegetables can be tasted in Fukuoka.



According to a survey ranking cities by growth-potential*, Fukuoka was deemed to have the best growth-potential in Japan in 2017. In addition, the Japanese government selected Fukuoka as the National Strategic Special Zone for Global Startups and Job Creation in 2014. As such Fukuoka has been conducting a range of effective practices in this area including the incubation from academic research to startup. The growing city of Fukuoka has so much to offer and is waiting to be explored!

*Source: Ranking of city growth potential, Nomura Research Institutes



Sakurai Futamigaura Beach



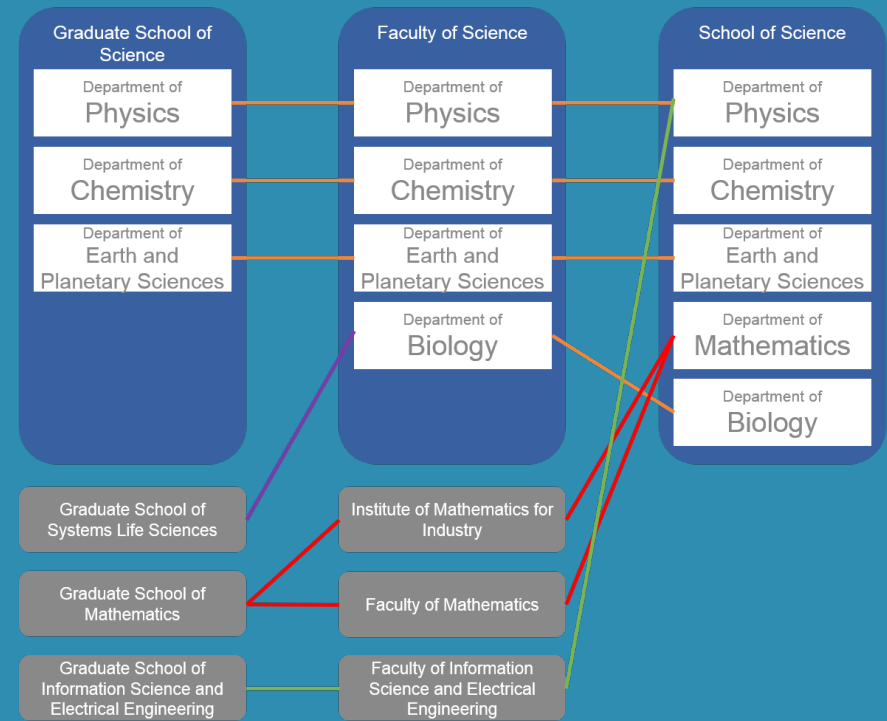
Fukuoka Castle

Photos: Fukuoka City

ORGANIZATION

Kyushu University has instituted a Graduate School and Graduate Faculty system. This system is designed to separate the former Graduate School into what is called the "Faculty" as the research body, and the "Graduate School" as the educational body. The faculty members belong to the "Faculty", and promote their own research activities, but are also flexible, in that they offer further assistance and educational opportunities to graduate students belonging to the "Graduate School."

The Faculty of Science has four departments, the Graduate School has three, and the undergraduate School has five. Additionally, the Department of Physics within the School of Science is divided into two courses, a Physics Course and an Informatics Course.



FACTS

(As of May 1, 2018)

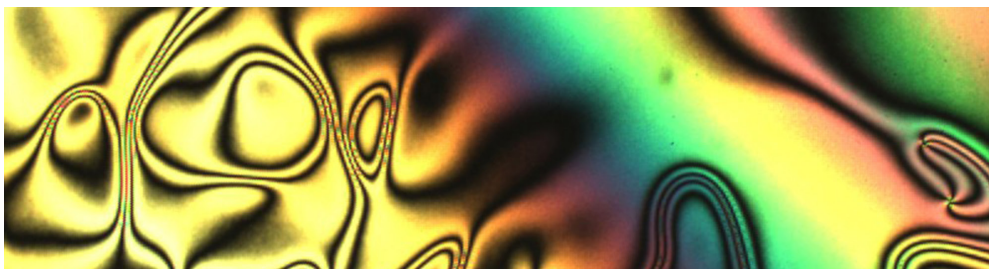
149 Faculty
1238 Undergraduate Student
392 Graduate Student
55 International Student

Partner Institution with Faculty of Science based on Academic Cooperation Agreement

(As of December 1, 2018)

Country	Name
China	Dalian University of Technology
	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
	School of Resources and Environmental Sciences, Xinjiang University
Indonesia	Gadjah Mada University (Double Degree Program)
Mongolia	Institute of Geography and Geoecology, Mongolian Academy of Sciences
	School of Arts and Sciences, National University of Mongolia
Philippines	College of Arts and Sciences, University of San Carlos
Thailand	Institute of Science and Institute of Engineering, Suranaree University of Technology
Vietnam	Faculty of Biology, Dalat University and Bidoup-Nui Ba National Park
Egypt	Faculty of Sciences and Graduate School of Sciences, Helwan University
Ghana	College of Basic and Applied Sciences, University of Ghana
Republic of South Africa	Faculty of Science, University of Johannesburg
France	Universite des Sciences et Technologies de Lille
Germany	Max-Planck-Institute for Plasma Physics
Russia	Institute of Cosmophysical Research and Radio Wave Propagation, Far Eastern Branch of the Russian Academy of Sciences
Sweden	Faculty of Science, Lund University
United Kingdom	Department of Materials Science and Metallurgy, University of Cambridge
United States	College of Engineering and Physical Science, College of Life Sciences and Agriculture, Environmental Research Group, University of New Hampshire
	College of Science and College of Agricultural Sciences, Oregon State University
Brazil	Institute of Geosciences, Federal University of Minas Gerais
Australia	IPS Radio and Space Services, Bureau of Meteorology

DEPARTMENT OF PHYSICS



The Department of Physics covers a wide range of fields from elementary particle physics, nuclear physics, and astrophysics to statistical physics, material science and soft matter/active matter physics both in theory and experiments. The department offers the following two courses:

Physics Course

The study of physics encompasses both abstract and practical studies from mathematics, chemistry, biology, earth and planetary science to engineering and medicine. No matter what the object is, physicists always seek to understand how nature works. The Physics course is a number of groups with different research areas. The theoretical elementary particle physics group led by Prof. Suzuki is vigorously investigating novel nonperturbative methods in quantum field theory, the basic language that describes elementary particles, in order to pursue new theoretical possibilities. In 2017, Prof. Suzuki received the Yukawa-Kimura prize for his recent outstanding work. In experimental nuclear physics, Prof. Morita is well known for his successful synthesis of a new element, Nihonium, in collaboration with RIKEN. They have recently initiated the synthesis of new elements to extend the periodic table to the as-yet-unknown 8th row; which will be a crucial step towards the hypothetical "Island of Stability" predicted by Nobel laureate G. T. Seaborg. The quantum condensed matter group develops novel nanostructures and exotic materials to reveal the quantum properties of electron spins. Novel intriguing phenomena such as ultrafast spin dynamics and giant magneto-caloric effects have been demonstrated by using specially designed original equipment. These new findings provide significant contributions to the development of future nanoelectronics and energy harvesting devices. Soft matter and complex systems groups extensively study colloids, liquid crystals, granular matter, glasses and biological materials. We are working on a wide range of non-equilibrium systems both experimentally and theoretically. Please visit our website for more detail.

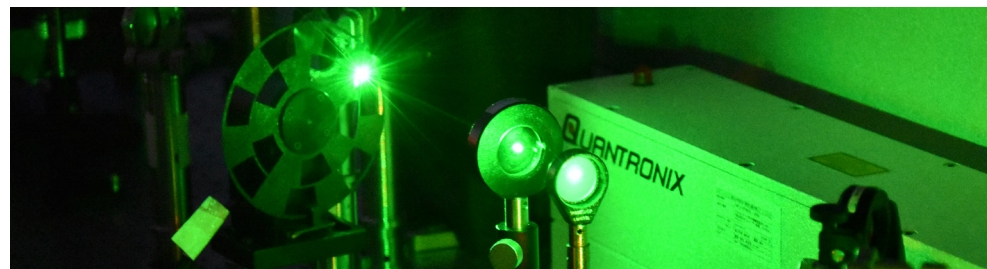
Informatics Course

All aspects of Information including its generation, transmission, recognition and control are very important in present day society. In the "Informatics Course" information phenomena are studied on the basis of mathematics and physics.

<https://www.sci.kyushu-u.ac.jp/e/departments/phys/phys.html>



DEPARTMENT OF CHEMISTRY



The Department of Chemistry, which has about 40 members, covers a broad range of chemistry; dealing with atoms, molecules, molecular complexes, polymers, macromolecules, and biological systems. Education of graduate and undergraduate students is further promoted in collaboration with the Institute for Materials Chemistry and Engineering, the Faculty of Arts and Science, the International Institute for Carbon-Neutral Energy Research, and the Central Institute of Radioisotope Science and Safety Management. The research subjects range from fundamental problems in chemistry to problems with applications in the fields of coordination chemistry, inorganic synthesis, organometallic chemistry, nano-materials chemistry, quantum chemistry, molecular spectroscopy, surface and interface chemistry, soft-matter chemistry, biophysical chemistry, organic synthesis, catalytic reactions, bioorganic chemistry, bioanalytical chemistry, molecular and cellular biochemistry, structures and functions of biological systems, geochemistry, radiochemistry, theoretical chemistry, computational chemistry, and so on. Our department, therefore, offers programs across all of the major chemical disciplines (inorganic, analytical, organic, and physical chemistries) as well as recent high-interest areas such as nano-materials, biochemistry, and chemical biology. There are more than 30 classes to choose from within the undergraduate course. The laboratory courses for sophomores and juniors complement these lecture courses. The students spend a long time conducting laboratory works and writing reports. Each senior joins one of the research groups and begins to learn practical techniques for research, finally receiving a bachelor after an oral examination on his or her achievement. Most students will then proceed to a graduate school for advanced research experiences in chemistry.

<https://www.sci.kyushu-u.ac.jp/e/departments/chem/chem.html>



DEPARTMENT OF EARTH AND PLANETARY SCIENCES



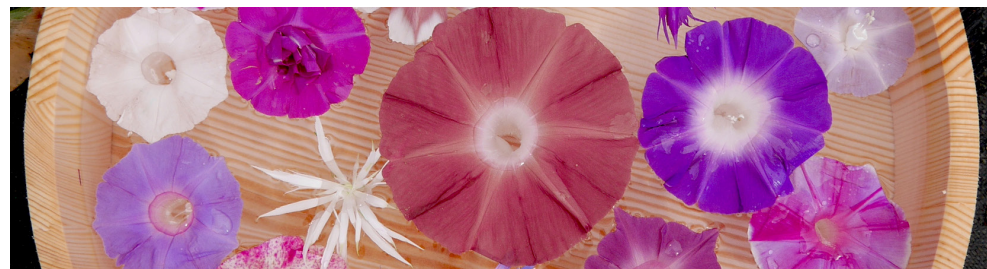
The Department of Earth and Planetary Sciences comprises a multidisciplinary group of nearly 40 scientists seeking to determine how the Earth and planetary systems were formed, their evolution into their present state, and what changes they will undergo in the future. Current research areas include the Earth's deep interior, near-surface geology and geochemistry, ocean, atmosphere, Earth's upper atmosphere, and the solar-planet system. The department also encompasses research into the origin and evolution of life and our planet. Research methods are diverse including: field-based, experimental, observational, computer simulation, analytical, and theoretical methods. The department maintains active educational ties with the Institute of Seismology and Volcanology, International Center for Space Weather Science and Education (ICSWSE) and Kyushu University Museum.

The undergraduate education aims to foster a broad understanding of the past, the present, and the future of the earth and planetary systems. The curriculum includes fundamentals in geophysics, geochemistry, and geobiology, along with mathematics and computer science. The graduate school education seeks a deeper understanding in a specific research area related to Earth and planetary science. We have 16 research areas: solar terrestrial physics, space and earth electromagnetism, atmospheric and geophysical fluid dynamics, meteorology and climate dynamics, deep earth physics, dynamics of the earth's interior, petrology and volcanology, Earth's geologic evolution, paleo environmental science, observational seismology and volcanology, formation and evolution of planetary systems, organic geochemistry and Cosmo chemistry, inorganic geochemistry for the biosphere, mineralogy, earth and planetary mineral science, mineralogical study of extraterrestrial materials, paleontology and mineral history. We welcome graduate students who have an interest in these fields to join our graduate program.

<https://www.sci.kyushu-u.ac.jp/e/departments/geo/geo.html>



DEPARTMENT OF BIOLOGY



The Department of Biology is engaged in various fields of biology including molecular, cellular and population biology. Diverse aspects of modern biological sciences are studied employing a wide range of innovative methods. After understanding the structure of DNA in 1953, developments in molecular genetics have provided fundamental knowledge about life and useful tools for analyzing various life phenomena. The mechanism underlying formation of body pattern, for example, is being understood at the genetical and cellular levels. Studies on dynamics of animal and plant populations have become active areas of research thanks to the introduction of genetic tools and mathematical models. The application of biological research used to be limited, but modern biological science is closely related to society and industry through the development of biotechnology and environmental conservation activities.

The Department of Biology aims to produce graduates who can play a leading role as professionals; having advanced knowledge in biological science, from not only biological research but also other areas such as medical science, public health, food production, energy resources development, and environmental conservation. We offer basic lecture courses and experimental training, focused on basic and modern biology areas; both of which have seen dramatic developments in recent years. The lectures and experimental training encompass animal physiology, developmental biology, plant physiology, ecology, genetics, molecular genetics, biophysics, biochemistry, mathematical biology, cell biology, and marine biology.

At the graduate school level, students will study at the Graduate School of Systems Life Sciences.

<https://www.sci.kyushu-u.ac.jp/e/departments/bio/bio.html>
<http://www.sls.kyushu-u.ac.jp/en/>



STUDENT VOICE

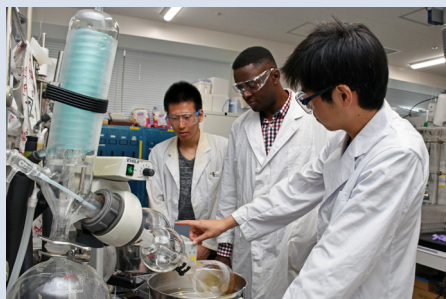


Baruti Yemba Yemba

from Democratic Republic of the Congo
Doctoral Course Student
Department of Chemistry

I appreciate my life here in Japan and the chance to experience this great culture, the local mindset and the beautiful of the cities. Fukuoka is really a nice city, although it is very urbanized, it is also a green city where you can enjoy the beauty of the nature. In my spare time, I take my family to explore every corner of Fukuoka, It is a wonderful way to spend time together. I am so grateful to have this opportunity to be here at Kyushu University, not only to learn science but also to enjoy life as a whole. After three years of living here I have now really settled in and closed the gap between Japanese culture and that of my home country. The Fukuoka city offers several support services for international students and families to make living here smooth and enjoyable.

I am a Ph.D. student now, after completed my master degree in bioorganic chemistry. I feel honored that I was accepted as a doctoral student. I decided to continue to work in my field of study which is the synthesis of natural products in order to deepen my knowledge and to develop my skills in both the field and laboratory. The challenge is of a new level but I know I will succeed by putting more effort into my work. I appreciate the work environment and the laboratory organization that I am in. My colleagues are really supportive and even help me with the little things in everyday life. I feel encouraged and receive support and sound advice from my sensei ("teacher" in Japanese) when I need it.



Gabriela Bunga Naen

from Indonesia
Master Course Student
Department of Earth and Planetary Sciences

My research is related to volcanoes, especially the product of caldera formed by super big eruptions. My experience as the member of petrology and volcanology group has made me very happy and comfortable. Laboratory members will always help each other, which makes for a great learning atmosphere conducive to laboratory activities. This study field requires all of the members to conduct field activities, both for rock sampling and observation of volcanic products. I have visited several volcanoes both in Japan and abroad with my supervisor and several laboratory members. I get really excited to join the fieldwork, all activities are arranged very well and on time. The cooperation between each member in the field also makes these activities very enjoyable.



Besides that, I am currently in the English debating group as a teaching assistant. One of the objectives of this activity is to improve the ability and courage of Japanese students when communicating in English. In this activity, we are divided into several groups to discuss and exchange information about different phenomena that occur in nature. A relaxed and fun learning atmosphere makes studying with students from Japan and the other international students a pleasure.

In my daily life as an international student, I have found life in Fukuoka to be very comfortable, in terms of the social life, transportation convenience and weather. Although communication is sometimes difficult because of language obstacles, I am very grateful because people here are always trying to help as best as they can. Please do not ever hesitate to join Kyushu University and to feel its comfortable learning atmosphere.

CLASS IN ENGLISH

The Faculty of Science is offering the following classes in English. For the information of classes in Biology module, please visit the web site of the Graduate School of Systems Life Sciences.

DEPARTMENT OF PHYSICS

- Nonequilibrium Statistical Physics
- Quantum Statistical Physics
- Semiconductor Physics
- Theoretical Nuclear Physics
- Advanced Physics
- Quantum Field Theory
- Physics of Elementary Excitations
- Experimental Particle Physics

DEPARTMENT OF CHEMISTRY

- Advanced Organic Chemistry
- Advanced Quantum Chemistry
- Advanced Inorganic Chemistry
- Advanced Analytical Chemistry
- Advanced Physical Chemistry
- Advanced Nanomaterials and Interfaces
- Advanced Organic Chemistry
- Advanced Biological Chemistry
- Advanced Material Chemistry

DEPARTMENT OF EARTH AND PLANETARY SCIENCES

- Evolution of Early Solar System
- Mineral Physics and Chemistry
- Middle Atmosphere Physics
- Solar Planetary System Physics
- Science of the Troposphere
- Space Electrodynamics
- Organic Geochemistry and Biogeochemistry
- Earth Environment
- Fluid Dynamics
- Dynamic Meteorology
- Dynamics of the Earth's Interior

STUDENT SUPPORT

Studying without any trouble is our focal point. Kyushu University therefore offers a range of support services to international students.

International Student and Researcher Support Center

The center supports international students before/after coming to Japan in areas such as visa procedures, housing information, and residential assistance.

Student Support Team

The team consists of Japanese and international students ready to help new international students meet students from the same country, as well as complete the required paperwork for opening bank accounts and starting life in Fukuoka. They may also be able to assist in gaining other support you may need.

Student Salon

The Faculty of Science is holding Student Salon during lunch time in which international students, Japanese students, and Japanese support staff can casually talk about any topics over lunch.

Counseling and Health Center

If international students feel sick, anxious, or nervous, they can consult doctors and counselors at the center for physical and mental care.

Japanese Language Class

If international students want to learn Japanese, they have the opportunity to attend Japanese Language classes where they can communicate with Japanese students.



